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## **Welcome Message**

It is our true pleasure to welcome our colleagues to ASCAPAP2023 in Kyoto. It was in 1990, in Kyoto when we had our first IACAPAP in Asia. Ever since then, our colleagues from all over Asia have been debating on academic topics and exchanging opinions specific to the situation in child adolescent psychiatry in each Asian country. The first ASCAPAP was held in Tokyo. ASCAPAP thrived as it deepened the bonds between the members through numerous congresses: Seoul in 1999, Taipei in 2003, Manila in 2006, Singapore in 2008, Beijing in 2010, New Delhi in 2013, Kuala Lumpur in 2015, Yogyakarta in 2017, and Chiang Mai in 2019. We have to acknowledge that it is the fruit of the efforts of the members of ASCAPAP and the executive committee. Under their lead, the research and practices in child adolescent psychiatry have demonstrated great development.

This ASCAPAP in Kyoto is the 11th ASCAPAP, and we are very honored to start this new chapter in Japan. During the first chapter of ASCAPAP, child adolescent psychiatry has made progress in its unique approach as it grew in accordance with the social situation in Asia. As it developed, the cooperation and interaction among the professionals went beyond borders, and now there are many international congresses even in more specific topics. During our journey, we acknowledge the two aspects that we should always keep in our minds to understand the mental health of child adolescence and to further develop the support for these patients: to understand the social factors that surrounds the patient (family, friends, poverty, maltreatment, conflicts between different generations due to the difference in their values), and to assess not only with the macro perspective as understanding the diseases and disorders beyond borders and cultures, but also with micro perspective as keeping eyes open for the child's development unique to the local society and culture. The Congress theme, "Broadening Perspectives in Child and Adolescent Mental Health – New Frontiers of Research and Practice in Asia," invites our colleagues to find a new frontier in child adolescent psychiatry in Asia through discussion as we become aware that child and adolescent mental health problems do not only arise in child and adolescent period but also has longitudinal influence on the mental disorders in adulthood.

COVID-19 has been making a grave impact on people's health and lives. The same impact is posed on the healthcare providers, children, the families and friends around the children and local societies. Under the influence of COVID-19, children are experiencing anxiety and fear for infection, confusion from changes in their everyday life, and feelings of loss as they miss out on their playtime and place with their local friends. Economical damage due to the COVID-19 may have severe impacts on children's family as their parents may become unemployed or fall into poverty. Admittedly, ASCAPAP is facing a difficult situation to have this international congress under COVID-19; however, we believe that under such situations where children are in need of mental support that we should gather and exchange thoughts about child adolescent psychiatry.

As it is famous for, Kyoto is the ancient capital of Japan where the capital was located for 1,200 years. Surrounded by mountains, there are many temples and shrines in the scenic land. In addition, Kyoto has a spirit of hospitality and traditional culture that has been passed down from ancient times. At the welcome reception and social gathering, you will experience a part of such Japanese culture. You will be able to explore the city of Kyoto. I hope everyone's stay in Kyoto become the memorable one.



Takashi Okada, MD, PhD  
Congress Chair  
ASCAPAP2023 in Kyoto

A handwritten signature in black ink that reads "Takashi Okada". The signature is written in a cursive, flowing style.

### **Organizing Committee**

**Congress Chair:** Takashi Okada

**Vice-Chair:** Junzo Iida  
Hideo Matsumoto

**Adviser:** Yukiko Kano

**Secretary General:** Toyosaku Ota

**Organizing Committee:** Hironobu Ichikawa  
Junzo Iida  
Machi Kakimoto  
Yukiko Kano  
Hideo Matsumoto  
Kazuhiko Nakamura  
Takashi Okada  
Yoshiro Ono  
Toyosaku Ota  
Kazuhiko Saito  
Takuya Saito  
Tomoko Shimanouchi  
Kiwamu Tanaka

**Hosting Organization:** Japanese Society for Child and Adolescent Psychiatry  
c/o Dogura& Co., Ltd., 1-8 Koyama, Nishihanaike, Kita,  
Kyoto 603-8148, JAPAN.  
Tel. +81-75-451-4844 Fax +81-75-441-0436  
E-mail: jde07707@nifty.com



## **ASCAPAP Committee**

<b>President:</b>	Panom Ketumarn, <i>Thailand</i>
<b>Secretary General:</b>	Yukiko Kano, <i>Japan</i>
<b>Treasurer:</b>	Yen-Nan Chiu, <i>Taiwan</i>
<b>President-Elect:</b>	Takashi Okada, <i>Japan</i>
<b>Past-President:</b>	Dwijjo Saputro, <i>Indonesia</i> Chin Lee Toh, <i>Malaysia</i> Savita Malhotra, <i>India</i> Yi Zheng, <i>PR China</i> Daniel Fung, <i>Singapore</i>
<b>Honorary Members:</b>	Kosuke Yamazaki, <i>Japan</i> Kang-E Michael Hong, <i>Korea</i> Felice Lieh Mak, <i>Hong Kong</i> Wei-Tsuen Soong, <i>Taiwan</i> Sze Tai Wong, <i>Singapore</i> Cornelio G. Banaag, Jr, <i>Philippines</i> Sadaaki Shirataki, <i>Japan</i>
<b>Vice-Presidents:</b>	Soo-Churl Cho, <i>Korea</i> Yoshiro Ono, <i>Japan</i> Jing Liu, <i>PR China</i>
<b>Committee Members:</b>	Portia R. Valles-Luspo, <i>Philippines</i> Krystal CK Lee, <i>Hong Kong</i> Mohammad S I Mullick, <i>Bangladesh</i> Nattorn Pityaratstian, <i>Thailand</i> Nehdi Tehrani-Doost, <i>Iran</i> Bhoomikumar Jegannathan, <i>Cambodia</i> Arun Raj Kunwar, <i>Nepal</i> Susan Shur Fen Gau, <i>Taiwan</i> Tjhin Wiguna, <i>Indonesia</i>
<b>Associate Secretaries:</b>	Young-Sik Lee, <i>Korea</i> Ika Widyawati, <i>Indonesia</i>
<b>Editor in Chief:</b>	Chih-Tsai Chen, <i>Taiwan</i>
<b>Editors:</b>	Aili Hashim, <i>Malaysia</i> Dong Ho Song, <i>Korea</i> Georgina Gozo-Oliver, <i>Philippines</i>

## **ASCAPAP Contribution Award**

This award was proposed by Prof. Kang-E Michael Hong, M.D., Ph.D., one of the founding members of ASCAPAP and an honorary EC member.

With the endorsement of EC members, the award will be presented to those who have contributed to ASCAPAP, beginning with the 11th Congress of ASCAPAP (ASCAPAP 2023).

The first ASCAPAP Congress was held in Japan in 1996, followed in turn by nine Asian countries, and the 11th Congress will again be held in Japan. This is considered to indicate that the society has reached a sufficient level of maturity as an academic society.

Therefore, we decided to honor those who have laid the foundation of the society and pray for the further development of child and adolescent mental health in Asia. Among the founding members, the first ASCAPAP Contribution Award will be presented to Prof. Kosuke Yamazaki, who made great contributions to the establishment and development of ASCAPAP as the first Secretary General of ASCAPAP.

Prof. Kosuke Yamazaki not only played a leading role in education, research, and clinical practice of child and adolescent psychiatry in Japan, with a focus on autism, but also contributed to development of child and adolescent psychiatry in Asia and the world.

### **Biography of Prof. Kosuke Yamazaki**

- 1962 graduated from School of Medicine, Hokkaido University (MD)
- 1967 graduated from Graduate School of Medicine, Hokkaido University (PhD)
- 1981 Associate Professor, Department of Psychiatry, Tokai University School of Medicine
- 1987 Professor, Department of Psychiatry, Tokai University School of Medicine
- 1996 Secretary General, Asian Society for Child and Adolescent Psychiatry and Allied Professions (ASCAPAP)
- 1997 President, Japanese Society for Child and Adolescent Psychiatry (-2003)
- 1998 Vice President, International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP)
- 2003 Professor, Institute of Educational Research, Tokai University; Principal, Tokai University Sagami Junior & Senior High School
- 2006 Professor, Department of Child Studies, Faculty of Human Services, Mejiro University; Graduate School of Social Work Services, Mejiro University

## Conference Information

### **Congress Name:**

ASCAPAP 2023 in Kyoto - The 11th Congress of The Asian Society for Child and Adolescent Psychiatry and Allied Professions

### **Congress Theme:**

Broadening Perspectives on Child and Adolescent Mental Health - New Frontiers of Research and Practice in Asia

### **Hosting Organization:**

The Japanese Society for Child and Adolescent Psychiatry

### **Congress Website:**

<https://child-adolesc.jp/ascapap2023/>



### **Congress Venue:**

Kyoto International Conference Center (ICC Kyoto)  
Takaragaike, Sakyo-ku, Kyoto 606-0001 Japan  
Room A, B1 B2, C-1, C-2, I, J, K, Sakura  
<https://www.icckyo.or.jp/en/en/>



### **Registration Counter:**

All congress materials will be available at the congress registration located at Level 1.

Opening hours	Friday, May 26, 2023	9:00-17:00
	Saturday, May 27, 2023	9:00-17:00
	Sunday, May 28, 2023	9:00-16:00

### **Participants:**

- ✓ Mental health professionals, academics and researchers, general practitioners and pediatricians, school counsellors and allied educators
- ✓ Community partners and service providers, policy-makers, service managers across government and non-government sectors
- ✓ Undergraduate and graduate students (Medicine, Psychology, Social Welfare, Education, and Other related areas)
- ✓ Service users with lived experience and their caregivers
- ✓ Anyone who is active in the field of child and adolescent mental health

### **Registration Fee:**

The registration fee of ASCAPAP 2023 is

Advanced Registration (till May 25th, 2023)*	¥ 35,000
On-site Registration (after May 26th, 2023)*	¥ 40,000
Accompanying Person (≥18years old)#	¥ 20,000
Undergraduate/ Graduate Student*	¥ 20,000

\*Including the participation for conference program, abstract booklet, congress bag, lanyard, welcome reception, social gathering

# Including only welcome reception and social gathering. Registration of accompanying children under 18 years is not necessary.

Payment of registration fee can be finished on registration site. Cancellation fee is 30% till February 24, 2023 and 100% after February 25, 2023.

**Name badges:**

All participants are kindly requested to wear their name badges at all the times during the congress including welcome reception and social gathering. Name badges for accompanying children under 18 years are available at reception [Free of Charge].

**Certificate of Attendance and Receipt:**

Certificate of Attendance and Receipt are attached with name badges. These are distributed with a congress bag.

**Congress Language:**

The official language of the congress is English. Simultaneous translation will not be served. Only social programs (open to the public) are in Japanese.

**Instructions for Speakers and Moderators:**

All oral presentations are presented by PC projection. The PC data reception counters are located in each congress venue. Please be aware that there is no PC data reception room.

We prepare for the Windows PC with Microsoft PowerPoint 2013 and 2019. Please bring a PowerPoint file in USB stick memory. If you use Macintosh computers or applications except PowerPoint, please use your PC for presentation. You are encouraged to finish PC data reception 90 minutes (30 minutes at the session in the morning) earlier before starting your session.

Presentation time is counted down in the timer on the desks for speakers and moderators. The signal turns from green to orange, and red (time over). Please strictly observe the presentation time.

**Instructions for Poster Presenters:**

Poster board is 90cm x 210cm (wide x height). We will prepare the pins, and we will ask the speaker to pin the poster on the board. All posters are located in the poster area (Room I, Room J and Lobby) at Level 2. Posters will be displayed from 12:00 at May 26<sup>th</sup> to 13:00 May 28<sup>th</sup>, 2023. Each author/presenter is responsible for taking and placing the poster on the assigned panel. All posters should be hung up at 9:00-12:00 in May 26<sup>th</sup>, 2023. They should be removed at 13:00-16:00 in May 28<sup>th</sup>, 2023.

Poster session will be used free discussion format. Presenters are requested to stand in front of their own posters during the poster session slot below.

Poster number (Odd number): 12:00-13:00 (1 hour) May 26<sup>th</sup>, 2023

Poster number (Even number): 11:40-12:40 (1 hour) May 27<sup>th</sup>, 2023

If the assigned day is inconvenient for the presenter, it is allowed to stand on the other day.

When the presenter stands, please wear a red badge on your chest or your participation holder. (There are red badges near the entrance of the poster area.)

**Best poster award:**

The organizing committee of ASCAPAP2023 will award several poster presentations in Kyoto. Best poster award will be announced at the poster area on-site at 1pm on May 28th, and the award winners will receive the certificate and souvenirs at the Closing Ceremony.

**Lunch:**

Light meal and juice will be provided at sponsored seminars in May 27<sup>th</sup> and 28<sup>th</sup>, 2023.

Please be aware that meals are not provided at sponsored seminars in May 26<sup>th</sup>, 2023.

Vegetarian menu will be served, but we cannot serve halal because of limitations in the congress hall.

**Welcome Reception and Conference Party:**

All participants can join the Welcome Reception and Conference Party. No additional fees are requested.

**Free Wi-Fi**

Participants of ASCAPAP2023 are permitted to connect to ICCK\_Public\_WiFi (no password required). However, the communication speed is not guaranteed. It is not suitable for video communication.

**Prayer Room:**

Prayer rooms can be found in Room 504 and 506. Compass and Prayer mat are prepared.

**Sensory Room:**

Sensory Room is equipped for participants with hypersensitivity to sound between Room A and L at Level 2.

**First Aid:**

All participants who feel sick can use First Aid at Level 2. You can call an ambulance anytime and anywhere in Japan by dialing 119. [Free of Charge]

**Sponsorship:**

Sponsored seminar: Otsuka Pharmaceutical Co., Ltd.  
Janssen Pharmaceutical K.K.  
Takeda Pharmaceutical Company Ltd

Advertisement: Otsuka Pharmaceutical Co., Ltd.  
Nikon Solutions Co., Ltd.  
Takeda Pharmaceutical Company Ltd  
Nobelpharma Co., Ltd.  
Yoshitomiyakuhin Corporation

Book display: Fukumura Shuppan Inc.

**Support:**

This program is supported by a subsidy from Kyoto City and the Kyoto Convention & Visitors Bureau.





## Floor Plan



Registration (Level 1)

- Venue 1-----Room A (Level 2)
- Venue 2-----Room B-1 (Level 2)
- Venue 3-----Room B-2 (Level 2)
- Venue 4-----Room C-1 (Level 1)
- Venue 5-----Room C-2 (Level 1)
- Venue 6-----Room K (Level 2)

Posters --- Room I, Room J, Lobby (Level 2)

- EC meeting (EC member only, May 25<sup>th</sup>, 2023)----Sakura
- Welcome Reception (May 26<sup>th</sup>, 2023)-----Sakura
- Conference Party (May 27<sup>th</sup>, 2023)-----Sakura

Prayer Rooms---Room 504 and 506 (Level 5)

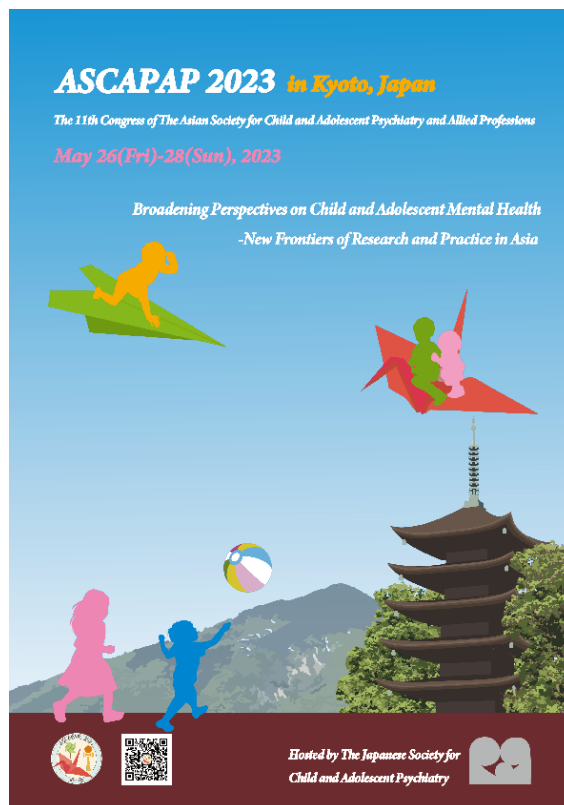
Calm-down Space--- Lobby (Level2)

Art Exhibition---Lobby (Level2)

**Message from the creator of the conference logo and poster design**

**Mayu Aoshima , M.D.; Diector, Mental Clinic NOZOMI**

Origami, the motif of this design, is one of the traditional Japanese toys and is familiar to children today. The shapes that can be created from a single sheet of colored paper are infinite, and no two pieces folded by hand are the same. I pray that this year's event will be an occasion for people of all generations to connect and share their thoughts and feelings with each other.



May 25th, 2023

1 Room A 520	2 Room B-1 284	3 Room B-2 180	4 Room C-1 134	5 Room C-2 134	6 Room K 90	Poster Room I, J Lobby	Restrant Sakura	Office Room665
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9:00

10:00

11:00

12:00

13:00

14:00

15:00

16:00

17:00

18:00

19:00

20:00

21:00

EC meeting
Banquet

May 26th, 2023

	1 Room A 520	2 Room B-1 284	3 Room B-2 180	4 Room C-1 134	5 Room C-2 134	6 Room K 90	Poster Room I, J Lobby	Restrant Sakura	Office Room665
9:00	Reception								
10:00	Opening Remarks Keynote Lecture Takashi Okada	Symposium 1 Moderator Susan Shur-Fen Gau Ayaka Ishii-Takahashi	Symposium 2 Moderator Hidekazu Kato Wachiraporn Arunothong	Symposium 3 Moderator Bhoomikumar Jegannathan Kazumasa Kimura	Symposium 4 Moderator Shuntaro Ando Atsushi Nishida	Symposium 5 Moderator Yoshifumi Mori Takanobu Suzuki	Poster Putting		
11:00	Special Lecture 1 Daniel Fung (Moderator: Yoshiro Ono)	Speaker Yu-Ju Lin Jung-Chi Chang Yi-Ling Chien Huey-Ling Chiang	Speaker Hidekazu Kato Wachiraporn Arunothong Fransiska Kaligis Li-Te Chiang	Speaker Puthy Pat Bhoomikumar Jegannathan Hiroshi Tomita Kumiko Ando	Speaker Ryemi Do Syudo Yamasaki Mariko Hosozawa Daiki Nagaoka	Speaker Yoshifumi Mori Karin Kato Takanobu Suzuki Tatsuya Yamashita			
12:00	Sponsored Seminar 1 (Otsuka) Nagahide Takahashi (Moderator: Takuya Saito)						Poster Session (odd number)		
13:00	Special Lecture 2 Valsamma Eapen (Moderator: Yukiko Kano)	Reserch Topics 1 Kenji Nomura	Reserch Topics 2 Hidetoshi Takahashi	Reserch Topics 3 Tomoya Hirota	Reserch Topics 4 Masatoshi Katagiri	Reserch Topics 5 Masanori Isobe	Poster		
14:00		Symposium 6 Moderator Warren YK Ng Kiwamu Tanaka Speaker Yoshihiro Nakadoi Kota Sasaki Iris Chih-Tsai Chen Lim Choon Guan	Symposium 7 Moderator Junichi Fujita Kumi Aoyama Speaker Kumi Aoyama Masami Hanafusa Kyohei Yamamoto Kazuya Asanuma	Symposium 8 Moderator Masaki Kodaira Miki Takada Speaker Toshiko Kamo Nana Hosogane Ikuko Kato Koyuru Kurane	Symposium 9 Masakage Okuno Hirokazu Kumazaki Speaker Yuichiro Yoshikawa Kazunori Terada Hirokazu Kumazaki Yasuhiro Kanakogi Naomi Matsuura	Symposium 10 Moderator Masatoshi Ukezono Kaichi Yoshizaki Speaker Masatoshi Ukezono Kaichi Yoshizaki Hiroki Furuie Yoshiyuki Kasahara			
15:00	ASCAPAP Country Reports COVID-19 in Asia (Moderator: Yukiko Kano)	Symposium 11 Moderator Tomoya Hirota Kenji J. Tsuchiya Speaker Tomoya Hirota Manabu Saito Yui Sakamoto Kenji J. Tsuchiya	Symposium 12 Moderator Masahide Usami Noa Tsujii Speaker Masahide Usami Naoko Satake Jun Kobayash Noa Tsujii	Symposium 13 Moderator Toshiko Kamo Nana Hosogane Speaker Miki Takada Mashiro Yamaguchi Myong Sun Choe Yasuyo Minagawa	Symposium 14 Moderator Ayaka Ishii-Takahashi Miho Kuroda Speaker Ayaka Ishii-Takahashi Yuka Mori Yearin Kim Miho Egawa	Symposium 15 Moderator Young Sook Kwack Yun Hyong Kang Speaker Wan Seok Seo Soyoung Irene Lee So Hee Lee Heewoo Lee			
16:00									
17:00									
18:00							Welcome Reception		
19:00									
20:00									

May 27th, 2023

	1 Room A 520	2 Room B-1 284	3 Room B-2 180	4 Room C-1 134	5 Room C-2 134	6 Room K 90	Poster Room I, J Lobby	Restrant Sakura	Office Room665
	Reception								
9:00	Plenary lecture 1 Susan Shur-Fen Gau (Moderator: Hirotsuka Kosaka)	Plenary lecture 2 Gail Tripp (Moderator: Hideki Negoro)	Reserch Topics 6 Nagahide Takahashi	Reserch Topics 7 Futoshi Suzuki	Reserch Topics 8 Junichi Fujita	Reserch Topics 9 Shota Uono	Poster		
10:00			Workshop Moderator Tze Jui Goh Choon Guan Lim Speaker Li Ting Ng, Siti Fathin Aerisa Binte Rosli, Xue Wei Wendy Poh, Tai Yeow Catherine Tan, Guan Seng Arthur Goh	Symposium 16 Moderator Kazuya Ono Tomoko Shimanouchi Speaker Fumio Matsuda Takashi Nagasawa Heejeong Yoo Shu-Tsen Liu	Symposium 17 Moderator Hitoshi Kaneko Andre Sourander Speaker Sanju Silwal Masayoshi Ogura Tjhin Wiguna Say How Ong	Symposium 18 Moderator Sowmyashree Mayur Kaku Mayur Vinaykumar Kaku Speaker Mayur Vinaykumar Kaku Sowmyashree Mayur Kaku Kavita V Jangam Asim Ur Rehman Ganie			
11:00	Plenary lecture 3 Bung-Nyun Kim (Moderator: Katsunaka Mikami)	Plenary lecture 4 Kiwamu Tanaka (Moderator: Nami Honda)							
12:00	Sponsored Seminar 2 (Janssen) Takuya Saito (Moderator: Yukiko Kano)						Poster Session (even number)		
13:00	Special lecture 3 Norbert Skokauskas (Moderator: Masaru Tateno)	Reserch Topics 10 Katsunaka Mikami	Reserch Topics 11 Fumie Horiuchi	Reserch Topics 12 Hirokazu Kumazaki	Reserch Topics 13 Takahiko Inagaki	Reserch Topics 14 Kazuhiko Yamamuro	Poster		Office
14:00			Symposium 19 Moderator Susan Shur-Fen Gau Ayaka Ishii-Takahashi Speaker Chia-Jui Tsai Yi-Ling Chien Hsing-Chang Ni Wei-Ting Ko	Symposium 20 Moderator Hideki Negoro Toyosaku Ota Speaker Yuichi Onishi Hiroki Matsuura Kosuke Okazaki Masaki Taguchi	Symposium 21 Moderator Kiwamu Tanaka Kazumasa Kimura Speaker Kazumasa Kimura Junichiro Ota Iris Chih-Tsai Chen Stephen Koder	Symposium 22 Moderator Kazuhiko Yamamuro Mitsuhiro Uratani Speaker Kazuhiko Yamamuro Mitsuhiro Uratani Kiwamu Matsuoka Masami Hanafusa			
15:00	Plenary lecture 5 Yukiko Kano (Moderator: Junko Yagi)	Plenary lecture 6 Hiroshi Yamashita (Moderator: Tomoko Shimanouchi)							
16:00	Plenary lecture 7 Yoshiro Ono (Moderator: Takashi Okada)	Plenary lecture 8 Miho Kuroda (Moderator: Naoko Inada)	Symposium 23 Moderator Susan Shur-Fen Gau Masatoshi Ukezono Speaker Yu-Chieh Chen Liang-Jen Wang Chung-Yuan Cheng Yueh-Ming Tai	Symposium 24 Moderator Ruziana Masiran Suzy Yusna Dewi Speaker Suzy Yusna Dewi Ruziana Masiran Lina Budiyantri Rahima Dahlan	Symposium 25 Moderator Hidekazu Kato Kristiane Siahaan Speaker Kusuma Minayati Monica Andalusia Rinvil Renaldi Fransiska Kaligis	Symposium 26 Moderator Yukiko Kano Junko Yagi Speaker Junko Yagi Naomi Matsuura Jiro Masuya Naru Fukuchi			
17:00	Reserch Topics 15 Masaru Tateno	Reserch Topics 16 Shuntaro Itagaki							
18:00									
19:00									
20:00									
								Conference Party	



**May 26<sup>th</sup>, 2023**

**Venue1 (Room A)**

10:00-10:40 **Opening Remarks & Keynote Lecture**  
**Broadening Perspectives of Child and Adolescent Psychiatry Toward Post-COVID-19 era**

Takashi Okada<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

With advances in science and technology, the world has become smaller, and the means of connecting people have become more diverse. While this has expanded the possibilities for social support, it has also widened the gap between those who cannot benefit from such support and those who can.

The novel coronavirus infection (COVID-19) was first discovered in 2019 and quickly spread around the world, resulting in a pandemic. The infection struck everyone equally, regardless of wealth or status, in both East and West. However, the fatality rate of the infections varied depending on the medical situation of the country, and the economic damage was more severe for the socially vulnerable. These include children who have experienced traumatic experiences in complex family environments and children who have difficulty adapting to environmental changes due to neurodevelopmental or psychiatric disorders.

The restriction of non-essential and non-urgent outings for the purpose of infection control narrowed the possibilities of our health care or support provision. In reality, however, we were called upon more than ever to save children from isolation and to provide assistance according to their individual psychosocial situations. It was also necessary to be close to the position of the vulnerable and to powerfully communicate their need for support.

Countries have borders, sometimes leading to wars, and political, ideological or religious conflicts. And under such circumstances, there are children with trauma, and children who experience loss. We seek cooperation and solidarity that transcend those boundaries and conflicts. We also do not stand for the fact that the daily food that give us comfort are produced by child labor exploitation of children in distant lands. It is simply because every child in the world deserves the freedom to be protected, to learn, and to live toward self-fulfillment.

Japan has experienced many disasters, such as the Great Hanshin Earthquake and the Great East Japan Earthquake, and has achieved recovery by helping each other. We also know the importance of psychological support for children who suffer more severely in such circumstances, and the importance of social support for children who experience difficulties during the recovery period.

Times are shifting to post-COVID-19 era. However, it is important to provide appropriate support to children and caregivers who are unable to keep up with the changing times. I am convinced that it is important for us to come together to ensure that every child in the world is in the light, and that no one is left behind.

There is no conflict of interest to disclose.

10:50-11:50 **Special Lecture 1** Moderator: Yoshiro Ono  
**Salutogenesis for the Individual Brain**

Daniel Fung<sup>1</sup>

<sup>1</sup>Institute of Mental Health (IMH), Singapore, Singapore

Population health and its predecessor public health has been the buzzword for the last 20 years,

focusing largely on trying to understand health and illness across a population or group of individuals. Clinical medicine on the other hand focuses on the development of appropriate treatments for identified illnesses. This is an artificial dichotomy between public health initiatives and clinical practice by the doctor. Brain research has moved from the gross anatomical features of the brain to its function. Previous emphasis on the brain in Western initiatives has been to study how the typical brain functions (e.g. human connectome studies) therefore offering insights into brain pathology. However less has been done to understand how individual brains function in relation to achieving potential and developing illness. The origins of health in the brain of the individual requires neuroscience research to pivot towards understanding how the physical and social environments create risks and strengths across the spectrum of illness and health. This can then be used to understand socio-cultural differences in the development of evidence based interventions relevant to persons and peoples.

#### References

Human Connectome Project <http://www.humanconnectomeproject.org/>

World Health Organization; [https://www.who.int/health-topics/brain-health#tab=tab\\_1](https://www.who.int/health-topics/brain-health#tab=tab_1)

National Research Foundation Singapore Health and Human Potential

<https://www.nrf.gov.sg/rie2025-plan/human-health-and-potential>

12:00-13:00 **Sponsored Seminar 1** <Otsuka Pharmaceutical Co., Ltd.>

Moderator: Takuya Saito

#### **Prenatal inflammation and neurodevelopmental disorders**

Nagahide Takahashi<sup>1</sup>, Toshiki Iwabuchi<sup>2</sup>, Tomoko Nishimura<sup>2</sup>, Kenji J. Tsuchiya<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Nagoya University Graduate School of Medicine, Nagoya, Japan

<sup>2</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

The prevalence of neurodevelopmental disorders such as autism spectrum (ASD) and attention deficit hyperactivity disorder (ADHD) is rapidly increasing. Although the exact causes of these disorders are unknown, recent advances in research have revealed that both genetic and environmental factors contribute to the development of ASD and ADHD. In particular, it has been noted that prenatal inflammation plays an important role in the development of ASD and ADHD.

Here, using data from a longitudinal cohort study underway at the Research Center for Child Mental Development, Hamamatsu University School of Medicine, we present the results of recent studies showing that prenatal inflammation is involved in the development of ASD and ADHD.

Prenatal inflammation was assessed by measuring inflammatory factors using umbilical cord blood; ASD symptoms were measured by the SRS-2 and ADHD symptoms by the ADHD-RS. We have shown that increased prenatal leptin is a risk for ASD and increased multiple cytokines are a risk for ADHD. We also calculated a polygenic risk score as a genetic risk for ASD and ADHD and examined the role of gene-environment interactions in these disorders.

We believe that these findings will provide clues for future prevention methods for ASD and ADHD.

The data presented here are from a study approved by the Ethics Committee of Hamamatsu University School of Medicine, and written consent for the participation of infants was obtained from each parent or guardian.

Dr. Takahashi reports receiving a speaking fee from Otsuka Pharmaceuticals. The other presenters have no conflicts of interest.



13:10-14:10 **Special Lecture 2** Moderator: Yukiko Kano  
**Tics and Tourette: Is it time to consider Tic Spectrum Disorders?**

Valsamma Eapen<sup>1</sup>

<sup>1</sup>Discipline of Psychiatry & Mental Health, UNSW Sydney, Sydney, Australia

Tourette Syndrome (TS), affecting 1% of school aged children is a neurodevelopmental disorder that is often misunderstood and under-diagnosed. TS is highly heritable yet genetically heterogeneous. The genetic heterogeneity also links to clinical heterogeneity and this session will trace the pathogenesis of TS from genotypes to clinical phenotypes. The commonly occurring co-morbidities such as ADHD and OCD will be linked to the fronto-striatal pathways to illustrate how these neuronal circuits serve as the final common pathway in translating genetic vulnerability to tics and related behaviours. Evidence from genetic, neuroimaging and phenomenological data sets suggest that some forms of OCD are alternative phenotypic expressions of the putative TS gene(s) with gender dependent differences in the phenotypic expression. Newly emerging data including neurophysiological findings suggest that the improvement in tic symptoms with age may be the result of frontal compensatory responses, with frontal cortices becoming more efficiently connected to the striatum and to the motor and sensorimotor cortices. Thus research exploring the neuronal circuitry in relation to sensorimotor gating, procedural learning, and habit formation as well as its genetic underpinnings has implications for understanding the genesis and course as well as the management. From a clinical perspective, given the significant overlap in the aetiology and clinical presentation including course and outcome, a dimensional approach of a Tic Spectrum Disorders would simplify the diagnostic process and most importantly reduce the stigma associated with a diagnosis of Tourette Syndrome as the management is similar whether the patient has Chronic (Motor or Vocal) Tic Disorder or Tourette Syndrome.

Conflicts of interest: Nil for this presentation

14:20-17:00 **ASCAPAP Country Reports** Moderator: Yukiko Kano  
**Child and adolescent mental health in countries and regions organizing ASCAPAP: through COVID-19 pandemic**

Over ten countries and regions organizing ASCAPAP will report on the current state of child and adolescent mental health there, focusing on the impact of COVID-19 pandemic. Among the major impacts of COVID-19 on the lives of people around the world, the impact on child and adolescent mental health seems to be particularly significant, with school closures and other disruptions to their lives.

Likely, some of the problems related to child and adolescent mental health in each country and region before COVID-19 have emerged with greater emphasis with COVID-19. Thus, there may be issues that vary considerably from country to country and common issues throughout Asia.

By exchanging opinions on these issues, we believe we can obtain valuable suggestions for improving child and adolescent mental health in Asia, taking into account each country's and region's characteristics.

Bhoomikumar Jegannathan  
Caritas-CCAMH (The Center for Child and Adolescent Mental Health), Chey Chumneas  
Referral Hospital, *Cambodia*

Jing Liu  
Peking University Sixth Hospital, *China*

Phyllis Chan  
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Devashish Konar  
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Ryemi Do<sup>1</sup>, Soyeon Kim<sup>2</sup>, You Bin Lim<sup>1</sup>, Su-Jin Kim<sup>1</sup>, Hyerim Kwon<sup>1</sup>, Jong-Min Kim<sup>3</sup>, Bung-Nyun Kim<sup>1\*</sup>  
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## **Venue 2 (Room B-1)**

10:20-11:50 **Symposium 1**

### **Longitudinal follow-up studies on neurodevelopmental disorders: Cognition and Brain Structures**

Moderator 1: Susan Shur-Fen Gau (Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan)

Moderator 2: Ayaka Ishii-Takahashi (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

#### **S1-1**

### **Developmental Changes in Neuropsychological Functioning in Autism Spectrum Disorder (ASD)**

Yu-Ju Lin<sup>1,2</sup>, Susan Shur-Fen Gau<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Far-eastern Memorial Hospital, New Taipei City, Taiwan,

<sup>2</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

#### ABSTRACT

**Background:** Attentional and neurocognitive deficits are frequently found in children with autism spectrum disorder (ASD). Little is known about the developmental changes of attentional and visuospatial deficits in children and adolescents with ASD, compared to typically developing controls (TDs).

**Methods:** We used Conners' Continuous Performance Test (CCPT) and/or Cambridge Neuropsychological Test Automated Battery (CANTAB) to assess a wide range of neuropsychological functions in children (6-11 years old) and adolescents (12-18 years old) with and without ASD at baseline and 5-7 years later. Their parents received Kiddie epidemiologic version of the schedule for affective disorders and schizophrenia (K-SADS-E) both at baseline and follow-up. All subjects and their parents completed written informed consent forms before receiving the tests and interviews. Age, sex, and follow-up duration were matched for children and adolescents with ASD and TDs among those who completed either CCPT or CANTAB at both time points. Finally, 106 children with ASD, 67 TD children, 48 adolescents with ASD, and 39 TD adolescents were included for data analysis for CCPT and 24 children with ASD, 38 TD children, 45 adolescents with ASD, and 28 TD adolescents were included for data analysis for CANTAB visuospatial tests. The paired t-test was used to compare the differences between Time 1 and Time 2 in each subdomains of autistic and ADHD symptoms, and CCPT/CANTAB measures. The mixed model was used to compare repeated measures, estimate slope over time, and group\*time interactions after adjusting for the duration of follow-up.

**Results:** Children and adolescents with ASD showed persistent impairments in laboratory attentional functions and spatial (working) memory but not visual memory during the follow-up period. Children with ASD showed greater improvement in tonic alertness/processing speed and assertive responding than TD over time. Adolescents with ASD had less improvement in response inhibition and signal detectability than TD over time. For spatial working memory, there were parallel developments from childhood to adolescence for the ASD and TD groups, and a catch-up development in ASD from adolescence to adulthood. Greater improvements in neuropsychological performance (CCPT and CANTAB) were noted during childhood to adolescence than adolescence to late adolescence and young adulthood both in ASD and TD. No linear correlation was noted between developmental changes in attention/hyperactivity symptoms and CCPT performance.

**Conclusion:** Our findings suggested that there might be a deviant developmental course in the laboratory attentional functions and delayed development of spatial (working) memory in ASD through childhood to late adolescence.

Both authors declare no conflict of interest.

## S1-2

### Longitudinal Cortical Thickness Changes in Autism and Relating Autistic Symptoms and Daily Executive Functions

Jung-Chi, Chang<sup>1,2</sup>, Yu-Chieh Chen<sup>1,2</sup>, Susan Shur-Fen Gau<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

<sup>2</sup>Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan

## ABSTRACT

**Background:** Autism spectrum disorder (ASD) is a complex neurodevelopmental disorder with a wide range of regional brain abnormalities. Although previous cross-sectional neuroimaging studies had shown brain structure might be associated with autistic symptoms. The knowledge regarding longitudinal changes in brain structure from adolescence to young adulthood and the temporal relations between brain profiles and clinical features in people with ASD is still under investigation. This longitudinal study compared the developmental change rate of cortical thickness between autistic people and typically developing (TD) people and their relationships with the dynamic clinical features and daily executive functions.

**Methods:** We enrolled 86 participants with ASD and 82 age-, sex-, and follow-up (4.8 years on average)-latency-matched TD participants (mean aged 14.6 years) with repeated measures at baseline and follow-up. We used the Social Responsiveness Scale to measure the social communication deficits and the Behavior Rating Inventory of Executive Function to assess daily executive functions. We used surface-based morphometry to analyze the longitudinal neuroimaging data to compare the developmental changes patterns between the ASD and TD groups. Then, we tested the associations between the specific brain regions and autistic symptoms and daily executive functions. The study was approved by the Ethics Research Committee of the National Taiwan University Hospital, Taipei, Taiwan.

**Results:** With the whole brain vertex-wised analyses, seven clusters showed accelerating cortical thinning in the ASD group as compared to the TD group, including the left inferior temporal, left rostral middle frontal, left pars orbitalis, left inferior parietal, left pars opercularis, right rostral middle frontal, and the right middle temporal region. The cortical thinning rate in the left inferior parietal and right pars opercularis regions negatively correlated with the change rate of autistic traits in the ASD group. Greater thinning rates of the left inferior parietal were also negatively associated with the change rate of daily executive functions. In addition, the cortical thinning rate in the left inferior parietal and the left pars opercularis regions during adolescence could predict the daily executive functions and social functions in early adulthood.

**Conclusion:** Our results of distinct developmental changes in cortical thickness suggest that the inferior parietal and pars opercularis regions are linked to the development process of social communication and real-world executive functions in autistic people.

**Conflicts of interest:** The authors have no conflicts of interest related to this work.

## S1-3

### **The Clinical Mediators of Real-World Executive Functions in Adolescents with Autism Spectrum Disorder**

Yi-Ling Chien<sup>1</sup>, Yueh-Ming Tai<sup>2</sup>, Yen-Nan Chiu<sup>1</sup>, Wen-Che Tsai<sup>1</sup>, Susan Shur-Fen Gau<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

<sup>2</sup>Department of Psychiatry, Beitou Branch, Tri-Service General Hospital of National Defense Medical Center, Taipei, Taiwan

## ABSTRACT

**BACKGROUND:** Psychopathologies that mediate real-world executive function deficits in individuals with autism spectrum disorder (ASD) during the transition into young adulthood are largely unknown. This study aimed to identify the childhood mediators for the behavioral and cognitive aspects of real-world executive function in late adolescence and young adulthood of ASD populations.

**METHODS:** We followed up 289 ASD youth (aged  $11.6 \pm 3.8$ , male 82.2%) and 203 typically-developed controls (TDC,  $10.7 \pm 2.9$ , 66.5%) to their ages of  $16.9 \pm 4.7$  and  $15.8 \pm 3.9$ , respectively. The Behavior Rating Inventory of Executive Function (BRIEF), comprising two global scales (the Behavioral Regulation index [BRI] and the Metacognitive Index [MI]), was

used to assess real-world executive function at Time 2. Mediators of behavioral regulations (assessed by BRI) and metacognition (assessed by MI) were explored among a wide range of psychopathologies, parental bonding, and attention performance by using mediation analysis. This study was approved by the research ethics committee of National Taiwan University Hospital, Taipei, Taiwan.

**RESULTS:** We found that the ASD group had lower everyday executive functions than TDC with lower BRI, MI, and most subscales scores (large effect sizes, Cohen's  $d > 1.0$ ). Several childhood factors were significant mediators. Multiple mediation analyses revealed that childhood inattention, withdrawn behaviors, social communication deficits, and self-reported emotion, and inattention/hyperactivity problems were significant mediators for both BRI and MI. Oppositional and aggressive behaviors were significant mediators only for BRI, while overall school function only mediated for MI. Inattention remained a significant mediator for both BRI and MI in multiple mediation analyses, while oppositional behaviors and peer problems were specific mediators for BRI and MI.

**CONCLUSION:** Our findings suggest that several factors in late childhood may mediate the executive functions in daily life during late adolescence. Treating common mediators such as inattention may improve real-world executive function in ASD individuals during the transition into young adulthood.

The authors declared no conflict of interest.

#### **S1-4**

### **Longitudinal Developmental White Matter Microstructural Changes in ADHD from Childhood to Young Adulthood**

Huey-Ling Chiang<sup>1,2</sup>, Susan Shur-Fen Gau<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Far Eastern Memorial Hospital, New Taipei City, Taiwan

<sup>2</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan.

#### **ABSTRACT**

**Background:** Although alterations in white matter microstructure are evident in children with attention-deficit/hyperactivity disorder (ADHD), the developmental trajectories of white matter microstructures in ADHD remain unclear due to limited longitudinal studies. Therefore, we aim to investigate the developmental changes of white matter tract microstructure in individuals with ADHD compared with typically developing controls (TDC) and to explore whether the changes correlate with clinical presentations.

**Methods:** This longitudinal study acquired diffusion spectrum imaging (DSI) at two timepoints. The sample included 55 participants with ADHD and 61 TDC. The enrollment/first DSI age ranged from 7 to 18 years, with a five-year mean follow-up time. We identified 16 participants with remitted ADHD and 39 with persistent ADHD in the follow-up assessment. The microstructural property of 45 major fiber tracts over the entire brain was represented by the values of generalized fractional anisotropy (GFA). Our primary aim was to examine the time-by-group interaction of the GFA in whole-brain white matter tracts. We also tested whether the longitudinal changes of microstructures were associated with ADHD symptoms and attention performance in a computerized continuous performance test. We further perform subgroup analysis to delineate the developmental changes in participants with remitted and persistent ADHD.

**Results:** Participants with ADHD showed more rapid development of GFA in 13 tracts after the false discovery rate correction within 45 tracts: the left arcuate fasciculus, right superior longitudinal fasciculus (SLF) II and III, left frontal aslant tract, left cingulum (main body), left IFOF, left FS connecting the prefrontal cortex (FS-PFC), left thalamic radiation connecting the sensorimotor cortex and auditory nerve, bilateral corticospinal tracts, and the corpus callosum

connecting the sensorimotor cortex and the splenium. Within participants with ADHD, more rapid GFA increases in the left cingulum and left FS-PFC were associated with slower decreases in inattention symptoms. In all participants, more rapid GFA increases in the left cingulum and left IFOF were associated with greater improvement in attention performance. Within these 13 tracts, we found that 12 tracts (except for SLF II) still showed significant time-by-group interactions in the Z-GFA between those with persistent ADHD and TDC. In contrast, only 8 tracts demonstrated significant results in those with remitted ADHD.

Conclusion: Our findings suggest atypical developmental trajectories of white matter tracts in ADHD, characterized by normalization and possible compensatory neuroplastic processes with age from childhood to early adulthood. However, those with remitted ADHD still showed deviant maturation in some tracts.

Conflicts of Interest: The authors declare no actual or potential conflicts of interest related to this study.

### 13:00-13:40 **Research Topics 1**

#### **Support for Children with Developmental Disabilities in Mongolia**

Kenji Nomura<sup>1</sup>, Kana Yokoyama<sup>1</sup>, Sumino Wakabayashi<sup>2</sup>, Rie Fukumoto<sup>3</sup>, Nergui Oyuntungalag<sup>4</sup>, Dandii Odgerel<sup>4</sup>, Hitoshi Kaneko<sup>1</sup>, Masako Nagata<sup>1</sup>

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<sup>4</sup>Mongol National University of Education, Ulaanbaatar, Mongolia

#### ABSTRACT

Globally, a pressing issue in child psychiatry for at least the past 20 years has been the inadequate support systems for children with developmental disabilities. As parents in Asia gain awareness about developmental disabilities, the need for support has been increasing. To this end, a system based on collaborations among specialists in various fields and specialized institutions, in addition to existing medical care, is crucial. Through joint research with the Mongolian National University of Education and the Mongolian National Medical University, we examined the current status and issues regarding such child support in Mongolia. We identified a lack in the methodology and human resources across all stages of the processes of identifying, assessing, and supporting children with developmental disabilities.

The joint research on the support for children with developmental disabilities in Mongolia has been ongoing since 2013, and in 2016, we established the Center for Joint Support of Child Development at the National University of Education of Mongolia as a base for research and practical action. In this center, consultative services for children with developmental concerns and their families were established for providing the necessary action and the promotion of human resource development. Furthermore, the Mongolian version of the intelligence test for children was developed and standardized for the first time in 2020.

The following three activities are ongoing:

1. A training program for capable personnel for conducting intelligence tests and implementing training programs,
2. Assessment tools for children with developmental disabilities in Mongolia and its utilization for epidemiological studies, and
3. A curriculum for training child psychiatrists.

Therefore, collaborating with local experts and adapting to the cultural, educational, and other norms of the country are essential. This report explores the emergent cultural differences in the course of our joint supportive projects and the subsequent challenges for realizing this support.

The research related to this presentation has been approved by the Ethics Review Committee of the Department of Psychology and Human Developmental Sciences, Nagoya University. The authors declare no conflicts of interest associated with this manuscript.

13:50-15:20 **Symposium 6**  
**Keeping secrets with children**

Moderator 1: Warren Y.K. Ng (American Academy of Child and Adolescent Psychiatry President, Professor of Psychiatry at Columbia University Medical Center, USA)

Moderator 2: Kiwamu Tanaka (Hyogo Mental Health Center, Kobe, Japan)

**S6-1**

**Issues of confidentiality with children in child and adolescent psychiatric inpatient treatment**

Yoshihiro Nakadoi<sup>1</sup>, Yuichiro Fuji<sup>1</sup>, Michiyo Okada<sup>2</sup>

<sup>1</sup>Shikoku Medical Center for Children and Adults, Zentsuji, Japan

<sup>2</sup>Graduate School of Integrated Arts and Sciences, Kochi University, Kochi, Japan

**ABSTRACT**

As children grow up, they become aware of the differences in perspectives and experiences between them and their parents, and from mid-childhood onwards, many children become aware that the world from their point of view is different and unique from that of their parents. They find that their parents do not always know what they are feeling and experiencing. They think that in some cases it is better that their parents do not know that, and that they prefer to keep secret it (Hirai, 2020).

From mid-childhood onwards, clique formation is observed among children. They are more likely to peer with children who hang out, and to value the approval of their group over the values of their parents, resulting in them making up secrets and lying to their parent. Children thrive in their relationships in which they share secrets.

Children who hang out together are considered group, and are more likely to act in ways that emphasize the approval of the group rather than the values of their parents, resulting in them making up secrets and lying to their parents. It is in their relationships in which secrets are shared that children thrive.

Saito (2015) states that groups are an important facilitating factor in inpatient treatment and also an important therapeutic structure that can sometimes be an obstructing factor. In such wards, it is often observed that secrets are shared among children or confided in the form of consultations from children to ward staff.

Yamazaki (2018) states that when a secret is confided, the response should be to avoid promising in advance to keep the secret and to tell the child that if it is deemed necessary to protect you, it may be told anyone who needs to know. However, the reality is that when a secret is suddenly confided in the context of everyday care and conversation, rather than within the framework of a fixed time and place such as a consultation or counselling session. It can be confusing and difficult to deal with. In addition, it may be difficult to intervene, including fact-finding, if the child is asked to reveal a secret about another hospitalized child or a secret shared in a social networking service group.

Consent to medical treatment is given by the person with parental authority as part of the right to personal custody of the child, and secrets of the child learned during treatment may in some cases need to be told to the person with parental authority. On the other hand, the Convention on the Rights of the Child regards children under 18 years of age as "subjects with rights" and recognizes their human rights as same as adults, in which children have the right to keep secret what they do not want to be known and not to have their trust and reputation damaged. The dilemma often arises with regard to the extent to which the secrecy of the child should be protected. In any case, if we have to tell a secret, we will have to make the greatest effort to

obtain the child's consent.

Ethical consideration: The examples are fictitious and are combining fragmented information under ethical considerations.

COI: No conflicts of interest to disclose

## **S6-2**

### **What should we as therapists consider and deal with when a child as a patient discloses a secret to us?**

Kota Sasaki<sup>1</sup>

<sup>1</sup>Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

#### **ABSTRACT**

The premise is that under international treaties, children are "subjects with rights" and are legally and ethically subject to the same confidentiality as adults. One difference from adults is that in Japan, children under the age of 18 are protected persons, and the right to custody and control of property is granted to parents who have parental authority.

What is the significance of "secrecy" in the developmental process of children?

As children grow up, they become aware of differences in perspectives and experiences between themselves and others, and come to feel that these are unique to them and, in some cases, are better left unknown to others, including their parents, and they come to have secrets. This is related to the establishment of self-identity. In other words, it is important for children to have secrets in their development, and they need an environment in which they can have secrets with peace of mind.

In clinical situations, it is important to consider, what it means for the child to keep a secret and what it means for him or her to disclosure it to the therapist.

If the content of the secret does not fall under any of the exceptions to confidentiality, the therapist will basically respect the confidentiality, while considering the meaning of the confidentiality and the meaning of the child's disclosure of it to the therapist and will proceed to have a dialogue with the child about the content and take necessary action as appropriate.

On the other hand, if the content of the confidentiality is related to a potentially harmful situation or a violation of the law, appropriate disclosure of the confidentiality is required as an exception to ethical and legal confidentiality. In each case, it is necessary to consider whether or not to inform the child about sharing secrets, if so, to whom, and in what way. In such cases, it is also helpful to consider the meaning of secrecy for the child and the meaning of disclosing it to the therapist.

In the discussion, we would like to deepen the discussion by assuming specific clinical situations.

Ethical consideration: The examples are fictitious and are combining fragmented information under ethical considerations.

COI: No conflicts of interest to disclose

## **S6-3**

### **Clinical Management of Confidentiality: Constraints and Challenges to Keeping Secret with Children in Taiwan**

Iris, Chih-Tsai Chen<sup>1</sup>, Shih-Kai Liu<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Taoyuan Psychiatric Center, Ministry of Health and Welfare, Taoyuan City, Taiwan



<sup>2</sup>Seed of Hope Clinic, Taipei City, Taiwan

#### ABSTRACT

A secret is defined as “hidden fact which may not be divulged”; independent of the types of secrets that are kept, they always “exact a price and functions as an internal stressor” (Larson & Chastain, 1990). Studies showed that keeping secrets from parents is longitudinal associated with physical and psychological disadvantages in adolescence, and often interferes with parental trust, parental communication, and perceived parental supportiveness. It is, however, positively related to adolescents’ emotional autonomy. Furthermore, vulnerable children and youths are less able to trust their relationships and need to keep their secrets in private.

Confidentiality refers to the boundaries surrounding shared secrets and to the process of guarding those boundaries. A mental health practitioners may decide to extend the boundaries of confidence under different circumstances, such as assumed duties to report child abuse, underage sexual activity, teenage pregnancy, and suicidal ideation and attempt, or sharing his patient’s notes with a supervisor or consultant if he/she feels that the patient’s treatment would be better served, etc.

In this presentation, we will explore the constraints and challenges to providing high levels of confidentiality to young people, based on extensive literature review and clinical experiences in Taiwan.

There is no one-size-fits-all answer for management under all the different circumstances. Nevertheless, it is hoped that through the presentations of this theme, we will find it useful and will be able to form more readily correct opinions when faced with difficult moral or personal questions pertaining to secrecy, confidentiality, keeping promises and doing what is right in order to foster the common good.

Ethical consideration: This is a non-clinical research and extensive literature review that does not require ethics approval.

COI: No conflicts of interest to disclose.

#### **S6-4**

#### **Doctor, You Have Done Us a Disservice**

Lim Choon Guan<sup>1</sup>

<sup>1</sup>Department of Child & Adolescent Psychiatry, Institute of Mental Health, Singapore, Singapore

#### ABSTRACT

In our clinical practice, we attend to young persons and their families.

Clinicians can get requests from parents to keep some information confidential, but such requests may be less common from the young persons.

In keeping with the symposium theme, the author will discuss the legal and ethical considerations guiding the clinician about making decisions regarding disclosure, from the perspective of a practicing child and adolescent psychiatrist in Singapore.

Ethical consideration: This presentation involves the discussion of real clinical cases in the speaker’s practice, and the cases will be anonymous with no personal identifiers disclosed.

COI: No conflicts of interest to disclose.

15:30-17:00 **Symposium 11**

#### **Is autism spectrum disorder increasing?**

Moderator 1: Tomoya Hirota (Department of Psychiatry and Behavioral Sciences, University of California San Francisco, San Francisco, USA)

Moderator 2: Kenji J. Tsuchiya (Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan)

### **S11-1**

#### **Introduction and epidemiology of autism spectrum disorder**

Tomoya Hirota<sup>1</sup>

<sup>1</sup>Department of Psychiatry and Behavioral Sciences, University of California San Francisco, San Francisco, USA

#### **ABSTRACT**

In this presentation, the presenter will first give a brief review of the characteristics of autism spectrum disorder (ASD), which includes diagnostic criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM 5-TR) and signs and symptoms commonly described in literature. Next, the presenter will begin a discussion on what is increasing in ASD (number vs. proportion of cases, for example). The presenter will provide audience with epidemiological knowledge that is important for understanding the theme of this symposium and then proceed to discuss whether or not ASD is on the rise by presenting findings from epidemiological studies in different countries. One specific example is the changes in the prevalence of ASD from 1 in 88 to 1 in 44 among 8-year-old children in the catchment areas in the United States over the recent 10 years, reported by Autism and Developmental Disabilities Monitoring Network.

What is contributing to the increase in estimated prevalence of ASD? Is a number of new ASD cases on the rise over time and leading to “ASD pandemic” across the world or is the increased prevalence of ASD accounted for by different reasons? If the former is true, how genetic and environmental factors play roles in this change? If the latter is true, what are the contributory factors?

Changes in diagnostic criteria, increased awareness of ASD and subsequent referrals, better ascertainment of subpopulations who were previously overlooked, and access to better education and services can all account for the increase in ASD. As one example, there have been changes in diagnostic criteria in the DSM and the International Classification of Diseases over the last decade, broadening the concept of autism. Additionally, the sex ratio of ASD prevalence is now considered narrower, approximately 3:1 (male: female), suggesting increased understanding and better awareness of ASD phenotypes in females. The presenter will review these factors and expand the discussion further to orient audience to this symposium.

### **S11-2**

#### **Prevalence and cumulative incidence of autism spectrum disorders in a community sample of preschoolers in Japan**

Manabu Saito<sup>1,2</sup>, Tomoya Hirota<sup>3,4</sup>, Yui Sakamoto<sup>4</sup>

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<sup>2</sup>Research Center for Child Mental Development, Graduate School of Medicine, Hirosaki University, Hirosaki, Japan

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<sup>4</sup>Departments of Neuropsychiatry, Graduate School of Medicine, Hirosaki University, Hirosaki, Japan

#### **ABSTRACT**

In recent years, it has been reported that the prevalence of autism spectrum disorder (ASD) is

increasing, but there are few research reports in Asia compared to those in Europe and the United States. Since large-scale epidemiological studies of neurodevelopmental disorders (NDDs) in early childhood have not been conducted in Japan, the delay in early detection is conspicuous compared to other countries. Therefore, 10 years ago, in Hirosaki city, a middle-sized city in northern Japan, we launched a developmental health checkup for early detection of ASD in preschool age and started an epidemiological survey to clarify the prevalence of ASD (The Hirosaki Five-year-old Children Developmental Health Check-up “HFC” study).

In the survey of 3,954 5-year-olds conducted between 2013 and 2016, 559 children underwent further testing and 87 children were diagnosed with ASD according to her DSM-5 criteria. Adjusted ASD prevalence was 3.22% and the male-to-female ratio of the crude prevalence was 2.2:1. The cumulative incidence of ASD up to 5 years of age for the total study years was 1.31%. A generalized linear model revealed no significant linear trends in 5-year cumulative incidence over the study years.

On the other hand, according to the 2021 MEXT (Ministry of Education, Culture, Sports, Science and Technology) survey, the number of children receiving special support in Japan has doubled or tripled from 10 years ago. The increase in numbers is for all children with NDD, including intellectual disabilities, and not just for ASD.

We have been diagnosing NDD in 5-year-olds for 10 years with the same method in HFC. From the progress of the 10-year study, we consider whether there is a real increase in ASDs and NDDs.

### **S11-3**

#### **Genetics of Autism Spectrum Disorder (ASD): Are genetic factors contributing to changes in ASD prevalence?**

Yui Sakamoto<sup>1</sup>

<sup>1</sup>Departments of Neuropsychiatry, Graduate School of Medicine, Hirosaki University, Hirosaki, Japan

#### **ABSTRACT**

If the prevalence of Autism spectrum disorder (ASD) is on the rise due an increased number of new incident of ASD cases, how are genetic and environmental factors contributing? In other words, can we explain the increase in ASD prevalence in terms of genetic and environmental factors and possibly their interaction? In this session, the presenter will first review genetics of ASD to provide a general concept of the etiology of ASD. Secondly, the presenter will argue the possibility that genetics or environmental changes are contributing to the increase in ASD prevalence.

ASD is now understood to be a complex disorder resulting from a combination of genetics and environment. Previous twin studies have shown that the concordance rate for ASD in monozygotic twins is around 60-90% and the heritability is estimated to be around 40-80%. Hundreds of genetic factors have been identified as candidates to contribute to the pathogenesis of ASD, including genes, Copy Number Variations (CNV), and Single Nucleotide Polymorphisms (SNP). Representative candidate genes include SHANK3, TSC2, RELN, and so on. One of the most representative CNVs is a maternal 15q11–q13 duplication found in 1–3% of people with ASD.

Although in the past most studies have examined the genetic and environmental contributions to the etiology of ASD separately, recent studies have begun to focus on the interaction between genes and the environment. The interaction between genetics and environment may modify gene expression through epigenetic processes such as changes in DNA methylation. Do environmental risk factors increase and influence genetic factors through epigenetic processes? If so, we may be able to understand some of the reasons why the prevalence of ASD is increasing.

## **S11-4**

### **Environmental contributions in the aetiology of autism spectrum disorder: current understanding and future perspectives**

Kenji J. Tsuchiya<sup>1,2</sup>, Tomoko Nishimura<sup>1,2</sup>

<sup>1</sup>United Graduate School for Child Development, Osaka University, Kanazawa University, Hamamatsu University School of Medicine, Chiba University, University of Fukui, Suita, Japan

<sup>2</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

#### **ABSTRACT**

Literature has indicated that some non-genetic/environmental factors increase the risk for the emergence of autism spectrum disorder (ASD). Such candidates include, for instance, advanced parental age, maternal hypertension and overweight during pregnancy, and maternal use of antidepressants during pregnancy, all of which have been consistently supported in a recent umbrella review by Kim et al. (2019). Additionally, these findings have led researchers to formulate a pathophysiological hypothesis involving maternal immunological activation (MIA), and inflammation and immunological reactions during the prenatal period are now anticipated to play a significant role in the aetiology.

Despite this progress, previous studies investigating the environmental contributions of ASD have been challenged by more recent studies, which do not support earlier findings. Reasons for the inconsistency are two-fold; one is that the more recent studies opt for covariates that have not been considered in the literature, and the other is that nosocomial threshold for diagnosing ASD has been changing. The former suggests that some earlier findings might have been accounted for by unmeasured but important confounders. The latter suggests that the more recent parents of children with ASD perceive a higher degree of impairments.

COI disclosure: No authors reported conflict of interest to be disclosed.

### **Venue 3(Room B2)**

10:20-11:50 **Symposium 2**

#### **Overview of child and adolescent psychiatric training system and update situation in Asian countries**

Moderator 1: Hidekazu Kato (Department of Child and Adolescent Psychiatry, Nagoya University Hospital, Nagoya, Japan)

Moderator 2: Wachiraporn Arunothong (Lampang Regional Hospital, Lampang, Thailand)

## **S2-1**

### **Child and Adolescent Psychiatry Training in Japan: Current Situation and Challenges**

Hidekazu Kato<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Nagoya University Hospital, Nagoya, Japan

#### **ABSTRACT**

In Japan, Japanese Medical Specialty Board was established in 2014, and the new system started in 2017. However, the training system for subspecialties has not been well established yet. In Japan, there had been no formal system of clinical training of child and adolescent mental health, and only few institutions provide 2-3 years training programs following pediatric or psychiatric training. Many trainees had lost their way of and subsequently give up being a child and adolescent psychiatrist owing to no established pathway to this specialty. However, the situation is changing and novel formal and unified training program has just started in 2022.

It is certified by the medical board of specialists for mental issues of children and adolescents which is supported by four academic societies related to youth mental health (Japanese Society of Psychosomatic Pediatrics, Japanese Society of Pediatric Psychiatry and Neurology, The Japanese Society for Child and Adolescent Psychiatry and Japanese Society for Adolescent Psychiatry). A total of 82 of the training programs were established in 38 of the 47 prefectures. Each program consists of several institutions and offers a wide range of clinical training in children's and adolescent's mental health. After completing three years of training in pediatrics or psychiatry, this training program can be taken. It is unique in that both pediatricians and psychiatrists can begin training. Pediatricians' strength includes understanding of normal developmental patterns, acquiring the perspective of considering syndromic disorders being comorbid with neurodevelopmental and psychiatric disorders, taking into account the effects of physical illness, and understanding the emotions of families with seriously ill or low-birthweight infants. Psychiatrists' strengths include having a perspective that includes adults after the child has grown up, understanding the difficulties faced by adults with neurodevelopmental disorders, understanding adolescent-onset schizophrenia and bipolar disorder, assessing and dealing with parental personality and mental illness. This nascent training system needs to become a better and more specialized clinical training in children's mental health, drawing on the respective strengths of pediatrics and psychiatry.

Author has no conflict of interest and no ethical concern to declare in preparing this presentation because it is based on document and literature review.

## **S2-2**

### **Child and adolescent psychiatry training in Thailand**

Wachiraporn Arunothong<sup>1</sup>

<sup>1</sup>Lampang Regional Hospital, Lampang, Thailand

#### **ABSTRACT**

Child and adolescent (C&A) psychiatry training in Thailand was established in 1989. Residency and fellowship training are two available programs. For residency training, applicants must complete medical degree. They can either apply after completing 1 to 3 year of internship program. Residency training is a 4- year program, with 1.5 year training in a general psychiatric unit and 2.5 years training in a C&A psychiatric unit. Each year, residents are required to pass an in-training examination of their institution. After completing 4 year of training, they have to pass a C&A board examination. The C&A board examination is a national examination and it is certified by a royal of college of psychiatrist Thailand and Thai medical council. The examiners are from all of the training institution in Thailand. Another program in Thailand is a fellowship training program. A fellowship program is a 2 year training program. To be entering in the fellowship program, an applicant must either complete general psychiatry or pediatric residency training. Fellows work only at a C&A psychiatric unit. Only fellows who prior completed general psychiatry board examination can have a board examination after they complete the program. The fellows who prior complete general pediatric board examination are required to work under-supervision with senior C&A psychiatrist at their institute or others institutes that have C&A supervisor for 3 more years. Then they are certified to go for board examination. Before, completing the training, both residents and fellows are requested to do a research on C&A psychiatry and publish or present their papers at the national conference. Recently, there are 8 training institutions, which can accommodate 20 trainees each year. 7 institutions are in Bangkok, one in Chiangmai, northern Thailand, one in Khonkaen, northeastern Thailand, and one in Songkla, southern Thailand. There are 250 C&A psychiatrists in Thailand but majority of them are in Bangkok or central Thailand. Thailand is facing the problem of C&A psychiatrist distribution. During Covid-19 pandemic, the training institution faced the problems about sending residents and fellows to elective outside the institution, setting

up a tele-lecture, conference and the most challenging is the tele-examination. The talk will cover the history of training in Thailand, training curriculum, electives and the challenge of conducting a training program during covid-19 pandemic.

Author has no conflict of interest and no ethical concern to declare in preparing this presentation because it is based on document and literature review.

### **S2-3 Child and Adolescent Psychiatry Training in Indonesia: Current Situation and Challenges**

Fransiska Kaligis<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

#### **ABSTRACT**

There is persistent discrepancy between healthcare professionals and general population in Indonesia. While the population continues to rise, medical schools are limited and may require almost a decade to complete. By 2021, there are 1296 psychiatrists in Indonesia (0.5/100.000 population) and only 65 child and adolescent psychiatry subspecialists as of 2022. Despite being a subspeciality, child & adolescent psychiatry modules are integrated in the psychiatric residency program, medical training and Continuing Medical Education (CME) workshops. In residency training, child and adolescent psychiatry module is given with a duration of 3-6 months. Psychiatrists are expected to be able to perform child and adolescent psychiatric examination, handle emergency cases and perform psychotherapy as well as family therapy. Medical students also undergo psychiatric rotation during their medical training, as general practitioners are expected to have the ability to screen and diagnose for conditions such as mental retardation, ADHD and autism in accordance to the national standard. Socio-economic changes, an increase in social problems that influence children such as the internet, violence and abuse serve as challenges in today's climate. In addition, service facilities for child and adolescent psychiatry and mental health are limited, and community stigma around mental health issues are still high. However, opportunities can be found in psychiatrists given encouragement to enter child psychiatry training, collaboration with other professions, empowerment in community care, focusing on preventive measures and developing trainings/workshops for healthcare professionals. In conclusion, child and adolescent psychiatry in Indonesia is a sub-specialty training and the number of subspecialists in Indonesia are still small, however, challenges in shortage of resources can be minimized by improving community care and empowering allied professions as promotion and prevention remain a key role to decrease child and adolescent mental health problems.

Author has no conflict of interest and no ethical concern to declare in preparing this presentation because it is based on document and literature review.

### **S2-4 Child and adolescent psychiatry training in Taiwan**

Li-Te Chiang<sup>1</sup>

<sup>1</sup>Department of psychiatry, Taipei City Hospital Zhong-Xing branch, Taipei, Taiwan

#### **ABSTRACT**

In Taiwan, the four-year residential training in general psychiatry is followed by advanced training in the subspecialty. This presentation is aimed to introduce the subspecialty training course in Department of child and adolescent psychiatry in Taiwan. In 2023, around 300 child

and adolescent psychiatrists (CAPs) provide clinical service for 4 million people under 18, and 10 to 15 new CAPs finish 12-month training program in certificated hospitals every year. Psychiatrists who decide to specialize in this field should have a half-year training in acute ward and another half an year in day care ward. Furthermore, psychotherapy courses and outpatient unit training courses are also provided each week with supervision by senior psychiatrists. Trainees who finish the training courses are expected to pass the license examination and become certificated CAPs. In Taiwan, although the training program is highly-standardized, the length of training is still shorter than most of the countries. It is our future goal to extend the training period, and then substantially increase training time in psychotherapy, pediatric neurology, rehabilitation medicine, and clinical research.

Author has no conflict of interest and no ethical concern to declare in preparing this presentation because it is based on document and literature review.

### 13:00-13:40 **Research Topics 2**

#### **Acoustic startle response and its modulation in autism spectrum disorder**

Hidetoshi Takahashi<sup>1,2,3</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Kochi Medical School, Nankoku, Japan

<sup>2</sup>Department of Preventive Intervention for Psychiatric Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

<sup>3</sup>Integrative Brain Imaging Center, Department of Advanced Neuroimaging, National Center of Neurology and Psychiatry, Kodaira, Japan

#### **ABSTRACT**

The acoustic startle response (ASR) and its modulation, including prepulse inhibition (PPI), are considered to be well-established global neurophysiological indices for translational research in psychiatric disorders. Sensory abnormalities have often been reported as symptoms of ASD, and auditory over-responsiveness (AOR) is the most common sensory-perceptual abnormality in individuals with ASD. This abnormality has been reported to interrupt behavioral adaptation, and sometimes even requires therapeutic intervention.

Recently, we reported that a greater acoustic startle reflex magnitude in response to weak stimuli of 65-85 dB was found in children with ASD compared to those with typical development, and that this index was related to various clinical features, including sensory problems, autistic traits, emotional/behavioral difficulties, and adaptive/maladaptive behaviors in ASD children. This intensity level of acoustic stimuli is frequently experienced in everyday situations.

Comprehensive investigation of the ASR and its modulation, including the startle response to weak startle stimuli, peak startle latency, and PPI, may contribute to an understanding of the impairment of the neural circuitry in children with ASD and its comorbid behavioral problems. Future studies investigating the development of sensorimotor gating in early development may contribute to prevention of psychiatric disorders.

The ethical considerations: This study was conducted in accordance with the Helsinki Declaration with institutional review-board approval being granted by the Research Ethics Committee of the National Center of Neurology and Psychiatry and the research ethics committee of the Graduate School of Education, the University of Tokyo.

Conflict of interest (COI): Department of Child and Adolescent Psychiatry, Kochi Medical School, is a course donated by Kochi prefecture, Japan.

### 13:50-15:20 **Symposium 7**

#### **Optimizing psychosocial intervention for gaming disorder**

Moderator 1: Junichi Fujita (Yokohama City University Hospital, Yokohama, Japan)

Moderator 2: Kumi Aoyama (Kanagawa Psychiatric Center, Yokohama, Japan)

### **S7-1**

#### **Gaming disorders in child and adolescent psychiatry from the perspective of addiction treatment**

Kumi Aoyama<sup>1</sup>

<sup>1</sup>Kanagawa Psychiatric Center, Yokohama, Japan

#### **ABSTRACT**

Gaming disorder has been included in ICD-11 as a type of addictive behavior in 2022. In Japan, health ministry team reported that there are 930,000 junior high and high school student overusing online services from nationwide survey in 2018. During COVID-19 pandemic, a half of elementary and junior high school student reported that they play internet games more than 2 hours in average every school day. The increase in gaming behavior disorders is a concern under these circumstances, but treatment of gaming disorder is not yet well established.

From the perspective of traditional addiction treatment in adult, motivational interviewing, psychoeducation, detoxication, relapse prevention or connecting to self-help groups are commonly provided. However, in children, the same treatments are not adequate or effective because children's addictive behavior is often connected to multiple background with ongoing difficult circumstances related to their developmental characteristics, psychiatric symptoms, or environmental factors. Therefore, the first step in treatment is to know why and how the child is addicted to the substance or behavior. In most cases, improving the environment enable them to live without relying on substances/behavior and relying on other people.

As well as other addiction, gaming disorder in children is often associated with multiple backgrounds, including developmental disorders such as attention deficit hyperactivity disorder and autism spectrum disorder, psychiatric symptoms such as anxiety and depression, social withdrawal, and inappropriate childcare environment. Since problematic gaming behavior causes family conflict, family members are likely to take a negative attitude toward gaming. However, understanding what the game has given to the child without denying may hint the background of the problem. The types of games that are out of control may reflect unfulfilled needs in their real life, the timing of the loss of control may hint us the time their difficulties maximized, and the way they play games show us the children's strength or coping style which guide us the road to recovery. Reassessment of their developmental characteristics, adjusting the environment by family psychoeducation or collaboration with school officials, should be provided tailored to each case.

In today's world where it is not possible to abstain from the Internet, it is necessary to motivate the individual to seek healthy Internet use through dialogue. Recovery begins with understanding the meaning of their game and making the real world easier to live in.

There is no conflict of interest over this presentation.

### **S7-2**

#### **Group psychotherapy for gaming disorder in outpatient child psychiatry: A review of four years**

Masami Hanafusa<sup>1</sup>

<sup>1</sup>Division of child and adolescent psychiatry, Osaka Psychiatric Medical Center, Hirakata, Japan

#### **ABSTRACT**

A group program has been implemented since 2019 for teenagers who have difficulty maintaining a healthy daily life due to the Internet and games. This is the fourth year of the program, and we have changed the contents and methods of the program over the course of the past four years.



The group treatment program for gaming disorder is named "CLAN; Communication, Learning and Activity to the Next step". It has been provided twice a month for 90 minutes for both affected children and their families. The program aims to provide an opportunity for children in the same situation to get together, broaden their perspectives through communication and play, and review their current lifestyle, which will lead to improve their lifestyles. The program is operated as an outpatient group psychotherapy with the collaboration of multiple professions (physicians, nurses, and psychologists).

The first phase was conducted from June 2019 with a total of 12 sessions and 6 patients participated. After the second phase, it became difficult to continue the program due to the outbreak of the COVID-19. There was a significant decrease in the number of participants, but as of January 2023, the revised program is being provided to the seventh group with new contents and format. Since most of the participants have autistic spectrum disorder in their backgrounds, the program has been adjusted to the characteristics of the participants. We spend more time on communication games than on text-based programs.

Apart from CLAN, which is a group psychotherapy for patients, we regularly hold social events and workshops targeting parents. Reflecting high need of parent's support, 3 to 11 parents participated each time.

Although the number of participants in each CLAN has decreased during the COVID-19 pandemic, the number of patients with problems of dependence on the Internet and games has not decreased among the outpatients. This may be a situation where children with such problems are finding it difficult to motivate them to get treatment. Therefore, we are focusing on parental support and hope that good communication within the family will improve and motivate the children to change.

The study was approved by the Ethics Committee, and care was taken to ensure that patients were not identified.

The presenter has no COI to disclose.

### **S7-3**

#### **Inpatient treatment of gaming disorder for adolescent patients**

Kyohei Yamamoto<sup>1</sup>

<sup>1</sup>Kanagawa Children's Medical Center Dept. of child and adolescent psychiatry, Yokohama, Japan

#### **ABSTRACT**

There is no set protocol for the treatment of gaming disorder, and in Japan, various treatments such as counseling, individual or group cognitive-behavioral therapy, and camps are being offered.

Kanagawa Psychiatric Center have opened outpatient unit specialized for treating adolescent gaming disorder from April 2020. I introduce one case of gaming disorder who visited the unit and was hospitalized for digital detoxification voluntary along his recovery.

Most patients in Japanese psychiatry are admitted to the hospital in one of the following forms: voluntary hospitalization, hospitalization for medical care and protection, or involuntary hospitalization.

The patient was taken to our hospital by his family with complains of impaired control over gaming and was day-night reversal, mood swings, non-attendance at school and social withdrawal. After he visited our hospital several times, he realized his loss of control and family conflict along with gaming behavior and decided to be hospitalized voluntarily. In addition to digital detoxification through the inpatient environment, a group cognitive-behavioral therapy program and family therapy that encouraged the patient and his family to understand the issues behind his symptoms, such as his characteristics, family environment, and social connections, were conducted, and improvement of control over gaming was observed after two months. After

discharged from the hospital, the patient began to expand places to stay, engaging in learning and taking up a part-time job.

In the case of gaming disorder in child and adolescent care, we often experience a vicious cycle in which family anxiety increases, negative family feelings rise, and family relationships become agglutinative due to repeated emotional reprimanding. In such cases, hospitalization helps distancing themselves from each other and break out the vicious cycle, which lead them to rebuild the family relationship.

There is no conflict of interest over this presentation.

## **S7-4 Family Support for Gaming Disorder**

Kazuya Asanuma<sup>1</sup>

<sup>1</sup>Yokohama City University Medical Center, Yokohama, Japan

### **ABSTRACT**

While the pathology of gaming disorder is still in the research stage, there are many patients and families who visit psychiatric care with complaints of difficulties related to game use. There are reports that family group therapy has improved the parent-child relationship and led to improved Internet use in adolescent patients (Qin-Xue Liu et al. 1)). The Department of Child Psychiatry, Yokohama City University Medical Center (CP-YCUMC) developed a group psychotherapy “Yokohama Boardgame and Collaboration Program (YoBoCoP)” for gaming disorder targeting both children and their parents. It is held twice a month for 90 minutes, with one parent and one child per family, and consists of two to four families. and about four staff members. The first 15 minutes of the program is a lecture of psychoeducation regarding gaming disorder, followed by boardgames such as card games, puzzle games or cooperative deduction games adapted to participants developmental characteristics. The first course started in April 2021, with two families participating. The session once to be suspended due to the COVID-19 outbreak, but was completed in December 2021. The second course started in January 2022, with two families participating, and completed in November 2022. Online meetings were held during outbreaks in order to maintain the group relationship.

Although there were no significant change in depression and self-esteem scales of the families after 12 sessions due to the sample size, there were positive comments from families as follows; “I felt that children seemed to enjoy participating in the program” “we could play boardgames with our family members at home”. There is a need increase the number of cases to evaluate effect of YoBoCoP.

Ethical considerations: approved by our Ethical Review Committee. The utmost care is taken to protect privacy.

No COI to disclose

Reference

1) Qin-Xue Liu, Xiao-Yi Fang, Ni Yan, Zong-Kui Zhou, Xiao-Jiao Yuan, Jing Lan, Chao-Ying Liu(2015). Multi-family group therapy for adolescent Internet addiction: Exploring the underlying mechanisms. Addictive Behaviors, 42, 1-8

15:30-17:00 **Symposium 12**

### **Child and adolescent mental health in Japan: current status and future perspective**

Moderator 1: Masahide Usami (Department of Child and Adolescent Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Ichikawa, Japan)

Moderator 2: Noa Tsujii (Department of Child Mental Health and Development, Toyama

University Hospital, Toyama, Japan)

## **S12-1**

### **Training Program in Child and Adolescent Psychiatry in Japan**

Masahide Usami<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Ichikawa, Japan

#### **ABSTRACT**

Japan has several serious issues of children's mental health. However, in Japan, there are no official qualifications recognized by Japanese medical specialty board, and there are two representative types of child psychiatrists: those certified by Japanese Association of Child and Adolescent Psychiatry (JASCAP) and those certified by the Board certified child mental health medical specialist.

JASCAP has a long history since its establishment in 1960, with 4,540 members as of April 1, 2022, of which 2,515 are psychiatrists and 430 are board-certified doctors. To become board certified, one must be a member of the society for five years; three detailed case reports and 30 case short reports are required, but there is no written exam.

The Board certified child mental health medical specialist, which was established in 2014 by the Japanese Association of Psychiatrists and Pediatricians, and the training program for children's mental health specialists will be launched in April 2022. In Japan, a child psychiatrist can begin training after six years of medical school, two years of clinical training, and three years of training in psychiatry and pediatrics. It takes an additional three years to obtain a certified child mental health medical specialist, and during the three years of training, training in psychosomatic medicine and psychiatry as well as presentations at academic conferences are required. The medical specialty examination consists of a written and oral examination. In other words, eight years of training is required after graduation from medical school. At present, there are a total of 712 certified child mental health medical specialists.

There are a few child psychiatrists in Japan and only a few specialized hospitals. There are also social issues, such as the significant increase in the number of neurodevelopmental disorders and abused children in recent years and the increasing suicided children during COVID-19 pandemic. Japanese government has also recommended that the high waiting list for initial medical examinations for children with developmental disabilities be improved, and Japanese community need children's mental health care system.

While consultations on children's mental health are rapidly increasing, the current state of child mental health care in Japan is that child psychiatrists and specialized medical institutions are a few. The training of child and adolescent psychiatrists is an urgent issue in Japan.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required. This author has supervisory fees from Shionogi, Otsuka Pharmaceutical, and Janssen Pharma, and lecture fees from Vertrius Pharmaceuticals and Nobelpharma.

## **S12-2**

### **Prevention and Intervention for Child Abuse in Japan**

Naoko Satake<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Ichikawa, Japan

#### **ABSTRACT**

Child abuse is an important issue in the field of Child and Adolescent Psychiatry, and not only

in Japan but also in many other countries many child and adolescent psychiatrists and co-medical staffs are involved in various services for child abuse.

In recent years, the number of cases of child abuse in Japan has been increasing year by year. In addition, cases of child death due to abuse are reported every year. The Government has taken various interventions, but they have not been sufficiently effective, and the number of abuses continues to increase.

The number of abuse cases in 2020 is 205,044, more than ten times higher than the 17,725 cases of 20 years ago in 2000. By type of abuse, psychological abuse was the largest with 121,334 cases (59.2%), followed by physical abuse, neglect, and sexual abuse and the ratio of psychological abuse is increasing.

To reduce child abuse, the Japanese government made partial revision of the Child Welfare Act to build a system that will provide seamless support from early detection to prevent abuse, rapid response when abuse occurs, and independence support for abused children. Furthermore, the Children and Family Agency, which will be established in 2023, will address a central role in collaborating with various support services for children and families, such as protection of children's rights, support for expectant and nursing mothers, and child-rearing support, to build a system that can provide comprehensive support against child abuse.

In this presentation I will introduce the situation of child abuse in Japan and policies to prevent child abuse, and some cases of how child and adolescent psychiatrists and government agencies can work together to intervene against child abuse. Furthermore, I will talk about the challenges of child abuse in Japan.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required. The author declares no conflicts of interest associated with this presentation.

### **S12-3**

#### **Advantages and challenges of Japanese school health system for mental health**

Jun Kobayashi<sup>1</sup>

<sup>1</sup>Graduate School of Health Sciences, University of the Ryukyus, Nakagami, Japan

#### **ABSTRACT**

As the importance of mental health in schools is recognized worldwide during COVID-19 pandemic, the mental school health system between Japan and other Asian countries will be compared, and discuss the future direction for promotion in Asia. The WHO Western Pacific Office has begun to address adolescent health as a priority for the future, and a regional conference in 2022 identified mental health as a priority for adolescent health and identified schools as an important entry point for community health. However, in many countries, the lack of human resources to implement school health and their low mental health literacy are challenges in implementing school health.

With the enforcement of the National School Ordinance promulgated in 1941, school nurses were positioned as school teacher in Japan. After the World War II, the school nurse became Yogo teacher, who played many health services in schools, However, the physical education teacher has been in charge of health education. In recent years, the duties of Yogo teacher have been expanded, and in 1995, it became possible to take charge of health education. In this context, neither the Yogo teacher nor the physical education teacher has taken an active role in mental health education.

Against the background of various problems related to the state of mind of students, such as the growing seriousness of bullying and the increasing number of students who are not attending school, a trial program was started in 1995 to utilize school counselors, professionals outside of schools with specialized knowledge and experience in clinical psychology, in order to address the concerns of students and parents and to improve the counseling function in schools.

Although the number of placements has still not yet reached 100% now, the number of placements has been increasing each year.

As described above, Japan appears to have an abundance of human resources related to school mental health, but the following challenges can also be identified. While there are many specialists, there are no employment regulations that require ordinary teachers to be actively involved in school health activities and health education, and there are few opportunities to receive training for this purpose. Furthermore, opportunities for all students to learn about mental health in teacher training schools are limited.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required. The author declares no conflicts of interest associated with this presentation.

#### **S12-4 Pharmacotherapy for children and adolescents with attention-deficit/hyperactivity disorder in Japan**

Noa Tsujii<sup>1</sup>

<sup>1</sup>Department of Child Mental Health and Development, Toyama University Hospital, Toyama, Japan

##### **ABSTRACT**

In Japan, the incidence of and use of medication for attention-deficit/hyperactivity disorder (ADHD) have increased over the last two decades. Nonpharmacological treatments are recommended as first-line treatment for children, adolescents, and adults with ADHD, according to the Japanese clinical guideline. When nonpharmacological treatments fails and ADHD symptoms persist, pharmacological treatment is recommended as a second-line treatment. Until now, the Pharmaceuticals and Medical Devices Agency has approved two stimulants (osmotic-controlled release oral delivery system [OROS] methylphenidate and lisdexamfetamine) and two nonstimulants (atomoxetine and guanfacine) for the treatment of persons with ADHD. The Amphetamines Control Law defines lisdexamfetamine as a stimulant raw material with the following warning: “Use only if other ADHD medications are ineffective.” In comparison to other countries, the Japanese ADHD medication prescription pattern was reported to have the following characteristics: (1) a lower prevalence rate of ADHD medication use for children and adolescents, (2) a higher rate of nonstimulant use for those patients, and (3) a lower daily dose of OROS methylphenidate. One reason for the differences in prescribing patterns between Japan and other countries could be the different ADHD treatment guidelines. That is, the Japanese clinical guideline for ADHD considers both stimulants (OROS methylphenidate) and nonstimulants (atomoxetine and guanfacine) to be first-line medications. Another possibility is explained in part by Japan’s stimulant restriction policies (OROS methylphenidate and lisdexamfetamine). These characteristics of the Japanese ADHD medication prescription pattern may result in insufficient treatment effect, lower adherence, and a proclivity for discontinuation in the early stages. Standardized ADHD medication treatment strategies will improve the quality of care for people caring for children and adolescents with ADHD.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required. The author reports procuring personal fees from Otsuka, Shionogi, Takeda, and Nobelpharma.

## **Venue 4 (RoomC-1)**

10:20-11:50 **Symposium 3**

### **Challenges and opportunities of working with young people in prison and juvenile justice system**

Moderator 1: Bhoomikumar Jegannathan (Center for child and adolescent mental health (Caritas-CCAMH), Krông Ta Khmau, Cambodia)

Moderator 2: Kazumasa Kimura (Medical Corporation Shinsinkai Tama-Aoba Hospital, Higashimurayama, Japan)

#### **S3-1**

### **Mental health problems and suicidal expressions among young prisoners in Cambodia: a cross-sectional study**

Puthy Pat<sup>1</sup>

<sup>1</sup>Center for child and adolescent mental health (Caritas-CCAMH), Krông Ta Khmau, Cambodia

#### **ABSTRACT**

**Background:** Mental health and suicide problems among young people, particularly young prisoners is a public health concern globally. Numerous studies informed that young prisoners are one of the most vulnerable groups and are up to ten times more susceptible to mental health problems compared to the young people in the general population.

**Aims:** This is a cross-sectional study aimed to assess the level of mental health problems and suicidal expressions and determine the associated risk factors among young prisoners in Cambodia, a low- and middle-income post-conflict country.

**Method:** Three prisons were selected out of total 24 prisons in the country. 572 young male prisoners between the ages of 15 and 24 participated. The Youth Self-Report (YSR) and the Attitude towards Suicide (ATTS) questionnaires were used to assess mental health problems and suicidal expressions, respectively.

**Results:** YSR mean scores for internalizing and externalizing problems 25.97 and 18.12, respectively; anxiety/depression 11.88, aggressive behaviours 9.97. Social problems, somatic complaints, attention problems and rule breaking behaviour were in the range of 8.10 to 8.49. Withdrawal depression and thought problems were 6.55 and 6.66, respectively. Young prisoners reported significantly higher mean scores across all sub-domains of YSR compared to young people in the schools of Cambodia (Jegannatan et al. 2011).

**ATTS scores:** 16.26% thought about their own death, and 12.06% expressed wish to die. Suicide ideation, planning, and attempts were 6.83%, 1.75%, and 2.80%, respectively. All types of suicidal expressions were lower except suicide attempts compared to the school study in Cambodia: 16.26% of the young prisoners reported death thoughts as opposed to 25.30% and 2.80% suicide attempts compared to 0.6% in the school study (Jegannatan et al. 2011).

**Mental health problems** were associated with younger age, lower educational background, and shorter duration of incarceration. Prior drugs users thought about death significantly (OR 2.08, 95%CI 1.12-3.87) more than their counterparts while suicide ideation was significantly (OR 0.50, 95% CI 0.26-0.98) lower among prisoners with higher education.

**Conclusion:** Mental health problems and suicidal expressions among young prisoners warrant well-planned mental health services that are integrated into the current prison health system. A contextualised intervention that considers age, education, duration of incarceration and previous drug use may contribute to improve the mental well-being of young prisoners in Cambodia.

**Ethical consideration:** Ethical clearance was sought from the National Ethics Committee for Health Research, Ministry of Health, Royal Government of Cambodia (reference no. N33NGCHR), and the permission to conduct the study in the prisons was approved by the individual prison authorities and the General Department of Prisons, Ministry of Interior. Both oral and written consent were obtained from individual prisoners.

COI: All research team members/authors declared no conflict of interest.

### **S3-2**

#### **Challenges in giving voice to marginalize young people in prison setting, Cambodia, a post-conflict country**

Bhoomikumar Jegannathan<sup>1</sup>

<sup>1</sup>Center for child and adolescent mental health (Caritas-CCAMH), Krông Ta Khmau, Cambodia

#### **ABSTRACT**

**Background:** Globally, there are challenges in engaging with and enabling the participation of marginalized young people in research. There are methodological and practical issues faced when conducting studies with young people who experience marginalization such as young prisoners. The mental health of offenders in prisons and other penal institutions pose significant challenges in treatments and rehabilitation due to differences in social situations and context. It is important to understand the challenges in involving marginalized young people in research setting, particularly young prisoners to explore mental health challenges and voice their opinions and suggestions to bring prison reform and integrate mental health services into the prison health system.

**Aims:** Compare the research experiences from four diverse settings involving marginalized young people in the following countries: urban communities in North India, rural northern Sweden, rural schools in Zambia and young prisoners in Cambodia to inform youth research in the field of global public health.

**Method:** Qualitative studies were conducted to give voice to the marginalized young people in India, Sweden and Zambia, and a mixed-methods study in Cambodia to examine the mental health challenges among young prisoners and access to psychosocial care within the prison setting. Youth Self-report and Attitude Toward Suicide questionnaires for quantitative study and focus group discussions (FGDs) for qualitative.

**Results:** Developing trusting relationships with participating young people, the value of research methods, flattening power relations between young people and researchers were highlighted in the four countries study to maximize youth participation. In Cambodia, the quantitative study reported high prevalence of mental health problems and suicides compared to the general population. Overcrowding, multifaceted experiences, socio-economic support, and previous involvement of drug abuse influenced mental health and well-being. The practices of rituals and traditional healing helped them to cope.

**Conclusion:** Marginalized young people's participation in research may contribute to prison reform addressing issues of overcrowding and integrating mental health services into the current prison health system, particularly in the context of mistrust between the authorities to overcome the barriers. This informs future youth research in the field of global public health with the focus on conducting participatory research among marginalized young people and being responsive to their needs, wishes and initiatives, open to new ways of planning intervention in constrictive setting such as prison.

**Ethical consideration:** Ethical clearance was sought from the National Ethics Committee for Health Research, Ministry of Health, Royal Government of Cambodia (reference no. N33NGCHR), and the permission to conduct the study in the prisons was approved by the individual prison authorities and the General Department of Prisons, Ministry of Interior. Both oral and written consent were obtained from individual prisoners.

COI: All research team members/authors declared no conflict of interest.

### **S3-3**

#### **Two different institutional treatment systems for juvenile delinquents with mental**

## **disorders in Japan**

Hiroshi Tomita<sup>1</sup>

<sup>1</sup>Abashiri Prison, Hokkaido home school, Abashiri, Japan

### **ABSTRACT**

Japan has two different systems for treating juvenile delinquents. These two systems are very different in nature. One is a juvenile training school, a correctional institution under the jurisdiction of the Ministry of Justice, and the other is a child welfare institution under the jurisdiction of the Ministry of Health, Labour and Welfare, a child self-reliance support facility. The first premise is that the proportion of juvenile delinquents in Japan is very small in relation to the population. Perhaps because of the small number of juvenile delinquents, the proportion of delinquents admitted to institutions with mental disorders, especially developmental and attachment disorders, is very high.

In a juvenile training school, these young people receive systematic cognitive-behavioural therapy. During their stay in a juvenile training school, juveniles spend their time in delinquency rehabilitation programmes. In principle, private conversation is prohibited in the institution, except during group work sessions.

On the other hand, in a children's self-reliance support facility, milieu therapy in the therapeutic community is the mainstay of treatment. In children's self-reliance support facilities that use a couple's dormitory system, married couples live in a dormitory with the juvenile delinquents. The maximum capacity is about 10 children. If the couple has biological children, they also live with them. In other words, in the dormitory, the staff literally "live" with the boys. In the mornings, the boys attend classes at the school set up on the premises. In the afternoons, the boys spend most of their time working and exercising. In the dormitories, a regular daily routine is maintained. The boys can talk freely with each other in the dormitories, even about private matters. As these are children with developmental and attachment problems, interpersonal problems are likely to arise. However, the staff are of the opinion that the problems are a good training ground for their interpersonal skills.

Thus, the treatment systems of the two institutions are very different. This section focuses on the type of treatment and education the boys receive at the child self-reliance support facility, a system that is unique in the world.

Ethical consideration: This research is a non-clinical research that does not require ethics approval.

COI: No conflicts of interest

### **S3-4**

#### **The future of juvenile delinquents/young prisoners - The prejudiced survey' blocking against rehabilitation of offenders**

Kumiko Ando<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, St.Marianna University School of Medicine, Kawasaki, Japan

### **ABSTRACT**

The current Juvenile Law of Japan was enacted in 1948 and has undergone a series of revisions since then. The basic philosophy is based on the beliefs of *Parens Patriae*, and the key objectives are to provide correctional education and to adjust the environment for the sound upbringing of juvenile delinquents.

In Japan, following the lead of other countries, the age of adulthood was lowered from 20 to 18 in April 2022. As a result, 18-19 year olds are treated as adults in civil law, but in criminal law, they continue to be subject to the Juvenile Law as "specified juveniles. However, the expansion of the number of cases referred to prosecutors and the disclosure of their real names to the



public may have some impact on their reintegration into society.

When we look at changes in juveniles themselves, we find that the number of juvenile delinquency cases has been consistently decreasing since 2004, and that the number of juvenile delinquency cases is now one-half that of 1983, when the number of delinquency cases peaked. As a child psychiatrist, I used to work at a juvenile reformatory and am still involved in the treatment of juveniles there. For example, in the past, juvenile delinquents tended to express their defiance of adults in outward aggressive behavior such as verbally abusive and physical violence. In recent years, however, juvenile delinquents have shifted to passive-aggressive behaviors, such as self-mutilation and refusal to eat, instead of violent behaviors. Such changes can be confirmed by comparing paintings.

With these changes in Japanese law and society, as well as in the juveniles themselves, what kind of support is needed to help juvenile delinquents reintegrate into society?

We will discuss the reintegration of juvenile delinquents into society, based on the results of a stigma survey toward forensic patients with mental disorders among 2,000 people in the general population.

Ethical consideration: Regarding the stigma survey, ethics approval of the ethics committee of St. Marianna University School of Medicine.

COI: The authors have no conflicts of interest directly relevant to the content of this presentation.

13:00-13:40 **Research Topics 3**

### **Clinical implications of Longitudinal Research in Child and Adolescent Mental Health: Are We Doing Good?**

Tomoya Hirota<sup>1</sup>

<sup>1</sup>Department of Psychiatry and Behavioral Sciences, University of California San Francisco, San Francisco, USA

#### **ABSTRACT**

“Doctor, will my child grow out of this problem?” “Doc, is my daughter going to feel happy if we help her now?”

Clinicians in child and adolescent mental health often experience these simple but challenging questions from caregivers of the patients/clients. Can we answer these questions? We believe that mental health problems, symptoms, and conditions that emerge in childhood will diminish over time. We also believe that interventions/treatments we provide can change a child’s prognosis in the field of child and adolescent mental health. However, to what degree are we convinced in sharing these opinions with the patients and their families? To support our beliefs, we need data.

Scientific findings can augment our empirical views in clinical practice. Cross-sectional research in which data is collected only once can help us understand what variables are associated at one time point. However, this method does not address clinical questions above. In contrast, longitudinal study designs take multiple waves of data collection and can allow for examining continuity (vs. discontinuity) of child and adolescent psychopathology, patterns of continuity, factors predicting certain future psychopathologies, and effects of interventions and treatment on future mental health outcomes.

This presentation will summarize existing research findings from longitudinal studies to argue clinical implications of these findings on psychopathologies and treatment effects. To enhance the audience's understanding of study findings, analytical methods commonly employed in longitudinal studies will also be presented. The discussion will then focus on what are yet to be understood from the findings of the existing studies. For instance, what is the ultimate goal of our daily practice and therapeutic interventions? Is it to alleviate the current painful condition or is it to improve the quality of youth’s life in the future? Do our current interventions have a

preventive aspect?

### 13:50-15:20 **Symposium 8**

#### **Implementation and Dissemination of Parent-Child Interaction Therapy (PCIT) in Japan**

Moderator 1: Masaki Kodaira (Department of Child and Adolescent Mental Health, Aiiku Clinic, Tokyo, Japan)

Moderator 2: Miki Takada (1) National Center of Neurology and Psychiatry National Institute of Mental Health, Department of Developmental Disorders, Kodaira, Japan, 2) Chiba University, Graduate School of Medical and Pharmaceutical Science, Department of Frontier Medicine and Pharmacy, Chiba, Japan)

#### **S8-1**

#### **Implementation and Effectiveness of PCIT in Japan**

Toshiko Kamo<sup>1,2</sup>

<sup>1</sup>Wakamatsucho Mental and Skin Clinic, Tokyo, Japan

<sup>2</sup>Japan PCIT Training Center, Tokyo, Japan

#### **ABSTRACT**

Parent-Child Interaction Therapy (PCIT) is a psychotherapy based on play therapy and behavior therapy that aims to improve the quality of parent-child interaction and facilitate recovery for parents (caregivers) struggling with their child's emotional or behavioral problems or parenting difficulties. It was developed by Eyberg et al. in the 1970s in the United States. The treatment program consists of two stages: Child-Directed Interaction (CDI) in the first half, where the child takes the lead in play to improve the parent-child relationship, and Parent-Directed Interaction (PDI) in the second half, where the parent takes the lead and conducts discipline. The essential evaluation measures used are the Eyberg Child Behavior Checklist (ECBI) and the Dyadic Parent-Child Interaction Coding System (DPICS). The theoretical background includes behavioral science, attachment theory, parenting style research by Baumrind, and social learning theory.

PCIT's most significant feature is live coaching, and it is based on robust evidence. It has spread worldwide beyond language barriers, including Australia, Germany, Switzerland, Norway, Korea, Hong Kong, Taiwan and Japan.

PCIT was introduced to Japan in 2008, and since 2010, the developers, Eyberg and PCIT International, have provided direct training. Since the beginning of the training program using Japanese texts in 2015, the dissemination of PCIT has particularly progressed, and approximately 600 people have taken the initial workshop, with approximately 100 receiving certification as therapists or trainers from PCIT International. Participants include clinical psychologists, clinical developmental psychologists, child psychiatrists, pediatricians, psychiatrists, nurses, social workers, and others, and their fields of work are diverse, including child abuse, domestic violence, developmental disorders, and more, as well. In addition to the annual conference, which attracts participants from all over Japan, activities by local associations are also becoming more active.

A retrospective cohort study was conducted in January 2020 in multiple facilities, analyzing 192 cases from 21 institutions, with an effect size of 1.85 and a completion rate of 69%, confirming that having a co-therapy system and super-vision led to better outcomes. PCIT is positioned as a particularly crucial psychotherapy for Japan, which is experiencing a declining birthrate and aging population, as it includes both interventions for a child's problematic behavior and support for caregivers.

COI: The presenter receives salary and honorarium from Japan PCIT Training Center, and copyright income from Shogakukan and Chiba Test Center.

## **S8-2**

### **Parent-Child Interaction Therapy (PCIT) in Child Psychiatry Clinical Practice**

Nana Hosogane<sup>1</sup>, Nozomi Kihara<sup>1,2</sup>, Yurika Tagami<sup>1,2</sup>

<sup>1</sup>Department of Child and Adolescent Mental Health, Aiiku Clinic, Maternal and Child Health Center, Tokyo, Japan

<sup>2</sup>Department of Medical Welfare, Aiiku Clinic, Tokyo, Japan

#### **ABSTRACT**

Aiiku Clinic is a Maternal and Child Health Center in Tokyo and focuses on outpatient clinic services for women, newborns and children. The Department of Child and Adolescent Mental Health provides child psychiatry services for children from infancy to school age.

Approximately two-thirds of the children's diagnoses at first visits are developmental disorders such as autism spectrum disorder (ASD) and attention-deficit hyperactivity disorder (ADHD). Many developmental disorders require long-term support and caregivers are generally under high stress, particularly because of the long duration and high intensity of the children's behavior problems often including significant disruptive behaviors (Anastopoulos, 1993; Angold, 1998). The younger the child is, the greater the impact of the immediate family environment has on the child, and providing support for caregivers is important for improving the child's prognosis.

Parent-Child Interaction Therapy (PCIT) is an evidence-based behavioral parent training treatment for children aged 2 to 7 and their parents (Eyberg, 1988). PCIT is efficacious in treating children with disruptive behavior disorders by enhancing the quality of parent-child relationships and the improvement has been shown to last up to 3-6 years after treatment (Hood & Eyberg, 2003). We would like to report on the implementation of PCIT in our Clinic and discuss the efficacy and benefits in child psychiatry clinical practice.

The implementation of PCIT in child psychiatry clinical practice can be beneficial in improving disruptive symptoms of children with developmental disorders and also improving and/or preventing comorbidities. PCIT is also reported to decrease parenting stress in caregivers of children with developmental disorders.

Another advantage of PCIT is the educational aspect. During PCIT, multiple clinicians work together and provide coaching from behind the one-way mirror. In this way, clinicians may work together as a team and share ideas and information of clinical assessments and show how to approach children and caregivers.

PCIT is an intensive treatment intervention and cannot be implemented to all cases with developmental disorders. We would like to explore ways in which PCIT can be implemented more efficiently in the future.

The contents of this presentation have been approved by the Ethics Committee of Aiiku Research Institute.

The presenters have no conflicts of interest directly relevant to the content of this presentation.

## **S8-3**

### **Implementation of Parent-Child Interaction Therapy within foster care**

Ikuko Kato<sup>1</sup>

<sup>1</sup>Saitama City Comprehensive Center for Children and Family, Saitama, Japan

#### **ABSTRACT**

In Japan, the increase in the number of cases of child abuse has led to the need for further strengthening of measures to prevent child abuse, as well as to strengthen support for caregivers and to expand both the quantity and quality of social care for abused children and others. In Japan, approximately 90% of children in need of social foster care are currently placed

institutions. In order to ensure that children are nurtured in a healthy environment, both mentally and physically, it is necessary to promote foster care in an environment closer to home, and a comprehensive foster care support system is being developed. In practice, however, foster parents face considerable difficulties in fostering children in the child welfare system. Many of these difficulties are in dealing with children's significant behavioral problems, which can cause foster parents to lose confidence in their foster care. Children in foster care often have a history of abuse and neglect, experience high Adverse Childhood Experiences (ACE) scores, exhibit externalizing behaviors, and are at risk for developing future psychological complications. Foster parents often lack the training and support necessary to manage their children's externalizing behaviors, which contribute to parenting stress and are high predictors of placement change in foster care. Although foster parents receive pre-service training before registering or being entrusted with a child, the content of this training varies by region and often does not include sufficient training in parenting skills, among other things, which prevents them from providing the gold standard, evidence-based interventions to address children's behavioral problems. Parent-Child Interaction Therapy (PCIT) is an established, empirically supported treatment for children's disruptive behavior. We have been actively promoting PCIT as a foster care support program since 2019 to support foster parents to manage their children's behavior and improve their parenting skills. To date, in several cases, the program has been shown to be effective in improving children's behavior problems and reducing foster parents' sense of difficulty in fostering their children. In this symposium, we report on the effectiveness and limitations of the application of PCIT to the field of child welfare, including our own experiences.

Presenter has no conflict of interest relevant to this presentation.

#### **S8-4**

#### **PCIT for preterm infants in Jichi Medical University and our role in social problems related to preterm infants**

Koyuru Kurane<sup>1</sup>, Yukifumi Monden<sup>1</sup>, Miyuki Matrano<sup>1</sup>, Kei Wakabayashi<sup>1</sup>  
<sup>1</sup>Jichi Medical University, Department of Pediatrics, Shimotsuke, Japan

#### **ABSTRACT**

The number of preterm infants is increasing worldwide, with a reported prevalence of 5–18%. Preterm infants tend to experience more externalizing behavioral problems during their growth and development, and parents experience stress related to child rearing. In turn, parental stress increases the externalizing problem behaviors of preterm infants. Therefore, childcare problems resulting from externalizing problem behaviors remain. This is a societal issue for preterm infants and their parents. However, no evidence-based treatments are available for the externalizing problem behaviors of preterm infants. Yukifumi Monden has established a PCIT laboratory and co-authors are the members. To identify treatments for preterm infants with externalizing problem behaviors, we conducted several studies to analyze the clinical questions (1) to (4) as follows:

- (1) Although a standardized quantitative index of externalizing problematic behavior, called the Eyberg Child Behavior Inventory (ECBI), is available in the U.S., standardization has not been accomplished in Japan. To quantify externalizing problem behaviors, we validated the standardization of ECBI in Japan with the instruction of Toshiko Kamo and Fumie Ito.
- (2) Few studies have been conducted in Japan on the effectiveness of treatment for externalizing problem behaviors in preterm infants. Jichi Medical University has implemented parent-child interaction therapy (PCIT), which improves children's externalizing problem behaviors and parents' child rearing styles. Therefore, we used the standardized ECBI as an effectiveness scale to verify the effectiveness of PCIT for preterm infants.
- (3) Internet-based support was necessary during the COVID-19 pandemic. In the U.S., several

studies have examined the effectiveness of Internet-based PCIT before the COVID-19 pandemic. However, in Japan, Internet-based PCIT spread after the pandemic, and few reports have examined the effectiveness of Internet-based PCIT. With the support of Toshiko Kamo, We established Japan's first PCIT-certified therapist training undergraduate course at Jichi Medical University. By building a support network using teletherapy, we verified the effectiveness of Internet-based PCIT for preterm infants.

(4) We lack to treat externalizing problem behaviors in preterm infants under 2 years of age, which is not an original indication for PCIT. Few studies have been conducted worldwide on the effectiveness of PCIT for toddlers (PCIT-T) for externalizing problem behaviors in preterm infants under 30 months of age. Therefore, we conducted PCIT-T on preterm infants to examine the effectiveness of this treatment for externalizing problem behaviors.

Written consent was obtained from all participants. The study was approved by the Ethics Committees of Jichi Medical University.

In relation to this presentation, the presenter has no conflict of interest that needed to be disclosed.

15:30-17:00 **Symposium 13**

**Does the Difference in Language and Culture Alter the Efficacy of Evidence-Based Parent Training Treatments in Japan?**

Moderator 1: Toshiko Kamo (1) Wakamatsucho Mental and Skin Clinic, Tokyo, Japan, 2) Japan PCIT Training Center, Tokyo, Japan)

Moderator 2: Nana Hosogane (Aiiku Clinic, Tokyo, Japan)

**S13-1**

**Language and cultural differences in PCIT –Insights from clinical practices and PCIT attrition studies–**

Miki Takada<sup>1,2</sup>

<sup>1</sup>National Center of Neurology and Psychiatry National Institute of Mental Health, Department of Developmental Disorders, Kodaira, Japan

<sup>2</sup>Chiba University, Graduate School of Medical and Pharmaceutical Science, Department of Frontier Medicine and Pharmacy, Chiba, Japan

**ABSTRACT**

Parent-child interaction therapy (PCIT) is a behavioral parent-child psychotherapy that has been widely demonstrated to be highly effective in reducing child's disruptive behaviors and improving parents' parenting skills. Despite the language difference, with the same protocol in multiple languages (originally written in English), its procedure has been used with a wide range of populations across multiple countries and ethnicities, and has shown impressive efficacy rates. Moreover, PCIT has demonstrated long-lasting effect for those who complete the treatment that it is crucial for caregiver-child dyads to complete the treatment to obtain the best outcome.

However, PCIT treatment responsiveness and attrition vary due to a variety of cultural and psychosocial factors. The systematic review has illustrated that heterogeneous countries like the United States have varied completion rates (from around 30% to 80%), while homogeneous countries like Taiwan and the Netherland have much more consistent and lower rates (around 30-40%).

The differences in completion rates may be due to the difficulty of creating a strong "rapport" between the therapist and the dyad especially when cultural backgrounds and native languages are different. In more homogenous countries, it is easier for the therapist to understand and relate to the clients due to their shared culture and language. However, in heterogeneous countries, it can be more difficult for the therapist to bridge the gap between their own cultural

background and that of the client even when they speak the same language. As Japan transitions to a more multicultural and heterogeneous society, with more immigrants from both Asia and the West (recently from Ukraine), it is getting more critical that Japanese therapists adjust their approaches to accommodate the different cultural contexts of their clients. While PCIT has been utilized its well-established methodology to every client, especially when therapists are in the treatment with multicultural background, the process which appeared to be auxiliary becomes the important process of developing the relationship with clients. Thus, it is important that therapists take into account the different cultural contexts and make adjustments to their cultural norms by properly considering each unique cultures, so that the dyads are able to feel connected to the therapist and receive the most benefit from the treatment by completing the treatment. Insights from the systematic review and the experiences of conducting PCIT with multilingual and multicultural families in Japan will be discussed.

The author has no conflict of interest.

### **S13-2 Japanese mother-child interaction in Dyadic Parent-Child Interaction Coding System (DPICS)**

Masahiro Yamaguchi<sup>1</sup>

<sup>1</sup>Department of Educational Collaboration, Osaka Kyouiku University, Kashiwara, Japan

#### **ABSTRACT**

Dyadic Parent-Child Interaction Coding System (DPICS) is a technique for assessing the quality of parent-child interactions based on observations in Parent-Child Interaction Therapy (PCIT). DPICS is a method that primarily relies on language; it allows for maintaining objectivity when specialists of different professions conduct evaluations. Studies utilizing the DPICS have demonstrated that interactions between caregivers and young children with behavioral issues frequently involve criticism, instruction, and ineffective commands (Robinson & Eyberg, 1981; Webster-Stratton, 1985).

However, it is widely acknowledged that there are distinctions in parent-child interactions based on culture. For instance, American mothers are more likely than French and Japanese mothers to engage in activities such as describing, pointing to, naming, or describing object features that foster their children's visual and tactile exploration of their surroundings (Bornstein & Tamis-LeMonda, 1991). Furthermore, Japanese mother-child interactions are characterized by a strong sense of attachment and *amae*, a Japanese concept of dependence on another person (Rothbaum et al., 2016). Some studies have found that Japanese mothers tend to be more controlling and less responsive than their American counterparts (Fogel et al., 1988; Trommsdorff & Friedlmeier, 1993) while perceiving their children differently than American mothers (Senzaki et al., 2021). Since DPICS was developed in the United States, American culture may have influenced its coding rules and characteristics. It is hypothesized that variations in cultural backgrounds affect parent-child conflicts and children's behavioral issues (Garcia et al., 2017). Therefore, cultural influences must be considered when utilizing DPICS to assess parent-child interactions and evaluate the effectiveness of PCIT properly. Furthermore, utilizing the DPICS coding rules for assessing parent-child interactions would enable evaluations of the effects of PCIT in familial settings with diverse cultural backgrounds.

PCIT is gradually gaining popularity in Japan, and the DPICS has been employed to gauge the effects of this intervention (Hosogane et al., 2018). However, PCIT and DPICS have only recently been introduced in Japan (Kamo, 2010), and standardized data on the DPICS of Japanese remains limited.

In this presentation, we will present the findings of an exploratory study of parent-child interaction patterns among Japanese mothers using DPICS. Specifically, we will present data for Japanese mothers and their children using the clinical version of DPICS and compare results

from Western countries. Additionally, we will introduce the characteristics of mother-infant interactional patterns in DPICS.

The research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

### **S13-3**

#### **The practical approach of Parent-Child Interaction Therapy through Developmental-Behavioral Pediatrics in the United States**

Myong Sun Choe<sup>1</sup>, Emma Girard<sup>2</sup>

<sup>1</sup>Early Intervention Program, Golden Gate Regional Center, San Francisco, USA

<sup>2</sup>University of California Riverside School of Medicine, Riverside, USA

#### **ABSTRACT**

Parent-Child Interaction Therapy (PCIT) has been proven to be highly effective in young children aged from 3 to 7 years with externalizing behavior problems. However, not all families benefit from PCIT for various reasons. In particular, language used and ethnic culture of the family as well as the implicit biases from the society surrounding could become barriers for immigrant families. Inter-generational cultural and language gaps within the direct- and extended-family may add another layer of challenges on its effectiveness. As such, it is imperative for the PCIT therapists to understand the family's cultural view to tailor its approach while preserving generalizability to both minority and non-minority ethnic immigrants.

In this presentation, the practical approach of PCIT to the children and families emigrated to the United States (U.S.) with different background, cultures and languages will be presented. Four children (aged 3 to 4 years) and their families were consulted to a developmental-behavioral pediatrician, who provides PCIT, from different institutions and programs in the U.S.; developmental-behavioral pediatricians from a tertiary university hospital, the U.S. Federal funded Early Intervention Program, and community-based parenting groups. Each family experienced its own unique challenges in language barrier between the PCIT provider and a family member (either child or one parent), language barrier within the family members, ethnic culture and religion of the family, a stigmatized view of neurodevelopmental disorders, socioeconomic barrier, as well as psychosocial background and traumatic experiences that led the families to relocate to the U.S.

An approach of personalizing treatment was used while keeping fidelity/adaptation balance. During the pre-assessment, the therapist tried to identify factors associated with treatment engagement and response in each family. In each step of the PCIT, even it was a small step, motivational interviewing-based intervention and subsequent shared decisions making with the family helped to effectively proceed the therapeutic course across multiple ethnic minority families.

The evidence has generally suggested that ethnic minority families are less likely to engage in behavior parent training and show poorer outcomes. Our practical approach applied to the families living in the U.S. with different ethnic backgrounds may provide some hints to the PCIT providers in Japan when they serve increasingly diverse set of clients with bicultural and multiethnic backgrounds.

There is no conflict of interest (COI).

### **S13-4**

#### **Difference between Japan and Western countries in parent-infant interaction and socio-cognitive development**

Yasuyo Minagawa<sup>1</sup>

<sup>1</sup>Department of Psychology, Keio University, Yokohama, Japan

#### ABSTRACT

The literature on developmental psychology including social and language development consists mainly of studies conducted in Western countries. Although such Western-culture-based knowledge seems to be the norm, researchers in this field have realized that the developmental trajectory might differ depending on culture and language. Particularly, Japanese infants seem to lag behind Western infants in socio-cognitive development. In this talk, I will first show some examples of such differences in social and language development found in our studies as well as other previous ones. These examples include 1) development of Theory of Mind (ToM) measured by the false belief and perspective taking tasks, and 2) phoneme and vocabulary acquisition. Then, I will discuss possible causes of the developmental lag from the perspective of parent-infant interaction. One dominant cause would be the weakness of perceptual saliency of the stimuli, namely social and linguistic signals, under the Japanese social environment. For instance, the amplitude of facial expressions (movement) and the frequency of eye-contact are lower in Japanese culture. This affects the infant's perception and what parts of the face they focus on as cues to understand others' emotional state, intention as well as linguistic sound category. Such social stimuli during parent-infant interaction impact on infant's development. Another possible cause would be the difference in the use of words to express one's emotions or states of mind (mental state terms). It has been reported that the use of mental state terms positively affects the development of ToM. Japanese culture is less prone to express one's emotional state, so there may be fewer mental state terms provided by caregivers to children, which may eventually result in delayed ToM development. Additionally, I will show an example of possible bias about gender-specificity that Japanese mothers may unconsciously have for their parenting. It seems that Japanese mothers tend to prefer gender-typical behaviors of their children. This was found from maternal behaviors during mother-child free play using gender-typical and non-gender-typical toys. After summarizing these studies, I will discuss what the ideal form of parent-infant interaction in Japan is and how to achieve it, by referring to PCIT (Parent-Child Interaction Therapy) and our intervention trials.

The author declares no competing interest to disclose.

#### **Venue 5 (RoomC-2)**

10:20-11:50 **Symposium 4**

#### **Epidemiological study on adolescent mental health**

Moderator 1: Shuntaro Ando (The University of Tokyo, Tokyo, Japan)

Moderator 2: Atsushi Nishida (Tokyo Metropolitan Institute of Medical Science, Tokyo, Japan)

#### **S4-1**

#### **Mental health of adolescents during COVID-19 in South Korea: a social media big data analysis**

Ryemi Do<sup>1</sup>, Soyeon Kim<sup>2</sup>, You Bin Lim<sup>1</sup>, Su-Jin Kim<sup>1</sup>, Hyerim Kwon<sup>1</sup>, Jong-Min Kim<sup>3</sup>, Bung-Nyun Kim<sup>1</sup>

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## ABSTRACT

Since the Coronavirus disease 2019 (COVID-19), public safety measures, including social distancing and school closures, have been implemented, precipitating psychological difficulties and heightened online activities for adolescents. This study investigated adolescents' perception of the psychological impact of the COVID-19 pandemic and their coping strategies through a social media big data analysis. Through examining genuine discourse on mental health problem shared by adolescents on social media, this study suggests effective ways to provide support for adolescents during the pandemic.

The data were gathered from social media platforms such as online communities, Twitter, and personal blogs of South Korea from January, 2019, to October, 2021. The 12,520,250 texts were included. The focus keywords and associated words were analyzed by text mining, natural language processing, and a language dictionary. The whole data included in this study is voluntarily and openly shared online posts with no personally identifiable information. Ethical approval was not required for these reasons.

Various mental health difficulties such as self-harm, sleep, and attention problems intensified during the pandemic. Korean adolescents seem to perceive psychiatric drugs and caffeinated beverages as strategies to cope with sleep and attention problems. Korean adolescents may cope with self-harm by talking to their peers. Clinicians, parents, and educators should work collaboratively to provide developmentally appropriate coping strategies to address mental health difficulties for adolescents during the pandemic. For instance, 1) intervention programs that support healthy relationships with parents and peers and 2) psycho-education about the optimal management of sleep, attention problems, and self-harm seem important to guide adolescents more efficiently.

## Conflict of Interest

The research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest. The author who belonged to social media big data company collected and analyzed the social media data according to other authors' designs and ideas.

## S4-2

### **Tokyo TEEN Cohort Study: An adolescent population-based birth cohort study in Tokyo**

Syudo Yamasaki<sup>1</sup>, Daniel Stanyon<sup>1</sup>, Satoshi Yamaguchi<sup>1</sup>, Kaori Endo<sup>1</sup>, Mitsuhiro Miyashita<sup>1</sup>, Shuntaro Ando<sup>1,2</sup>, Mariko Hiraiwa-Hasegawa<sup>3</sup>, Kiyoto Kasai<sup>2</sup>, Atsushi Nishida<sup>1</sup>

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<sup>3</sup>School of Advanced Science, SOKENDAI (Graduate University for Advanced Studies), Kanagawa, Japan

## ABSTRACT

Adolescent is a distinct period of biological, psychological, and social development. Adolescents experience dramatic changes to their physical and mental status, often accompanied by feelings of instability. Many life-long mental disorders first appear during adolescence, which if unaddressed may have serious ramifications for quality of life and incur substantial social and economic costs. In addition, over the past decade, the prevalence of depression and suicidality has increased among adolescents globally. To comprehensively investigate developmental processes and to find critical targets for intervention to promote adolescent mental health, we have launched the Tokyo TEEN Cohort, a large prospective population-based birth cohort study.

Launched in 2012, Tokyo TEEN Cohort study is conducted in three municipalities in the Tokyo metropolitan area. We recruited over 3000 10-year-old children born between 2002 and 2004, and their caregivers. We have collected information on adolescents' mental health and related factors through four waves of data collection at 2-year intervals (10, 12, 14 and 16 years of age) with a high participant retention rate (83% over six years). Tokyo TEEN Cohort study was approved by the ethics committees of the Tokyo Metropolitan Institute of Medical Science, The University of Tokyo, and The Graduate University for Advanced Studies.

Using longitudinal data spanning four time points allows us to disentangle complex relations among many factors influencing adolescent mental health. In particular, we can infer prospective (nearly causal) relationships among these factors dividing within-person and between-person effects using statistical modeling. We will introduce the details of Tokyo TEEN Cohort study and will present the results of the Random Intercept Cross-Lagged Panel Model (RI-CLPM), which allows us to test within-person prospective associations. We will further discuss future research for finding targets for prevention and intervention to promote positive adolescent mental health.

Conflict of Interest: None

### **S4-3**

#### **Adolescent depression: the impact of the COVID-19 pandemic and help-seeking among the vulnerable population**

Mariko Hosozawa<sup>1</sup>

<sup>1</sup>Institute for Global Health Policy Research, Bureau of International Health Cooperation, National Center for Global Health and Medicine, Tokyo, Japan

#### **ABSTRACT**

Adolescence is a vulnerable period for experiencing mental health problems, including depression. Furthermore, there is an increasing concern that adolescent mental health, particularly depressive symptoms, has worsened during the COVID-19 pandemic. Using data from the Tokyo Teen Cohort study, we present results from two studies regarding depressive symptoms of adolescents in the general population. All procedures involving human participants for the Tokyo Teen Cohort study were approved by the institutional review boards of Tokyo Metropolitan Institute of Medical Science, SOKENDAI, and the University of Tokyo.

The first study examined the potential impact of the pandemic by comparing depressive symptoms among 16-year-olds surveyed before (February 2019-February 2020) or during (March 2020-September 2021) the pandemic while accounting for expected age-and-sex-related changes based on age 10, 12 and 14 surveys. Variations by sex, household income, and pandemic phase (early, middle, and late) were examined. We found that depressive symptoms increased by 0.80 points (95%CI 0.28–1.31) during the pandemic. This increase varied by sex and pandemic phase; compared to pre-pandemic, depressive symptoms increased among boys during the pandemic (0.97, 0.15–1.79), which enlarged over time, whereas, in girls, there was an initial decrease followed by an increase that was within the expected age-related change.

The second study focuses on a vulnerable population: adolescents with high autistic traits in the general population, who are known to be at higher risk for experiencing depression. We examined the role of help-seeking intentions in reducing their subsequent depressive symptoms. We found that adolescents with high autistic traits were more likely not to have help-seeking intentions at age 12 (40% vs 27%), which partially explained their greater depressive symptoms at age 14.

We will further discuss approaches to support adolescents' mental health in the post-COVID-19 era based on the results of these studies.

Conflict of Interest: None

#### S4-4

### Being Praised for Prosocial Behaviors Longitudinally Reduces Depressive Symptoms in Early Adolescents

Daiki Nagaoka<sup>1</sup>, Nanami Tomoshige<sup>2</sup>, Shuntaro Ando<sup>1</sup>, Masaya Morita<sup>1</sup>, Tomoki Kiyono<sup>1</sup>, Sho Kanata<sup>2</sup>, Shinya Fujikawa<sup>1</sup>, Kaori Endo<sup>3</sup>, Syudo Yamasaki<sup>3</sup>, Masato Fukuda<sup>4</sup>, Atsushi Nishida<sup>3</sup>, Mariko Hiraiwa-Hasegawa<sup>5</sup>, Kiyoto Kasai<sup>1</sup>

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#### ABSTRACT

**Background:** Depression is highly prevalent and causes a heavy burden in adolescent life. Being praised for prosocial behavior might be a preventive factor because both being praised and prosocial behavior are protective against depression. Here, we investigated the longitudinal relationship between being praised for prosocial behavior and depressive symptoms in adolescents.

**Methods:** In Tokyo Teen Cohort study (TTC), an ongoing prospective population-based cohort study, we collected 3,171 adolescents' data on self-reported experiences of being praised for prosocial behavior, depressive symptoms, and caregiver-evaluated prosocial behavior. Ten-year-old children were asked to freely describe answers to the question "What are you praised for?". Only children who clearly answered that they were praised for their prosocial behavior were designated the "prosocial praise group." The degree of depression at ages 10 and 12 was measured with the Short Mood and Feelings Questionnaire (SMFQ), a self-report questionnaire about depression. Objective prosocial behavior of the 10 year-old children was assessed by the Strength and Difficulty Questionnaire (SDQ). Multiple linear regression analysis was performed using the SMFQ score at age 12 as the objective variable and being praised for prosocial behavior as the main explanatory variable, and the SMFQ score at age 10 and the objective prosocial behavior at age 10 were included as confounders.

**Results:** 845 (28.1%) children answered that they were praised for prosocial behavior.

Depressive symptoms (SMFQ scores) in the "prosocial praise group" were significantly lower than those in the other group both at age 10 ( $4.3 \pm 4.4$  vs.  $4.9 \pm 4.6$ ,  $p < 0.001$ ) and at age 12 ( $3.4 \pm 4.2$  vs.  $4.0 \pm 4.6$ ,  $p < 0.01$ ). In the single regression analysis, the children who reported being praised for prosocial behavior at age 10 had significantly lower depressive symptoms at age 12 (partial regression variable:  $-0.57$ , 95% confidence interval (CI)  $[-0.96, -0.17]$ ). This association remained significant after adjusting for confounders, including baseline depressive symptoms (partial regression variable:  $-0.44$ , 95% CI  $[-0.80, -0.08]$ ). Prosocial behavior alone was not associated with depressive symptoms.

**Conclusions:** Being praised for prosocial behavior rather than objective prosocial behavior at 10 years of age predicted lower depressive symptoms 2 years later. Praise for adolescents' prosocial behavior can be encouraged to prevent depression.

TTC has been approved by the ethics committees of the institutions. There is no COI to disclose.

13:00-13:40 **Research Topics 4**

**Support and Future Perspectives for Children with Gifted in Japan**

Masatoshi Katagiri<sup>1</sup>

<sup>1</sup>Hokkaido University of Education Asahikawa Campus, Asahikawa, Japan

#### ABSTRACT

In recent years, the Ministry of education, culture, sports, science and technology in Japan has been discussing how to support children with specific abilities (talents) such as giftedness. However, in the field of education, we often hear comments such as "I don't know how to deal with the highly intelligent children", "I don't know how it differs from developmental disabilities", and "I don't know how to support them in regular classes".

In this Research Topics, I will talk about the support and future perspectives for gifted children in Japan. First, I will review the characteristics of children with gifted. Especially, the concept of "Overexcitabilities" is a theory that has greatly influenced our understanding of children and adults with gifted. This presentation will also talk about the characteristics of overexcitabilities, which seem to occur in five different areas and some examples. Then I will explain about the support for gifted children in Japan. In Japan, support for gifted children is limited to 2E (twice exceptional) children with developmental disabilities. In this presentation, we will show some cases. Finally, I will consider what kind of support is possible and what is needed now and consider future support for gifted children in Japan.

In the ethical considerations for this presentation, we report some very short cases where the person is not identified. Other cases will be reported with prior permission. The speaker declares no conflicts of interest (COI) in relation to this presentation.

13:50-15:20 **Symposium 9**

#### **Towards an AI Agent System Promoting the Computational Development of Social Emotional Skills for Individuals with Autism Spectrum Disorder**

Moderator 1: Masakage Okuno (Mikuni-hill Hospital, Sakai, Japan)

Moderator 2: Hirokazu Kumazaki (Department of Future Psychiatric Medicine, Graduate school of Biomedical Sciences, Nagasaki University, Nagasaki, Japan)

#### **S9-1**

#### **Development of robotic communication environment toward supporting cognitive development of mentalizing**

Yuichiro Yoshikawa<sup>1</sup>

<sup>1</sup>Department of Systems Innovation, Graduate school of Engineering Science, Osaka University, Toyonaka, Japan

#### ABSTRACT

Due to the recent decline in the birthrate and the difficulty of direct interaction due to the spread of COVID-19 infection, there is concern about the lack of opportunities for dialogue, which is the foundation for the development of "mentalizing," the ability to discover and reason about the mental states of others that is originally developed in a group setting, and the creation of a dialogue environment that supports mentalizing is an urgent need. On the other hand, research recognizing the effectiveness of learning with humanoid robots has been active. Especially, humanoid robots, that is robots in human form, are expected to become communication partners that give the feeling of dealing with people (presence) while ensuring the ease of talking to them by not having to face them directly, and are therefore expected to be applied to medical care support.

We have developed a small humanoid robot called CommU (Communication Unity) that has relatively big eyes and a cute appearance to be a friend of individuals with certain weaknesses such as individuals with Autism Spectrum Disorders and children. Our former studies using tele-operating system to control this robot have shown its possibilities to be a partner of

conversation, with which children or adolescent with ASD learn gaze following (Kumazaki et al. 2018) and consult about their daily problems (Shimaya et al. 2019). In addition, we developed an interactive robot system with a mental state projection function that supports the ability to discover and reason about the mental states of others (mentalizing), and confirmed its effectiveness in supporting the understanding of the emotions and attention of dialogue partners in a psychological experiment with elementary school students. In this presentation, the progress of research and development on the robotic communication environment with ease of talk will be given.

## **S9-2**

### **Towards an AI Agent System Promoting the Computational Development of Social Emotional Skills**

Kazunori Terada<sup>1</sup>

<sup>1</sup>Gifu University, Faculty of Engineering, Gifu, Japan

#### **ABSTRACT**

We are developing a system that enables children, including children with developmental disabilities, to acquire computational social-emotional skills through social interaction with AI agents. Computational social-emotional skills are the ability to read the minds of others and relationships with others, which are essentially invisible, and to construct plus-sum relationships based on computation. Plus-sum relationships contribute to the realization of a well-being society by distributing resources and tasks according to the various intrinsic values of each individual, rather than competing over a few values such as monetary value or social status. Social-emotional skills have been contrasted with cognitive skills, which can be measured by IQ, and has been called non-cognitive skills that is difficult to objectively measure and quantify. However, research on social intelligence, which has been developed in various fields such as game theory, evolutionary psychology, social psychology, cognitive science, and artificial intelligence, has clarified and demonstrated the computational model of the ability to read others' minds and the optimization of social relationships. We believe that it is important for members of society to have social-emotional skills, which is a hybrid of mathematical and moral competence, as well as STEM competence. In this presentation, we will introduce an AI agent system that promotes the computational development of social emotional skills of children, including children with developmental disabilities.

## **S9-3**

### **The utility of android robot for intervention for children with autism spectrum disorders**

Hirokazu Kumazaki<sup>1</sup>

<sup>1</sup>Department of Future Psychiatric Medicine, Graduate school of Biomedical Sciences, Nagasaki University, Nagasaki, Japan

#### **ABSTRACT**

Autism Spectrum Disorders (ASD) is a neurodevelopmental disorder that affects the ability of an individual to communicate and understand social cues throughout their lifespan. Recent rapid technological advances have enabled robots to fulfill a variety of human-like functions, leading researchers to use such technology for the development and subsequent validation of robotic interventions for children with ASD. Indeed, some investigators have argued that recent robotic applications could be effectively harnessed to provide innovative clinical treatments for children with ASD, as many children with ASD have been shown to demonstrate a higher degree of task engagement when interacting with robots as compared with human adults. In fact, growing

anecdotal evidence indicates that the use of robots may provide unique opportunities for assisting children with ASD. Although a variety of robots have been proposed as possible therapeutic tools for interventions with children with ASD, the physical appearances of humanoid robots currently used in therapy with these patients is highly varied. Accordingly, robot developers and therapists are interested in identifying the optimal appearance for robots used in interventions. The ultimate goal of robot-assisted ASD therapy is the generalization of social skills obtained in the robot sessions to subsequent interactions with humans. For this purpose, robots that are more human-like may be advantageous compared with mechanical robots. A Lab android ST is a female type of android robot with an appearance similar to that of a real person. Its artificial body has the same proportions, facial features, hair color, and hairstyle as a human. At first sight and from a distance it is difficult to distinguish this android robot from a live human adult. In this presentation, I am going to introduce the utility of android robot for intervention for children with ASD.

#### **S9-4 The developmental origins of sense of justice**

Yasuhiro Kanakogi<sup>1</sup>

<sup>1</sup>Graduate School of Human Sciences, Osaka University, Suita, Japan

##### **ABSTRACT**

In this talk, I will present two studies that investigated infant morality, especially a sense of justice. First, I will introduce the study that revealed preverbal infants affirm third-party interventions that protect victims from aggressors (Kanakogi et al., 2017). After watching aggressive interactions involving a third-party agent who either interfered or did not, 6-month-old infants preferred the former. Subsequent experiments confirmed the psychological processes underlying such choices. These findings shed light upon the developmental trajectory of perceiving and understanding protective third-party interventions.

Second, I will introduce the study that investigating the developmental origins of how to behave towards antisocial others, in other words, third-party punishment for antisocial others (Kanakogi et al., 2022). After familiarized with a gaze contingent association between a look for the agents and subsequent punitive event, we compared the looking tendency for the agents before and after when they watch aggressive interactions between aggressor and victim. As a result, preverbal infants seem to punish antisocial others; infants increase the selective looks to punish the aggressor. Additional three control experiments exclude the low-level perceptual interpretations. These findings suggest that the disposition to do third-party punishment for antisocial others emerge in early infancy. Finally, based on these findings, I will discuss the possibility that admiration for justice and disposition to do such action may be engraved in preverbal infant's mind.

#### **S9-5 Robot Acceptance Process and Learning Effects of a Socially Interactive Robot in Classroom Participation**

Naomi Matsuura<sup>1,2</sup>

<sup>1</sup>Faculty of Education, Mie University, Tsu, Japan

<sup>2</sup>Elementary School attached to the Mie University of Education, Tsu, Japan

##### **ABSTRACT**

In this study, a socially interactive robot remotely operated by multiple operators was installed in an elementary school classroom to investigate how students' impressions of the robot changed and how it affected their school life.

The subjects were 96 students in the fifth grade of an elementary school attached to the Faculty of Education, Mie University. There are three fifth-grade classes, and the interactive robot "Sota" was placed in the classroom of one of the classes, while the other two classes were not. We investigated how the children's impressions of the robot changed and what kind of influence the robot had on them as they interacted with the robot and its remote operators during recess and in class. We also compared the changes in the impression of the robot between the classes in which the robot was installed and those in which it was not, and analyzed the relationship between these factors by comparing them using a questionnaire.

The tele-operator monitored the classroom through a camera and microphone installed behind the robot and participated in classroom activities. The teleoperator could control the direction of the robot's gaze, and the robot looked toward the speaker or toward the teacher together with the children. During the class, the robot answered the teacher's questions and talked to the children. During recess, the teacher acted as if she were asking the students individually about the state of the class and their understanding of the lesson through chatting with them.

After the interaction with the robot, the children in the experimental group felt more comfortable with the robot than the children in the control group, and their impression of the robot changed to that of being polite and methodical. Some of the children felt uncomfortable with the voice change that occurred when the remote operator switched, but their stress and negative impression of the robot decreased.

15:30-17:00 **Symposium 14**

**Medical support for Parents of children with neurodevelopmental disorders in healthcare facilities**

Moderator 1: Ayaka Ishii-Takahashi (Department of Developmental Disorders National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

Moderator 2: Miho Kuroda (Department of Psychology, Teikyo University, Tokyo, Japan)

**S14-1**

**Behavioral parent training for Attention deficit hyperactivity disorder**

Ayaka Ishii-Takahashi<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

**ABSTRACT**

Behavioral parent training (BPT) for attention-deficit/hyperactivity disorder (ADHD) is a training centered on psychoeducation and behavior therapy for parents. It has been reported in the 2011 Cochrane Review to improve behavioral problems in children and child-related stress in parents. It is recommended in most treatment guidelines in the West, to be the first line of treatment over medication for preschoolers under 6 years of age. In primary school aged children, the American Academy of Pediatrics strongly recommends a combination of BPT and medication. However, in Japan, the healthcare facilities that can provide BPT for ADHD are limited. We had been conducting a randomized controlled trial to detect a biomarker that shows the efficacy of BPT with the use of neuroimaging. We also examined child-related stress in parents and behavioral problems in children pre and post intervention. Furthermore, we had been conducting child attachment interviews (CAI) as well as obtaining brain images using magnetic resonance imaging to examine the effects of BPT and its effect on the attachment patterns of children with ADHD. Moreover, barriers to implementing BPT or the facilitating factors for its implementation in Japan was explored. In recent years with the proliferation of implementation research, the obstacles and facilitating factors at various levels when implementing an intervention program in the field can be evaluated with the Consolidated Framework for Implementation Research (CFIR). We used the CFIR to identify barriers to implement BPT for parents of children with ADHD in Japanese healthcare facilities. We had

also been developing a practitioner training program to implement BPT for parents of children with ADHD. Based on the findings, we will be able to establish a practitioner training program and a supervision system, aiming to materialize the implementation of BPT as a treatment for children with ADHD at healthcare facilities in Japan. It is a pioneering work globally, to conduct research evaluating the effects of BPT using CAI, social support, and MRI. If this study can promote the implementation of BPT as effective treatment for ADHD in Japan, it will help improve the long-term prognosis of children with ADHD. As ADHD is the most prevalent childhood psychiatric disorder, this may make a significant medical and economical contribution.

## **S14-2 Current Situation and Measures for Japanese Children with Developmental Disabilities in Singapore**

Yuka Mori<sup>1</sup>

<sup>1</sup>The Japanese Association Clinic, Singapore

### **ABSTRACT**

In recent years, as globalization continues to advance, the number of people from Japan who are posted overseas or immigrating to other countries has been increasing. Singapore, in particular, has a large number of expatriates with their families, because of its safety, political stability, adequate living infrastructure, and high level of education. The large number of expatriates with their families also results in a large number of children with developmental disabilities. These children are more likely to experience the stress and adjustment problems related to overseas migration, and are more likely to experience problems such as non-attendance at school and behavioral disorders. Although the support for these Japanese children with developmental disabilities in Singapore is better than in other countries, there are still many restrictions on the support they can receive due to language barriers. For example, Japanese elementary schools in Singapore have well-developed support classes, and these children are rather well supported. However, junior high schools did not have support classes, which caused problems for these children, who were unable to continue on to higher education even though they were still in the middle of their compulsory education period in Japan. As a result of the efforts of those involved over the years to establish support classes in Japanese junior high schools, the establishment of such classes will be decided in the next school year, and the problem of students being unable to go on to higher education is expected to be solved. In addition, when it comes to educational therapy in Japanese, the number of facilities and therapists who can provide such support is limited. However, compared to Japan, Japanese-language educational therapy is not publicly funded, so it seems that children who would have difficulty receiving educational therapy in Japan are more likely to receive support. Our clinic has been providing speech therapy and educational therapy for a long time, and this time Behavioral parent training (BPT) was conducted for such parents who immigrated from Japan to Singapore to care for children with neurodevelopmental disabilities such as autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD). In addition to presenting a discussion of the results of pre- and post-effectiveness assessments, we will also report on the current situation surrounding Japanese children with developmental disabilities in Singapore.

## **S14-3 Effects of an Online Parents Training Program on Challenging Behaviors in Children with Autism Spectrum Disorders in Korea**

Yearin Kim<sup>1</sup>

<sup>1</sup>Seoul National University Hospital, Soomin Jang, Seoul National University Boramae Medical



Center, Seoul, South Korea

#### ABSTRACT

Parent training is an essential part of quality programming for children with Autism Spectrum Disorder (ASD) (Douglas et al., 2017). However, unfortunately, limited research exists exploring online parents training approaches and not all parents have been able to reap the benefits of this progress because of extensive time commitment required or imbalance in the geographical distribution of service providers (McGarry et al., 2020). During the COVID-19 pandemic, the development of emergency remote education programs for children with ASD and their parents became a requirement. The purpose of this study is to investigate and examine the effects of the Supportive, Technological, Effective, Online Parents Training (STEP-O) program for three children with ASD in Korea and their challenging behaviors using a multiple baseline across participants to demonstrate experimental control. The STEP-O program, combining behavior skills training (BST), task direction, contingent reinforcement, and fading resulted in positive outcomes for participants. According to Park, Turnbull & Park (2011), Korean parents are more likely than others to be silent, prefer listening and following professionals' opinions without disagreeing or asking questions since asking questions could be seen as a challenge to another person's knowledge. During the study, parents were trained via online, and BST was used, which involves instructions, modeling, rehearsal, and feedback, to train parents to implement a strategy to support their children with ASD and, had an opportunity to become active participants, ask questions, and engaged in self-reflection. Parents recorded videos every day to get feedback and training was happened once a week for an hour session. The result documented: (1) a clear pattern of improvement in the child's response during the day, (2) decrease in problem behavior following the intervention, (3) increase the interactional behaviors of parents and children, (4) decrease in parental stress, and (5) positive behaviors were maintained at follow-up. Although this was a small sample size, this early investigation offers promise for delivering this combined intervention approach effectively online for parents of children with ASD in Korea. Training small groups of parents in an online format may be a feasible, efficient service delivery method. Limitations and future research directions will be discussed.

#### S14-4

##### **Total healthcare for Mothers in gynecological practice: focusing on the menstruation-associated symptoms**

Miho Egawa<sup>1</sup>

<sup>1</sup>Department of Gynecology and Obstetrics, Kyoto University Graduate School of Medicine, Kyoto, Japan

#### ABSTRACT

As a gynecologist, I have been practicing holistic medicine for women with psychosomatic disorders, including premenstrual syndrome (PMS)/premenstrual dysphoric disorder (PMDD), prevailing widely with various symptoms ranging in degree, from mild to severe. Our institute, a tertiary hospital, receives patient referrals with strong psychological symptoms, difficult to treat at primary care gynecology clinics and hospitals. A number of cases of PMS/PMDD, from adolescence to perimenopause, did not improve with standard treatments such as oral contraceptives or selective serotonin reuptake inhibitors, or the patients did not tolerate these treatments. As the trusting doctor-patient relationship grew gradually, it became evident that not a few of these women were raising a child with ASD and/or ADHD. Therefore, I became interested in and felt responsible for the total healthcare of mothers caring for children with neurodevelopmental disorders.

The daily life focus of these mothers is usually not themselves but their developmentally-challenged children. As their day is consumed by their children's activities, disabilities, and

hypersensitivities, they are exhausted and unable to afford any time for themselves. Additionally, they often compare themselves with mothers of normally developing children and feel guilty, inadequate, and lonely, thus lowering their self-esteem. Although they typically consult many professionals for their children and even learn “parental training”, it seems that they receive little guidance on how to cope with their own suffering. Women with strong sense of responsibilities are often quietly on the verge of falling into a psychiatric disorder. Since these mothers can hardly find adequate words and phrases to describe their own difficulties and complications, they have few resources available for help.

However, gynecologists could be by their side. If these mothers notice they might have PMS or menopausal disorder, they may seek the help of a gynecologist. Whether they have a psychiatric diagnosis or not, the hormonal and nutritional approach based on the medical evaluation of their menstrual conditions and nutrient deficiencies, especially iron deficiency, can be a major catalyst toward self-compassion and improved mental and physical health. While it is appropriate to consult a gynecologist or general physician individually, it is more desirable to build a comprehensive supportive system for these mothers. Mothers should be happy and healthy not just for themselves but also for the sake of their children's happiness and healthy development, as the mother might be the most important environmental factor and the greatest social negotiator for the child.

## **Venue 6 (Room K)**

10:20-11:50 **Symposium 5**

### **A psychotherapy to cure childhood trauma called Brainspotting (BSP)**

Moderator 1: Yoshifumi Mori (Department of Integrated Neuroanatomy & Neuroimaging, Graduate School of Medicine, Kyoto University, Kyoto, Japan)

Moderator 2: Takanobu Suzuki (Faculty of Letters, Arts and Sciences, Waseda University, Tokyo, Japan)

#### **S5-1**

#### **Quantitative Insight into Dissociation**

Yoshifumi Mori<sup>1</sup>

<sup>1</sup>Department of Integrated Neuroanatomy & Neuroimaging, Graduate School of Medicine, Kyoto University, Kyoto, Japan

#### **ABSTRACT**

Despite its long history that dates back to the ancient Greek, when Hippocrates termed somatic syndrome disorder as hysteria, the phenomenon ‘dissociation’ has been introduced into modern medicine only in these several centuries after the ‘witch-hunting’ medieval era. Studies on dissociation is the more important since it assumes different appearances ranging from depersonalisation in psychiatry to functional neurological symptoms in daily clinical practice like psychogenic weakness and chronic pain. With all these common somatoform symptoms, much has been remaining an open question, indeed, even today like its prevalence, pathophysiology, and objective diagnosis as well as therapy with so strong evidence as other psychiatric diseases have obtained. So it is with aetiology; the debate has been buoyant between early trauma and fantasy proneness. More people would agree with trauma theory; some would insist that there still exist cases where the patients have no trauma history. These backgrounds inclined us to study pathophysiology and neural basis of dissociation.

In my talk I will discuss the two topics: questionnaire survey and neuroimaging study. Both researches were approved by the ethical committee of Kyoto University. The former study, where psychiatric patients without any limiting criteria to specific disease were asked to fill in psychometric scales for childhood trauma, dissociation, neurodevelopmental trait, fantasy proneness, and personality, was intended for an insight into psychopathology that might underlie

dissociation proneness. My speech will refer to the model of how personality might affect induction of childhood trauma and/or fantasy proneness into dissociation. The results have another social significance in that unignorable scores in questionnaires would encourage clinicians to take care about clients' trauma and dissociation that have been often overlooked- to avoid misdiagnose dissociative disorder as other ones like schizophrenia, bipolar disorder, or borderline personality disorder.

The latter part of my talk will focus on neural machinery that might explain dissociation, though it is quite tough to tell whether the results reflect both or either state or trait of dissociation. We recruited subjects randomly from the participants in the questionnaire study mentioned above and obtained magnetic resonance image (MRI) and MR spectroscopy (MRS). The results partly had correlation with the dissociation scale and so we are thinking of asking for collaboration to add to sample size.

I have no conflict of interest to disclose.

## **S5-2 Developmental disorders and chronic pain**

Karin Kato<sup>1</sup>

<sup>1</sup>Patient Safety Unit, Kyoto University Hospital, Kyoto, Japan

### **ABSTRACT**

Chronic pain is a common disease that occurs in 20% of the world's population, but do you know the definition of 'Pain?' 'Pain' is defined as "An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage" by International Association for the Study of Pain (IASP). In other words, 'emotion' is deeply involved in the definition of pain. 'Presenteeism' is a term used to describe a situation in which an employee comes to work but is unable to do his or her job due to physical discomfort such as 'tiredness' or 'pain in some part of the body,' resulting in a reduction in performance (i.e., if a job that normally takes two hours takes four hours, that amount is a loss). In recent years, however, it has become clear that this 'presenteeism' is even greater than the cost of 'absenteeism' (absent and sick leave). Medical and pharmaceutical costs account for 25% of total costs, while absenteeism accounts for 11%, and presenteeism 64%. Chronic pain is thus a social problem, but the prevalence of developmental disorders in chronic pain patients is high. In 146 patients aged 8-17 years seen in pain clinics, 20 (13.7%) had ASD and 29 (19.9%) exceeded the cutoff for ADHD. Chronic pain is often related to childhood trauma, poverty, educational disparities, and other upbringing and childhood adversity experiences. There are two types of patients: those who are unable to cope well with their pain and whose pain is exacerbated by overactivity, and those who, conversely, become extremely immobile and unable to engage in social activities due to fear of pain. ADHD is well known to cause sleep disturbance, and sleep disturbance and pain exacerbation are involved, and from this aspect, ADHD may also be a pain-enhancing factor. In addition, there are many pain-related medications that require careful handling (anticonvulsants, antidepressants, opioids), which can lead to unintentional abuse due to lack of understanding of how to take them correctly. Chronic pain requires patients to come to terms with their pain, but ADHD patients with low stress tolerance may seek "zero pain" and endlessly seek medications that do not relieve their pain. This presentation will discuss the current status of developmental disorders and chronic pain as described above.

I have no conflict of interest to disclose. Our study is approved by the ethical committee of Kyoto University Hospital.

### **S5-3**

#### **Brief introduction of Brainspotting (BSP)**

Takanobu Suzuki<sup>1</sup>

<sup>1</sup>Faculty of Letters, Arts and Sciences, Waseda University, Tokyo, Japan

#### **ABSTRACT**

Adverse childhood experiences (ACE) can cause trauma in children. ACE impacts the course of development, which can lead to severe dysfunctions in adult life. Brainspotting (BSP), a clinically informed and validated psychotherapy, can address such early traumas in both children and adults. BSP is considered one of the somatic approaches that is explained as “a brain and body-informed relational therapy.” Aiming at processing unprocessed information about trauma, BSP claims to have two mutual features that are critical for the resolution of trauma. Firstly, BSP acknowledges the complexity and uniqueness of each patient or client as “unknowable” and guides the therapist to “assume nothing.” With this phenomenological principle, BSP helps a therapist build a safe environment within the patient or client that allows the therapist to initiate the work of trauma. A safe internal environment is indispensable to address one of the symptoms of trauma, avoidance, and to start working on trauma. The attuned presence of a therapist who carefully attends to what’s happening at the moment is the foundation of building a safe environment. Secondly, BSP facilitates focused attention on the trauma by identifying a relevant eye position. A relevant eye position, called a “brain spot,” is hypothesized as a sign of brain activities in subcortical areas associated with trauma. It is hypothesized that bodily information that needs to be processed for the full resolution of trauma cannot be accessed without focused attention on it. Identifying and maintaining the brain spot is posited to enable the therapist to find and hold the brain activities in subcortical areas, such as the brainstem and upper spine, associated with the trauma. Besides these two features, BSP, like other trauma approaches, has multiple tools for a therapist to use to meet the complexity and uniqueness of each patient or client. Patients and clients with early traumas, especially, tend to demonstrate vulnerability to stress generated by psychotherapeutic interventions and are unable to process many traumas by themselves. To address this vulnerability, a BSP therapist can engage in resourceful interventions during processing trauma with tools that involve eye movements, including one-eye brainspotting and z-axis brainspotting. Also, a BSP therapist can include an ongoing resource in the process by identifying a “resource spot” with which the patient or client can tolerate physiological, emotional, and cognitive activities associated with processing trauma.

I have no conflict of interest to disclose.

### **S5-4**

#### **A case Study of BSP for Children in our Department**

Tatsuya Yamashita<sup>1</sup>

<sup>1</sup>Department of Pediatrics, Gifu Municipal Hospital, Outpatient Mental Health Clinic for Children and Adolescents, Gifu, Japan

#### **ABSTRACT**

Trauma-Focused Cognitive Behavioral Therapy (TF-CBT), the first choice in trauma treatment for children, includes Brainspotting (BSP), Somatic Experiencing (SE), and Ego State Therapy (EST) as well as Eye Movement Desensitization and Reprocessing (EMDR) with accumulating evidence. Of these all we make a choice depending on the characteristics and reactions of the patients. In the outpatient mental health clinic for children and adolescents, a pediatrician provides the patients at the age of 1 to early 20s with mainly maladaptive behaviors such as truancy and psychosomatic disorders- sometimes anxiety disorders and PTSD- with

psychotherapy within the framework of one hour per patient. Mothers may also be treated. First, we show 20 patients with trauma treated by BSP (3 males and 17 females; 15.5 years old in average), some accompanying EMDR, SE, EST or others. 7 manifested adjustment disorder; 3, social anxiety disorder; 3, PTSD. In my opinion, EMDR is easy due to its clear protocol though attention should be paid to dyscoordination and complex PTSD; BSP is readily applied to patients and children with poor eye movement skills because of its various modifications; SE is easy to use in patients who can verbalize bodily sensations because the load can be easily adjusted; and EST is potential when doing parts work on patients with dissociative disorders and patients with conflicts.

Then, we focus on one case with good response to BSP. The 12-year-old girl with no family history complains headache and dizziness. At 11 she was diagnosed with orthostatic dysregulation disorder by her previous physician and drug treatment worked. Her headache was then worsened when she was insulted repeated by her schoolteacher at 12, followed by anxiety and panic attacks on her attempts to go to school. We treated her with BSP because her history of rotatory dizziness during EMDR. SUDS showed 8/10 for anxiety about going to school and she expressed a sensation of wanting to move her lower extremities. Eye position was identified as lower left on Inside Window. To improve her sense of security, we asked her to draw an image representative of the problems, anxiety, and physical sensation on a sticky note, followed by Focused Mindfulness with her gaze on the note. Laughter then occurred intermittently, and after 7-8 minutes of continuation, the above physical sensations dissipated and SUDS eventually were reduced to 4/10. Her perception of the teacher changed into forgiving. This case is one where drawing images related to trauma facilitated safe practice of BSP.

This report has an approval from the hospital and the family. I have no COI to declare.

13:00-13:40 **Research Topics 5**  
**Brain Reward System of Anorexia Nervosa**

Masanori Isobe<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Kyoto University Hospital, Kyoto, Japan

**ABSTRACT**

Anorexia nervosa (AN) is a well-known psychiatric disorder characterized by abnormal eating attitudes and resulting low body weight, where the core symptoms include the desire to thinness and the fear of obesity. The etiology and mechanisms of onset and maintenance are still unknown, and no biologically based treatment has yet been established. It has been suggested that the onset and maintenance of the disease may involve abnormalities in the brain reward system that could explain its clinical features. In this presentation, I will outline current topics related to the brain reward system as a model for the onset and maintenance of AN.

In recent years, psycho-biological findings that disturbances in the brain reward system are involved in the persistence of AN symptoms have been accumulating. In activity based anorexia (ABA) mice, a promising mouse model of AN, a background imbalance in the neural circuitry of the reward system has been suggested. Findings of structural brain imaging also suggest that structural changes related to the reward system may be involved in the pathogenesis of AN. Similarly, functional MRI studies have reported that AN patients exhibit characteristic brain activity in the reward system circuitry in response to the presentation of potentially rewarding stimuli, such as food, body image, and stimuli related to food intake restriction and hyperactivity. Furthermore, AN patients, as well as patients with mood and anxiety disorders, are known to show inadequate responses to many events that are inherently perceived as rewarding, such as food and social interaction. In contrast, brain activity increases in response to AN-related stimulus presentations such as dietary restriction and excessive exercise. In addition to decreased responses to rewarding stimuli, increased responses to punishing stimuli have also been noted. AN patients show rewarding responses to stimuli associated with weight-loss

behaviors and thinness, but strong aversions to weight gain, social situations, and economic loss. These responses are easily influenced by the context of the situation, and clarifying what information and stimuli AN patients perceive as reward or punishment will not only provide important insights into the mechanisms of symptom maintenance, but will also be suggestive for more effective support.

The pathophysiological hypothesis of AN through the reward system will be shared, and the possibility of the reward system in the brain as a potential therapeutic target will be mentioned.

The content of the presentation is a review of previous researches, thus no particular ethical considerations are required.

COI: Nothing to declare

### 13:50-15:20 **Symposium 10**

#### **The research of social facilitation to promote the performance in rodents**

Moderator 1: Masatoshi Ukezono (Department of Developmental Disorders, National Institute of Mental Health National Center of Neurology and Psychiatry, Kodaira, Japan)

Moderator 2: Kaichi Yoshizaki (Aichi Developmental Disability Center, Kasugai, Japan)

#### **S10-1**

#### **The effect of lesion in the anterior cingulate cortex on social facilitation in rat**

Masatoshi Ukezono<sup>1</sup>, Yuji Takano<sup>2</sup>, Hiroki Furuie<sup>3</sup>, Yuko Nakatake<sup>3</sup>, Yuka Shirakawa<sup>4</sup>, Sayuri Hayashi<sup>1</sup>, Yuka Egashira<sup>1</sup>, Shota Uono<sup>1</sup>, Miki Takada<sup>1,5</sup>, Takashi Okada<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health National Center of Neurology and Psychiatry, Kodaira, Japan

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<sup>3</sup>Department of Neuropsychopharmacology National Institute of Mental Health National Center of Neurology and Psychiatry, Kodaira, Japan

<sup>4</sup>Department of Psychology, Faculty of Letters, Keio University, Tokyo, Japan

<sup>5</sup>Department of Frontier Medicine and Pharmacy, Graduate School of Medical and Pharmaceutical Sciences, Chiba University, Chiba, Japan

#### **ABSTRACT**

Social facilitation refers to performing tasks more efficiently with other individuals. Previous research has classified social facilitation into two categories: audience effect and co-action effect. Atypical or dysfunctional social facilitation has been reported in patients with autism spectrum disorder. However, the neural basis of social facilitation and its relationship with autism has not been actively explored. Understanding social functions in rats with lesions in the anterior cingulate cortex (ACC) can help elucidate the neural mechanisms of social facilitation. Therefore, this study examined the audience and co-action effects of drinking and eating behavior in rats with ACC lesions. This study used two adjacent transparent boxes for the behavior test. Constraints were investigated under three conditions: empty, presence of other individuals (audience effect), and other individuals engaged in the same task (co-action effect). Rats were split into sham control and lesion groups. Rats in the lesion group were electrically lesioned in the ACC. Rats in the sham control group received scalp incisions and burr holes under anesthesia, as in the lesion group, but an electrode was not inserted. After surgery, each group was allowed one week to recover before the behavioral test was conducted. The results demonstrated that the effect of ACC lesions was not facilitated by the audience effect. Intriguingly, water and pasta consumption was facilitated by the co-action effect. These results suggest that the two types of social facilitation may be mediated by different neural bases. The audience effect may be related to the theory of mind derived from neural processing involving the ACC.

Animal experiments were conducted in compliance with the Guidelines for the Care and Use of Laboratory Animals and approved by the National Center of Neurology and Psychiatry Animal Care and Use Committee. The authors declare no conflict of interest.

## **S10-2 Social facilitation of voluntary exercise in mouse**

Kaichi Yoshizaki<sup>1</sup>

<sup>1</sup>Aichi Department of Disease Model, Institute for Developmental Research, Aichi Developmental Disability Center, Kasugai, Japan

### **ABSTRACT**

Social facilitation is a psychological phenomenon that an individual's performance improves in frequency and intensity due to mere presence of other individuals, and impaired social facilitation was reported in autism spectrum disorder (ASD) children. To understand pathophysiology of ASD focused on social facilitation, we previously developed a novel breeding home cage with running wheel for social facilitation, which is not required for particular learning processes, and reported that voluntary exercise of more social C57BL/6J mice was significantly increased in the presence of conspecific observer mouse compared to that in the absence of observer mouse, while the presence of conspecific observer mouse does not affect voluntary exercise of less social BALB/cCrSlc mice. These suggest that social facilitation was observed in motor performance of more social C57BL/6J mice, but not that of less social BALB/cCrSlc mice. However, it is not clear how more social C57BL/6J mouse acquires social facilitation, while less social BALB/cCrSlc mouse does not. In this symposium, we share results of our latest behavioral analyses using both more social C57BL/6J mice and less social BALB/cCrSlc mice and discuss how social facilitation is developed and modified.

## **S10-3 Social facilitation of feeding behavior in a schizophrenia rat model**

Hiroki Furuie<sup>1</sup>, Masatoshi Ukezono<sup>2</sup>, Takashi Okada<sup>2</sup>, Mitsuhiko Yamada<sup>1</sup>

<sup>1</sup>Department of Neuropsychopharmacology, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

<sup>2</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

### **ABSTRACT**

Schizophrenia is a disabling disease characterized by positive and negative symptoms, as well as cognitive deficits. Social impairment is a core symptom of the disease that prevents patients from reintegration into society. The ability to control one's behavior in social situations is essential for adaptation to society. Social facilitation, in which behavior is promoted by the presence of others, is an example of behavior control in social situations. Recently, it has been suggested that this ability is disrupted in schizophrenia. The N-methyl-D-aspartate (NMDA) receptor, an ionotropic glutamate receptor subtype, is essential for postnatal brain development. Since neonatal blockade of NMDA receptors causes various behavioral abnormalities, including social deficits, animals neonatally treated with an NMDA receptor antagonist are considered useful models for studies regarding schizophrenia. However, the effect of neonatal NMDA receptor blockade on social facilitation is unclear. Therefore, we investigated the effect of neonatal treatment with MK-801, an antagonist of NMDA receptors, on the feeding behavior of rats in the presence of other individual rats. On postnatal days 7 through 20, male Wistar rats were treated with 0.4 mg/kg MK-801 or saline twice daily. In adulthood, the feeding behavior of these rats was investigated in the presence or absence of other rats in competitive and

noncompetitive situations. As a result, rats neonatally treated with saline showed social facilitation of feeding behavior both in competitive and noncompetitive situations. On the other hand, in noncompetitive situations, MK-801-treated rats did not show social facilitation leading to an increase in food intake when feeding with another rat. In addition, MK-801-treated rats showed a significant decrease in food intake when they ate with another rat in a competitive situation. These results suggest that a neonatal blockade of NMDA receptors impairs the ability to control one's own behavior in social situations.

Animal experiments were conducted in compliance with the Guidelines for the Care and Use of Laboratory Animals and approved by the National Center of Neurology and Psychiatry Animal Care and Use Committee. The authors declare no conflict of interest.

#### **S10-4**

#### **Evaluation of changes in autonomic nervous system activity and maternal and fetal heart rate similarity during fetal period in mouse models of autism based on DOHaD theory**

Yoshiyuki Kasahara<sup>1,2</sup>, Chihiro Yoshida<sup>1</sup>, Namareq Widatalla<sup>2</sup>, Masatoshi Ukezono<sup>3</sup>, Erika Ida<sup>1</sup>, Ryoma Ito<sup>1</sup>, Yuta Momono<sup>1</sup>, Ken Ishikawa<sup>1</sup>, Yoshitaka Kimura<sup>1,2</sup>, Masatoshi Saito<sup>1,2</sup>

<sup>1</sup>Tohoku University Graduate School of Medicine, Sendai, Japan

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<sup>3</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

#### **ABSTRACT**

Autism spectrum disorder (ASD) is characterized by impaired social communication, repetitive behavior, and restricted interests. The risk of ASD is strongly associated with the prenatal period; for example, maternal valproic acid (VPA) administration, maternal immune activation, and a high-fat diet during pregnancy increase the risk of ASD. Developmental Origins of Health and Disease (DOHaD) is a concept that entails that exposure to certain factors present during the prenatal period can cause long-term adverse effects. Developmental disorders, including ASD, have also been associated with DOHaD. Patients with ASD often show an alteration in the autonomic nervous system. Therefore, we evaluated the autonomic activities in the fetal period of mouse models of ASD. The assessment of the autonomic activities was performed by measuring fetal electrocardiography. Interestingly, the ASD model mice had altered autonomic activities during the fetal stage. This indicates that neurodevelopmental deficits may be expressed from the fetal period, which may be one of the fetal pathophysiologies of ASD. Furthermore, social facilitation and social behavior were impaired in ASD model mice generated by fetal VPA administration. Investigating how abnormal fetal autonomic activity may contribute to future behavioral changes will be very important.

On the other hand, one of the symptoms of ASD is inability to interact well with others. To examine the interaction between mother and fetus, the similarity of heart rates between mother and fetus was evaluated because the only other individual for the fetus is the mother. Subsequently, the similarity of heart rates between mother and fetus was significantly reduced in ASD mouse models.

In summary, in the fetuses of ASD model mice, there were changes in autonomic nervous activity reflecting impaired neurodevelopment and decreased similarity between maternal and fetal heart rates, reflecting impaired interaction with others. This may be a new aspect of ASD pathophysiology, as well as a potential for very early diagnosis of ASD from the fetal stage.

Animal experiments were conducted in compliance with the Guidelines for the Care and Use of Laboratory Animals and approved by the Tohoku university and Use Committee. The authors declare no conflict of interest.



15:30-17:00 **Symposium 15**

**The impact of COVID-19 Pandemic on Mental Health of Children and Adolescents**

Moderator 1: Young Sook Kwack (College of Medicine, Jeju University, Jeju, Republic of Korea)

Moderator 2: Yun Hyong Kang (Doctor's psychiatric Clinic, Republic of Korea)

**S15-1**

**Emergency Department visiting youth with suicide thoughts or behaviors during COVID-19 Pandemic**

Wan Seok Seo<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Yeungnam University Hospital, Daegu, Republic of Korea

**ABSTRACT**

Reports of how youths visit the ED for suicide-related behavior (SRB) during the pandemic are inconsistent. In an analysis using Kaiser Permanente Northern California, the number of youths who visited the ED for SRB did not increase significantly after the pandemic. There was also no significant increase of suicide deaths among Japanese adolescents between 2018 and 2020. However, SRB increased in February-April 2020, at the beginning of the pandemic in the US. South Korea's teenage suicide deaths and suicide rates per 100,000 population, continue to increase in 2020 and 2021 compared to 2019.

SRB during COVID-19 pandemic differs by gender. Suicide attempts and mental health symptoms after the pandemic increased at a higher rate in females. In the statistics from the US CDC for 2019 and 2021, the number of visits to the ED for suicide attempts among youths increased by 50.6% for women, while for men it increased only by 3.7%.

Many youths who had never received psychiatric treatment in the past visited the ED for SRB, and several reasons can be inferred for this. Many youths with mental problems received counseling from community bases such as schools, religions, and other institutions before the COVID-19 pandemic. They were unable to get these services during the pandemic, which may have exacerbated their psychiatric symptoms and suicidal ideation. Next, it is possible that patients who newly developed psychiatric symptoms during the pandemic did not receive proper treatment in the early stages. Youths who were not properly cared for the psychiatric symptoms attempted suicide and visited the ED.

Social, economic, and health-related stress after COVID-19 pandemic has had a significant negative impact on the lives of youth. Actively implemented shelter-in-place orders, and social distancing policies in the early phase of the pandemic were useful in preventing the spread of COVID-19, but may have negative effects on controlling mental health or SRB. These policies negatively affected the family economy, increased anxiety about their health and future in youth, and increased conflict with their families. Increased family, school, and community-related stress has exacerbated mental health problems in youth and increased suicidal thoughts and SRB. In conclusion, the COVID-19 pandemic has worsened the mental health of some groups of child and adolescents. Continuous research is needed on the effects of the COVID-19 pandemic on the mental health of adolescents.

This report was exempt from institutional review board evaluation. The author declares no conflicts of interest.

**S15-2**

**Technology-Facilitated Sexual Violence Victimization in Children and Adolescents during the COVID-19 Pandemic**

Soyoung Irene Lee<sup>1</sup>

<sup>1</sup>Department of Psychiatry, College of Medicine, Soonchunhyang University, Republic of Korea

## ABSTRACT

Online sexual violence includes grooming, live streaming and the consumption of child sexual abuse material for sexual purposes. And these violence often leads to offline coercion or extortion of children and adolescents. According to the Korean Ministry of Gender Quality and Family, Technology-Facilitated Sexual Violence (TFSV) victimization has been increased recently. Specifically, the Digital Sexual Crime Victim Support Center, that provide comprehensive support services for victims of digital sexual crimes such as illegal photographing or filming and dissemination, has presented 5 times increased number of victims based on the visits of the center during 2019 and 2022. The proportion of children and adolescents among the visitors indicated an apparent increase (8.4% in 2019; 21.3% in 2021). Evidence suggest more younger children than ever before have been introduced to digital platforms. And long-term school closures have increased children's unsupervised screen time. In addition, the lockdown of social welfare systems including child protection systems did not work properly.

Although it has not been confirmed that there were increases in the technology-facilitated child sexual exploitation and abuse during the pandemic yet, available country-level data will be presented in this session. In addition, necessity of the fight against online sexual violence against children and adolescents will be proposed and discussed.

## S15-3

### Text-based Crisis Intervention for Teen Suicide Prevention

So Hee Lee<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Medical Center, Seoul, Republic of Korea

## ABSTRACT

Since 2009, suicide has been the most common cause of death among adolescents in Korea. To address this problem, the Ministry of Education started text-based crisis intervention service for teens in 2018 as one of the nation action plans for suicide prevention.

Adolescents can initiate the counselling services at any time through social networks.

Interpersonal conflicts, school concerns, and family struggles represent the major subjects of messages. Records indicate that mental health problems and suicidal thoughts have increased since the COVID-19 outbreak.

The number of cases peaked in the summer before the COVID-19 pandemic, but the curve of the monthly case numbers became flatter since the COVID-19 than before. Overall, text message counseling was sought most frequently on Wednesdays. In 2022, however, counseling was sought most often on Fridays. Evening hours were the busiest for the counseling center, but with counseling around midnight to before dawn gradually increasing; the cases between the two-time demarcations are similar now. Texts from elementary students have decreased, but texts from high school students and individuals in their early 20s are on the rise.

In cases of impending suicide, the counselor responds by calling the police, rescue service or guardians and continues counseling until the caller is safe. This service has saved many people from dangerous situations including self-mutilation, family violence, sexual crimes, and running away prompted by mental illness. After the Seoul Halloween crowd crush, the indirect trauma experienced from exposure to unfiltered videos and the grief over accident victims were dealt with by text interventions.

A limitation of text-based crisis intervention is its reliance on texting. However, it might be one of the critical and effective service for suicide prevention among teens. This service is especially helpful for teens who need psychological support or who are in dangerous situations at night. To guarantee that those in need receive appropriate help, counselors are trained mental health experts with opportunities for further education.

This report was exempt from institutional review board evaluation. The author declares no

conflicts of interest.

#### **S15-4**

### **Case Intervention for High-Risk Students with Mental Health Problems through School Visit Projects in Seoul**

Heewoo, Lee<sup>1</sup>

<sup>1</sup>Department of Psychiatry, SMC-Seoul Medical Center, Seoul, Republic of Korea

#### **ABSTRACT**

Korea's mental health specialist's school visit project started in 2016 as one of the School-Based Mental Health strategies. Based on 17 metropolitan and provincial offices of education in Korea, mental health experts from the Center for Mental Health Specialist School Visit Support Project visit schools in person and conduct in-depth evaluations of students, guardians, and homeroom teachers requested by the schools. Establish an intervention strategy for each student through a multidisciplinary expert case meeting at the base center. If necessary, they directly conduct short-term case intervention or provide mental health services, focusing on students experiencing mental health difficulties in connection with local institutions for children and adolescents, including pediatric psychiatrists, so that mental health services can be provided in an integrated manner.

The main targets of this project are students in mental health crises who are not linked to specialized institutions, students who are linked to specialized institutions but face the risk of discontinuing treatment, and students in mental health crises in areas without access to medical help.

The project was first launched between 2016 and 2018 and then expanded to 17 base centers in 2021. This project not only intervenes in mental health problems such as depression, anxiety, and suicide-related behaviors but also intervenes in various mental health-related crises such as child abuse and connects necessary resources.

The Seoul Base Center was divided into four districts in 2021. A team consisting of child and adolescent psychiatrists, clinical psychologists, and mental health specialists from four university hospitals and public hospitals each make a request to the Seoul Metropolitan Office of Education from schools in their respective regions. In addition, mental health experts from the responsible base team visit schools, conduct in-depth interviews with students and interviews with guardians and teachers, and then establish individual intervention plans. As of 2022, this 4 center supported about 370 people in Seoul, and the connection rate with specialized institutions is about 66.4% as of 2021. ADHD was the main problem for elementary school students, and depression and anxiety were the main problems for middle and high school students. Both parents and teachers evaluated that this project improved students' emotional and behavioral issues and made them aware of the importance of child and adolescent mental health management.

In this regard, I will explain the effects of the Mental Health Specialist School Visit Support Program and some cases and consider future expansion plans.

**May 27<sup>th</sup>, 2023**

**Venue 1 (Room A)**

9:10-10:10 **Plenary Lecture 1** Moderator: Hirotaka Kosaka  
**Characterizing Autism and ADHD by Image Endophenotypes, Genetic Image, and Metagenomic profiles**

Susan Shur-Fen Gau<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

Autism spectrum disorder (ASD) and attention-deficit hyperactivity disorder (ADHD) are clinically and genetically heterogeneous neurodevelopmental disorders with an unknown pathogenetic mechanism and a lack of effective early detection and treatment for ASD. This presentation has three parts as follows.

First, we characterized ASD and ADHD based on image endophenotype (sibling design), genetic images, longitudinal studies, and metagenomic profiles (ASD only) as compared to typically developing controls (TDC). Comparing the neuropsychological, neuroanatomy, white-matter (WM) tracts microstructural properties, and intrinsic functional connectivity (iFC) among ASD probands, unaffected siblings, and TDC, results suggest that verbal and spatial working memory, atypical neuroanatomy and iFC surrounding the MCC, several white-matter tracts related to social communication and interactions with aberrant integrity, maybe potential endophenotypic markers for ASD. Our longitudinal neuropsychological data showed that despite significant improvement in attention and most executive functions with time except cognitive flexibility and inhibition control, ASD still suffered from impaired focused attention, cognitive flexibility, executive functions, and visual memory than TDC at follow-up. Our longitudinal iFC results suggest a clinically meaningful relationship between the atypical development of frontoparietal structural connections and the dynamics of the ASD phenotype through early adulthood. Moreover, our longitudinal whole-brain structural results provide evidence to support the atypically developmentally increasing fractional anisotropy of several WM tracts in ASD than TDC during follow-up using the normative model and altered within- and between-cortical changes of the regions relating to the social and language networks predicting improving ASD phenotype across a crucial developmental phase. Finally, regarding metagenomic profiles among ASD, unaffected siblings, and TDC, our results support the gut-microbiome-metabolomics-brain-behavior axis in ASD and identify a few microbiomes potentially affecting treating ASD. These findings highlight several potential markers searching for the etiologies and future outcomes of ASD. The ADHD and ASD genetic images, as well as ADHD endophenotype and longitudinal image studies, will also be presented.

Second, the whole-brain white matter tract deviation and idiosyncrasy from normative development were compared between ASD, ADHD, and their unaffected siblings.

Third, we tested the neurodevelopmental model of schizophrenia. Again, we found individual deviation and idiosyncrasy similarity from the normative model of whole-brain white matter tracts and shared brain-cognition covariation with ADHD and ASD.

Conflicts of Interest: The authors declare no actual or potential conflicts of interest related to this study.

All the studies from National Taiwan University Hospital (NTUH), Taipei, Taiwan, presented in the lecture, have been approved by the NTUH Research Ethics Committee before study implementation.

10:20-11:20 **Plenary Lecture 3** Moderator: Katsunaka Mikami  
**New System & New Hope for ASD treatment in South Korea**

Bung-Nyun Kim<sup>1</sup>

<sup>1</sup>Division of Child & Adolescent Psychiatry, Department of Psychiatry, Seoul National University Hospital and College of Medicine, Seoul National University, Seoul, Republic of Korea

In Korea, a new support law for people with developmental disabilities, including those with autism and intellectual disabilities, was created in 2014 and published in 2015. A new rehabilitation system, legal support system, and community based integrated support system for people with autism was started and developed for 8 years until 2022. In addition to this, hospital-centered treatment for problematic behaviors began to be systematically created and developed from 2016 till now.

In addition, new treatment system within university hospitals for people with developmental disabilities that can promote and support the use of medical care by people with developmental disabilities is being developed centering on base national university hospitals and major hospitals in each region. In addition to this, efforts are being made to create a new system to train professional therapists who can deal with behavioral problems, and a national level autism early diagnosis-early treatment system is being established.

Seoul National University Hospital and the College of Medicine play a key role in supporting the nationwide expansion of the regional base hospitals and behavioral development promotion center for people with autism, training therapists, and creating and distributing effective behavior programs. Seoul National University Hospital has been assigned the role of the Central Support Group for Developmental Disorders, and is carrying out activities to develop autism treatment clinical guidelines, develop and distribute new treatments, establish multidisciplinary therapist training programs, and resolve social prejudice.

National Autism R&D projects, which aims to innovatively develop new diagnostic assessment-treatment-rehabilitation methods to improve the core problems of autism, that is, - emotional recognition/exchange - ability to form social relationships – control to repetitive/limited interests and stereotyped behaviors - verbal and non-verbal communication skills. In 2025, the results of the new project are expected to be introduced into education and medical settings, and outputs that can be utilized by families with autism are expected.

Seoul National University Hospital and College of Medicine have leading roles to develop digital therapeutics and to develop big data-based AI diagnosis platform and electronic medicine-based CNS modulations. SNU and SNUH are also leading clinical applications of new digital devices and the development of microbiome-based health functional foods and treatments. It is expected that the introduction of this innovative- newly organized national medical-welfare system and the development of a diagnostic & treatment tools that integrates the new IT-BI-CT will make a new breakthrough in the treatment of core features of autism and developmental disorders by 2030.

11:40-12:40 **Sponsored Seminar 2** <Janssen Pharmaceutical K.K.>

Moderator: Yukiko Kano

### **Key Similarities and Differences Across Current International Clinical Guidelines of Attention Deficit Hyperactivity Disorder (ADHD)**

Takuya Saito<sup>1</sup>

<sup>1</sup>Department of child and adolescent psychiatry, Hokkaido University Hospital, Sapporo, Japan

Attention deficit hyperactivity disorder (ADHD) is a common condition with a high societal burden presenting to child and adolescent mental health, pediatric, and primary care services. Interventions to address core ADHD symptoms and co-occurring problems are a high priority for healthcare and society more widely. While much research has reported on the benefits and adverse effects of different interventions for ADHD, these individual research reports and the reviews, meta-analyses and guidelines summarizing their findings are sometimes inconsistent

and difficult to interpret. In this session the current evidence and identified several methodological issues and gaps will be summarized for clinicians to consider when evaluating the evidence and making treatment decisions. These include understanding potential impact of bias such as inadequate blinding and selection bias on study outcomes; the relative lack of high-quality data comparing different treatments and assessing long-term effectiveness, adverse effects and safety for both pharmacological and non-pharmacological treatments. In this session key similarities and differences will be presented across current international clinical guidelines and discuss the reasons for divergence where these occur. The integration of these different perspective into a framework for person/family-centered evidence-based practice approach to care that aims to achieve optimal outcomes that prioritize individual strengths and impairments will be discussed, as well as the personal treatment targets of children and their families.

I have no financial relationships to disclose.

12:50-13:50 **Special Lecture 3** Moderator: Masaru Tateno  
**Sustainable Child and Adolescent Mental Health Practice and Research**

Norbert Skokauskas<sup>1</sup>

<sup>1</sup>Department of Mental Health, Regional Centre for Child and Youth Mental Health and Child Welfare (RKBU Central Norway), Norwegian University of Science and Technology (NTNU), Trondheim, Norway

There is a growing public health crisis as increasing numbers of children and adolescents are facing mental health challenges.

While some of these increases have been attributed to COVID-19 pandemic, increasing prevalence started earlier and likely correlated with many factors, including social media, climate change, and global economical instability. There is a wide gap between digital health resources, policies, and their implementation in the provision of high-quality health care. This division is especially evident when considering services for children and adolescents with mental disorders.

There is need for innovative approaches to address challenges in providing high quality and quantity of children and adolescents mental health services (CAMHS), including optimizing digital technology and applying principles of personalized medicine to improve clinical decision-making.

No ethical conflict.

14:00-15:00 **Plenary Lecture 5** Moderator: Junko Yagi  
**Tourette syndrome: Comprehensive understanding, treatment and support along life stages**

Yukiko Kano<sup>1,2</sup>

<sup>1</sup>Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

<sup>2</sup>Department of Child Psychiatry, The University of Tokyo Hospital, Tokyo, Japan

Tourette syndrome (TS) is a chronic tic disorder with both motor and vocal tics. Sensory phenomena, including premonitory urges that precede tics, are of interest because they cause distress in patients with TS and may be useful in intervention for tics. A variety of neuropsychiatric disorders are often comorbid in TS, of which attention-deficit/hyperactivity disorder (ADHD) and obsessive-compulsive disorder (OCD) are the most common. TS is classified by the ICD-11 as neurodevelopmental disorders as well as obsessive-

compulsive or related disorders. Most patients with TS have compulsivity even if it does not meet the diagnostic criteria for OCD. Although coprolalia and echolalia, described as cardinal symptoms in the original article by Gilles de la Tourette, are not present in many cases currently, the tendency common to these symptoms, i.e., the more one thinks one should not do, the more one does, is often observed, causing distress and impairment of life to the patients. It is important to have a comprehensive understanding of patients with TS, including the characteristics described above.

It is also important to consider life stages in understanding patients with TS. Around the age of 10, tics are more likely to be a concern than before as the patients become more self-conscious along with development of metacognition. On the other hand, it is noted that the severity of tics peaks between the ages of 10 and 12, increasing the likelihood that tics actually have a greater impact on feeling and life of the patients. It is desirable to prepare the patients to cope with tics by forming a basic sense of security by this time, and to ensure that the presence of tics during this period does not impair the patients' self-esteem.

Cognitive behavioral therapy/behavioral therapy, including Comprehensive Behavioral Intervention for Tics (CBIT), has been shown to be effective to tics, and if that effect is insufficient, pharmacotherapy, mainly antipsychotics and  $\alpha$ 2-adrenergic agonists, may be considered. Consideration of comorbidities in treatment of TS is necessary because of their frequency and impact. It is important to have the perspective of helping patients with TS understand and accept themselves with tics and move toward a better life in that state, without seeking reduction or disappearance of tics only.

15:10-16:10 **Plenary Lecture 7** Moderator: Takashi Okada

**Mental health and well-being of children and adolescents in child welfare systems: the roles of child and adolescent mental health professionals working for child welfare**

Yoshiro Ono<sup>1</sup>

<sup>1</sup>Wakayama Prefecture Mental Health and Welfare Center, Wakayama, Japan

Health is a core element of child welfare, and psychiatric care is expected to play a very important role, along with pediatric care, in achieving the objectives of child welfare. On the other hand, health is ultimately the pursuit of wellbeing, as the WHO Constitution states "health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity." Thus, there is a growing interest in well-being for children and their families in the field of child welfare as well.

Recently, with the popularization of child and adolescent mental health, children's emotional and behavioral problems are increasingly tended to be explained as mental illnesses. As a result, the prevalence of mental disorders among children in general has become very high, all over the world including Japan. In the field of child welfare, as child abuse and neglect have become a central issue in child welfare, the prevalence of mental illness among children in child welfare systems has increased, and child and adolescent mental health is becoming more important than ever before.

It is reasonable to expect that the commitment of child psychiatrists will enhance child welfare expertise and provide more effective support to children and families. Now, the role of child psychiatrists has become an integral part of child welfare from prevention, early detection, intervention, and care of child abuse and neglect, to judicial decisions related to child protection. At the same time, however, it is important to note that diagnoses of mental illnesses will inevitably lead to an increase in more specific psychiatric treatment, especially psychopharmacological therapy. Indeed, it has been known that psychotropic medication for children in child welfare systems is quite common.

While it is true that diagnoses may be rational in determining care plans, they are not powerful enough by themselves to lead to the best support and to the well-being of the child. Well-being

cannot be achieved without a secure and trusted human relationships, even if the care plan seems scientific. Although psychiatric involvement will be required more and more in the future, we must always consider what the diagnosis is for and who it is for, but only in order to contribute to the child's well-being.

This presentation is a non-clinical and literature study.

The author has no conflict of interest directly relevant to the context of this presentation.

16:20-17:00 **Research Topics 15**

### **Current Clinical Practice for Gender Incongruence in Childhood and Adolescence in Japan**

Masaru Tateno<sup>1,2</sup>

<sup>1</sup>Tokiwa Child Development Center, Tokiwa Hospital, Sapporo, Japan

<sup>2</sup>Child Mental Health Clinic, Department of Neuropsychiatry, Sapporo Medical University, Sapporo, Japan

#### **ABSTRACT**

Increasing attention has been paid to transgender and gender diverse children and adolescents over the past decade in Japan. Gender identity disorder (GID) of ICD-10 was considered a small part of the transgender population. Recently, GID was replaced with Gender Incongruence which is listed in “Conditions relating to sexual health” of ICD-11. That is, Gender Incongruence of ICD-11 is no longer part of the chapter on Mental Disorders. Previous studies have estimated that about 1% of all people identify with a different gender than that assigned to them at birth. A national survey of schools by the Ministry of Education, Culture, Sports, Science and Technology of Japan reported that at least 606 students in primary, junior-high and high school were aware of their gender incongruence, and about 60% of them received some form of special treatment at school. Our survey of child and adolescent psychiatrists in Japan revealed that about 60% of the subjects had seen children and adolescents with gender incongruence, and two-thirds of them had seen cases with gender identity-related concerns. In Japan, in general, junior high school students are required to wear school uniforms based on their assigned gender, typically a skirt for girls and trousers for boys. They are also requested to obey school regulations related to length of hair, though the strictness is highly dependent on the particular school. These school rules often annoy gender dysphoric students and could be the cause of subsequent school refusal. As reported in the DSM-5 textbook, Japan is one of only two countries whose emergence rate of trans-male is higher than trans-female, along with Poland. In Japan, statistical reports from specialized clinics for gender have demonstrated that trans-female is dominant in childhood while the rate of trans-male is higher in adolescence and older ages. Many of the transgender cases also have co-morbid psychiatric conditions such as depression and anxiety as revealed by our study. In the Gender Identity Disorder Special Act of Japan, it is specified that when transgender people wish to change their gender on the family registry, their gonads must be absent or non-functioning, and their genitalia should resemble the gender to which they transition. Although transgender people sometimes seek help at specialized clinics for gender-related issues, the number relative to the need is insufficient in Japan. Thus, the role of child and adolescent psychiatrists will be expanding to support children and adolescents with gender incongruence.

#### **Venue 2 (Room B-1)**

9:10-10:10 **Plenary Lecture 2** Moderator: Hideki Negoro

### **Altered Motivational Processing in ADHD: Implications for Behavioral Management and Cultural Considerations**



Gail Tripp<sup>1</sup>

<sup>1</sup>Okinawa Institute of Science and Technology Graduate University (OIST), Human Developmental Neurobiology Unit, Okinawa, Japan

Attention deficit hyperactivity disorder (ADHD) is a common neurodevelopmental disorder characterized by elevated levels of inattention, overactivity and impulsivity. These symptoms negatively impact the educational and social development of affected children and place significant burden on their families and communities. Despite extensive research the etiology of ADHD remains elusive. Altered processing of motivationally significant stimuli has been hypothesized to contribute to symptoms of ADHD; a core deficit linking underlying neurobiological disturbances to behavioral symptoms of inattention, hyperactivity and impulsivity. A biological explanation for altered reinforcement sensitivity will be discussed. Here we present evidence that children with ADHD differ from typically developing children in their behavioral responses to both positive reinforcement and punishment. This includes a stronger preference for immediate reward, difficulty waiting for reward, increased sensitivity to recent rewards, decreased sensitivity to changing reinforcement contingencies, and faster extinction of previously learned responses. Imaging research shows reduced BOLD activation to reward predicting cues and increased activation to reward delivery in young adults with ADHD. The sensitivity of children with ADHD to punishment has received less theoretical and experimental attention. None-the-less there is research indicating that children with ADHD show increased sensitivity to punishment, an effect that appears cumulative with repeated exposure.

The implications of these findings for the behavior of children with ADHD and for the implementation of behavioral management techniques, i.e., the use of antecedent and consequent strategies is discussed. To date available parenting programs do not specifically address altered reinforcement sensitivity in ADHD. We offer recommendations for translating knowledge from empirical studies into improved behavioral management for ADHD.

We also consider the importance of culture in the interpretation of altered reinforcement sensitivity in children with ADHD, including risks this may pose for affected children. This includes consideration of the use of praise and punishment across cultures, reflecting on the need to adapt behavioral approaches and/or their delivery to ensure their effective implementation across diverse populations.

Presenter cited research was approved by the following ethics committees: Otago Ethics Committee/Southern Regional Ethics Committee (NZ), the OIST Graduate University Human Subjects Research Review Committee (Japan); the University of Massachusetts Dartmouth Institutional Review Board (US), the Institute of Psychiatry of the Federal University of Rio de Janeiro (Brazil) and the D'Or Institute for Research and Education; and the Social and Societal Ethics Committee, Faculty of Psychology and Educational Sciences at the KU Leuven (Belgium).

10:20-11:20 **Plenary Lecture 4** Moderator: Nami Honda

**Between the observable and the sensible in the clinic of child and adolescent psychiatry-trauma and resilience-**

Kiwamu Tanaka<sup>1</sup>

<sup>1</sup>Hyogo Mental Health Center, Kobe, Japan

Child and adolescent psychiatry has many facets and requires an interdisciplinary and multifaceted approach. For the clinician, in order to solve one child's problems, the child's situation is viewed from a comprehensive perspective of biological, psychological, and sociological factors and examined and resolved from a dynamic process using knowledge from symptomatology, pathology, pharmacology, neuropsychology, developmental psychology, sociology, pedagogy, and other fields. The solution is based on a dynamic process. However, in

actual clinical practice, we sometimes fail to find the factors of psychopathology at that time and understand them after many years. Even if the factors are clear, the patient may refuse to approach the problem. The clinician may be able to sense the subtle signs of the invisible or the unobservable and prevent the development or manifestation of psychopathology.

Many effective diagnostic and treatment tools have been developed and have been of great benefit in child trauma clinical practice. However, children with attachment issues and children who are tormented by shame and guilt may deny verbalizing their trauma or even be unaware of their trauma. These children may express their psychopathology in a variety of other-harming, self-injurious, and illegal behaviors. Their trauma is invisible from the outside. That is why clinicians must be aware of it and intuitively feel it.

We sometimes find a child with a genetic predisposition to schizophrenia who has been truant or withdrawn from school, and in his paintings, we find the child's psychiatric crisis. Although the child does not show any symptoms of schizophrenia, the clinician must be aware of the psychological danger. The clinician then works on therapy for the ambiguity, and often it is over a long period of time, and in a sense, it could be said that resilience is fostered in that therapeutic relationship.

We all have childhoods, but we tend to forget how we felt and saw then. The secret of a child's mind is that "it is only with the heart that one can see rightly; what is essential is invisible to the eye."(Antoine de Saint-Exupéry)

Through several cases, I would like to consider psychological treatment in child and adolescent psychiatry.

The cases presented are either consented for presentation or fictitious cases. There are no conflicts of interest related to this presentation.

12:50-13:30 **Research Topics 10**

### **Impact of microbiota on individuals with autism spectrum disorder**

Katsunaka Mikami<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Tokai University School of Medicine, Isehara, Japan

#### **ABSTRACT**

The gut microbiota plays an extremely important role in the organism. The formation of the gut microbiota commences immediately after birth, and the prototype of the subsequent gut microbiota is formed within the first week of life, leading to the formation of the gut microbiota that will have a significant impact on the gut microbiota in adulthood. Children with ASD are more likely to have gastrointestinal symptoms such as constipation, diarrhea, and repeated constipation and diarrhea. Compared to typically developing children, children with ASD have a characteristic intestinal microbiota. It has also been suggested that gastrointestinal symptoms correlate with core symptoms of ASD. Experiments using mice have accumulated evidence that the gut microbiota influences mental activity and behavior during early development, as well as ASD symptoms. In recent years, probiotics and prebiotics as well as fecal microbiota transplantation (FMT) into the intestinal tract, have attracted attention as therapeutic interventions for the core symptoms of ASD. Therapeutic intervention for the gut microbiota of ASD may provide relief of both gastrointestinal and ASD symptoms, and relief of these two symptoms may lead to a reduction in social dysfunction. Currently, however, therapeutic interventions for the gut microbiota in ASD have not been recommended as a treatment for the core symptoms of ASD due to a lack of the studies on double-blind, placebo-controlled trials. In addition, the safety of FMT needs to be carefully assessed, since it requires close examination of the content microorganisms of the human gut microbiota and verification of the long-term prognosis of the transplant. The establishment of these interventions as treatments remains to be evaluated for efficacy and safety in future clinical studies. This presentation reviews the characteristics of the gut microbiota in ASD, focusing on potential therapeutic interventions for the gut microbiota that have been actively attempted in recent years.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required.

Funding: This presentation has no financial support to disclose.

Conflicts of Interests (over the three years): Katsunaka Mikami has received a Grant-in-Aid for Scientific Research (C) (Number 22K07624) and financial support from Otsuka Pharmaceutical Co., Ltd., and Shionogi & Co., Ltd.; honoraria from Miyarisan Pharmaceutical Co., Otsuka Pharmaceutical Co., Ltd., Shionogi & Co., Ltd., Sumitomo Pharma Co., Ltd., and Takeda Pharmaceutical Co., Ltd.; and a consulting fee from Otsuka Pharmaceutical Co., Ltd., Shionogi & Co., Ltd., and Viatrix.

14:00-15:00 **Plenary Lecture 6** Moderator: Tomoko Shimanouchi

**The significance of attachment theory in child psychiatry practice - a Life course and Affiliative Neuroscience perspective-**

Hiroshi Yamashita<sup>1</sup>

<sup>1</sup>Department of Child Psychiatry Kyushu University Hospital, Fukuoka, Japan

The extension of attachment theory, supported by empirical research, has had a strong influence on philosophy and paradigm formation and policy decisions in a wide range of disciplines, including social welfare, maternal and child health, paediatric and psychiatric care, as a conceptual framework underlying the social sciences. This lecture will review recent findings of attachment theory that will be used in the future clinical practice of child psychiatry.

(1) Locating the concept of Relational disorder in the practice parameter of child psychiatry:

Relationships development over the life course - the process of bond formation and its difficulties - is an important perspective from which to read clinical problems involving multiple disciplines from a cross-cutting perspective. The RDoC (Research Domain Criteria) with a neurobiological etiological perspective has positioned Attachment and Affiliation as a component of the research domain on the neural circuits of the social system. Children's emotional and behavioural problems have a latent structure of internalisation - disinhibition externalisation - oppositional externalisation, while the dynamic developmental process of attachment behaviour (approach - exploration and inhibition - disinhibition) provides a clinically explanatory model of this two-dimensional structure. As corresponding diagnostic concepts, DSM5 and ICD11 have placed Reactive attachment disorder and Disinhibited social engagement disorder under stress-related disorders.

(2) Inclusion of environmental diversity in Attachment theory:

Attachment research has introduced diverse socio-cultural environmental perspectives. While the mainstream of institutional and foster care research in Europe and the USA has used developmental psychopathology, which uses longitudinal data to identify developmental pathways, Rutter et al. pointed out the heterogeneity contained in a wide range of phenomenon that have been understood in an integrated manner under the concept of attachment. It is necessary to rethink the process of attachment formation as an adaptive survival strategy, especially in the context of various crisis situations that threaten safety, i.e. Adverse Childhood Experiences (ACEs).

(3) Evolution of attachment theory and comprehensive intervention models:

New attachment theories based on evolutionary biological frameworks, such as life history theory, go beyond the traditional stress-vulnerability=deficit model to offer a comprehensive intervention approach to the mental health problems in caregiving and affiliation. An approach based on attachment and adaptive strategies underpins Higher Order Intervention that ensures positive relationship enhancement as an available scaffold. Approaches that foster and restore mentalising functions as common elements that enhance the effectiveness of therapeutic interventions for interpersonal violence, such as bullying and abuse.

The author has no financial conflict of interest to disclose concerning the presentation.

15:10-16:10 **Plenary Lecture 8** Moderator: Naoko Inada

**Current Status and Challenges of Early Detection and Intervention for Toddlers with ASD in Japan**

Miho Kuroda<sup>1</sup>

<sup>1</sup>Department of Psychology, College of Human Sciences, Denenchofu-Gakuen University, Tokyo, Japan

After World War II, Japan started the community based well-baby health checkups for toddlers of 18 and 36 months old. And The service use has reached to over 90%. There the Japanese version of M-CHAT (Modified Checklist for Autism in Toddlers), translated and validated by the National Center of Neurology and Psychiatry and others, is used for the first screening assessment to detect autism spectrum disorder (ASD) in early childhood. And there are tools for secondary screening assessment including the Japanese original test battery called PARS-TR (Parent-interview ASD Rating Scale Text Revision). We also use such tools for diagnostic assessment as the Japanese version of ADOS-2 (Autism Diagnostic Observation Schedule-Second Edition) and ADI-R (Autism Diagnostic Interview-Revised). Though they have enabled early detection, the medical institutions/clinics utilizing the ADOS-2 and the ADI-R are still limited in number. The challenge for us is to disseminate these assessment tools in the medical institutions where the children are referred to.

“The Naturalistic Developmental Behavioral Interventions” such as ESDM (Early Start Denver Model) and JASPER (Joint Attention, Symbolic Play, Engagement, and Regulation) are the programs which were developed in U.S. and are found effective for toddlers with ASD, are being introduced in Japan. They promote interpersonal communication skills in the natural context of play. The challenge here is few psychologists can implement these interventions. I would like to report the results of the JASPER effectiveness research conducted in Japan. The parent training and parent programs are becoming popular to support families. The COVID-19 has led to the use of Internet-based programs, whose effectiveness is being verified. In Japan, local development-led support centers have long been responsible for supporting children with developmental disabilities. Since 2011, child development support offices have been established to provide community-based practical support. Unfortunately, the level and quality of support varies widely from one center to another. Another cultural issue is that many Japanese parents do not seek for diagnosis of developmental disabilities in early childhood, and many pediatricians also are hesitant to diagnose them, leaving some children without support. In this lecture I will discuss the results of our research on the efficacy of interventional programs in the Japanese context and on the Internet-based parent programs, the social system for early detection and support, and its challenges and future in Japan.

There is no COI for this presentation. All the research here I refer to have been approved by the relevant ethics committees.

16:20-17:00 **Research Topics 16**

**Mental Health Care for Children after the Great East Japan Earthquake and Nuclear Power Plant Accident: Fukushima Health Management Survey**

Shuntaro Itagaki<sup>1,2</sup>, Hirooki Yabe<sup>1,2</sup>, Masaharu Maeda<sup>2</sup>, Tetsuya Ohira<sup>2</sup>, Seiji Yasumura<sup>2</sup>, Kenji Kamiya<sup>2</sup>, and The Team for Mental Health and Lifestyle Survey<sup>2</sup>

<sup>1</sup>Department of Neuropsychiatry, Fukushima Medical University School of Medicine, Fukushima, Japan

<sup>2</sup>Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University, Fukushima, Japan

**ABSTRACT**

The Great East Japan Earthquake (GEJE) and subsequent nuclear power plant (NPP). accident,

which occurred in 2011, had longitudinal effects on the lives of the residents of Fukushima Prefecture, specifically children. Soon after the disaster, Fukushima Prefecture launched the Fukushima Health Management Survey to investigate the long-term low-dose radiation exposure caused by the accident. Fukushima Medical University took the lead in planning and implementing this survey. This survey aims to monitor the mental health status of those who evacuated following the NPP accident (Yabe et al., 2014). The eligible population was residents living in one of the 13 eligible municipalities and hotspots associated with high levels of radiation. We sent a questionnaire containing the Strengths and Difficulties Questionnaire (SDQ) to parents/guardians of children. After collecting questionnaire responses, support was provided for children with high SDQ scores.

To identify those requiring support, survey respondents with SDQ scores of 16 or higher were defined as having a high risk for mental health issues. We reported that the proportion of people in the mental health high-risk group was higher than the general population of Japan (Mashiko et al., 2017). We also reported that regular exercise is important for maintaining children's mental health after a disaster (Itagaki et al., 2017). Regarding sleep habits, we reported that shorter sleep time was associated with a higher risk of mental health issues in 4–6-year-olds; however, oversleeping was associated with a high risk of mental health in 7–15-year-olds (Itagaki et al., 2018). In addition to these single-year survey reports, follow-up studies have been conducted annually. We reported the trajectories of peer relationship problems and emotional symptoms in children and examined potential risks and protective factors over the 5 years following the GEJE. For peer relationship problems, male sex, experiencing the NPP explosion and lack of exercise habits were associated with the severe trajectory group. For emotional symptoms, experiencing the NPP explosion, experiencing the tsunami disaster, and a lack of exercise habits were associated with the severe trajectory group (Itagaki, 2021). Based on these published papers, we will report the results of support provided and research completed in the 10 years since the earthquake, and discuss future issues.

This study was conducted in accordance with the Declaration of Helsinki, and the protocol was approved by the Ethics Committee of the School of Medicine of Fukushima Medical University (No. 1316, No. 2148, No. 2020-239).

Conflict of interest: none declared.

### **Venue 3 (Room B-2)**

9:10-9:50 **Research Topics 6**

#### **Polygenic risk model approach for neurodevelopmental disorders using longitudinal birth cohort**

Nagahide Takahashi<sup>1,3</sup>, Tomoko Nishimura<sup>2,3</sup>, Akemi Okumura<sup>2,3</sup>, Toshiki Iwabuchi<sup>2,3</sup>, Shafiur Md Rhaman<sup>2,3</sup>, Kenji J. Tsuchiya<sup>2,3</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Nagaoya University Graduate School of Medicine, Nagoya, Japan

<sup>2</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

<sup>3</sup>United Graduate School of Child Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

#### **ABSTRACT**

The prevalence of neurodevelopmental disorders such as autism spectrum (ASD) and attention deficit hyperactivity disorder (ADHD) is rapidly increasing. Although the exact causes of these disorders are unknown, recent advances in research have revealed that both genetic and environmental factors contribute to the development of ASD and ADHD.

Tsuchiya et al. planned and began recruiting for the Hamamatsu Mother and Child Cohort (HBC

Study) in 2007. The purpose of this cohort is to examine neurodevelopmental trajectories through frequent face-to-face monitoring to identify early signs of neurodevelopmental disorders and to enable early intervention for neurodevelopmental disorders in the future. Previously, Nishimura and colleagues found that children's neurodevelopmental trajectories fall into five groups and that trajectory classes are associated with later diagnosis of ASD (Nishimura, *Int J Epidemiol.* 2016). In addition, Aoyagi and colleagues found that the development of postpartum depression was associated with the development of expressive language (Aoyagi, *Peer J.* 2019).

The presenter joined the HBC team in 2020 and began to examine genetic influences on neurodevelopmental disorders, as well as gene-environment interactions, utilizing genetic data with Dr. Tsuchiya and his team.

First, they found that polygenic risk scores for ASD were associated with ASD traits in the general population, and that delays in gross motor skills and recessive language skills could be early makers of ASD (Takahashi, *JAMA Network Open*, 2020). Next, he showed that ADHD and narcolepsy are genetically correlated and may explain the excessive daytime sleepiness often observed in ADHD subjects (Takahashi, *Trans Psychiat.* 2021).

More recently, we have shown that delayed sleep onset increases ADHD symptoms only in subjects at low genetic risk for ADHD and reported the importance of proper assessment of sleep habits for an accurate diagnosis of ADHD (Takahashi, Okumura, *JAMA Network Open* 2022). It has also been shown that body birth weight (<2500 g) and genetic risk for ADHD mutually increase the risk of developing ADHD (Rahman, *BMC Medicine.* 2022.)

Although the case-control studies that have been conducted have been very innovative, these alone cannot clarify the interaction between genes and the environment. In this presentation, we will present our recent data showing gene-environment interactions, obtained using longitudinal cohorts from the general population, and suggest how genetic data should be used in clinical practice in the field of child and adolescent psychiatry.

The data presented here are from a study approved by the Ethics Committee of Hamamatsu University School of Medicine, and written consent for the participation of infants was obtained from each parent or guardian.

All presenters have no conflicts of interest.

10:00-11:30 **Workshop**

**Making Changes one step at a time: A Clinical Workshop Series on Intervention Programmes for Children and Adolescents**

Moderator 1: Tze Jui, Goh (Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore)

Moderator 2: Choon Guan, Lim (Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore)

**W-1**

**Dealing with Feelings<sup>®</sup>: Emotional Regulation Skills Programme for Children and Adolescents with Autism Spectrum Disorder**

Li Ting, Ng<sup>1</sup>, Tze Jui, Goh<sup>1</sup>

<sup>1</sup>Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore

**ABSTRACT**

There is a high rate of psychiatric co-morbidities such as anxiety disorders, anger management problems and depression in children and adolescents with Autism Spectrum Disorders (Weiss, 2014). They often present with difficulties in recognizing and understanding emotions in themselves and others, and also use fewer or less effective strategies to regulate emotions than their neuro-typical counterparts (Jahromi, Meek & Ober-Reynolds, 2012).

Cognitive behavioural therapy (CBT) has been widely used in the treatment of anxiety disorders in children and adolescents with ASD. We conducted a Randomized Controlled Trial (RCT) on a CBT emotional regulation programme with children and adolescents with ASD in 2005. Since the successful completion of the RCT, the programme has been revised and implemented in group settings as well as be used individually in psychotherapy sessions for children and adolescents with ASD attending the outpatient clinic. In addition, training of the programme was also conducted with psychologists, school counselors, special needs officers (supporting students with special needs in mainstream school) as well as para-professionals working with children and adolescents with a range of conditions. The programme is not only suitable for children and adolescents with neurodevelopmental conditions, but can also be used to build emotional literacy in children with no clinical diagnosis.

We provide an overview of the programme, with a focus on the modifications and strategies specific to meet the needs of individuals with ASD, such as structured teaching, social problem-solving strategies, and experiential activities to engage the children. We also discuss implementation considerations of the programme from lessons learnt over the years.

## **W-2**

### **Teaching Emotional Regulation Skills to students with Intellectual Disability in the Special Education School Setting**

Siti Fathin Aerialisa, Binte Rosli<sup>1</sup>, Tze Jui, Goh<sup>1</sup>

<sup>1</sup>Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore

#### **ABSTRACT**

Following the successful completion of a Cognitive Behavioural Therapy (CBT) randomized controlled trial and implementation of the programme to teach emotional regulation skills to children and adolescents with Autism Spectrum Disorder (Sung et al, 2011; Goh et al., 2017), we adapted the programme for children and adolescents who presents with intellectual disability. There is a scarcity of intervention programmes developed for the intellectual disabled (ID) community. The needs of the ID community are often over-looked, from physical services to programmes addressing their socio-development and emotional literacy skills. Yet, there is a high rate of emotion-related issues such as anxiety and behavioural issues associated with dysregulation in children and adolescents with ID.

We conducted a pilot trial of the adapted programme with students with a diagnosis of Autism Spectrum Disorder (ASD) and/or intellectual disability (IQ < 70) from two special education schools in Singapore. Results indicated that participants were reported to display improvements in their communication skills. Anxiety related symptoms reduced, although the difference was not significant.

In this workshop, we present the emotional regulation skills programme, with a focus on the adaptations made to accommodate the cognitive and language abilities of the students with ID. In particular, we discuss the necessary considerations in conducting a CBT-based programme to teach emotional literacy and emotional skills in the special needs population.

## **W-3**

### **Anger Management Programme for Children with ADHD: “Taking the GRRR Out from Anger” and “Regnatales<sup>®</sup>”**

Xue Wei Wendy, Poh<sup>1</sup>, Yi Ren, Tan<sup>1</sup>, Nikki, Lim-Ashworth<sup>1</sup>, Tze Jui, Goh<sup>1</sup>, Choon Guan, Lim<sup>1</sup>

<sup>1</sup>Institute of Mental Health, Department of Developmental Psychiatry, Singapore, Singapore

#### **ABSTRACT**

Children with Attention Deficit Hyperactivity Disorder (ADHD) often presents with emotional

regulation difficulties in view of their underlying impulsivity and poor executive control. It is also not uncommon for children with ADHD to experience challenges in regulating their emotions and thoughts. These emotional dysregulation and anger issues can contribute significantly to psychosocial burden in these children such as getting into conflicts with peers. Studies have shown that behavioural intervention can be effective in addressing anger issues in ADHD by helping the child learn coping strategies.

“Taking the GRRR Out from Anger” aims to teach children with ADHD coping techniques for anger control and conflict management in a group setting. Various coping strategies are introduced through interactive and hands-on activities. Participants are also encouraged to practise the skills in session.

This anger management programme was also developed into Regnatales<sup>®</sup>: a series of game-based mobile applications to enhance the learning experience for children. With the rapid advancement in media technology, the delivery of knowledge and building of skills through interactive mobile games has demonstrated potential in implementation in child mental health work. A quantitative pilot trial provided evidence to support Regnatales<sup>®</sup> as a feasible anger management intervention for children with ADHD. Results indicated high levels of enjoyment and playability based on child reports. Child participants also reported lower reactive aggression scores, felt that they have acquired skills in anger management, were motivated to apply these skills in their daily lives, and were also confident that they can manage their anger better.

#### **W-4**

#### **Classroom Behaviours Skills (CBS) Programme: Supporting children in ADHD in the classroom**

Tai Yeow Catherine, Tan<sup>1</sup>, Tze Jui, Goh<sup>1</sup>, Choon Guan, Lim<sup>1</sup>

<sup>1</sup>Institute of Mental Health, Department of Developmental Psychiatry, Singapore, Singapore

#### **ABSTRACT**

Children with ADHD present with behavioural issues in multiple settings, such as in school and at home. Often times, they need to be taught specifically to be able to meet the learning and social demands in school. The Classroom Behaviours Skills (CBS) programme is an 8-week group intervention, developed to teach children with ADHD important skills to help them adapt to the school settings. It involves skills-training for children, and a parallel caregiver component to encourage skills generalisation and support for caregivers.

Following the successful implementation of the programme, we conducted a pilot clinical trial to elucidate the effectiveness of the programme. Thirty-eight children with ADHD, aged between 6 to 8 years ( $M = 7.08$ ,  $SD = 0.59$ ) and their parents were enrolled in a treatment ( $n = 20$ ) and control ( $n = 18$ ) group. Pre and post comparison analyses indicated that parents from the treatment group reported a greater reduction in ADHD symptoms in their child on the ADHD Rating Scale (ARS) compared to the control group,  $F(1,37) = 10.91$ ,  $p = .002$ ]. Improvements on the behavioural outcomes on the Child Behaviour Checklist (CBCL) and parenting stress on the Parenting Stress Index – Short Form (PSI-SF) were also noted for children in the treatment group. The results provide preliminary evidence for the effectiveness of the CBS programme in reducing ADHD symptoms and improving behaviours in children with ADHD, with benefits extended to their caregivers. An evidence-based, multi-prong approach towards remediating the impact of ADHD on the children and their caregivers is recommended.

#### **W-5**

#### **Mentally LIT: A Mental Health Literacy Curriculum in Singapore**

Guan Sheng Arthur, Goh<sup>1</sup>

<sup>1</sup>Institute of Mental Health, Department of Developmental Psychiatry, Singapore, Singapore



## ABSTRACT

About 1 in 7 people in Singapore has experienced a mental health disorder at some point in their life. However, factors such as stigma and lack of knowledge prevents some individuals from seeking professional help. Early identification of mental health disorder symptoms and intervention has been reported to be effective in mitigating the impact of the conditions, which is fundamental to effect more positive outcomes in the domains of physical, mental and social well-being, as well as improve quality of life for these individuals.

The Mentally LIT program curriculum is a localized adaptation of the mental health literacy program in Canada. It is focused on the adolescents, with aims to increase the knowledge and understanding of mental health and mental illnesses in the young individuals. This is done through a series of classroom based learning and interactive activities that leads to the understanding of what mental health is, how to obtain and maintain good mental health, and understanding the various symptomatology of mental illnesses and their treatments. At the end of the Mentally LIT curriculum, individuals would be informed of facts related to mental health, translating to an increase in their mental health literacy, as well as experience a reduction in stigma towards mental illnesses. This in turn, may increase the likelihood of them seeking help should they experience mental health symptoms, or support others when they are able to recognize the symptoms in their peers.

An evaluation of the efficacy of the Mentally Lit program is currently on-going. We share highlights and aims of the program and preliminary findings of the evaluation.

12:50-13:30 **Research Topics 11**

### **Sleep in children with neurodevelopmental disorders: how do we address?**

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<sup>1</sup>Department of Neuropsychiatry, Ehime University Graduate School of Medicine, Toon, Japan

<sup>2</sup>Center for Child Health, Behavior and Development, Ehime University Hospital, Toon, Japan

## ABSTRACT

Neurodevelopmental disorders (NDDs) such as autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) include a wide range of neuro-psychiatric conditions presented during infancy or childhood. Children with NDDs frequently suffer from sleep disturbances, with a higher prevalence than the general populations (ASD: 64-93%, ADHD:25-75%, typically developing children:3.7%).

In recent years, sleep disorders in NDDs have become a field of greater interest, and understanding features of sleep patterns is crucial to set up target treatments. Among the co-occurring conditions associated with ASD or ADHD, sleep disturbances often arise before the onset of ASD or ADHD core symptoms. The most prevalent caregiver-perceived sleep problems in infancy were “waking overnight”. Sleep problems caregivers perceived from early to middle childhood were declined, although “difficulty falling asleep” still impacted between ages 6 and 11 years. Clinicians should assess sleep disorders in children with NDDs accurately, however validated Japanese screening questionnaires are not enough. The intervention for sleep problems in children with NDDs should be approached in a stepwise fashion; the first-line intervention being sleep hygiene education, the second-line being the use of specific behavioral strategies, and the third line being the use of sleep medications. Especially, the use of melatonin to improve sleep onset times for individuals with ASD had the most empirical support, but still does not meet clinical recommendation standards.

I would like to offer a general picture of sleep disturbances in children with NDDs, and present our data, and future direction would be shown in the sleep research related to NDDs.

I have no financial relationships to disclose. Studies were approved by the Institutional Review Board of Ehime University Graduate School of Medicine. Participants and their parents provided informed assent and consent.

13:40-15:10 **Symposium 19**

**Neuroimage studies on neurodevelopmental disorders**

Moderator 1: Susan Shur-Fen Gau (Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan)

Moderator 2: Ayaka Ishii-Takahashi (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

**S19-1**

**Correlation of Altered Neural Substrates with Emotion Dysregulation in Children and Adolescents with ADHD**

Chia-Jui Tsai<sup>1,2,3</sup>, Hsiang-Yuan Lin<sup>4,5</sup>, Isaac Wen-Yih Tseng<sup>6</sup>, Susan Shur-Fen Gau<sup>3,7</sup>

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<sup>7</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

**ABSTRACT**

**Background:** Attention-deficit/hyperactivity disorder (ADHD) is a common childhood-onset neurodevelopmental disorder with clinical heterogeneity. Co-occurring emotion dysregulation (ED) is noted in 40–70% of ADHD individuals across studies, leading to more severe ADHD symptoms and worse outcomes longitudinally. Several brain regions and networks with volumetric or functional abnormalities in ADHD are also implicated in emotion regulation. However, there is a lack of study comparing the patterns of neural substrate changes underpinning ED between ADHD individuals and typically developing controls (TDC). **Methods:** The brain imaging data of 140 children and adolescents with ADHD and 140 TDC, aged 7 to 18 years old, were included. ED severity was estimated based on the dysregulation profile of the Child Behavior Checklist (CBCL-DP). We investigated whether ADHD and TDC had distinct neural correlates underpinning ED by using the following MRI methods: voxel-based morphometry (VBM) for regional brain volume, diffusion spectrum imaging (DSI) for white matter (WM) tract microstructural integrity, and resting-state functional MRI (rsfMRI) for intrinsic functional connectivity (iFC) analyses. This study was approved by the Research Ethics Committee at National Taiwan University Hospital, Taipei, Taiwan, before implementation.

**Results:** First, the VBM analysis revealed significant group-by-ED interactions between ADHD and TDC in the left DLPFC volume. ADHD had decreased grey matter volume, while TDC had increased grey matter volume of the left DLPFC that correlated with ED severity. DSI analyses revealed that the microstructural integrity of 19 WM tracts, which were linked to affective processing, sensory processing and integration, and cognitive control circuitry, were positively correlated with ED severity in the TDC group but negatively correlated with ED severity in the ADHD group. Also, in rsfMRI analysis, the iFC of the default-mode network (DMN) with angular gyrus had different patterns with ED severity between ADHD and TDC. A positive correlation between the iFC strength and ED severity in the ADHD group while a negative correlation in the TDC group was detected. The positive correlation between iFC strength of DMN and ED severity in ADHD may be engaged in more mind wandering and thus hamper the

ability of mindfulness-based emotion regulation.

Conclusion: We found ADHD and TDC exhibited different trends of GM volume, WM integrity and iFC change underpinning ED. These neural substrates might be essential correlates of ED in ADHD. Besides, individuals with ADHD might have distinct neural mechanisms while regulating their emotions. Thus, it is worthwhile to take ADHD-specific interventions for their ED problems.

Conflict of interest: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethics: The work described in this abstract was carried out in accordance with the Declaration of Helsinki for experiments involving humans and had been approved by the Research Ethics Committee at National Taiwan University Hospital, Taipei, Taiwan, before implementation (approval number: 200903062R and 201204071RIC; ClinicalTrials.gov number NCT00916851 and NCT01682915).

## **S19-2**

### **Neural Substrate of Sensory-Social Correlation in Autism**

Yi-Ling Chien<sup>1</sup>, Susan Shur-Fen Gau<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital, Taipei, Taiwan

#### **ABSTRACT**

Backgrounds: Sensory symptoms are common in individuals with autism spectrum disorder (ASD) and are associated with social deficits in ASD. Sensory sensitivity can impact selective attention to social stimuli, decoding intentions, social reciprocity, and adherence to social norms of behavior. Whether and how sensory symptoms mediate social symptoms and social brain networks during development is unclear. This study aims to investigate how sensory symptoms mediate social deficits and the development of social brain networks in a longitudinal ASD sample.

Methods: This study recruited 248 individuals with ASD and 120 typically developing controls (TDC). These participants were followed for six years on average. Social deficits were measured by the Social Responsiveness Scale (SRS), while sensory items in the SRS and Short Sensory Profile evaluated sensory symptoms. All participants underwent head MRI at two time points. We used single and multiple mediation analyses to examine whether sensory symptoms can mediate social development.

Results: We found that sensory symptoms were significantly correlated with social deficits at each cross-sectional time point. Besides, we found that sensory symptoms at either Time 1 or Time 2 significantly mediate social deficits from Time 1 to Time 2. In neuroimage analysis, we also found that sensory symptoms may mediate the changes in the social brain networks from Time 1 to Time 2.

Conclusion: Our findings suggested that sensory symptoms may mediate the changes in social deficits behaviorally and in the social brain network. Clinical intervention may potentially help the training on social functioning.

This study was approved by the research ethics committee of the National Taiwan University Hospital. The authors declared no conflict of interest.

## **S19-3**

### **Application of Theta Burst Stimulation in Autism Spectrum Disorder**

Hsing-Chang Ni<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Chang Gung Memorial Hospital at Linkou,

Taoyuan, Taiwan

#### ABSTRACT

Background: Theta burst stimulation (TBS), a modified repetitive transcranial magnetic stimulation (rTMS), had a compatible therapeutic effect with rTMS in treatment-resistant depression. With lower stimulatory intensity, fewer stimulatory pulses, and less stimulatory time than traditional rTMS, TBS is more feasible in treating patients with autism spectrum disorder (ASD). Three brain regions have been proposed to be the targets with therapeutic potential in treating ASD, including the dorsolateral prefrontal cortex (DLPFC), posterior superior temporal sulcus (pSTS), and right inferior frontal gyrus (IFG).

Methods: In the past nine years, we did a series of randomized, blinded, sham-controlled studies to validate TBS's feasibility and therapeutic potential on these brain regions in children, adolescents, and adults with ASD. First, we applied intermittent TBS twice weekly for 8 weeks over bilateral pSTS in children and adolescents with ASD (8-18 years old; Active group, n=40, Sham group, n=38). Second, we applied continuous TBS twice per week for 8 weeks over the left DLPFC in individuals with ASD (8-30 years old; Active group, n=30, Sham group, n=30). Third, we applied intermittent TBS twice per week for 8 weeks over the right IFG in individuals with ASD (8-30 years old; Active group, n=30, Sham group, n=30). All our studies had been approved by the Research Ethics Committee at Chang Gung Medical Foundation- Institutional Review Board (CGMF-IRB 200705065R, 104-9413A, 201802246A0 and 201900713A0) before study implementation.

Results: Overall, we found TBS over DLPFC, right IFG and pSTS was feasible and tolerable in being applied in ASD. Because of the high heterogeneity in ASD, not all ASD individuals responded to TBS. First, we found longer TBS (8 weeks >4 weeks) over the pSTS might have therapeutic potential on social communication deficits and repetitive behaviors. Second, we found TBS over the right IFG might have benefits on emotion regulation. Third, we did not find the therapeutic effect of TBS over the left DLPFC on emotion regulation or core symptoms of ASD. Several baseline characteristics might modify the therapeutic response of TBS.

Conclusion: Our work supported the feasibility and therapeutic potential of TBS in treating ASD. However, because of the high heterogeneity in ASD, the best or individualized TBS protocol should be investigated and developed for each patient with ASD in the future.

The authors declare no conflicts of interest related to this work.

#### S19-4

#### Comparing the Brain Structural Alterations between Autism and Schizophrenia

Wei-Ting Ko<sup>1,2</sup>, Yi-Ling Chien<sup>1,3</sup>, Susan Shur-Fen Gau<sup>1,2,3</sup>

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<sup>3</sup>Department of Psychiatry, College of Medicine, National Taiwan University, Taipei, Taiwan

#### ABSTRACT

Background: Autism (ASD) and schizophrenia (SCZ) are common neuropsychiatric disorders with brain structure alteration. The autistic traits and schizotypal traits shows a significant positive correlation, and similar social-cognitive impairment is shared between ASD and SCZ. Comparing the brain structure of ASD or SCZ to normal controls in separate studies revealed several consistent white matter alterations but diverse results in grey matter. This phenomenon might reflect a similar social cognitive impairment but diverse in the existence of psychosis features. This study demonstrated a single-site magnetic resonance imaging work to compare the brain structure of ASD and SSD comprehensively for examining that ASD and SCZ have convergent white matter alterations but divergent grey matter alterations.

Methods: This study was approved by the Research Ethics Committee of the National Taiwan University Hospital, complying with the Helsinki Declaration of 1975, as revised in 2008. We recruited 84 patients with autism, 79 patients with schizophrenias, and 108 healthy controls. Acquiring T1-weighted image and diffusion spectrum imaging on a 3T MRI system. For quality control, T1 weighted images were checked visually, and diffusion images were checked by signal-noise ratio (SNR). We used voxel-based morphometry (VBM) to estimate the grey matter volume by Statistical Parametric Mapping 12 with cat12 toolbox and applied both whole brain and region of interest (ROIs) approaches. We used tract-based automatic analysis (TBAA) to construct the white matter fiber tracts and to calculate the generalized fractional anisotropy (GFA) value of 76 fiber tracts.

Results: The whole brain and multiple ROIs' grey matters, including right precuneus gyrus, bilateral parahippocampal gyrus, bilateral fusiform gyrus, bilateral hippocampus, bilateral anterior/middle cingulate gyrus, bilateral frontal operculum, bilateral anterior/posterior insula, bilateral superior/inferior temporal gyrus, and bilateral pallidum, significantly differed between the ASD and SCZ groups. Among the 76 white matter fiber tracts, only bilateral fornix, frontal aslant tract, and thalamic radiation of auditory nerve were significantly different between ASD and SCZ. Autistic patients had lower GFA values in the left arcuate fasciculus, corpus callosum of supplementary motor area, and corpus callosum of superior and middle temporal gyrus than healthy controls. Schizophrenic patients had lower GFA values in the left superior longitudinal fasciculus, left uncinate fasciculus, left inferior fronto-occipital fasciculus, and posterior thalamic radiation than HC. Still, there were no differences between SSD and ASD.

Conclusion: Our results suggested that autistic patients and schizophrenic patients may have convergent white matter alterations but divergent grey matter alterations.

Conflicts of Interest: All the authors declare no conflicts of interest regarding this work.

### 15:20-16:50 **Symposium 23**

#### **Application of Artificial Intelligence in Biological Studies on Neurodevelopmental Disorders**

Moderator 1: Susan Shur-Fen Gau (Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan)

Moderator 2: Masatoshi Ukezono (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

#### **S23-1**

#### **Metagenomic Profiles in Children with Autism Spectrum Disorder and Their Unaffected Siblings**

Yu- Chieh Chen<sup>1,2</sup>, Susan Shur-Fen Gau<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

<sup>2</sup>Graduate Institute of Clinical Medicine, College of Medicine, National Taiwan University, Taipei, Taiwan

#### **ABSTRACT**

Background: Due to the high prevalence (1% in Taiwan), long-lasting impairment, and a lack of effective detection, prevention, and treatment, autism spectrum disorder (ASD) has been prioritized for brain research. The gut-brain axis is suggested to be altered in psychiatric disorders, including ASD, using animal models. The highly inheritable factors run through ASD families; hence, we used the unaffected sibling (unSIB) and typically developing control (TDC) design to compare the clinical, gut microbiome, metabolome, and neuroimaging data between these two groups to figure out the differences between ASD and unSIB shared similar genetic variants.

Methods: We assessed 242 ASD youth (M:F=214:28, age=15.32±4.52), 102 unSIB (M:F=61:41, age=14.51±6.21) and 80 TDC (M:F=63:17, age=15.67±3.21) with psychiatric interviews (ADI-R, ADOS, K-SADS-E), autistic symptoms (SRS), gut microbiota (16s metagenome sequencing) and untargeted metabolomic profiling. We conducted metagenome analysis and applied a linear mixed effect model for statistical analysis to connect the microbiota and behavioral assessments done via QIIME2 and R, with the significance level being the FDR-corrected q value <0.05. The National Taiwan University Hospital Research Ethics Committee, Taipei, Taiwan, approved this study before we conducted this study.

Results: ASD had the highest weighted Unifrac distance of beta-diversity than unSIB and TDC. The protein processing and transcription factors were upregulated in ASD but downregulated in unSIB. Second, we observed the microbiotas community composition changes (i.e., Lachnospiraceae and Eggerthellaceae) and cellular processing were positively correlated to the SRS scores, the higher relative abundance of Ruminococcaceae, Fusobacteriaceae, and Enterobacteriaceae were associated with worse school function and peer relationships in ASD than TDC. Third, the concentration of pyroglutamic acid, 2'-Deoxyguanosin 5'-monophosphate, N-Acetylserine, glycine, glutamic acid, sphingosine, guanidoacetic acid, allocholic acid and butanone were positively correlated to relative abundance of certain microbiotas in both ASD and unSIB. We identified the downregulation of ubiquinone biosynthesis in unSIB than ASD. Fourth, we also observed the cortical thickness alteration of the frontal lobe areas correlated to microbial community diversity and guanidoacetic acid concentration level changes positively in the ASD group and negatively in the unSIB group.

Conclusion: Our preliminary findings support the gut-microbiome-metabolomics-brain axis and the feasibility of establishing brain-behavior relationships, microbiomes-behavioral phenotype relationship, and microbiomes-metabolomics-brain axis. We also identified a few microbiomes that potentially affect treating ASD based on the highly diverse patterns of microbiota composition in unSIB providing new insight to indicate further that the probiotic's usage should vary in individuals with ASD.

The authors declared no conflict of interest.

## S23-2

### MicroRNAs Serve as Biomarkers of ADHD and Promote the Differentiation of Neuronal Cells

Liang-Jen Wang<sup>1</sup>, Ho-Chang Kuo<sup>2,3</sup>, Wen-Jiun Chou<sup>1</sup>, Sheng-Yu Lee<sup>4,5</sup>, Sung-Chou Li<sup>6</sup>

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<sup>6</sup>Center for Mitochondrial Research and Medicine and Genomics and Proteomics Core Laboratory, Department of Medical Research, Kaohsiung Chang Gung Memorial Hospital and Chang Gung University College of Medicine, Kaohsiung, Taiwan

#### ABSTRACT

Background: Attention-deficit/hyperactivity disorder (ADHD) is a highly heritable neurodevelopmental disorder. MicroRNAs (miRNAs) involve RNA silencing and the post-transcriptional regulation of gene expression, and miRNAs may play an important role in neurodevelopment. The series of studies was to identify potential miRNAs biomarkers and then use these biomarkers to establish a diagnostic panel for ADHD. Furthermore, whether the

expression levels of miRNAs are associated with the differentiation of neuron cells and the development of brain structures was also investigated.

Methods and Results: Our research protocol was approved by the Institutional Review Board (IRB) at Chang Gung Memorial Hospital in Taiwan. We obtained written informed consent of all the participants in accordance with the Declaration of Helsinki.

First, we identified 13 candidate miRNAs in total white blood cells (WBCs) with the next-generation sequencing (NGS) technique (Illumina). The  $\Delta$ Ct values of these miRNAs in a Training Set (68 ADHD patients and 54 controls) were integrated to create a biomarker model using the support vector machines (SVM) algorithm, which demonstrated good validity in differentiating ADHD patients from control subjects (AUC: 0.94,  $p < 0.001$ ). Total WBC samples were further collected from a Testing Set (145 patients and 83 controls), followed by RNA extraction and qPCR assays. The SVM prediction model applying the  $\Delta$ Ct values of miRNAs demonstrated good validity in discriminating ADHD from controls (sensitivity: 96%; specificity: 94.2%).

Second, we assessed 30 drug-naïve patients with ADHD and 25 healthy controls with a single session of 3.0-T whole-brain structural MRI scanning. In the ADHD group, the gray matter (GM) volume of the cingulate gyrus and left fusiform gyrus was negatively correlated with the  $\Delta$ Ct values of miR-30e-5p, miR-140-3p. The GM volume of the left fusiform gyrus was negatively correlated to ADHD behavioral symptoms. Using structural equation modeling, we observed that the effect of miR-140-3p on hyperactivity/impulsivity symptoms was mediated by the left fusiform gyrus.

Finally, we conducted an in vitro study (neuron HCN-2 cells) to examine whether miRNAs affected neurodevelopment (the differentiation of neuronal cells). The in vitro cell model revealed that miR-140-3p and miR-126-5p promoted the differentiation of HCN-2 cells by enhancing the length of neurons and the number of junctions.

Conclusion: The overall findings suggest that the expression levels of miRNAs have the potential to serve as biomarkers for ADHD and further participate in the pathophysiology of ADHD. The possible biological mechanisms of these biomarker miRNAs in ADHD pathophysiology were also clarified.

Conflict of Interest Statement: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### **S23-3**

#### **Utilizing Machine Learning to Forecast ADHD: From Symptomatology, Neuropsychology to Brain Structure**

Chung-Yuan Cheng<sup>1,2</sup>, Susan Shur-Fen Gau<sup>2</sup>

<sup>1</sup>Institute of Biomedical Informatics, National Yang Ming Chiao Tung University, Taipei, Taiwan

<sup>2</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

#### **ABSTRACT**

Introduction: Attention-deficit hyperactivity disorder (ADHD) is a common neurodevelopmental disorder that affects 3-10% of the population, leading to long-term neuropsychological and social dysfunction. Research shows that 65% of children with ADHD continue to exhibit symptoms and impairments as adults, with an estimated adult ADHD prevalence at 2-5%. Various tools and methods have been developed to assess ADHD. This study aims to identify ADHD from different perspectives by combining behavioral rating scales, neuropsychological tests, and structural and functional neuroimaging with artificial intelligence techniques.

**Methods:** The study included 676 children with ADHD and 374 typically developing controls, aged 6-18 years old, with IQ greater than 80. Participants were assessed through psychiatric clinical interviews using the Chinese version of the Kiddie epidemiologic version of the Schedule for Affective Disorders and Schizophrenia, behavioral rating scales, neuropsychological tests, and MRI assessments. We used the first 18 questions of the SNAP-IV ADHD rating scale with both parent and teacher versions to measure ADHD core symptoms. We used the 13 tasks of the Cambridge Neuropsychological Test Automated Batteries (CANTAB) for a wide range of neuropsychological functions. We used FreeSurfer analyzing T1 brain imaging to obtain the cortical thickness of each of the 148 regions in total in the left and right hemispheres. The whole data was divided into training and testing groups using a 7:3 ratio, and machine learning methods such as support vector machine, random forest, xgboost, LightGBM, catboost, etc., and deep learning (deep neuron network, DNN) were used for classification and feature selection. The study was conducted in accordance with ethical guidelines, with the approvals by the Research Ethics Committee of National Taiwan University Hospital.

**Results:** A self-designed DNN model achieved an area under the curve (AUC) of 0.92 on the testing set in the behavioral rating scale, and feature importance analysis further reduced the number of questions that machine learning could accurately identify ADHD. In neuropsychological tests, using specific combinations of tests led to a better classification of ADHD (AUC = 0.8) than using complete CANTAB test data (AUC = 0.75). In brain imaging data, using the first 20 important regions for classification improved the testing set AUC to 0.9. **Conclusion:** This study successfully used machine learning and deep learning to differentiate ADHD from non-ADHD through behavioral rating scales, neuropsychological tests, and brain imaging and found several important features in these three data sets to further improve the accuracy of machine predictions.

The authors declared no conflict of interest.

## **S23-4**

### **Natural Language Processing in Assisting Autism Diagnoses through the Present Illness in Mandarin**

Yueh-Ming Tai<sup>1</sup>, Chung-Yuan Cheng<sup>2</sup>, Susan Shur-Fen Gau<sup>2</sup>

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#### **ABSTRACT**

**Background:** Very few studies have used artificial intelligence to identify features of traditional Chinese psychiatric medical records. The authors attempt to use Chinese medical records to train a natural language processing (NLP) biphasic transformer model (BERT) to identify their established psychiatry diagnoses, including autistic spectrum disorder (ASD). We then compared their performances.

**Methods:** This study collected 22,355 (belonging to 13,204 cases) traditional Chinese electronic medical records from the psychiatric emergency department of a military psychiatric center from 2004 to 2019 and their diagnosis by clinicians at that time. The present illness section was used as a corpus, and six clinical diagnoses, namely, schizophrenia (SCZ), major depressive disorder (MDD), personality disorder (PD), adjustment disorder (ADJ), manic episode (MANIA), Substance Use Disorder (SUD) and ASD were used as the training and predicting target diagnoses. The preprocessing and bidirectional converter model (BERT) and deep learning model with convolutional neural network (CNN) layer were performed with the training set (80% of the total sample). Finally, the test set (another 20% of the total samples) was used to test the trained models. We also compared the area under the curve (AUC) of the



receiver operating characteristic curve of diagnoses identification between different models (using the DeLong test). The institutional review board at the Tri-Service General Hospital, National Defense Medical Center in Taipei, Taiwan, approved the study before study implementation.

Results: After using the NLP model (BERT+CNN) to complete the training based on the training set (n=14,824), the accuracy rate of identifying the six diagnoses in the test set (n=3,666) could reach more than 80% overall. The best performance models were the models for SCZ and MDD. Both AUCs were above 0.95 and the sensitivity and specificity at the optimal cut-off points were above 87%. The worst one was the model for ASD (AUC=0.604). This distinguished inferior performance of a model of ASD might result from the relatively lower prevalence (16%) and implicit symptoms presented in the context of history, especially in Chinese.

Conclusion: This work demonstrated the feasibility of using deep learning artificial intelligence technology to assist in diagnosing psychiatric disorders (e.g., schizophrenia and depression) in the clinical setting using Traditional Chinese medical records. But, this work is not yet feasible for some other diseases, namely ASD and personality disorders. Further fine-tuned training and advanced algorithm for modeling are still needed.

The authors declared no conflict of interest related to this work.

#### **Venue 4 (Room C-1)**

9:10-9:50 **Research Topics 7**

#### **Evidence-Based Child and Adolescent Psychiatry from Central Japan**

Futoshi Suzuki<sup>1,2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Kamibayashi Memorial Hospital, Ichinomiya, Japan

<sup>2</sup>Research Center for Child Mental Development, University of Fukui, Yoshida-gun, Japan

#### **ABSTRACT**

Aichi Prefecture is located in the center of Japan and has the highest rate of international marriages between Japanese men and foreign women among the 47 prefectures in Japan, second only to Gifu Prefecture, and the highest rate of foreign children in elementary schools. The Kamibayashi Memorial Hospital, where I work, is a psychiatric hospital located on the border of Aichi and Gifu prefectures. Children and adolescents from diverse backgrounds visit the “Aomushi” (Young Worms) outpatient clinic for child and adolescent psychiatry at this hospital. Like most child and adolescent psychiatric outpatient clinics in Japan, Aomushi is a low-resource setting, but our staff uses questionnaires, structured interviews, and information technology to support children, adolescents, and their parents.

This research topic begins with an introduction to my clinical practice at Aomushi, where I work. My clinical practice is supported by the Japanese universal health insurance system, which only allows me to see patients for short periods of time. I will use examples to illustrate how I treat neurodevelopmental disorders, functional somatic syndrome, anxiety disorders, depressive disorders, eating disorders, conduct disorder, and borderline personality disorder within this context. I and Dr. Toshihiko Nagata have published two Japanese translated psychotherapy manuals, such as interpersonal psychotherapy for depressed adolescents (IPT-A) and family based treatment for adolescent anorexia nervosa (FBT-AN) and participated in the dissemination of evidence-supported psychotherapies. Although the validity of categorical psychiatric diagnoses is inadequate, they remain useful and reliable tools for bringing medication and evidence-supported psychotherapy to children and adolescents as early as possible.

In the second half of this presentation, I will present Japanese-language questionnaires that are

easy to assess psychopathology in a low-resource setting and a structured diagnostic interview. The Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version (K-SADS-PL) is the most widely used semi-structured interview for children and adolescents. I and my colleagues translated the K-SADS-PL for DSM-5 into Japanese and validated it. Asian language versions of each questionnaire and K-SADS-PL are introduced concisely for clinicians interested in international collaboration. The use of well-validated and widely disseminated assessment tools by Japanese clinicians facilitates inter-professional collaboration within institutions, facilitates inter-institutional collaboration and multi-center research within Japan, and enables international collaboration. The results of such research would be returned to users of child and adolescent psychiatric services. This work was supported by JSPS KAKENHI Grant Number 19K03280.

10:00-11:30 **Symposium 16**

**The Role of Inpatient Treatment and Future Prospects**

Moderator 1: Kazuya Ono (Department of Neuropsychiatry, St.Marianna University school of medicine, Kawasaki, Japan)

Moderator 2: Tomoko Shimanouchi (Department of Neuropsychiatry, St.Marianna University school of medicine, Kawasaki, Japan)

**S16-1**

**Dynamics of Treating Child and Adolescent Inpatients - Inpatient Treatment at a Child and Adolescent Ward -**

Fumio Matsuda<sup>1</sup>

<sup>1</sup>Matsuda Hospital, Hiroshima, Japan

**ABSTRACT**

The treatment of children and adolescents hospitalized at a child and adolescent ward is certainly “an ordeal and a challenge” to the staff at the Matsuda Hospital. In this presentation, I would like to introduce our 29-year experience as well as discuss our inpatient treatment for children and adolescents. We started a child and adolescent ward with 18 beds at Matsuda Hospital in May 1994 to provide inpatient treatment to children and adolescents. Matsuda Hospital, located in Hiroshima Prefecture is a small-scale psychiatric hospital with 110 beds opened in 1953.

When we established the child and adolescent ward, more than 40 years had passed since the foundation of the hospital. Our long experience in treating hospitalized patients in a private psychiatric hospital forced us to build a control-oriented environment that was quite different from the routine in order to protect patients.

Now, we have two child and adolescent wards with 43 beds. And we practice dynamic psychiatry. I introduce years of progress which we challenged.

Ethical information: This presentation is a non-clinical study

COI: None

**S16-2**

**Inpatient Treatment in Japan: Current status and future directions**

Takashi Nagasawa<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Tokyo Metropolitan Children's Medical Center, Tokyo, Japan

## ABSTRACT

As of December 2022, Japanese Council of Child and Adolescent Mental Institution has 38 member institutions, and according to the Council's statistics (2020), 2,936 children per year receive inpatient treatment in specialized wards. In Japan, however, there are many areas where specialized wards do not exist and inpatient treatment is not available.

I would like to introduce our hospital and the current situation in Tokyo. Tokyo Metropolitan Children's Medical Center is located in Fuchu City, Tokyo, and is a general pediatric hospital with 561 beds. Of these, 202 are psychiatric beds (7 wards). Compared to other specialized institutions in Japan, it has some distinctive features. First, there are several specialized wards, such as a school-aged children's ward where younger children are admitted, and a specialized autism ward where children with severe behavioral disorders are treated. The hospital also provides liaison and consultation psychiatry to children hospitalized for physical illnesses. It is also accredited as a training institution for Board certified child mental health medical specialists and plays a central role in Japan as a training institution for child psychiatrists. As a result of the COVID-19 pandemic, there has been an increase in visits and hospitalizations for eating disorders. While many medical institutions in Japan provide long-term inpatient treatment, our hospital has provided relatively short-term inpatient treatment. In the wake of the the COVID-19 pandemic, the length of hospitalization has become even shorter.

Recently, the number of inpatient treatment institutions has been increasing in Tokyo. Our hospital has a long history of over 70 years, followed by the opening of a child psychiatric ward at one hospital in 2012 and the opening of several specialized wards since 2020. A network between specialized wards was considered necessary, and a collaborative network ML between wards started in 2022. A network has been started in which each medical institution reports the current situation to each other and exchanges information.

There are many issues in child psychiatric inpatient treatment in Japan, including regional differences. In regions where specialized wards are lacking, the expansion of specialized wards is expected. In regions where there are multiple specialized wards, a network system that enables smooth cooperation among them by taking advantage of their strengths should be established. Furthermore, there is a need to standardize and improve the quality of inpatient care.

Ethical information: This presentation is non-clinical.

COI: None

## S16-3

### **Inpatient treatment of children and adolescents in the general psychiatry ward**

Heejeong Yoo<sup>1</sup>

<sup>1</sup>Seoul National University College of Medicine, Seoul National Bundang Hospital, Seoul, Republic of Korea

## ABSTRACT

The objective of this presentation is to share inpatient treatments for children and adolescents in small general psychiatric wards, focusing on the following: 1) indications for inpatient treatment based on diagnostic groups as well as inter-diagnostic and problem-centered perspectives, 2) basic principles of inpatient treatments, 3) the essential elements required for inpatient care, and 4) specific interventions for children and adolescents.

The inpatient unit at Seoul National University Bundang Hospital is composed of 15 closed and 26 general wards. While children and adolescents are admitted with the adult population, there is a strong necessity to implement an ecologically valid and developmentally appropriate inpatient care strategy to ensure that they benefit from the treatments. The principles we are applying are: 1) a multi-disciplinary approach with a team of clinical psychologists, nurses, and social workers, 2) maintaining daily rhythms and routines by applying daily living rules and

schooling programs (“mini-school”), and 3) reinforcing positive, prosocial behaviors using an individualized token system based on behavioral interventions.

The main problems admitted children and adolescents manifest are suicidal attempts, non-suicidal self-injury, or impulsive and aggressive behavior. Therefore, the individual psychotherapeutic approach is essential alongside crisis intervention and pharmacological therapy. We implement dialectic behavior therapy tailored for individual clinical issues to those with mood disorders and self-injurious behaviors. Deficits in social cognition and skills often exist as one of the underlying predispositions for maladaptive behaviors, especially with anger management and aggressiveness. Hence, we extract basic elements using outpatient intervention programs such as The Program for the Education and Enrichment of Relational Skills (PEERS<sup>®</sup>) and implement them in the context of individual social skills training. These approaches will be introduced in the presentation and discussed in the application of outpatient treatment programs in inpatient units.

Ethical information: This presentation is non-clinical.  
COI: None

#### **S16-4**

#### **Acute child and adolescent psychiatric inpatient care in Taiwan: current status, challenges, and child protection issues**

Shu-Tsen Liu<sup>1</sup>, Shih-Kai Liu<sup>2</sup>, Iris, Chih-Tsai Chen<sup>3</sup>

<sup>1</sup>Division of Child and Adolescent Psychiatry & Division of Developmental and Behavioral Pediatrics, China Medical University Children’s Hospital, Taichung, Taiwan

<sup>2</sup>Seed of Hope Clinic, Taipei City, Taiwan

<sup>3</sup>Department of Child and Adolescent Psychiatry, Taoyuan Psychiatric Center, Ministry of Health and Welfare, Taoyuan City, Taiwan

#### **ABSTRACT**

Currently in Taiwan, the need for acute child and adolescent psychiatric inpatient services is increasing. The reasons for admission of children and adolescents to an acute psychiatric ward have become diverse and complex--not just severe mental illness, but also severe behavioral or emotional concerns (e.g., suicide/self-harm attempts, aggression). A growing number of children and adolescents involved with child protection systems due to maltreatment have severe emotional/behavioral problems as well as multiple psychiatric diagnoses, hindering their placement/schooling stability and increasing their utilization of psychiatric emergency and inpatient services. Research has shown that maltreated children and adolescents in child protection services have an increased number of psychiatric hospitalizations, longer stay, and higher rates of involuntary admission, multiple psychotropic medications, and use of restraint than their non-maltreated inpatient peers. Providing developmentally appropriate, trauma-informed, and safe acute child and adolescent psychiatric inpatient care is important but challenging. We need new thinking in the functions of child and adolescent psychiatric hospitalization with developing interventions to address the complicated needs of child and adolescent psychiatric inpatients.

In Taiwan, we have 290 child and adolescent psychiatrists, 158 registered acute child and adolescent psychiatric inpatient beds, and 358 child and adolescent day-care beds that include psychiatric rehabilitation for adolescents and early intervention for preschoolers with developmental delay. Most child and adolescent psychiatric inpatient beds in Taiwan are not in a ward designed to fit the needs of children and adolescents. In this presentation, I will review the current resource for child and adolescent psychiatric inpatients in Taiwan, the need for staff training to avoid inappropriate use of restraint and psychotropic medications with the underlying concepts that they need to rely on such strategies to manage “misbehaviors” of child and adolescent inpatients, and the emerging child protection issues in acute psychiatric wards

(e.g., being sexually abused by other psychiatric inpatients). Finally, I will explore some promising attempts in Taiwan and the future directions: how we could transform and expand the functions of settings to provide psychiatric care that addresses mental health and child protection issues, such as the ongoing residency programs for youths in foster care with severe mental health issues; how we can empower child and adolescent psychiatric inpatients with the skills to handle their emotions; how we could collaborate with parents, schools, and foster-care systems to prepare a better future for child and adolescent patients after they leave acute psychiatric wards.

We don't have conflicts to disclose. This presentation is non-clinical.

## 12:50-13:30 **Research Topics 12**

### **Humanoid robot intervention for individuals with autism spectrum disorders**

Hirokazu Kumazaki<sup>1</sup>

<sup>1</sup>Department of Future Psychiatric Medicine, Graduate school of Biomedical Sciences, Nagasaki University, Nagasaki, Japan

#### ABSTRACT

Autism spectrum disorders (ASD) is a developmental disability that leads to significant social, communication, and behavioral challenges. Individuals with ASD face lifelong challenges. Therapeutic and educational approaches benefit only a small percent of individuals with ASD. The latest progress of humanoid robotics is remarkable. With rapid advances in technology, humanoid robots are being designed to function in a variety of ways. As increasing anecdotal evidence suggests, robots may offer many unique opportunities for helping individuals with ASD. Individuals with ASD often achieve a higher degree of task engagement through the interaction with robots than through the interactions with human trainees. The type and form of robots to be used for such interactions have been meticulously considered. Simple robots and animal robots are acceptable because of their simplicity and the ease of interesting and engaging interactions. Android robots have the benefit of the potential of generalization into daily life to some extent. Considering the affinity between robots and users is important to draw out the maximum potential of robotic interventions. Factors such as the appearance, biological motion, clothes, hairstyle, and disposition of robots are important. Many factors of a user such as age, sex, and intelligence quotient may also affect their affinity toward the robot. The potential end-users of this technology are unaware or unconvinced of the potential roles robots could play in autism spectrum disorder interventions. If trainers have extensive experience in using robots, they can identify many potential roles of robots based on their experience. To date, only a few studies have been conducted in the field of robotics for providing assistance to individuals with ASD, and further studies are needed to realize an optimal robot for this purpose. In this lecture, I am going to provide a review of the current status of humanoid robot intervention for individuals with ASD.

## 13:40-15:10 **Symposium 20**

### **Various issues in clinical practice associated with neurodevelopmental disorders**

Moderator 1: Hideki Negoro (Shigisan Hospital, Heartland Shigisan, Ikoma-gun, Japan)

Moderator 2: Toyosaku Ota (Department of Human Development, Nara Medical University, Kashihara, Japan)

#### **S20-1**

### **Suicidal behavior of individuals with autism spectrum disorder in adolescence**

Yuichi Onishi<sup>1</sup>, Keitaro Kimoto<sup>1</sup>, Katsunaka Mikami<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Tokai University School of Medicine, Isehara, Japan

#### ABSTRACT

Neurodevelopmental disorders associated with suicidal behavior (suicide ideation, suicide attempts, and suicide deaths) are autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD). In contrast to suicide research on individuals with ADHD, which has been accumulating since the 1980s, individuals with ASD have been the subject of suicide research since 2000. Observational studies of suicidal behavior in individuals with ASD have accumulated remarkably in recent years, and their clinical features are becoming increasingly clear. A recent systematic review of children, adolescents, and adults found a significant association between individuals with ASD and suicidal behavior across all age groups. In a systematic review focused on young people aged 25 years or younger, the incidence of suicidal ideation in individuals with ASD was 25%, that of suicide attempts was 8%, and that of completed suicide was less than 1%. While the rate of suicide attempts decreases with age and age is a protective factor in the general population, the higher risk of suicide attempts across age groups remains the same for individuals with ASD from childhood to age 25. In addition, compared with young people in the general population, adolescents with ASD are thought to have a higher frequency of suicidal ideation and suicide attempts. Therefore, clinicians treating adolescents with ASD should always be aware of the risk of suicide attempts. The presentation at this symposium will review suicidal behaviors in youth with ASD.

The content of the presentation is a review of previous research reports, so no particular ethical considerations are required.

Funding: This presentation has no financial support to disclose.

Conflicts of Interests (over the three years): Yuichi Onishi has received honoraria from Takeda Pharmaceutical Co., Ltd. Keitaro Kimoto has received financial support and honoraria from Otsuka Pharmaceutical Co., Ltd., and Shionogi & Co., Ltd.; honoraria from Sumitomo Dainippon Pharma Co., Ltd., Takeda Pharma Co., Ltd, and Viartis Inc. Katsunaka Mikami has received a Grant-in-Aid for Scientific Research (C) (Number 22K07624) and financial support from Otsuka Pharmaceutical Co., Ltd., and Shionogi & Co., Ltd.; honoraria from Miyarisan Pharmaceutical Co., Otsuka Pharmaceutical Co., Ltd., Shionogi & Co., Ltd., Sumitomo Pharma Co., Ltd., and Takeda Pharmaceutical Co., Ltd.; and a consulting fee from Otsuka Pharmaceutical Co., Ltd., Shionogi & Co., Ltd., and Viartis.

## **S20-2**

### **Neurodevelopmental disorders in School Refusal Behavior**

Hiroki Matsuura<sup>1</sup>

<sup>1</sup>Department of neuropsychiatry, Wakayama Medical University, Wakayama, Japan

#### ABSTRACT

School refusal behavior (SRB) is defined as child-motivated refusal to attend school and/or difficulties remaining in class for an entire day. Approximately 28–35% of children have ever refused to attend school, with estimates up to 53% in autism spectrum disorder (ASD). Children with ASD or attention-deficit/hyperactivity disorder (ADHD) are at particular risk for school absenteeism, extended disengagement, and dropout. Kurita et al reported that SRB is significantly more common in students with ASD compared with typically developing students. In Japan, Suzuki reported that 36% was diagnosed as pervasive developmental disorder (PDD), 7% was diagnosed as ADHD, 9% was diagnosed as PDD+ADHD among children who absent from school more than 30 days. At a glance, children in SRB seems to be healthy in home, but they are struggling and their health-related Quality of Life (HRQOL) is lower than we thought. Our research group researched the HRQOL in SRB. A total of 175 young people (aged 8–18 years old) who visited our medical centers and outpatient clinics participated in the study. This

comprised the SRB group (n = 70) and an age- and sex-matched control group (n = 105). Information about any psychiatric diagnosis was collected from medical records, HRQOL was measured using the J-KIDSCREEN-52, SRB was assessed using the School Refusal Assessment Scale-Revised for Japanese Attendance at School, self-esteem was measured using the Rosenberg Self-Esteem Scale, children's mental health status was measured using the Strengths and Difficulties Questionnaire. We performed between-group comparisons and multiple regression analysis. The SRB had a significantly lower HRQOL than the control group in several of the J-KIDSCREEN-52 dimensions. In the SRB group, 35.7% had chronic disease and 35.7% of their parents had health problems and were receiving treatment. The multiple regression analysis revealed that, within the SRB group, a psychiatric diagnosis was associated with a lower HRQOL. However, this was not the case for a diagnosis of ASD. Self-esteem positively affected HRQOL in six dimensions of the J-KIDSCREEN-52 within the SRB group. Consequently, our research indicated that the support enhancing self-esteem could be used to increase HRQOL in young people with SRB. Previous study suggested that in support of neurodevelopmental disorders, developing self-esteem is important. Developing self-esteem is useful for SRB with neurodevelopmental disorders also.

Our study was approved by the Institutional Review Board at the Nara Medical University and Nara Prefecture General Medical Center.

The author reports no conflicts of interest in this work.

### **S20-3 Neurodevelopmental Disorders and Maltreatments**

Kosuke Okazaki<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Nara Medical University, Kashihara, Japan

#### **ABSTRACT**

The neurodevelopmental disorders, e.g., autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder, are a group of conditions with onset in the developmental period. Neurodevelopmental disorders are characterized by core symptoms such as impairments in social and communicative functions, the presence of restricted interests and repetitive behavior, inattention, hyperactivity, and impulsivity. Children with neurodevelopmental disorders may be more vulnerable to experiencing trauma because of their difficulties with social interaction, communication, or regulation of emotions. They may also be more likely to have difficulty recognizing and coping with traumatic events.

Maltreatment, which includes physical, sexual, and emotional maltreatment, as well as neglect, can have a particularly negative impact on children with neurodevelopmental disorders. These children may be more likely to experience maltreatment, and the consequences of maltreatment can be more severe for them. Maltreatment can lead to a range of negative outcomes, including an increased risk of developing additional mental health problems, such as anxiety, depression, and post-traumatic stress disorder.

Furthermore, it is known that children raised in a neglect-like environment for an extended period during childhood are more likely to exhibit symptoms similar to neurodevelopmental disorders, such as ASD-like symptoms, disinhibited interpersonal interactions, inattentive symptoms, and hyperactivity symptoms. Previous studies have reported that traumatic experiences such as maltreatment affect brain function in children with and without neurodevelopmental disorders, and they negatively impact adulthood. Okazaki et al. (2020) reported that the experience of childhood maltreatment could affect brain function in patients with an ASD in adulthood, and preventing the experience of maltreatment in children with neurodevelopmental disorders is an urgent issue. On the other hand, children with neurodevelopmental disorders may have difficulty communicating their experiences of maltreatment to others due to communication problems. In addition, it is difficult to distinguish

symptoms of neurodevelopmental disorders from those caused by maltreatment, which may delay support for the maltreatment of children with neurodevelopmental disorders. Therefore, it is important for caregivers and mental health professionals to be aware of the relationship between neurodevelopmental disorders and trauma, and to provide appropriate support and interventions for children who have experienced maltreatment.

Our research in this presentation was approved by the Institutional Review Board of Nara Medical University. The author has no financial conflicts of interest disclose concerning the presentation.

#### **S20-4 Relationship between neurodevelopmental disorders and psychosomatic disorders**

Masaki Taguchi<sup>1</sup>

<sup>1</sup>Department of Pediatrics, Nara Prefectural Seiwa Medical Center, Ikoma-gun, Japan

##### **ABSTRACT**

Psychosomatic disorders are defined as physical diseases in which psychological and social factors have a significant influence on the onset and course of the disease. I work in the pediatric department of a general hospital and have experienced that patients with characteristics of neurodevelopmental disorders, especially ASD, are prone to develop psychosomatic disorders and are difficult to treat. I consider the risk factors for psychosomatic disorders to be the intensity of stress and the vulnerability of the patient. I also consider the protective factors of psychosomatic disorders to be the supportive environment and the resilience of the patient. In terms of risk and protective factors, I would like to lay out why patients with neurodevelopmental disorders are at high risk for developing psychosomatic disorders. Patients with neurodevelopmental disorders also tend to have irregular lifestyles, which can also exacerbate psychosomatic disorders. Therefore, it is more important to provide lifestyle guidance that includes parents. In Japan, psychosomatic disorders are more often seen by pediatricians than by child psychiatrists because of their physical symptoms. However, pediatricians without systematic training in psychosomatic disorders often struggle to treat them. Therefore, appropriate interventions may not be made and symptoms may worsen or secondary psychiatric disorders may develop. Undiagnosed neurodevelopmental disorders are often suspected in the wake of psychosomatic disorders. We need to be more aware of the relationship between neurodevelopmental disorders and psychosomatic disorders.

In this presentation, care has been taken to ensure that patients are not identified. The author have no COI to disclose.

#### **15:20-16:50 Symposium 24**

##### **Mental Health of Children and Youth In Malaysia and Indonesia: The Experiences and Interventions During the Pandemic and Post-pandemic Times**

Moderator 1: Ruziana Masiran (Universiti Putra Malaysia & Hospital Pengajar Universiti Putra Malaysia, Serdang, Malaysia)

Moderator 2: Suzy Yusna Dewi (University of Pembangunan Nasional Veteran Jakarta & Soeharto Heerdjan Mental Hospital, Jakarta, Indonesia)

#### **S24-1 Perception of Students in the Transitional Phase of Distance Learning during the Pandemic In Java, Indonesia**



Suzy Yusna Dewi<sup>1,2</sup>

<sup>1</sup>Faculty of Medicine, Universitas Pembangunan Nasional Veteran Jakarta, Jakarta, Indonesia

<sup>2</sup>Soeharto Heerdjan Mental Health Hospital, West Jakarta, Jakarta, Indonesia

#### ABSTRACT

During the pandemic, new policies have been implemented to minimize the spread of Covid-19. One of them is to temporarily stop all activities of educational institutions. Distance learning is an alternative presented by the government so that the teaching and learning process continues. Distance learning methods have both positive and negative impacts. This study aims to look at students' perceptions of distance learning during the COVID-19 pandemic. This research is an observational descriptive study using a cross-sectional method with 384 freshmen college student respondents on the Island of Java. Ethical approval (KH.03.02/2.4/6115/2022) was received from Soeharto Heerdjan Mental Hospital. The results obtained are students' perceptions of their difficulties communicating with lecturers while undergoing distance learning, the difficulty of understanding material, experiencing boredom, experiencing interpersonal communication problems, being disturbed by the home environment when learning from a distance, worrying about academic education being late, experiencing changes in routine, miscommunication between lecturers and students often occurs, students feel that they open social media more often, and students feel that they have not experienced an increase in expenses during distance learning. From the results of this study, it is hoped that there will be an evaluation of more effective learning methods for the transitional period as well as input for policymakers.

I certify that there is no actual or potential conflict of interest in connection with this presentation.

#### S24-2

#### **Transferability of a Foreign Evidence-Based Parenting Program to the Malaysian Population During the Pandemic**

Ruziana Masiran<sup>1,2</sup>, Normala Ibrahim<sup>1,2</sup>, Hamidin Awang<sup>1,2</sup>, Lim Poh Ying<sup>3</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

<sup>2</sup>Department of Psychiatry, Hospital Pengajar Universiti Putra Malaysia, Serdang, Selangor, Malaysia

<sup>3</sup>Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Malaysia

#### ABSTRACT

**Introduction:** Despite the clear role of parenting programs in managing behavior problems in children, their implementation in countries with limited resources has been challenging. Furthermore, programs from foreign countries may not be suitable for local parents. This study examined whether the Incredible Years School Age Basic parenting program (IYSAB) program was transferrable, and hence effective to improve children's behavior problems and parenting stress, for Malaysian population. **Methods:** Mothers of 70 six to twelve-year-old children diagnosed with behavioural problems in the pediatrics and child and adolescent psychiatry clinics in Klang Valley, Malaysia participated in the study and were randomly assigned to either IYSAB or wait-list control groups. The severity of children's behavior problems and levels of parenting stress were parent-rated using self-administered questionnaires. The IYSAB program was conducted weekly for 14 weeks with a few modifications to meet the public health control requirement during the pandemic. The generalized estimating equation was used to analyze the data. Ethical approval was granted by the Research Ethics Committee of Universiti Putra Malaysia (JKEUPM-2021-163) and the Medical Research and Ethics Committee (MREC),

Ministry of Health Malaysia (NMRR-19-107-45772). Results: Children of mothers in the IYSAB group significantly improved their behaviors as compared to those in the control group at baseline, at two weeks (B = -4.20, 95 % CI: -6.68, -1.72, p = 0.001) and 12 weeks post-program completion (B = -3.51, 95 % CI: -6.37, -0.66, p = 0.016). Mothers who participated in the IYSAB experienced significantly lowered parenting stress only 12 weeks after the program ended (B = -5.03, 95 % CI: 9.16, -0.90, p = 0.017). The IYSAB was well-accepted by the participants. Conclusion: A modified, established foreign parenting program was transferrable and acceptable to the local Malaysian population. However, the impact of COVID-instigated psychological distress may play a role in the study outcomes.

I certify that there is no actual or potential conflict of interest in connection with this presentation.

### **S24-3**

#### **Effect of online distance learning in the COVID era on adolescent emotional dysregulation : A case report**

Lina Budiyanthi<sup>1</sup>

<sup>1</sup>West Java Mental Hospital Bandung, Bandung, Indonesia

#### **ABSTRACT**

**Introduction:** To prevent the spread of COVID-19 during the pandemic, the Indonesian government adopted a policy to carry out online distance learning for students from the elementary to tertiary levels. In addition to the various benefits that can be drawn from this distance learning policy, negative impacts were often found in daily clinical practice. Emotional dysregulation disorder is commonly found among children and adolescents as an indirect result of distance learning. **Method:** This is a case report of an inpatient in a mental hospital in West Java province in Indonesia. Informed consent was provided by patient's parents. **Result:** A 15 year-old teenage girl was diagnosed with emotional dysregulation disorder after experiencing online distance learning. To abide by the distance learning, she was given leeway by her parents to access the internet for learning. However, as time went by, the time spent accessing the internet became longer, and parents could no longer limit it. Since then the patient rarely interacted with friends or other people around her and became very emotionally sensitive. If her wishes were not fulfilled, she would get angry, behave rudely and break things at home. She often skipped school and even threatened to hurt herself whenever she felt angry or disappointed. She then received psychopharmacotherapy and family counselling to improve parenting. **Conclusion:** Online distance learning during the COVID-19 pandemic has undoubtedly increased the access to internet use. In children with particular vulnerabilities, online distance learning is related to the occurrence of emotional dysregulation problems.

I certify that there is no actual or potential conflict of interest in connection with this presentation.

### **S24-4**

#### **Impact of Pandemic COVID-19 on the Referral Patterns for Child and Adolescent Mental Health Service in Selangor, Malaysia**

Rahima Dahlan<sup>1,2</sup>, Chern Choong Thum<sup>2</sup>, Tan Kit Aun<sup>1,2</sup>, Ruziana Masiran<sup>1,2</sup>, Ahmad Azwal Rusidi<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor, Malaysia

<sup>2</sup>Department of Psychiatry, Hospital Pengajar Universiti Putra Malaysia, Serdang, Selangor,

Malaysia

#### ABSTRACT

The 2019 global coronavirus pandemic (COVID -19) has entered its third wave. Government restrictions continue, with unknown physical and mental health consequences. The pandemic has changed the clinical picture and the number of clinical referrals of children and adolescents with mental health problems and has impacted care in Malaysia. This presentation examines how and why referrals to the Child and Adolescent Mental Health Service (CAMHS) at Hospital Pengajar Universiti Putra Malaysia, Selangor, Malaysia, changed during the pandemic. Data on referrals and hospitalizations to CAMHS were collected retrospectively from electronic records for both the year 2020 and the subsequent year 2022. Because this was an observational study, informed consent was not required. Referrals to CAMHS increased steadily over the months following a brief decline in 2020. The possible reasons for these observations are discussed.

I certify that there is no actual or potential conflict of interest in connection with this presentation.

#### **Venue 5 (Room C-2)**

9:10-9:50 **Research Topics 8**

#### **Effectiveness of mental health education for school teachers in Japan**

Junichi Fujita<sup>1</sup>

<sup>1</sup>Department of child psychiatry, Yokohama city university hospital, Yokohama, Japan

#### ABSTRACT

Background: Young people with mental disorders, many are less likely to seek help, and most go untreated. Psychiatric illness in Asian society has been stigmatized, which can be a barrier to medical or social support. Recently, various efforts to reduce stigmatization have been implemented, such as mental health education for students in schools. However, Japanese teachers still have insufficient knowledge of mental health.

Method: In response to social needs, we have conducted meetings called “The Association for Cooperation between Medicine and Education (AC-ME) Project” two or three times annually from 2016 to 2018 in Yokohama City University to consider collaboration between medicine and education, with the aim of providing mental health education programs to teachers. In line with the mental health needs of the schools identified during the meeting, we developed mental health education programs for teachers in four areas: self-injury/suicide, behavioral problems with developmental disabilities, school absenteeism, and violence. We conducted study aimed to evaluate the effectiveness of a mental health educational program for high-school teachers to improve knowledge of students’ mental health.

Results: The acceptability of the program was favorable. The analysis revealed improvement in mental health knowledge. Especially, knowledge improvement about suicidal behaviors continued after 1 year.

Conclusion: The results indicated that the program may improve educators’ knowledge after intervention especially concerning suicidal behaviors. Based on this result, we are currently implementing an educational program for junior high and high school teachers in Japan that focuses on suicide prevention.

We report that there are no potential conflicts of interests related to this study.

10:00-11:30 **Symposium 17**

**The impact of threats on child and adolescent mental health: Covid-19 pandemic, natural disasters, and Ukraine war**

Moderator 1: Hitoshi Kaneko (Nagoya University, Japan)

Moderator 2: Andre Sourander (University of Turku, Finland)

**S17-1**

**Mental health of adolescents after Russian invasion of southeastern Ukraine in 2014**

Sanju Silwal<sup>1,2</sup>, Andre Sourander<sup>1,2,3</sup>, Olga Osokina<sup>4,5</sup>, Tatiana Bohdanova<sup>4</sup>, Matthew Hodes<sup>6</sup>, Norbert Skokauskas<sup>7</sup>

<sup>1</sup>Research Centre for Child Psychiatry, University of Turku, Turku, Finland

<sup>2</sup>INVEST Research Flagship Center, University of Turku, Turku, Finland

<sup>3</sup>Turku University Hospital, Turku, Finland

<sup>4</sup>Donetsk National Medical University, Kramatorsk, Ukraine

<sup>5</sup>Kyiv Medical University, Kyiv, Ukraine

<sup>6</sup>Imperial College London, United Kingdom

<sup>7</sup>Regional Centre for Child and Youth Mental Health and Child Welfare, IPH, Norwegian University of Science and Technology, Trondheim, Norway

**ABSTRACT**

Very limited evidence is available on the psychological impact of Ukraine war on adolescents. We aimed to compare war experiences, mental health, suicidality and self-harm of adolescents living in war-torn, Donetsk region and peaceful Kirovograd region, more than 2 years after Russia first invaded Ukraine in 2014. This is a cross-sectional study including 2,766 students from age range 11-17 years. The data was collected from September 2016 to January 2017. Self-reported tools were used to measure post-traumatic stress disorder (PTSD), depression, anxiety, suicidality and self-harm. Binary and multinomial logistic regression models were used to examine the association between mental health outcomes and regions. Odds ratios (OR) were used to estimate the strength of the associations and 95% confidence intervals (CI) were calculated. P values of <0.05 were considered statistically significant. War trauma, daily stress and suicidality were higher in adolescents in the Donetsk region. They reported significantly increased risks for PTSD (OR 4.11, 95% CI 2.37-7.13), moderately severe/severe depression (OR 2.65, 95% CI 1.79-3.92) and severe anxiety (OR 3.10, 95% CI 1.83-5.27). Adolescents in the Donetsk region had three-fold increased risk for suicidal ideation only, OR 2.92 (95% CI 2.23-3.82), about two-fold increased risk for suicidal ideation and self-harm, OR 1.71 (95% CI 1.21-2.40) and two-fold increased risk for suicidal attempts, OR 2.11 (95% CI 1.48-3.00). Exposure to high number of war events increased the risk of suicidal ideation, 1-2 war events, (OR 1.96, 95% CI 1.42-2.71) and ≥3 war events, (OR 2.03, 95% CI 1.43-2.88). Traumatic events were strongly associated with psychological distress and suicidality in adolescents living in a war-torn region. These findings provided insight on the psychological impact of war in a country which is experiencing Russian invasion since February 2022. The study can help to estimate and address the long-term impact of the current war on adolescent's mental health and well-being. Ethical approval was obtained from the Ethical Committee for Medical Research Ethics of Donetsk National Medical University. Informed consent was obtained from parents and adolescents. The participants were told that their participation is voluntary, anonymity of responses and possibility for psychological consultation for adolescents in need.

The authors declare no conflict of interest.

**S17-2**

**Impact of the COVID-19 Pandemic on Middle School Students of Local Cities in**

## Japan

Masayoshi Ogura<sup>1</sup>

<sup>1</sup>Naruto University of Education, Naruto, Japan

### ABSTRACT

The COVID-19 pandemic and the ensuing social restrictions caused major disruptions in the lives of children and adolescents. In Japan, all elementary, junior high, and senior high schools were temporarily closed from March 2, 2020, and face-to-face classes did not commence until the end of May of the same year in the areas facing severe infection situations. After the resumption of face-to-face classes, schools shortened the summer vacation and canceled or reduced events such as athletic meets and field trips to compensate for the loss of learning during the school closures. However, certain aspects of school life cannot be said to have been returned to normal as yet, such as the continued wearing of masks and the continued restriction of some activities. Another major change during the same period was the promotion of Information and Communication Technology (ICT) in schools under the policy of the GIGA (Global and Innovation Gateway for All) school concept. These changes are thought to have had a significant impact on children's mental health.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) conducts an annual survey on various issues regarding student guidance for children, and the increase in school non-attendance has drawn particular attention. Specifically, the number of elementary and junior high school students in a state of non-attendance was 17,688 in FY2020, but it reached 21,536 in FY2021, a record high. However, as the number has been increasing for the past nine years, the school life changes due to the COVID-19 pandemic cannot be attributed to a factor in truancy, but from my perspective, I have had the impression of them being related in no small degree.

In this presentation, we provide the results of 1) a review of studies on the impact of the COVID-19 pandemic on children's mental health in Japan, and 2) our analysis of changes over a 10-year period by comparing a survey of eighth graders conducted by the authors across local cities in Japan in 2011 with a survey of eighth graders and their teachers conducted in 2023 in the same schools as in 2011. We then discuss our findings regarding the impact of the COVID-19 pandemic on junior high school students in Japan.

The authors have obtained approval from the Research Ethics Committee of the Graduate School of Education and Development, Nagoya University, for the surveys conducted in 2011 and 2023. There is no COI to disclose.

### S17-3

#### **Screen time and its associated mental health problems among adolescents: A pre- and peri-COVID-19 pandemic comparative study in Indonesia**

Tjhin Wiguna<sup>1</sup>, Belinda Julivia Murtani<sup>1</sup>, Gina Anindyajati<sup>1</sup>, Fransiska Kaligis<sup>1</sup>, Raden Irawati Ismail<sup>1</sup>, Kusuma Minayati<sup>1</sup>, Enjeline Hanafi<sup>1</sup>, Kanya Paramastri<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine Universitas Indonesia – dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia

<sup>2</sup>Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

### ABSTRACT

Objective: Screen time is defined as the time spent engaging with visual screen-based technologies such as televisions, computers/laptops, videogames, smart phones, tablets/iPads, and handheld electronic or gaming devices with the exception of auditory activities such as talking on the phone or listening to music. The rapid outbreak of COVID-19 has led to significant changes in daily life due to social distancing and stay-at-home policies, which have

affected adolescents' routines. As they are asked to study from home through online learning and stay at home, they have much less contact with their peers. Consequently, the COVID-19 pandemic is assumed to have critically influenced adolescents' mental well-being, especially regarding the increase in screen time. Hence, this study aimed to identify whether there were any differences between pre- and peri-COVID-19 pandemic screen time among adolescents, and the mental health problems that associated with the usage of screen time.

**Method:** This cross-sectional study compared the pre- and peri-COVID-19 pandemic screen time, emotional, conduct, and prosocial problems of adolescents in Indonesia. This study was part of a community mental health survey during COVID-19 pandemic in Indonesia. Both pre- and peri-COVID-19 pandemic data were collected using a crowdsourcing method that is widely applied these days because of the proliferation of the Internet. Target participants were adolescents aged 11-17 years old and having secondary- or senior-high school background. The pre-COVID-19 pandemic data were collected from June to August 2018. During this period, there were 447 participants who participated in the study; however, only 290 completed the survey to meet the study criteria, and were included in the analysis. The peri-COVID-19 pandemic data were collected from August 21 to October 10, 2020; during this period, there were 743 participants that filled out the online questionnaire, but only 390 data fully matched with the pre-COVID-19 pandemic data and were included in the analysis. Modified Youth Screen Time Survey and Strength and Difficulties Questionnaire were used to measure screen time and mental health problems. Data was analysed by using SPSS version 21 for Mac. The protocol of this study has been approved by the Ethic Committee was approved by the Indonesian Ethic Committee of the Faculty of Medicine Universitas on April 2020.

**Results:** The proportion of adolescents that watched television for more than 4 hours was higher during COVID-19 pandemic (28.1% vs.19.9%,  $p>0.05$ ). A similar finding was found in personal computer use (37.9% vs. 23%,  $p<0.05$ ). Total screen time during COVID-19 among adolescents was dominated in the  $\geq 10$  hours in both groups (63.9% vs. 51.4%,  $p<0.05$ ). The total average screen time per day among adolescents in the peri-COVID-19 pandemic study was higher compared to the pre-COVID-19 pandemic study [832.95(623.585) vs. 808.57(675.83),  $p>0.05$ ]. Adolescents used higher screen time for television and personal computer during COVID-19 pandemic. Television screen time  $\geq 10$  hours were potential risk for having conduct problem (OR=8.58, 95% CI=2.90 – 25.42). Using personal computer for more than 10 hours also increased risk for having emotional problem (OR=4.28, 95% CI=1.44 – 12.73).

**Conclusion:** This study found that screen time during peri-COVID-19 pandemic increased and possibly being risks for having mental health problems among adolescents. Community mental health promotion and prevention towards adolescent health and mental wellbeing related to screen time should be re-arranged systematically during COVID-19 pandemic.

**Declaration:** The authors did not have any conflict of interest of this presentation

#### **S17-4**

#### **COVID-19 Pandemic Effects on Singapore Children and Adolescents: What local studies tell us?**

Say How Ong<sup>1</sup>

<sup>1</sup>Department of Developmental Psychiatry, Institute of Mental Health, Singapore, Singapore

#### **ABSTRACT**

The COVID-19 pandemic is known to have an universal negative impact on child and adolescent mental health and wellbeing, with reported increased rates of anxiety, depression and emergency room visits for self-harm behaviours, amongst other mental disorders. Several studies have also attempted to study the mechanisms and risk factors that caused these observations. Two local studies conducted in Singapore children and adolescents are discussed. Confinement measures such as lockdowns, have led to the closure of schools and consequent

disruptions to school and social routines. Loneliness, uncertainty about the future and stress from social isolation during this period can increase levels of depression and anxiety among children and adolescents.

Results from one study showed that the increase in children's mental health problems from pre-pandemic to pre-lockdown was partially explained by a decrease in time spent outdoors, an increase in their conflict with fathers, and an increase in their mothers' mental health problems, with the last factor being the only significant mediator when all three factors were considered simultaneously.

In another qualitative study, adolescents reported more academic-related than social-related stress. Benefits and challenges of home-based remote learning were experienced across students. The students coped with stress during the pandemic through disengagement (from problems), taking active steps (to problem-solve and de-stress) and turning to others (for help). As multiple personal and familial factors may undermine mental wellbeing of children and adolescents, mental health of adult caregivers and academic-related stress could be especially significant during the pandemic and should be considered as areas of focus in family and school support services.

Disclosure: I have no competing personal or financial conflict of interest.

12:50-13:30 **Research Topics 13**

### **The Importance of International Interactions: Why and How We Should Participate**

Takahiko Inagaki<sup>1,2</sup>

<sup>1</sup>Adolescent Mental Health Service, Biwako Hospital, Otsu, Japan

<sup>2</sup>Department of Psychiatry, Shiga University of Medical Science, Otsu, Japan

#### **ABSTRACT**

Non-native English speakers face difficulties while engaging in international interactions because of language barriers.

For example, most Japanese mental health professionals have limited opportunities to speak English during their daily lives or clinical and research activities. Most psychiatrists can read and write English but cannot competently speak the language. Many Japanese psychiatric practitioners register for the IACAPAP and WPA congresses. However, visitors to such seminars rarely observe Japanese professionals conversing with their international counterparts; instead, they tend to interact with other Japanese speakers. The Japanese participants' lack of significant engagement at international symposia is worrisome.

Special incentives and methodologies are required to mitigate hesitation resulting from language barriers. In this lecture, I would like to share my motivations for international exchanges and the methodology used to attain my inspiration.

#### **1: Why Do I Participate in International Interactions?**

My first international interaction occurred on a visit to England. Excellent guidelines exist in many countries around the world, including Japan. However, compliance with the guidelines is extremely low in Japan. I was eager to find out what would transpire with superior compliance as the prevailing circumstances cannot improve without understanding the desired ideal.

#### **2: How Do I Engage in International Interactions?**

##### **2-1. English Skills**

Despite taking English lessons before departing for England, my knowledge of the language was inadequate. To overcome language barriers, one must unhesitatingly and repeatedly ask questions to grasp what is said and restate what one has apprehended until it is understood by the other party.

##### **2-2. Communicate with People from Other Nations in Connection with the Congress**

First, one should make friends and be respectful to others while communicating. Conversation

can be initiated by asking questions about the person's presentation. One should also exchange name cards after the lecture and send an email that evening.

Next, a symposium can be organized as scholarly conventions request research-based information and reviews of known findings.

Finally, one should consider it an honor and accept requests to collaborate with international projects.

### 3. The Outcomes of My International Interactions

I enact several roles in the IACAPAP. I chair a project to translate a textbook into Japanese, where I serve as an associate editor of version 1.0 and an editorial board member of version 2.0. I also chair the child and adolescent mental health services network in my region. I use the experience from international interchanges to run and improve the network.

## 13:40-15:10 **Symposium 21**

### **Informed consent and related ethical issues in childhood and adolescence**

Moderator 1: Kiwamu Tanaka (Hyogo Mental Health Center, Kobe, Japan)

Moderator 2: Kazumasa Kimura (Medical corporation Shinshinkai Tama-Aoba Hospital, Higashimurayama, Japan)

#### **S21-1**

### **Title Informed consent/assent in childhood and adolescence and issues related to parental authority in Japan**

Kazumasa Kimura<sup>1</sup>

<sup>1</sup>Medical corporation Shinshinkai Tama-Aoba Hospital, Higashimurayama, Japan

#### **ABSTRACT**

In recent years, the JSCAP ethics committee has considered the issues of informed consent and assent in child and adolescent psychiatry. We conducted a questionnaire study in 2016 to identify the age from which a child is able to think critically and found that those aged 13 to 15 years are able to provide consent at approximately the same level as adolescents aged 16 to 20 years. Conflict arises when a competent child or adolescent agrees to a medical procedure when a person with parental authority disagrees. The government has stated with respect to parental authority since medieval times. This culture affects the modern Civil Code and its present iteration. When disagreement arises between a competent minor and a person with parental authority, the issue is not brought before a court as it is Europe and North America. To act on the decision of a competent minor without respecting parental authority is not a simple matter. However, in the revised Civil Code, a person with parental authority must seek a benefit for the child. Japanese culture should absorb the concept of consent "being in the best interests" of children and adolescents.

Ethical consideration: Regarding the questionnaire study in 2016, ethics approval by The ethics committee of Tokyo Metropolitan Children's Medical Center

COI: No conflicts of interest to disclose.

#### **S21-2**

### **The Law Related to Mental Health and Welfare of the Person with Mental Disorder and Child's Rights in Japan**

Junichiro Ota<sup>1</sup>

<sup>1</sup>Mental Health and Welfare Center of Okayama-City, Okayama, Japan

#### **ABSTRACT**

The Law Related to the Mental Health and Welfare of Persons with a Mental Disorder



(LMHW) basically does not distinguish between adults and children. This law was established in terms of the due process of the law regarding involuntary hospitalization. Therefore, corresponding ages are required. Involuntary hospitalization with the agreement of one family member peculiar to Japan in the LMHW should be abolished. It should be specified in the law that only the national or local government can decide on involuntary hospitalization. The right of self-determination by children who are capable of providing consent for treatment should be specified in the law. In cases in which a child judged as being incapable of providing consent is to be involuntarily hospitalized, informed consent should still be sought from the child. Proper and careful explanations and the development of a support system should be required to facilitate a child's expression of their own opinions. The roles of an advocate including a person with parental authority for the rights of the child must be clarified.

Ethical consideration: This research is non-clinical research that does not require ethics approval.

COI: No conflicts of interest to disclose.

### **S21-3**

#### **Informed Consent in Psychiatric Care of Minority in Taiwan: Issues and Challenges**

Iris, Chih-Tsai Chen<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Taoyuan Psychiatric Center, Ministry of Health and Welfare, Taoyuan City, Taiwan

#### **ABSTRACT**

On January 6, 2019, the “Patient Right to Autonomy Act” was formally implemented in Taiwan, it is Asia's first specialized legislation that offers complete protection of the patient's right to autonomy. With increasing awareness of patient rights and autonomy, informed consent in psychiatric care of minority in Taiwan became a further challenge to medical professionals, especially the child psychiatrists. Issues such as “Who is to make decision? Patients, parents or the professionals?”; “Is the child/adolescent with mental illness competent in decision making?” or “What is the best-interest judgment for the client?” are more frequently encountered in our daily practices.

A survey of practitioners' perspectives on informed consent of psychiatric treatments and interventions in clinical practices for minority in Taiwan was performed. Most child psychiatrists acknowledge the importance of informed consent to child and adolescent patients in the treatments and interventions of child psychiatric diseases and with the opinions that age is not the only consideration. 57.1% of them believed that the medical autonomy could be carried out regardless of age, as long as the minorities are “competent”. The issues will be discussed further based on extensive literature review and clinical experiences in Taiwan.

Ethical consideration: Regarding the survey, it is the anonymous online survey under ethical considerations.

COI: No conflicts of interest to disclose.

### **S21-4**

#### **Informed Consent: Gender Dysphoria and the Mature Minor in Australian Law**

Stephen Koder<sup>1</sup>

<sup>1</sup>South Eastern Sydney Local Health District, Sydney, Australia

#### **ABSTRACT**

Dr Koder is a child and adolescent psychiatrist based in Sydney, Australia. He works in public

community outpatient teams in the eastern suburbs of Sydney and has a subspeciality expertise in the assessment and management of gender incongruence and dysphoria in children and youth. Because of the small numbers of child psychiatrists in this field, he sees patients and families from all over Sydney and sometimes further afield.

His talk will give an outline of the Australian Federal and State laws bearing upon this area of medical practice. He will summarise the changes in interpretation of the law over the last decade. Dr Koder will then present an outline for the systematic assessment of capacity of the child/adolescent to give informed consent to the major gender affirming medical and surgical interventions. Its development stems from a case determined in the House of Lords (England) in 1985.

While based on British case law, this model can be easily modified to suit different jurisdictions and medical procedures.

Ethical consideration: This presentation is under ethical consideration.

COI: No conflicts of interest to disclose

### 15:20-16:50 **Symposium 25**

#### **Various Cases in Child and Adolescent Psychiatry Related to Cultures in Indonesia**

Moderator 1: Hidekazu Kato (Department of Child and Adolescent Psychiatry, Nagoya University Hospital, Nagoya, Japan)

Moderator 2: Kristiane Siahaan (Universitas Indonesia Hospital, Depok West Java, Indonesia)

#### **S25-1**

#### **Factors Related to Mother-Infant Bonding in Indonesia**

Kusuma Minayati<sup>1</sup>

<sup>1</sup>Child and Adolescent Psychiatry Division, Department of Psychiatry, Cipto Mangunkusumo National Referral Hospital, Faculty of Medicine Universitas Indonesia, Jakarta, Indonesia

#### **ABSTRACT**

**Background:** Mother-infant bonding is an important factor that supports socio-emotional development of the infant. Therefore, every family member should acknowledge Mother-infant bonding process, especially when extended family structures and co-parenting are common, as in Indonesia.

**Method:** One-hundred-sixty-eight mothers who had 0-36 months infants participated in this cross-sectional study. The Indonesian version of mother-infant bonding scale and a socio-demographic questionnaire were administered to all mothers willingly joined the study by signing the informed consent form. Logistic regression analysis was applied to identify the socio-demographic factors that had any association with the mother-infant bonding scale. We have no conflicts of interest to disclose.

**Results:** The study showed that 13.1% of the participants were categorized as having a moderate-to-high level of impaired mother-infant bonding. Logistic regression analysis showed that vaginal or normal delivery mode was 4.07 (95% CI [1.27, 13.09]) times more likely to exhibit low levels of impaired mother-infant bonding compared to a cesarean section. The model explained 18.6% (Nagelkerke R<sup>2</sup>) of the variance in impaired mother-infant bonding and accurately classified 86.9% of cases.

**Conclusion:** The findings support prior studies that have been conducted in several studies. Psychoeducation on supporting mother-infant bonding may consist of several topics, including the advantages of vaginal delivery mode and the importance of family support. It may be delivered in the early adulthood period or marriage preparation and, hopefully, basic knowledge during those periods may help strengthen the understanding of mother-infant dyad issues among all family members.

## **S25-2**

### **Validity and Reliability Test of Center for Epidemiologic Studies Depression – Revised (CESD-R) Instrument Indonesian Version in Cipto Mangunkusumo Hospital**

Monica Andalusia<sup>1</sup>, Fransiska Kaligis<sup>2</sup>, Tjhin Wiguna<sup>2</sup>, Noorhana SW<sup>2</sup>

<sup>1</sup>Child and Adolescent Psychiatry Division, Department of Psychiatry, Duren Sawit General Hospital, Jakarta, Indonesia

<sup>2</sup>Child and Adolescent Psychiatry Division, Department of Psychiatry University of Indonesia—Cipto Mangunkusumo General Hospital, Jakarta, Indonesia

#### **ABSTRACT**

**Background:** Symptoms and diagnosis depression is one of the causes of many impairment and disability among adolescents. Adolescents in inpatient care may be consulted for psychiatric problems, including depression. A screening instrument should be used upon a specific population to detect expected disorders. Currently, there is no screening instruments to early detect depression among adolescence that could be used by other departments in a hospital.

**Methods:** Validity and reliability test were done to CESD-R, Indonesian version. This instrument has been tested upon the general population, resulting in good validity and reliability. A hundred adolescent patients in RSUPNCM were recruited in the study to self-rate the questionnaire. All participants must fill out the consent form before the interview started. Interview using MINI Kid was done to test criterion validity. Internal consistency and test-retest reliability were assessed to determine the instrument's reliability with using SPSS 20.00 version. Twenty people were re-tested in the next 2-4 weeks to assess reliability. We have no conflicts of interest to disclose.

**Result:** The median age of this study's subject was 13.5 years old, the oldest age was 18 years old. The sample had a varied education, elementary school (30%), junior high school (39%), and senior high school (31%). 68% of the sample had general medical comorbidity, with systemic lupus erythematosus as the most prevalent comorbidity. CESD-R in this study had a median score of 11.71. The optimal cut-off was  $\geq 9$  with the Youden's indexes of 0.671. With the AUC curve of 0.92 (95%CI: 0.86-0.97), this instrument had a sensitivity of 93.9%, specificity 73.1%, positive likelihood ratio 3.5, and negative likelihood ratio 0.08. CESD-R had a Cronbach's Alpha of 0.88 (95%CI: 0,84 – 0,91) and test-retest result of 0.91.

**Conclusion:** The Indonesian version of CESD-R showed satisfactory validity and reliability to detect depression among adolescence that was treated in RSCM. CESD-R in adolescence had a lower cut-off than a general population.

## **S25-3**

### **The Comparison Effects of Risperidone and Aripiprazole on Irritability Symptoms and Serotonin Levels in Children with Autism Spectrum Disorder**

Rinvil Renaldi<sup>1</sup>, Rohmatyah Suaib<sup>1</sup>, Saidah Syamsuddin<sup>1</sup>, Andi Alfian Zainuddin<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine, Hasanuddin University, Makassar, Indonesia

<sup>2</sup>Department of Public Health and Community Medicine, Hasanuddin University, Makassar, Indonesia

#### **ABSTRACT**

**Background:** Autism Spectrum Disorder (ASD) is a behavioral syndrome that includes impairment in social interactions, communication difficulties and restricted patterns of interests and activities. 68% of children with ASD exhibit symptoms of irritability which is the term often used to describe destructive behavior, such as verbal and physical aggression, and self-

harm. Early detection using serotonin as biomarker and intervention using Risperidone and Aripiprazole as approved drugs to treat the irritability symptoms would related with better prognosis. Several research groups have attempted to find a clinical correlation between irritability and hyper-serotonin. However, the study results remains inconsistencies.

Objective: To compare the effectiveness of Risperidone and Aripiprazole on irritability symptoms and serotonin levels in children with ASD.

Method: We recruited ASD patients which met the criterion of DSM-5, age 5-17 years, and Abberant Behavior Checklist - Irritability (ABC-I) Score beyond 18. Using simple random sampling, the patients were grouped into group which was given mono therapy Risperidone and Aripiprazole in therapeutic range dose until the amount of minimum subject each groups (12 subjects) was met. We calculated the ABC-I Score at baseline, the fourth, and the eight weeks during therapeutic phase. Serotonin Level was examined at the baseline and the eighth weeks.

Result: There was a significant decrease in the ABC-I Score after patients given Risperidone and Aripiprazole ( $p < 0.001$ ) but there was no significant change on The Serotonin level. The Change of ABC-I Score was significant in Aripiprazole group after eight weeks. Moreover, the significant difference between the decrease of ABC-I Score was found between the forth and the eight weeks after using Aripiprazole compare to Risperidone with  $p < 0.05$ . There was no correlation between The decrease of ABC-I Score and Serotonin level in both groups.

Conclusion: Risperidone and Aripiprazole were effectively reduced the irritability symptoms in ASD patients. Moreover, Aripiprazole was more effective after eight weeks of treatment. However, there was no significant change in The Serotonin level after given both agents. Beside it, there was no significant correlation between the improvement of irritability symptoms and serotonin level in ASD patients.

Conflict of interest: The authors declare no conflict of interest.

## **S25-4**

### **Parenting in Children with Mental Health Problems in Indonesia**

Fransiska Kaligis<sup>1</sup>, Kusuma Minayati<sup>1</sup>, R.Irawati Ismail<sup>1</sup>, Tjhin Wiguna<sup>1</sup>

<sup>1</sup>Division of Child and Adolescent Psychiatry, Department of Psychiatry, Faculty of Medicine, Universitas Indonesia, Jakarta, Indonesia

#### **ABSTRACT**

For parents who have children with mental health disorders (e.g.: autism spectrum disorder/ASD, intellectual disability), parenting can pose a difficult challenge. In ASD, parenting is mostly affected by the child's lack of adaptability, acceptability, and demandingness. One study from Netherland reported that children with ASD received less authoritative parenting in comparison with non-clinical children.<sup>1</sup> Moreover, in Asian countries which are predominantly collectivistic (in contrast with the individualistic Western countries), having a child with mental disorders and lack of knowledge could invoke parent's feelings of shame and stigmatization from the community, thus their children might end up being isolated. One study from Taiwan reported that children with ASD in Taiwan were objected to more overprotection and authoritarian parenting style from their parents compared to normally developing children, while one small study in Indonesia showed that children with intellectual disability had predominantly permissive parenting style. However, compared to Western countries, research on parenting in children with mental disorders are relatively scarce in Asia, even less Indonesia. Available researches in Indonesia only included small number of samples. Given the stark cultural and environmental difference between Asia and Western countries, it is necessary to further examine the parenting styles of children with mental disorders, especially in Indonesia. The presentation will share and discuss the result of this study.

Author has no conflict of interest and all subjects involved in the study gave their informed

consent before participated in the study.

## **Venue 6 (Room K)**

### **9:10-9:50 Research Topics 9 Atypical social cognition in autism spectrum disorder**

Shota Uono<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

#### **ABSTRACT**

Autism spectrum disorder (ASD) is a neurodevelopmental disorder diagnosed by persistent deficits in social communication and restricted interests and repetitive behaviors. I have been conducting research to elucidate the psychological and neural mechanisms underlying impairments in social communication. First, using behavioral experiments, we have examined whether problems exist in the automatic aspects of joint attention and facial expression recognition, which play important roles in the development of theory of mind and empathy. These studies showed the atypicality in reflexive orienting attention to eye gaze, mimicking facial expressions, perceiving dynamic facial expressions as more exaggerated forms, and integrating information of gaze and facial expressions. These results suggest that ASD individuals have problems with automatic and nonconscious processing of social stimuli, which inhibits smooth communication with others. Second, using a similar experimental paradigm, we examined what neural bases are involved in these phenomena. We identified the spatiotemporal structure of neural activity involved in gaze and facial expression processing in typically developing individuals and patients with intractable epilepsy, and compared neural correlates in individuals with and without ASD based on this information. Taken together, these studies indicate that the subcortical amygdala and temporal-frontal cortical networks play an important role in gaze and facial expression processing and that functional connectivity between these regions are atypical in individuals with ASD. The amygdala activity in response to social stimuli may alter the development of cortical networks. Further, I will present recent advances in the study of social cognition in ASD and the role of atypical sensory processing on the development of social cognition.

Ethical consideration: All procedures were in accordance with the guidelines of the Declaration of Helsinki 1964 and its later amendments. The experimental procedure was approved by the local ethics committee, and written informed consent was obtained from all participants.

COI: The author declared no conflict of interest.

### **10:00-11:30 Symposium 18 Role of Yoga in Child and Adolescent Mental Health – Broadening the integrative approach**

Moderator 1: Sowmyashree Mayur Kaku (Center for Advanced Research and Excellence in Autism and Developmental Disorders (CAREADD), St. John's Medical College Hospital and Research Institute, Bengaluru, India)

Moderator 2: Mayur Vinaykumar Kaku (Department of Neurosurgery and Department of Yoga, PES Medical College and Research Center & YENRI (YogaEnvironment Neuroscience Research Institute) trust, India)

IRB approval/individual consent was taken as required. All the four authors declare that we have no conflicts of interest to disclose.

## **S18-1**

### **Yoga in Child and Adolescent Mental Health – The Why and The How**

Mayur Vinaykumar Kaku<sup>1,2</sup>

<sup>1</sup>Department of Neurosurgery and Department of Yoga, PES Medical College and Research Center, Kuppam, India

<sup>2</sup>YENRI (Yoga Environment Neuroscience Research Institute) trust, Bengaluru, India

#### **ABSTRACT**

Yoga and meditation is known to be associated with immense benefits for children and adolescents. The principles of Yoga are timeless and they have preventive as well as therapeutic value in managing both body and mind related disorders in a holistic manner across the ages. Yoga can help in positive neuroplasticity and significantly improve memory, communication, language and executive functions in children. It also contributes to better mood, decreased anxiety, better self-awareness and concentration.

This presentation will include demonstration of practices that can be used in parental interventions and support. These practices can help them learn to become calm, manage stress, induce compassion, and positively support their child through the process of healing. We will share our experience with demonstration of simple yoga, relaxation techniques, and practices that can be used by practitioners even in primary health settings for CAMH. This will include movement and breathing exercises that help establish mind-body coordination along with self-introspection, bringing the modern research evidence and ancient scriptural references together. We will present our work done in the community with adolescents who were diagnosed with anxiety, depression, suicidality, ADHD, gadget addiction, etc.

## **S18-2**

### **Yoga in Child and Adolescent Mental Health – The psychosocial impact**

Sowmyashree Mayur Kaku<sup>1</sup>

<sup>1</sup>Center for Advanced Research and Excellence in Autism and Developmental Disorders (CAREADD), St. John's Medical College Hospital and Research Institute, Bengaluru, India

#### **ABSTRACT**

In this presentation, we will describe case vignettes from a consultation-liaison CAMH point of view. This will include examples of children with neurological disorders, ADHD, school refusal, internet addiction, gender dysphoria, anxiety disorder and depression. Yoga has also helped manage children with ASD and related developmental disorders and those with visual impairment.

Children with chronic illnesses, and families of children and adolescents with chronic neurological and psychiatric disorders are enormously benefited from the practice of yoga. In CAMH practice, yoga has been tried for children with ADHD, ASD, speech and language disorders, depression, anxiety and other mood disorders, and early onset schizophrenia. Yoga has also been as an intervention in those with immune disorders. Children and adolescents are also benefited from enhanced self-regulation practices and mindfulness for better relaxation. Yogic interventions for managing stress and facilitating well-being in children also improves child's positive behaviors due to improvement in perceived wellbeing. When practiced since childhood, yoga can impact physical health which also bolsters positive epigenetic changes and can potentially improve long term prognosis in CAMH. Introducing a mandatory yoga session regularly in school can also broadly benefit school mental health systems, and in particular improve resilience, mood and self-regulation of children at schools. Group interventions are more effective when implemented in schools and in yoga schools for children and adolescents and work effectively as support groups too.

### **S18-3**

#### **Grief among children: Indications for yoga interventions**

Kavita V Jangam<sup>1</sup>

<sup>1</sup>Department of Psychiatric Social Work, National Institute of Mental Health and Neurosciences, Bengaluru, India

#### **ABSTRACT**

When the death of a significant one occurs during childhood or adolescence, the child may fail to adequately mourn and later in life may present with symptoms of depression or inability to form close relationships during the adult years. Defining grief and loss is very difficult because a sense of loss is very personal and idiosyncratic. Therefore, children's grief differs from that of adults, especially younger children. Children tend to grieve for shorter periods of time than adults. Children's reactions to loss can be different – it differs from child to child. The recent Covid – 19 pandemic has led to the death of the parents of many young children. Owing to the circumstances around the pandemic as well as the sudden and traumatic death of parents, children have developed significant grief reactions such as depression, emotional disturbances, anger and aggression, school refusal, and technology addiction etc. In this session, two case studies will be presented to discuss the complicated grief reactions of the children seen for grief therapy and the need for integrated interventions, including yoga interventions. Both the children seen for grief therapy had lost their parent due to Covid-19 complications. Children had developed significantly complicated grief reactions such as school refusal, episodes of aggression and irritability, sad mood, reduced interest in social interactions, death wishes and addiction to video games. In view of significant depression, children were given pharmacotherapy and grief interventions were initiated. Improvement in mood and functioning was reported; however, brief episodes of aggression triggered by memories of the deceased parent were still observed. At this point, the need for other integrative interventions, such as yoga was felt. The research related to yoga-based grief interventions has reported significant benefits in terms of reduction in stress and exhaustion and distraction from the pain of grieving. Moreover, yoga can provide children safe space to express their thoughts and process difficult emotions by being aware of them. In addition to this, yoga will help children to improve on their self care, mastery over emotions and routine and also develop healthy relationships around them (Woodyard, 2011).

### **S18-4**

#### **Stress and Emotional Functions of Parents of Children with Psychiatric Disorders: Yoga as Solution Strategy**

Aasim Ur Rehman Ganie<sup>1</sup>, Kavita V Jangam<sup>1</sup>

<sup>1</sup>Department of Psychiatric Social Work, National Institute of Mental Health and Neurosciences, Bengaluru, India

#### **ABSTRACT**

Families of children with psychiatric disorders are found to have more stressful living and spent much time in caring them. These families not only have struggle with stressful situations, but have huge financial bearings, face huge emotional pressures, are surrounded by feelings of shame and guilt. In addition to these challenges, these families or parents experience of negative effects, difficulty in accepting the child's psychiatric conditions, poor interpersonal and psychological well-being and develop significant physical health issues. It is well noted that psychological well-being of children are parents are well connected and in multiple ways. Families who face difficulties in coping with depressive and anxiety symptoms due to constant caring of children with psychiatric disorders often report difficulty in providing quality care ton

children. Such factors also make families or parents potentially impaired to be supportive caregivers to children. While numerous studies have reported that parents of children with psychiatric disorders experience higher levels of stress and elevated emotions issues, very few studies are there studied the mind-body relationship in overcoming the challenges. Whereas, some of the stressors of families associated with psychiatric conditions of children are unavoidable, by effective mind-body intervention such as Yoga can influence and be effective in addressing the emotions pressures and stress of families. The application of Yogic techniques helps families or parents of children to utilize cognitive and behavioural efforts during stressful events to manage themselves with an emphasis on self-realization. This presentation aims to present the relationship of parental emotional issues and their challenges due to mental illness in children. Based on our clinical and research experience, we will highlight the role of yoga as an active and solution-oriented coping strategy in addressing the emotional issues in parents.

12:50-13:30 **Research Topics 14**  
**Pathophysiology and exploration of possible future treatment approaches for maltreatment in mice**

Kazuhiko Yamamuro<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Nara Medical University, Kashihara, Japan

**ABSTRACT**

Juvenile social isolation reduces sociability in adulthood, but the neural circuit mechanisms are poorly understood. We found that, in male mice, 2 weeks of social isolation immediately the following weaning leads to a failure to activate medial prefrontal cortex (mPFC) neurons projecting to the posterior paraventricular thalamus (pPVT) during social exposure in adulthood. Chemogenetic or optogenetic suppression of mPFC->pPVT activity in adulthood was sufficient to induce sociability deficits without affecting anxiety-related behaviors or preference toward rewarding food. Juvenile isolation led to both reduced excitability of mPFC->pPVT neurons and increased inhibitory input drive from low-threshold spiking somatostatin interneurons in adulthood, suggesting a circuit mechanism underlying sociability deficits. Moreover, we identify a specific activation pattern of parvalbumin-positive interneurons (PVIs) in mPFC before an active bout, or a bout initiated by the focal mouse, but not during a passive bout when a stimulus mouse explores mice. Optogenetic and chemogenetic manipulation reveals that brief mPFC-PVI activation triggers an active social approach to promote sociability. Juvenile social isolation decouples mPFC-PVI activation from subsequent active social approaches by freezing the functional maturation process of mPFC-PVIs during the juvenile-to-adult transition. Based on these findings, optogenetic stimulation of mPFC->pPVT neurons in adulthood could rescue the sociability deficits caused by juvenile isolation, and chemogenetic activating mPFC-PVI activity in the adult animal mitigates juvenile isolation-induced social deficits. However, since these technologies cannot be adapted to humans, neuromodulation, which can be adapted to humans, is attracting attention. Therefore, the therapeutic application of repetitive transcranial stimulation therapy (rTMS) is currently attracting attention, but its mechanism of action remains unclear. Deep brain stimulation (DBS) was used to stimulate the mPFC in a localized manner in mice, as rTMS affects the entire brain. The mice were subjected to DBS (20 min/day for 6 days) for social behavior (3-chamber task, AR-LABO), fear memory (fear conditioning), and depressive symptoms (tail suspension test). Next, we examined the effects of DBS on the local neuronal circuitry of the mPFC using the whole-cell patch clamp technique. These results indicate that neuromodulation improves various psychiatric symptoms in humans, and it is expected to be applied to clinical practice in the future.

The author declares no conflicts of interest associated with this manuscript.



13:40-15:10 **Symposium 22**

**Effects of child abuse on children: From basic research to functional brain imaging and clinical practice**

Moderator 1: Kazuhiko Yamamuro (Department of Psychiatry, Nara Medical University, Kashihara, Japan)

Moderator 2: Mitsuhiro Uratani (Department of Psychiatry, Nara Medical University, Kashihara, Japan)

**S22-1**

**Impact of the prefrontal cortex neural circuit due to childhood adversity experience**

Kazuhiko Yamamuro<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Nara Medical University, Kashihara, Japan

**ABSTRACT**

Social isolation, especially in childhood, adversely affects adult brain function and social behavior in rodents and humans. Children placed in foster care at an early age and socially disadvantaged in institutional care environments are known to have improved functional outcomes compared to children who have never been placed in foster care or are placed in foster care at a later age. In mice, juvenile social isolation (jSI; juvenile social isolation) during the first two weeks after weaning (21 to 35 days of age) is known to lead to reduced social behavior in adulthood, suggesting that this is a sensitive period for establishing social behavior. Several studies in humans and rodents have shown that the medial prefrontal cortex (mPFC; medial prefrontal cortex) is an essential region of the brain network that regulates social behavior. Our previous study found that L5/6 pyramidal cells projecting to the subcortical area of the mPFC are vulnerable to social isolation in juveniles and that adult pyramidal cell activity is attenuated in jSI. In addition, previous genetics and transcriptome studies have shown that many risk genes for autism spectrum disorders and schizophrenia are highly expressed in mPFC L5/6 pyramidal cells, and mouse studies have shown that the function of subcortical projecting mPFC pyramidal cells (L5/6) is impaired in mouse models of autism spectrum disorders. Our study found that mPFC projecting pyramidal cells (L5/6), which project to the subcortical region, are functionally abnormal in a mouse model of autism spectrum disorder. Our study found that the paraventricular nucleus of the thalamus (PVT) is a candidate subcortical region that projects from mPFC pyramidal cells (L5/6) and is related to social behavior. Considering that this region projects various reward-related areas such as the nucleus accumbens, striatum internus, and central nucleus of the amygdala, the mPFC→PVT neural circuit is suitable for top-down control of brain networks. We have identified a neural circuit (mPFC→PVT) that requires juvenile social experience for appropriate social behavior in adulthood. In this talk, I will focus on the functional and behavioral roles of the mPFC→PVT neural circuit and its development in juvenile social experience. Today, in clinical practice, the potential of neuromodulation for developmental disorders has been suggested. Therefore, we have examined the effects of neuromodulation in various models, including this jSI, and we would like to discuss the results on that day.

The author declares no conflicts of interest associated with this presentation.

**S22-2**

**Effects of adverse childhood experiences on event-related potentials (ERPs)**

Mitsuhiro Uratani<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Nara Medical University, Kashihara, Japan

## ABSTRACT

Adverse childhood experiences (ACEs) are potentially traumatic events that occur in childhood (0-17 years). For example, traumatic events include childhood maltreatment and dysfunctional families. In Japan, the epidemiology of ACEs has not been studied, but ACEs are considered to be common. Previous studies have shown that ACEs are more likely to be experienced by neurodevelopmental children than by typically developing (TD) children. Stress from ACEs can negatively affect brain structure and function, causing psychiatric disorders such as posttraumatic stress disorder (PTSD). In this session, we focused on event-related potentials (ERPs) to investigate the effects of ACEs on brain function. ERPs are commonly used as a non-invasive physiological measure of cognitive dysfunction. ERPs are available to probe information processing (IP) in real time because they can assess different phases of IP in the human brain. Studies have shown that individuals who have experienced ACEs have altered ERP responses. The most well-studied component is P300 of the late cognitive component in ERPs. Some previous studies reported that patients with PTSD showed reduced amplitudes of P300 to trauma-neutral stimuli. In contrast, most findings have shown that patients with PTSD have enhanced P300 amplitudes in response to trauma-relevant stimuli. Mismatch negativity (MMN) which is considered to reflect an automatic cerebral discrimination process is affected by PTSD. Also, N100 and P 200 are the mid-latency range of IP which are gating of redundant information. These two components are affected by PTSD, but results have been inconsistent. And our group showed that the impact of experiencing child maltreatment on ERPs in adulthood differs between TD individuals and those with autism spectrum disorder (ASD). In this session, I will review the evidence on the impact of ACEs in ERPs. In addition, I will present our group's studies that examined differences in the impact of child maltreatment on ASD in ERPs.

The author declares no conflicts of interest associated with this presentation.

## S22-3

### The review of brain changes after exposure to adverse childhood experiences

Kiwamu Matsuoka<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry, Nara Medical University, Kashihara, Japan

<sup>2</sup>Department of Functional Brain Imaging, Institute for Quantum Medical Science, Quantum Life and Medical Science Directorate, National Institutes for Quantum Science and Technology, Chiba, Japan

## ABSTRACT

The 2022 report of the world health organization (WHO) said that about three in four children aged 2-4 years suffered physical punishment and/or psychological violence and that one in five women and one in thirteen men had been sexually abused as a child aged 0-17 years. It is generally known that health problems are observed more commonly in people that have early life stress. Recent studies reported that adverse childhood experiences (ACEs) were at higher risk of incident mental disorders. In line with the previous study that subjects with autism spectrum disorder (ASD) have an increased risk of ACEs compared to typically developing (TD) children, exposure to ACEs is associated with adult ASD psychological comorbidities, such as posttraumatic stress disorder (PTSD). The occurrence of intrusive event reexperiencing, the characteristic of PTSD, often causes social dysfunction in subjects with ASD. However, its pathological basis remains unclear. Given growing evidence suggesting that ACEs introduced brain structural changes, we currently examined the associations of brain gray matter volume and white matter microstructures with ACE severity in subjects with ASD. The volumetry and diffusional tensor imaging (DTI) revealed that the subjects with ASD exposed to severe ACEs exhibited less volume in the precuneus and higher radial diffusivity (RD) of DTI parameter in the anterior thalamic radiation (ATR) than those exposed to mild ACEs and TD participants.

Moreover, the severity of intrusive reexperiencing was associated with reduced gray matter volume in the precuneus in subjects with ASD. These findings suggest that exposure to ACEs is associated with atrophy in the precuneus and microstructural changes in the frontal lobe-related white matter. The precuneus might have a critical role in intrusive reexperiencing in adults with ASD. We believe that a satisfactory environment and support in childhood promote better neural development, resulting in decreased psychiatric comorbidities in ASD. In this symposium, I will review the evidence of brain structural and functional changes after exposure to ACEs in imaging studies. I will also present our findings on the association between brain structural changes and ACEs in subjects with ASD.

The author declares no conflicts of interest associated with this presentation.

#### **S22-4 Inpatient Treatment of Abused Children in the Children's Unit**

Masami Hanafusa<sup>1</sup>

<sup>1</sup>Division of child and adolescent psychiatry, Osaka Psychiatric Medical Center, Hirakata, Japan

##### **ABSTRACT**

The child psychiatric ward of our hospital has a 50-bed closed ward specializing in inpatient psychiatric treatment of children. These are divided into a children's unit (25 beds) for preschool to elementary school-age children and an adolescent unit (25 beds) mainly for teenagers.

We reported on the background of patients recently admitted to the children's unit, particularly the inpatient treatment of abused children. There were 145 patients admitted to the Children's Unit between April 1, 2018, and March 31, 2022. The average age of the patients was 9.47 (4-12) years, 99 boys and 46 girls. The average length of hospitalization was 158.6 days but varied greatly from 3 to 667 days.

We organized patient information and assigned an ACE score to each patient admitted to the Children's Unit; ACE scores were 0 for 25 (17%), 1 for 31 (21%), 2 for 26 (18%), 3 for 22 (15%), 4 for 27 (19%), 5 for 7 (5%), 6 for 2 (1%) 7 in 5 patients (3%).

Patients with higher ACE scores were more likely to have emotional dysregulation and violent problems, and the higher the score, the more extended the hospital stay. In addition to medication, various intensive treatment modalities were used, including psychologist-led play therapy, Trauma-Focused Cognitive Behavioral Therapy, and Parent-Child Interaction Therapy with caregivers in some cases. The Ethics Committee approved the study, and care was taken to ensure that patients were not identified.

The author declares no conflicts of interest associated with this presentation.

15:20-16:50 **Symposium 26**

#### **The Impact of the Great East Japan Earthquake and Tsunami on Children's Development and Mental Health: Findings from the Michinoku Children's Cohort Study**

Moderator 1: Yukiko Kano (Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan)

Moderator 2: Junko Yagi (Department of Neuropsychiatry, School of medicine, Iwate Medical University, Morioka, Japan)

#### **S26-1**

#### **How to support children born after the disaster and their families: Overview and progress of the Michinoku Children's Cohort Study after Great East Japan Earthquake in 2011**

Junko Yagi<sup>1,2</sup>

<sup>1</sup>Department of Neuropsychiatry, School of Medicine, Iwate Medical University, Morioka, Japan

<sup>2</sup>Iwate Children's Mental Health Care Center, Shiwa-gun, Japan

#### ABSTRACT

There are various reports on the effects of early life stress (ELS) on later development. Twelve years have passed since the Great East Japan Earthquake occurred in 2011 that brought devastating damage to the affected region. The impact can still be observed in various aspects, such as economic problems and mental health of the people living there.

In 2015, we initiated the Michinoku Children's Cohort study after the Great East Japan Earthquake ("MiCCa" GEJE study), a longitudinal study focusing on the developmental, behavioral and emotional problems of children born in the affected areas during the year immediately following the Great East Japan Earthquake, as well as the mental health of their parents, and have continued tracking their changes over time to date. The 223 children participating in the study did not directly experience the earthquake but spent their infancy immediately after birth in the severely affected areas of Iwate, Miyagi, and Fukushima prefectures, which was concerned to have had various effects on their developmental and behavioral problems years later. In fact, the results of the baseline survey conducted in 2016, five years after the disaster, highlighted delays in children's intellectual and lexical development, behavioral problems in the clinical area, and serious mental health problems among parents (Yagi et al., 2022). We have provided assessment-based support and intervention to high-need children and their parents, with regular follow-up. At the beginning of the study, there were concerns about developmental delays and persistent mental health problems, but the fact that those issues have recovered and even improved as social capital has been fostered gives us hope and hints on how to provide post-disaster support to children born just after the earthquake and their families.

We report on the effects of spending childhood in disaster-affected areas on children's development and their mental health. In addition, changes in children's mental health and lifestyle in the areas due to the prolonged impact of Covid-19 will be reported.

#### S26-2

### Results of a Comprehensive Assessment and Longitudinal Follow-up Study of Children Born After the Great East Japan Earthquake and their Parents

Naomi Matsuura<sup>1,2</sup>

<sup>1</sup>Faculty of Education, Mie University, Tsu, Japan

<sup>2</sup>Elementary School attached to the Faculty of Education, Mie University, Tsu, Japan

#### ABSTRACT

The Great East Japan Earthquake of 2011 was a natural disaster that had a profound impact not only on Japan but also on the world. The massive tremors, tsunamis, and fires in eastern Japan caused 22,312 deaths and missing persons in 12 prefectures, mainly in the Tohoku region. At the same time, a series of nuclear power plant accidents caused by the tsunami in Fukushima Prefecture resulted in great loss of life for local residents.

In 2013, after the disaster, this study conducted a comprehensive survey of children born in the severe disaster area and their parents. Specifically, the survey covered children's intelligence, behavioral and emotional problems, parents' mental health issues, the extent of earthquake damage, and economic conditions. Data from the six years since the survey was conducted have now been accumulated, allowing for a groundbreaking analysis as a longitudinal study, and we report the results.

Since 2013, we have been using the K6 (anxiety scale), BDI II (depression scale), and IESR (trauma scale) to assess the mental health of parents, and the BDI scale divides parents into four

groups: healthy, mild, moderate, and severe. and mild groups showed no significant change, while the moderate and severe groups showed improvement. Parents who were concerned about their children's developmental problems or whose children had significant behavioral and emotional problems tended to have less complete or persistent mental health problems. This study is a longitudinal study that simultaneously conducts an investigation and an intervention, and can present extremely valuable data. It could be a useful resource in the event of a severe disaster in Japan in the future.

### **S26-3**

#### **The Evidence from a Longitudinal Study: MiCCaGEJE-Study Focusing on Cognitive development, Behavior, Emotions among children Born After the Great East Japan Earthquake**

Jiro Masuya<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry, Tokyo Medical University, Tokyo, Japan

<sup>2</sup>Fukushima Children's Mental Health Care Center, Fukushima, Japan

#### **ABSTRACT**

The Michinoku Children's Cohort Study after the Great East Japan Earthquake (MiCCa GEJE Study), which has been conducted since 2016, focuses on the developmental, behavioral, and emotional problems of children born in the affected areas after the 2011 GEJE and the psychological and social problems of their caregivers. The MiCCa GEJE Study The MiCCa GEJE study has continuously observed changes in children and their caregivers over time. Analyses to date have yielded noteworthy results related to the mental development and behavior of children born in the affected areas after the GEJE.

Results from the 2016 baseline survey showed partial delays in cognitive development and behavioral problems in children born after the GEJE in the affected areas. We therefore provided support to children and their mothers in the heavily affected areas. Subsequent research also revealed that the percentage of children exhibiting autistic traits was significantly higher in the heavily affected areas. We also found a significant association between caregivers' mental health and interpersonal styles and children's behavioral and developmental problems. Parents were asked to annually rate their own children's behavioral and emotional problems using the CBCL, and an analysis of CBCL scores assessed five times between 2016 and 2021 showed that when examining changes in CBCL scores for children in the healthy and clinical groups on caregivers' K6 scores in 2016, the CBCL scores for children rated in the clinical group The CBCL scores of children of caregivers rated as the clinical group were consistently significantly higher than those of children in the healthy group. In contrast, over time, CBCL scores improved significantly for both groups, indicating that children's behavior and emotions were improving; similar trends were observed for BDI and IESR scores assessed in 2016. In other words, the results suggest that children of parents who had poor mental health status as of 2016 were more likely to exhibit some problems than children of parents who did not. These findings suggest that support for both caregivers and children is needed in psychological support after a major disaster.

### **S26-4**

#### **How should we support the parents in the affected communities following the Great East Japan Earthquake in 2011?**

Naru Fukuchi<sup>1,2</sup>

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<sup>2</sup>Miyagi Disaster Mental Health Care Center, Sendai, Japan

## ABSTRACT

The Michinoku Children's Cohort study after the Great East Japan Earthquake (MiCCa GEJE study), which has been conducted since 2016, is focused on the developmental, behavioral, and emotional problems of children who were born in the affected areas immediately following the GEJE in 2011. In the MiCCa GEJE study, we have continued observing the changes in children and their parents over time, conducted several analyses, and found notable results associated with the mental health of the parents.

First, by analyzing structural equation models at the baseline, we found a strong correlation between the two latent variables, "parent's mental health" and "children's behavioral and emotional problems". Second, by using a two-way analysis of variance (ANOVA), we demonstrated that parents who lost their loved ones in the GEJE displayed worse depressive symptoms in 2021 compared with those who did not. Third, Ward's method of cluster analysis showed that parents who experienced traumatic events before the GEJE had worse traumatic symptoms compared with other groups. Finally, by using a two-way ANOVA, we showed that children whose parents were diagnosed with a mental illness by the Mini-International Neuropsychiatric Interview at the baseline have remained associated with worse behavioral problems in 2021 compared with those whose parents were not diagnosed.

Our results demonstrated that parents who experienced the loss of loved ones in the GEJE and traumatic events before the GEJE may be at high-risk and have difficulties in their child-rearing. Furthermore, their children may develop behavioral and emotional problems and need more specific support. Since other studies found that strong social capital helped parents' mental health in the aftermath of the disaster in Japan, it is effective for such vulnerable families to connect to their communities.

We, three child psychiatrists, visited the affected communities in our regions and set up social gatherings for the parents in the MiCCa study, named as MiCCa's Caravan. We provided tips for parent training programs and had time to interact with parents. It may be possible to help parents with severe difficulties through these social gatherings and bring them to the usual life.

**May 28<sup>th</sup>, 2023**

**Venue 1 (Room A)**

9:10-10:10 **Plenary Lecture 9** Moderator: Kazuhiko Nakamura  
**A System-Model of Community Care for Autistic Individuals: From Clinical Practice to Research**

Hideo Honda<sup>1,2</sup>

<sup>1</sup>Department of Child and Adolescent Developmental Psychiatry, Shinshu University School of Medicine, Matsumoto, Japan

<sup>2</sup>Mental Health Clinic for Children, Shinshu University Hospital, Matsumoto, Japan

The speaker and colleagues developed a system model for early detection and intervention of children with neurodevelopmental disorders in Kohoku Ward, Yokohama in the 1990s (Honda & Shimizu, 2002). In this model, all children suspected as having autism during health checkups in the community were referred to a specific regional center for diagnosis and early intervention. This provided favorable conditions for an all-inclusive survey with little bias. By applying this model, we were able to thoroughly identify autistic children in this area at the 18-month health checkup, link them to early intervention, and follow them into adulthood while providing medical, educational, and welfare support. This clinical practice has enabled high-quality research from an epidemiological perspective.

We reported the first cumulative incidence data of autism, demonstrating that autistic children without intellectual disability existed in far greater numbers than was believed at the time (Honda et al, 1996). Then we conducted an epidemiological study of autism spectrum disorders (ASD) in 31,426 children born in the area between 1988 and 1996 and identified 278 autistic children diagnosed before 7 years old (Honda, Shimizu, & Rutter, 2005). After all these individuals were over 20 years of age, we conducted a follow-up study (Yokohama Longitudinal ASD Birth Cohort Study; Y-LABiC Study) and have constructed a large-scale epidemiological database (Iwasa, Shimizu, Sasayama et al, 2022). Cooperation was obtained from 170 (61.2%), of whom 113 had received regular medical care and consultation by a psychiatrist or clinical psychologist, beginning in early childhood and continuing through the time of the survey. Long-term prognosis for ASD was not as unfavorable as has been previously reported. This was mainly due to the study design that thoroughly followed up on the participants identified in a rigorous incidence study of ASD. The Y-LABiC database, derived from our steady accumulation of practice, will provide a great deal of information on the prognosis of children with ASD, which was ascertained in an all-inclusive survey with little bias.

Recently, epidemiological studies have been conducted in several regions in Japan, including ours in Okaya City (Sasayama et al, 2021). Good community care system will contribute to improving the level of health and medical care, welfare, and education for autistic children, as well as research on ASD.

Ethical considerations: This plenary lecture is a review of previously published studies and does not include new data that deal with personal information or intervention studies.

COI: None

10:20-11:20 **Plenary Lecture 10** Moderator: Hideo Honda  
**Biological and epidemiological studies of neurodevelopmental disorders**

Kazuhiko Nakamura<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Hirosaki, Japan

PET (positron emission tomography) study; Autism Spectrum Disorder (ASD) is one of neurodevelopmental disorders. We used PET to focus on neurotransmitter alterations and microglial activation in the autistic brain. We indicated that gross abnormalities in both serotonin transporter and dopamine transporter systems. We also indicated that a deficit in cholinergic innervations of the fusiform gyrus, which may be related to not only current but also childhood impairment of social functioning. Furthermore, we showed excessive microglial activation in multiple brain regions. Attention-Deficit/Hyperactivity Disorder (ADHD) is highly prevalent neurodevelopmental disorder. We used PET to focus on dopamine system and microglial activation in the ADHD brain. We showed decreased D1 receptor in the anterior cingulate cortex and increased activated microglial in the dorsolateral prefrontal cortex and orbitofrontal cortex.

Genomic study; the etiology of ASD is complicated due to its multifactorial nature, and both genetic factors and environmental factors. It has been suggested that approximately 50-60% of ASD etiologies are caused by genetic factors. Copy number variation (CNV) is one of chromosomal abnormalities that contribute to an increased risk of ASD. We conducted CNV analysis using genomic DNA from Japanese children. We showed four ASD-related CNVs: deletion at 12p11.1, duplications at 4q13.2, 8p23.1 and 18q12.3. Specifically, the odds ratio of duplication at 18q12.3 was highest among the 4 CNVs (odds ratio, 8.13).

Epidemiological studies: whether there is a true increase in ASD frequency or not remains unclear. We estimated the prevalence and cumulative incidence of ASD in Japan. We indicated that adjusted ASD prevalence was 3.22%. The male to female ratio of the crude prevalence was 2.2:1. The cumulative incidence of ASD up to 5 years of age for the total study years was 1.31%. A generalized linear model revealed no significant linear trends in 5-year cumulative incidence over the study years. Only 11.5% of children had ASD alone; the remaining 88.5% were found to have at least one co-existing neurodevelopmental disorders.

We examined whether school social capital mediates the association between ASD traits and depression in a general population sample. We indicated that ASD traits were associated with depression among adolescents, and that this association is partly mediated by school social capital. We also examined whether neurodevelopmental traits predicted certain internet addiction. We indicated that ADS traits predicted the persisting internet addiction pattern and that inattention traits predicted the persisting and converting (from non-internet addiction to internet addiction status) patterns.

The ethics committees approved these studies. The authors have no conflicts of interest.

11:30-12:30 **Sponsored Seminar 3** <Takeda Pharmaceutical Company Ltd>

### **What is the appropriate diagnosis and treatment of ADHD based on the updated Japanese guidelines?**

Moderator 1: Yushiro Yamashita (Department of Pediatrics and Child Health, Kurume University School of Medicine, Fukuoka, Japan)

Moderator 2: Noa Tsujii (Department of Child Mental Health and Development, Toyama University Hospital, Toyama, Japan)

#### **SS 3-1 Diagnosis of ADHD**

Yukiko Kano<sup>1,2</sup>

<sup>1</sup>Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

<sup>2</sup>Department of Child Psychiatry, The University of Tokyo Hospital, Tokyo, Japan

The Guideline for Diagnosis and Treatment of ADHD in Japan, first published in 2003 and now in its fifth revision in 2022, are designed to ensure appropriate diagnosis, evaluation, treatment,



and support for multidisciplinary people involved in treatment and support of individuals with ADHD under 18 years old.

In this presentation, the main points of diagnosis and assessment in this latest guideline are described.

Although DSM-5 is used to diagnose ADHD, it is not enough to follow the operational criteria only. For diagnosis and assessment leading to appropriate treatment and support, it is important to extract a clinical picture of the whole individual with ADHD from developmental history, family history, current medical history, and various medical and psychological tests.

While differentiation from various psychiatric disorders is necessary in diagnosis of ADHD, a variety of psychiatric disorders are comorbid with ADHD. In particular, differentiation and comorbidity between ADHD and autism spectrum disorder (ASD) is an important issue. It is desirable to carefully and rigorously determine whether inattention, hyperactivity, impulsivity, and interpersonal problems are caused by comorbidity of the two disorders or can be explained by one of them.

It is important to remember that ADHD-like symptoms can be caused by a wide range of attachment dysfunction as well as reactive attachment disorder (RAD) and disinhibited social engagement disorder (DSED) and should be differentiated, and that ADHD is a risk factor for encountering attachment dysfunction also.

The guideline divides comorbidities into eight disorder groups: behavioral disorders, emotional disorders, nervous habits, neurodevelopmental disorders (including tic disorders), RAD and DSED (including broader attachment dysfunction), sleep-wake disorders, personality disorders, and game and Internet addiction. Comorbidities can also be divided into primary comorbidities, which are based on innate disposition of the individual, and secondary comorbidities, which result from interaction of dispositional and environmental factors. Primary comorbidities consist of nervous habits, neurodevelopmental disorders, and large portion of sleep-wake disorders. The importance of synthesizing cross-sectional and longitudinal assessments to understand the whole individual with ADHD is emphasized in the guideline.

## **SS 3-2**

### **Pharmacotherapy for Children With ADHD: Based on Treatment Guidelines in Japan**

Takashi Okada<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

Attention-deficit hyperactivity disorder (ADHD) is marked by an ongoing pattern of inattention and/or hyperactivity that interferes with functioning or development. It is often comorbid with other neurodevelopmental disorders (ex. autism spectrum disorders) or psychiatric disorders (ex. mood disorders or anxiety disorders). Maladaptation to daily life may lead to secondary disorders such as low self-esteem and worsening of internalizing/externalizing symptoms. Therefore, the treatment for ADHD is aimed to minimize ADHD symptoms and their dysfunctions, and to prevent secondary psychosocial disturbances.

Neuropsychological or neuroimaging studies revealed that children with ADHD have impairments in executive functions, reward system, time perception, and low activations in related brain regions. Pharmacological interventions improve these brain functions by inhibiting reuptake of these neurotransmitters, promoting neurotransmitters release in synaptic cleft, or activating alpha 2A receptors.

In Japan, there are four pharmacological agents which are available for ADHD: OROS(osmotic release oral system)-methylphenidate (MPH), atomoxetine hydrochloride (ATX), guanfacine hydrochloride extended-release (GFR), and lisdexamphetamine dimesylate (LDX). Three agents (MPH, ATX, GFR) can be given to children or adults, but LDX should be tried only for children.

The latest treatment guideline was published in the last year. It is emphasized that anti-ADHD drug should be added in individuals with moderate or more severe impairments in daily life even if sufficient psychosocial treatments has been administered. Clinicians should select one of three agents (MPH, ATX, GFR), and in non-responsive cases for the first drug, treatment should be changed to another agent among these drugs. In non-responsive cases to more two agents, clinicians can choice LDX or combined therapy with two drugs. In addition, this guideline puts emphasis on the importance to reconsider the diagnosis and the understanding of children including psychosocial aspects. The Japanese guideline also explains that it is essential to diagnose children with ADHD and autism spectrum disorders.

The treatment guideline should be published according to the previous studies and expert consensus. However, the guidelines all over the world are quite different. One of the reasons is that the expected outcomes and concerns may be different. Clinicians should choice treatment options after the good communications with the children and their care-givers (i.e. shared-decision making).

There is no conflict of interest (COI) regarding this lecture.

12:50-13:50 **Special Lecture 4** Moderator: Takuya Saito  
**Sounding the Alarm for Children's Mental Health in the USA**

Warren Y.K. Ng<sup>1</sup>

<sup>1</sup>American Academy of Child and Adolescent Psychiatry President, Professor of Psychiatry at Columbia University Medical Center, USA

American Academy of Child and Adolescent Psychiatry in partnership with other organizations declared a national state of emergency in child and adolescent mental health in October 2021 and reaffirmed in 2022. The COVID-19 pandemic exacerbated the silent pandemic that had been worsening over previous decades due to underinvestment in child and adolescent serving systems. One in five children and adolescents have a behavioral health disorders with suicide already the second leading cause of death for youth 10-24 years of age. The COVID-19 pandemic exacerbated the risk factors known as the social determinants of mental health, including family mental health and substance use issues, adverse childhood experiences, racial disparities, social isolation, trauma, food and housing insecurity, economic stress, and poverty. Not all children and adolescents were equally impacted, with children of color disproportionately affected as well as other groups of marginalized youth including sexual minority youth, justice and child welfare involved, and those impacted by poverty, discrimination, violence, trauma, and dislocation. During the COVID-19 pandemic, there was 24-31% percentage increase in behavioral health issues in emergency departments. There was a 51% increase in adolescent females with suspected suicidal behaviors compared to before the pandemic. Adolescent females were arriving to emergency departments presenting with increased behavioral health disorder severity, complexity and comorbidities. There has also been a 65% increase in overdose deaths for youth aged 10-19 years of age. Child and adolescent psychiatrists and our national organization are committed to responding with strategies inclusive of racial/ethnic minoritized, underserved, LGBTQ, justice-involved, child welfare-involved, and disabled youth. Working in partnership with government, communities and professional organizations, child and adolescent psychiatrists have contributed to strategies such as integrated mental health services with pediatric providers, enhanced school based mental health, and coordinated crisis response services. Child and adolescent psychiatrists play a key role within systems of care. They provide expert mental health expertise and knowledge to help develop systems promoting health, wellbeing, resilience and development. There has been some progress in enhancing mental health services, but more needs to be done to address the current crisis and prevent the next wave. Clinical care transformation needs to focus on health equity and diversifying the workforce. Advocacy continues to be critical in building coalition with

youth, families and communities to lift up the youth voice. These partnerships continue to help transform our systems of care to serve all youth, families and communities with health equity and justice.

14:00-15:00 **Plenary Lecture 11** Moderator: Machi Kakimoto  
**Neurodevelopmental disorders and suicide**

Takuya Saito<sup>1</sup>

<sup>1</sup>Department of child and adolescent psychiatry, Hokkaido University Hospital, Sapporo, Japan

Suicide is one of the leading causes of death among children/adolescents. Despite ambitious national goals to reduce suicide rates, risk continues to rise unabated at all ages and across all demographic groups. When primary prevention is used, it is typically applied after significant risk has accrued and affected children/adolescents are entrenched in risk-maintaining environments. Scalable prevention programs are needed in which children and adolescent are identified at younger ages based on malleable vulnerability traits. Impulsivity is one candidate trait. However, impulsivity alone confers only modest increases in suicide risk, and is remarkably resistant to enduring change across the lifespan. It is therefore an insufficient indicator of vulnerability and an inefficient prevention target. At the same time, it cannot be ignored given its strong influence on suicide in contexts of additional vulnerability and risk. Neurodevelopmental disorders such as Attention deficit hyperactivity disorder (ADHD) and Autism spectrum disorder (ASD), particularly when combined with comorbid conditions such as depression and conduct disorder, can confer up to a 10-fold increase in risk for suicide according to some studies. It thus is an important player in the suicide risk picture and in considerations regarding prevention. However, neurodevelopmental disorders are multifactorial construct and the elements of neurodevelopmental disorders that contribute to suicide risk are unclear. Important possibilities are impulsivity and the associated idea of reward discounting, poor executive functioning or inattention, and overactivity, poor communication skills and irritability. Although many acknowledge the importance of Biological Vulnerability x Environmental Risk interactions in emerging psychopathology, interactions among biological systems--some of which vary by sex--may be equally important to consider and target as we seek to improve prediction of suicide risk and strive for more effective. Given the scope of the crisis, identifying the youth most at risk and effectively intervening is a critical yet unrealized goal. Complicating the problem, risk is conveyed via an interacting set of cultural, familial, biological, and child-level characteristics whose relationships are not yet fully understood. The current talk will focus on Neurodevelopmental disorders, suicide, and child development to consider the multiple factors contributing to risk for mood problems and suicidality among youth.

15:10-16:10 **Plenary Lecture 12** Moderator: Hitoshi Kaneko  
**Population Based Study of Efficacy and Implementation of Digital and Phone Assisted Parent Training Intervention for Preschool Children with Disruptive Behavioral Problems**

Andre Sourander<sup>1</sup>

<sup>1</sup>Turku University, Child Psychiatry, Turku, Finland

Background/Objective: Parent training is the most effective approach to the psychosocial treatment of disruptive behavioral problems in childhood, and there is mounting evidence from randomized controlled trials (RCTs) that such initiatives reduce problems and improve parenting skills. The barriers to receiving parent training include the lack of trained staff that can provide interventions; the stigma related to receiving mental health treatment; and the

difficulties of accessing and engaging in treatment in terms of costs, time, and location. Method: Technology-based parent training programs can offer many benefits over traditional interventions, such as higher fidelity, greater accessibility, convenience, and reduced time and costs. We previously reported the 24-month follow-up study of RCT to provide an interactive Web-based parent training program with supplementary weekly phone coaching, the Strongest Families Smart Website (SFSW), using a population-based screening procedure. The study showed that the intervention resulted in significant reductions in the level of disruptive behavior problems among 4-year-old children and improved parenting skills.

Results: In this study, we implemented our aforementioned RCT study in primary health care settings to see how it would work in the real world. The first aim of this study was to compare certain child and family characteristics of the RCT intervention group with those of the first 882 families who received treatment during the primary care implementation phase. Both groups were based on population-based screening of 4-year-old children with high levels of disruptive behavior.

16:30-17:00 **Closing Ceremony (including ceremony for best poster awards)**

## **Venue 2 (Room B-1)**

9:10-9:50 **Research Topics 17**

**Support for children with foreign backgrounds who have developmental disorders ~Toward establishing inclusive multicultural society~**

Shiori Ogawa<sup>1</sup>, Osamu Takahashi<sup>2</sup>

<sup>1</sup>Department of Psychology, Faculty of Education and Psychology, Nihon Fukushi University, Nagoya, Japan

<sup>2</sup>Toyota Municipal Child Development Center, Toyota, Japan

### **ABSTRACT**

Enhancing support for children with foreign backgrounds who have developmental disorders requires a multifaceted approach that addresses the unique needs of these children and their families.

Early identification and assessment: It is important to identify developmental disorders early in order to provide timely interventions and support. This can be done through screenings and assessments that are culturally and linguistically appropriate, and that take into account the child's unique background and experiences.

Tailored interventions: Once a developmental disorder has been identified, it is necessary to provide interventions that are tailored to the child's specific needs and that take into account the child's cultural background.

Collaboration with families: Families play a critical role in supporting children with developmental disorders, so it is important to involve them in all aspects of the child's care. This can include providing information and support to families in a language and format that they can understand, and involving families in the child's treatment plan.

Language support: Children who are not fluent in Japanese may have difficulty communicating and understanding information related to their condition, so it's important to provide language support such as translation and interpretation services, and to make full use of non-verbal communication along with visual support such as picture cards.

Access to information and resources: Families of children with developmental disorders may have a hard time navigating the complex healthcare system, so it's essential to provide them with information and resources that will help them understand the diagnosis, treatment options and where to find the best services, not to mention municipal health checkups for infants offered free of charge.

Inclusion and support in education: Children with developmental disorders may require specialized educational supports, such as individualized education programs (IEPs), and special education services, so we need to ensure that they are receiving the necessary support to succeed in school. Measures should be taken at school and local communities to prevent them from being isolated, enabling them to mingle and cherishing each other's individuality.

Children with developmental disabilities who have roots in foreign countries face the "barriers and difficulties of living in a different culture" that children with foreign roots generally face, in addition to the "barriers and difficulties of having a disability".

In this session, I would like to discuss the goal of support and how to work toward the solution by examining the current situation surrounding these children and their families in Japan.

### 10:00-12:30 **Media Theatre** **Children under Difficult Circumstances**

Iris Chih-Tsai Chen<sup>1</sup>, Shu-Tsen Liu<sup>2</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Taoyuan Psychiatric Center, Ministry of Health and Welfare, Taoyuan City, Taiwan

<sup>2</sup>Division of Child and Adolescent Psychiatry & Division of Developmental and Behavioral Pediatrics, China Medical University Children's Hospital, Taichung, Taiwan

#### ABSTRACT

Numerous empirical studies show that adverse childhood experiences can profoundly affect people's lives. However, it is not unusual for children today in the world to struggle through their childhood due to innate factors such as gender, race, vulnerabilities and special needs, and the influences of political and social environments.

This media theatre session aims to disclose the life of children under difficult circumstances from the perspective of multiple cultural contexts in Taiwan. From the children's voices, we could have a better understanding of what they are suffering.

We will present 2 films that describe children's lives under various difficult circumstances, "The Silent Forest" and "Invisible Children"; scheduled to run for about 120 minutes and will be followed by a 30-minute discussion chaired by two child psychiatrists, Iris, Chih-Tsai Chen and Shu-Tsen Liu.

The Silent Forest (<https://www.youtube.com/watch?v=NZQ9at8jRBE>) is a 105-minute 2020 film based on a true story directed by Chen-Nien Ko and with a screenplay by Chen-Nien Ko and Pin Chun Lin. The story is based on the 2018 book, "Silence Island" by Chao-Ju Chen, a record of the "institutional abuse" event. This event happened in a special education school for children and young people with hearing impairments. There were more than 100 cases of "student to student", as well as cases of "teacher-to-student" sexual assaults and harassment during 2004-2012. The victimized children could not hear or speak out, so they could only choose to remain silent; but overwhelmed by fear, becoming passive accomplices in silence....

Invisible Children ([https://www.youtube.com/watch?v=WdUtGn6r\\_mg&t=15s](https://www.youtube.com/watch?v=WdUtGn6r_mg&t=15s)) is a 9 minutes of 2021 film directed by Liu Chun-Yu. The film tells the story of a child who has lived a lonely life with no identity and unable to go to school, for her mother is a lost-contact migrant worker. We hope that through different points of view; we could deepen our understanding of children under difficult circumstances and in different situations, and thus inform better practices to facilitate their quality of life and mental well-being.

Conflict of Interest: No conflicts of interest to disclose.

Ethical considerations: "The Silent Forest" is classified into the category of Parental Guidance-12 rate ("PG-12"): not suitable for viewing by children under the age of twelve; and "Invisible Children" is classified into category of General rate ("G"): suitable for watching by general audiences according to Television Programs Classification Handling Regulations by the

National Communications Commission of Taiwan. Both films had been authorized to play in ASCAPAP 2023 in Kyoto, free of charge.

14:30-15:30 **Social Program 1** (Open to the public, in Japanese) [Free of charge]  
Moderator: Motomi Toichi (Department of Human Health Sciences Graduate School of Medicine, Kyoto University, Kyoto Japan)

**Art and perspective of children with autism spectrum disorder**

Shiro Matsui<sup>1</sup>

<sup>1</sup>Department of Fine Arts (Sculpture), Kyoto City University of Arts, Kyoto, Japan

Reconsidering human cognition from its origins is one of the important themes of media art. In this exhibition, Prof. Shiro Matsui, a world-renowned artist in the field of media art, will exhibit or install works containing topological structures of various sizes as devices to change our way of perceiving and localizing the external world through the unusual experiences of unexpected localization of e.g. sound source.

In recent years, it has been suggested that the cognitive style of autism spectrum disorders, among other developmental disorders, is closely related to the primitive perceptions and sensations that media art seeks to uncover. Matsui's lecture is expected to uncover the similarities between early cognitive development and primitive-like cognitive processing seen in youth with autism spectrum disorder. [Free of charge]

You can see the exhibitions and biography in the following website:  
<https://www.shiromatsui.com/>



His work is exhibited in front of the Room B1 and stairs between the 1st and 2nd floors during the ASCAPAP 2023.

15:30-16:30 **Social Program 2** (Open to the public, in Japanese) [Free of charge]  
Moderator: Motomi Toichi (Department of Human Health Sciences Graduate School of Medicine, Kyoto University, Kyoto Japan)

**Tone, sound, music and mental health-from Kyoto to Asia**

Performer: Eri Chichibu

Composer, Arranger, Pianist/Keyboardist, living in Sendai, Japan

The final session in room B1 is a live performance by Ms. Eri Chichibu, a young Japanese composer. After studying Education and Psychology at Tohoku University in Japan, Ms. Chichibu studied music (Jazz Composition/Film Scoring/Video Game Scoring) at Berklee College of Music, a prestigious jazz education institution in Boston, in the US. Her works has been internationally recognized and have awarded by ISJAC (2020 Owen Prize), ASCAP (2020 & 2019 Herb Alpert Young Jazz Composers Award) and more organizations. In 2022, she has released her 1st album "Crossing Reality," and the album got the "Tohoku Block Award" at the 2022 CD Shop Award.

In this session, works from the album "Crossing Reality" will be performed by her large ensemble. Along with the live performance, talk session will also be held. The professional

artists and composers on the floor will join. Through discussing the relationship between her musical originality (timbre, acoustics and harmony) and the theme of her composition (the various states of mind/consciousness), we will dig into the unique characteristics of Ms. Chichibu's music. [Free of charge]

Ms. Chichibu's biography (in Japanese) and her official YouTube channel is in the following QR codes (You can listen to songs from her album "Crossing Reality").



biography



YouTube channel

### **Venue 3 (Room B-2)**

9:10-9:50 **Research Topics 18**

#### **Does preterm birth affect sleep development and symptoms related to developmental disorders?**

Hidenobu Ohta<sup>1,2,3</sup>

<sup>1</sup>Department of Occupational Therapy, Graduate School of Medicine, Akita University, Akita, Japan

<sup>2</sup>Department of Sleep-Wake Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

<sup>3</sup>Department of Psychiatry, Asai Hospital, Chiba, Japan

#### **ABSTRACT**

Autism Spectrum Disorder (ASD) has been on the rise in recent years with a high incidence rate of nearly 2%. Moreover, the incident rate of ASD in prematurely-born children has been reported to be at least two times higher than that of full-term-born children, suggesting that perinatal environments related to preterm births may contribute to an increase in the incidence of ASD in prematurely-born children.

Some researchers have reported a relationship between sleep disturbances and the severity of the properties of behavioral problems, which can be symptoms of developmental disorders such as ASD and ADHD. To have an insight into how preterm birth affects postnatal sleep development of children and to examine whether sleep properties can be used as markers to detect developmental disorders among prematurely-born children, we studied the sleep properties of preterm infants using a sleep accelerometer (i.e. Actigraphy), which is convenient to use and can be used during sleep at home. Through these studies, we investigated the relationship between the sleep properties and mental development of prematurely-born toddlers of approximately 1.5 years of age.

Ref.

1. Nakagawa M, et al., Sci Rep. 2021;11:3028. doi: 10.1038/s41598-021-81970-6.
2. Ando A, et al., Sci Rep. 2021;11:15921. doi: 10.1038/s41598-021-95495-5.
3. Asaka Y, et al., Sci Rep. 2022;12:20032. doi: 10.1038/s41598-022-24338-8.

The authors declare that the research was conducted with no commercial or financial relationship that could be construed as a potential competing interest or conflict of interest. The Ethics Committees of the research institutes approved the methods and procedures, all of which were performed in accordance with the Declaration of Helsinki.

10:00-11:30 **Symposium 27**

**Developmental Disorders and Sleep Problems**

Moderator 1: Hidenobu Ohta (Department of Occupational Therapy, Graduate School of Medicine, Akita University, Akita, Japan)

Moderator 2: Mitsuru Kikuchi (Department of Psychiatry & Behavioral Science, Faculty of Medicine, Institute of Medical, Pharmaceutical and Health Sciences, Kanazawa University, Kanazawa, Japan)

**S27-1**

**Brain Science of Neurodevelopmental Disorders**

Toru Takumi<sup>1</sup>

<sup>1</sup>Department of Physiology and Cell Biology, Kobe University School of Medicine, Kobe, Japan

**ABSTRACT**

Autism Spectrum Disorder (ASD), a neurodevelopmental disorder, has been on the rise in recent years, with a high incidence rate of nearly 2%, and is a burden on a society suffering from a declining birth rate. ASD is considered a brain development disorder and, compared to other mental disorders, the genetic contribution is known to be high. As many as a thousand ASD risk genes and copy number variations (CNVs) on the order of a hundred have now been reported to be involved in its causation; one of the most frequent CNVs is known to be the human chromosome 15q11-13 duplication. We generated mice with a 6.3 Mb duplication of mouse chromosome 7c, a region homologous to human chromosome 15q11-13, using a Cre-loxP-based chromosome engineering approach. This mouse model of autism satisfies not only the phenotypic validity of exhibiting autistic-like behavior but also the construct validity of having the same chromosomal abnormality as humans. In addition, synaptic and serotonin abnormalities were found in this mouse. The mouse is expected to serve as an artificial founder mouse for forward genetics of neurodevelopmental disorders and as a model for drug discovery. In addition, I would like to discuss the relationship between sleep-wake rhythm abnormalities that are frequently found in neurodevelopmental disorders.

The author declares that the research was conducted with no commercial or financial relationship that could be construed as a potential competing interest or conflict of interest. The Ethics Committee of Kobe University approved the methods and procedures.

**S27-2**

**Sleep problems and cognitive development in preterm toddlers**

Yoshitaka Seto<sup>1</sup>, Akiko Ando<sup>1</sup>, Kazutoshi Cho<sup>1</sup>, Hidenobu Ohta<sup>2</sup>

<sup>1</sup>Maternity and Perinatal Care Center, Hokkaido University Hospital, Sapporo, Japan

<sup>2</sup>Department of Occupational Therapy, Akita University Graduate School of Medicine, Akita, Japan

**ABSTRACT**

Our recent study on full-term toddlers demonstrated that daytime nap properties affect the distribution ratio between nap and nighttime sleep duration in total sleep time but does not affect the overall total amount of daily sleep time itself. However, there is still no clear scientific consensus as to whether the ratio between naps and nighttime sleep or just the daily total sleep duration itself is more important for healthy child development. In the current study, to gain an answer to this question, we examined the relationship between the sleep properties and the cognitive development of toddlers born prematurely using actigraphy and the Kyoto scale of psychological development (KSPD) test. 101 premature toddlers of approximately 1.5 years of age were recruited for the study. Actigraphy units were attached to their waist with an adjustable



elastic belt for 7 consecutive days and a child sleep diary was completed by their parents. In the study, we found no significant correlation between either nap or nighttime sleep duration and cognitive development of the preterm toddlers. In contrast, we found that stable daily wake time was significantly associated with better cognitive development, suggesting that sleep regulation may contribute to the brain maturation of preterm toddlers.

The authors declare that the research was conducted with no commercial or financial relationship that could be construed as a potential competing interest or conflict of interest. The Ethics Committee of Hokkaido University and Akita University approved the methods and procedures, all of which were performed in accordance with the Declaration of Helsinki.

### **S27-3**

#### **Sleep problems and cognitive development in children with autism spectrum disorder**

Yuko Yoshimura<sup>1,2</sup>, Takashi Ikeda<sup>2</sup>, Yusuke Mitani<sup>3</sup>, Nobushige Naito<sup>4</sup>, Hidenobu Ohta<sup>5</sup>, Mitsuru Kikuchi<sup>2,4</sup>

<sup>1</sup>Institute of Human and Social Science, Kanazawa University, Kanazawa, Japan

<sup>2</sup>Research Center for Child Mental Development, Kanazawa University, Kanazawa, Japan

<sup>3</sup>Department of Pediatrics, Kanazawa University, Kanazawa, Japan

<sup>4</sup>Institute of Medical, Pharmaceutical and Health Sciences, Department of Psychiatry & Behavioral Science Kanazawa University, Kanazawa, Japan

<sup>5</sup>Department of Occupational Therapy, Akita University Graduate School of Medicine, Akita, Japan

#### **ABSTRACT**

Sleep problems have been frequently reported in children with autism spectrum disorder (ASD) (Humphreys JS et al., 2014; Ikeuchi et al., 2019). Some studies have reported a relationship between sleep problems and the severity of social communication impairment, stereotyped behavior, and anxiety symptoms, which are symptoms of ASD (Hayashi, 2007; Johnson et al., 2015). It is necessary to evaluate the quality of sleep more objectively to understand the symptoms and developmental aspects of children with ASD, and to support them by preparing an appropriate environment. On the other hand, due to the difficulty of measuring sleep data objectively in the sleep environment of daily life, the relationship between sleep characteristics and development in children with ASD is still unclear. We are investigating the relationship between sleep characteristics and development in children with ASD by using a sleep accelerometer (i.e. Actigraphy), which is convenient to use and can be used during sleep at home.

We compared the time course of nocturnal body movements between 17 children with ASD and 17 Typically Developing (TD) children (Naito et al., 2019). Body movements during night sleep for three days were measured by an actigraphy. It was found that the amount of body movement for 2 to 3 hours after the onset of sleep was significantly higher in children with ASD.

Furthermore, increased body movement during sleep was associated with lower social performance in children with ASD. The result that children with ASD show more body movement during sleep than TD children during the period 2 to 3 hours after falling asleep may suggest that children with ASD either sleep lightly or are easily awakened during this period. Furthermore, recent studies have reported the risk of developmental disorders in children who are born weighing less than 2500g and/or before 37 weeks of pregnancy. Our study on sleep characteristics in preterm toddlers also suggests a relationship between low nighttime sleep quality and high daytime activity (Asaka et al., 2022). Through some collaborative research, we are investigating the relationship between sleep and cognitive development in preterm children. Based on these studies, we would like to discuss the common neural mechanisms underlying sleep development and cognitive development in children with developmental disorders.

The authors declare that the research was conducted with no commercial or financial relationship that could be construed as a potential competing interest or conflict of interest. The Ethics Committee of Kanazawa University Hospital approved the methods and procedures, all of which were performed in accordance with the Declaration of Helsinki.

## **S27-4**

### **Large-scale sleep analysis in youth and neurodevelopmental disorders**

Yoichi Minami<sup>1</sup>, Akifumi Kishi<sup>1</sup>, Hiroki Ueda<sup>1</sup>

<sup>1</sup>Department of Systems Pharmacology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

#### **ABSTRACT**

With the launch of the ERATO Ueda Biological Timing Project in October 2020, our laboratory started the "Sleep Health Checkup." This sleep health checkup became possible because of the rapid development and widespread use of wearable devices making sleep measurement more practical.

We developed an algorithm to determine sleep and wake from acceleration data from young adults. Simultaneous measurement of biological signals from polysomnograms and wristband accelerometers was performed throughout the night, and it was confirmed that the algorithm (ACCEL) determined sleep and wake with good accuracy, sensitivity, and specificity (Ode, Katori, Shi et al. *iScience*, 2022). Using ACCEL, the acceleration data of approximately 100,000 adults registered in the UK Biobank were analyzed and sleep patterns were successfully extracted. We also succeeded in classifying the sleep patterns of 100,000 people into 16 clusters (Katori, Shi et al., *PNAS*, 2022).

Further, we launched the "Children's Sleep Health Checkup" project in October 2022 to measure sleep using a wristband accelerometer for school-aged children. The Children's Sleep Health Checkup is an activity to encourage children to get better sleep. On the research side, the project is a large-scale measurement of sleep in developing children. In addition, as a collaboration with Professor Mitsuhiro Kato of Showa University, we are also analyzing the sleep of children with developmental disorders. At this conference, we will present the current status of our ongoing project to measure children's sleep.

The authors declare that the research was conducted with no commercial or financial relationship that could be construed as a potential competing interest or conflict of interest. The Ethics Committee of the University of Tokyo approved the methods and procedures, all of which were performed in accordance with the Declaration of Helsinki.

12:30-13:10 **Research Topics 22**

### **Neuroimaging for social and sensory dysfunctions in adults with autism spectrum disorders**

Hirotsuka Kosaka<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, University of Fukui, Fukui, Japan

#### **ABSTRACT**

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by impairments in socialization, communication, and range of interests. Furthermore, the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) added sensory abnormalities as a core symptom to the diagnostic criteria for ASD. The overall ASD prevalence is 2.3% (one in 44) (Maenner et al., *MMWR Surveill Summ*, 2021), and it is not an uncommon psychiatric disorder. It often causes functional impairments and social adjustment problems.

However, the neurological basis is unknown. We have conducted neuroimaging researches with collaborators in adolescents/adults with high-functioning ASD, and I will introduce our "social brain" and "sensory characteristics" researches for ASD. These studies were approved by the ethics committee of the University of Fukui and conducted in accordance with the ethical standards of the Declaration of Helsinki. I declare no competing interests.

Regarding the brain structure, we explored gray matter volume using voxel-based morphometry in young male adults with ASD compared to normal male control subjects (Kosaka et al., *NeuroImage*, 2010). ASD group showed significantly less gray matter volume in the right inferior frontal gyrus, which is part of the mirror neuron system, results in impaired social interaction, one of the core symptoms of ASD. We also researched social brain functions in young male adults with ASD during emotional face recognition (Ishitobi et al., *Res Autism Spectr Disord*, 2011), self-face processing (Morita et al., *Social Neurosci*, 2012), self-relevant processing (Komeda et al., *SCAN*, 2015), eye-contact and joint attention (Tanabe et al., *Front Hum Neurosci*, 2012), and resting state (Jung et al., *Mol Autism*, 2014). These results suggest that it is not dysfunction of a specific region, but rather aberrant functions of some regions, as well as differences of the network between each region. Next, we investigated the association between brain morphological changes and sensory characteristics using FreeSurfer (Habata et al., *Transl Psy*, 2021). There was a significant positive correlation between visual sensory sensitivity scores and the right lingual cortical thickness. These findings suggest that brain morphological changes may trigger sensory symptoms in adults with ASD. In addition, I will introduce clinical researches in progress regarding pain and tactile sensation for ASD. Finally, I would like to consider the seemingly unrelated relationship between social functioning and sensory characteristics.

13:20-14:50 **Symposium 31**

**Digital Mental Health in Child and Adolescent Psychiatry**

Moderator 1: Masaru Tateno (Tokiwa Child Development Center, Tokiwa Hospital, & Child Mental Health Clinic, Department of Neuropsychiatry, Sapporo Medical University, School of Medicine, Sapporo, Japan)

Moderator 2: Norbert Skokauskas (Department of Mental Health, Regional Centre for Child and Youth Mental Health and Child Welfare (RKBU Central Norway), Norwegian University of Science and Technology (NTNU), Trondheim, Norway)

**S31-1**

**Individualized Digital Decision Assist System (IDDEAS) from Norway**

Norbert Skokauskas<sup>1</sup>

<sup>1</sup>Department of Mental Health, Regional Centre for Child and Youth Mental Health and Child Welfare (RKBU Central Norway), Norwegian University of Science and Technology (NTNU), Trondheim, Norway

**ABSTRACT**

Patient electronic health records (EHRs) are readily available to practitioners but rarely provide adequate insight into complex clinical situations intrinsic to psychiatric care, including how best to address newly developed biological frameworks for disorders, emerging methods for phenotyping symptoms, and identifying syndromes. A CDSS (clinical decision support system) can offer evidence-based guidance by using practice parameters, standardized guidelines, evolving scientific literature, and/or datasets compiled from actual experience, assembled in a scalable informatics framework. Essentially, a CDSS accesses large amounts of information and then uses algorithms for matching patient conditions and phenotypic patterns to the most relevant recommendations, so as to provide the most pertinent information and alternative actions, at each step in the clinical decision-making process. The Individualized Digital Decision Assist System (IDDEAS) is a new CDSS for child and adolescent mental health

services in Norway. IDDEAS aims to increase service efficiency by making collected unique health data sets work for patients by supporting clinicians decisions and improve quality of services by bringing evidenced-based expertise directly to the examination room.

### **S31-2**

#### **Training Experts in Child and Adolescent Psychiatry Using an Online Conferencing System and e-Learning**

Akira Imamura<sup>1,2</sup>, Naoki Yamamoto<sup>2</sup>, Ryoichiro Iwanaga<sup>1</sup>, Goro Tanaka<sup>1</sup>, Hirokazu Kumazaki<sup>3</sup>

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#### **ABSTRACT**

“Nagasaki University Hospital Child and Adolescent Psychiatry Community Partnership Center” was established in October 2015 for the purpose of training specialists who treat children's minds and for regional cooperation in Nagasaki Prefecture. Nagasaki Prefecture is located in the westernmost part of Japan, and includes 594 remote islands (including 72 inhabited islands) as well as remote areas other than remote islands.

In order to develop human resources and promote regional cooperation in such an environment, we have been delivering online child psychiatry courses (online workshops and online lectures) using an online conferencing system since April 2016, long before the COVID-19 pandemic. Doctors who have taken the online child psychiatry course and passed the case report will be certified as "Nagasaki prefecture children's mental support doctors". Currently, 49 doctors are certified, and the number of hospitals that treat children with mental disorders in Nagasaki Prefecture is gradually increasing. In addition, the number of doctors who work at child consultation centers as mental support doctors for children is increasing.

Since 2020, we have been conducting online consultations as follow-up training for children's mental support doctors. This is to enable the support doctors to support and treat children by conducting online consultations with expert doctors for cases that the support doctors consider difficult to treat. We are also planning a project to provide online coaching using avatar robots for young doctors working on remote islands.

Another institution within Nagasaki University, “Nagasaki University Child mental Health Care and Education Center” has been conducting lectures using e-learning as a "Professional Practical Skills Development Program" since 2017. This program aims to develop specialists not only in the medical field but also in the fields of education and welfare. The program currently has over 600 participants annually. This program also has participants from remote islands and remote areas, and it is useful for the development of support for children’s minds in the region.

We will present a report of our daily activities as described above, along with a discussion of the literature.

### **S31-3**

#### **Telepsychiatry and its impact on therapeutic alliance during COVID-19**

Say How Ong<sup>1</sup>

<sup>1</sup>Department of Developmental Psychiatry, Institute of Mental Health, Singapore

## ABSTRACT

The COVID-19 pandemic has expedited the adoption of telepsychiatry in Singapore. Teleconsultations in the child psychiatric outpatient clinics started in 2020 with the purpose of providing ongoing clinical care and as an appropriate infection control measure. To date after COVID-19 has become endemic, it continues to be offered to all suitable patients. Patient selection for telepsychiatry will be presented and the difference in therapeutic alliance between patients who had and those who had not received telepsychiatry would be examined and discussed in this symposium.

### **S31-4**

#### **Intervention for school refusal and hikikomori, severe social withdrawal, using robots and Metaverse**

Takahiro A. Kato<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Japan

## ABSTRACT

Hikikomori is a pathological condition of social withdrawal for 6 months or more, and the number of hikikomori is estimated to be more than one million in Japan (Kato et al. World Psychiatry 2018 & 2020). Among youth, hikikomori has been observed as school refusal. Evidence-based intervention strategies for hikikomori and school refusal have not been well established, and prolonged social isolation is a risk factors for a variety of mental disorders. Persons with hikikomori and school refusal hesitate to communicate with others in-person, but majority of them like to use internet via smartphones or laptop computers. Thus, we hypothesize that non-human interventions using internet would be novel therapeutic strategy for sufferers with hikikomori condition. In this symposium, we will introduce novel therapeutic approaches using non-human communication robots and metaverse in Kyushu University Hospital and affiliated hikikomori support canthers, Fukuoka, Japan.

### 15:00-16:30 **Symposium 35**

#### **Tourette syndrome and related disorders in Asia**

Moderator 1: Yukiko Kano (Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan)

Moderator 2: Takashi Okada (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

### **S35-1**

#### **Impact of comorbidities and sex on quality of life in children and adolescents with Tourette syndrome**

Yukiko Kano<sup>1,2</sup>, Maiko Nonaka<sup>2,3</sup>, Natsumi Kikuchi<sup>2,4</sup>, Mayu Fujiwara<sup>2</sup>, Akane Tokunaga<sup>2,3</sup>, Yu Hamamoto<sup>1,2</sup>

<sup>1</sup>Department of Child Neuropsychiatry, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

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<sup>4</sup>Faculty of Human Studies, Shirayuri University, Chofu, Japan

## ABSTRACT

Tourette syndrome (TS) is a chronic tic disorder with both motor and vocal tics, and characterized by frequent comorbidities such as attention-deficit/hyperactivity disorder (ADHD)

and obsessive-compulsive disorder (OCD). TS is included in neurodevelopmental disorders, which have been suggested to be more frequent in females than previously thought and manifest slightly differently according to sex.

In this presentation, we aim to examine the relationship between tics, comorbidities and sex and their impact on quality of life (QOL) in patients with TS based on recent previous studies and our own survey in Japan.

In our survey in TS, tics, comorbidities, QOL, and mental health were assessed by questionnaires in individuals with TS visiting four hospitals or members of Tourette Syndrome Association of Japan from October 2019 to June 2020. The participants of this study were aged 18 years or younger. Tics and comorbid symptoms were assessed by parent-rated Tic Symptom Self-report (TSSR) and Child behavior checklist (CBCL). QOL and mental health in the participants aged from 13 to 18 years were assessed by self-rated Gilles de la Tourette Syndrome-Quality of Life Scale (GTS-QOL) and General Health Questionnaire-28 (GHQ-28). Sixty-seven participants assessed by CBCL were involved. In all the participants, Anxious/Depressed in CBCL had a significant trend to be more frequent in females than in males. In 13 aged from 6 to 12, Anxious/Depressed and Aggressive Behavior in CBCL had a significant trend to be more frequent in females than in males. A multiple regression analysis was performed with GTS-QOL and GHQ-28 as the dependent variables and TSSR, satisfaction of tic control, and CBCL as the independent variables, and significant relationship was found between GTS-QOL, severity of motor tics, satisfaction of tic control and Internalizing Problems as well as GHQ-28 and Internalizing Problems.

The accumulated findings to date indicate that comorbidities, particularly ADHD and/or OCD, significantly affect QOL in children and adolescents with TS. When comorbidities were examined in Japanese patients with TS using behavioral problems ascertained by CBCL, internalizing problems were significantly associated with QOL, similar to previous studies. Several studies suggest that female patients with TS have a lower frequency of ADHD and are more prone to severe tics, especially in adulthood, but data on sex differences have not yet been sufficiently established. Japanese patients with TS tended to be more anxious/depressed in females than in males, suggesting that it is important to combine comorbidities and sex in further examining QOL.

### **S35-2**

#### **The Prevalence and Comorbidity of Tic Disorders and Obsessive-Compulsive Disorder in Chinese School Students Aged 6-16**

Yi Zheng<sup>1</sup>, Yonghua Cui<sup>2</sup>

<sup>1</sup>Department of Psychiatry, Beijing An Ding Hospital, Capital Medical University, Beijing, China

<sup>2</sup>Department of Psychiatry, Beijing Children's Hospital, Capital Medical University, Beijing, China

#### **ABSTRACT**

Obsessive-compulsive disorder (OCD) and tic disorders (TDs) are closely related and considered to etiologically overlap. Both disorders are characterized by repetitive behaviors. TD and OCD often co-occur. The high comorbidity between OCD and TD individuals suggests that we also need to pay more attention to the homogeneity and heterogeneity between TS and OCD. A two-stage epidemiological study of psychiatric point prevalence was conducted. We used the multistage cluster stratified random sampling strategy to assess five provinces of China. The Child Behavior Checklist was used to identify behavioral problems among the enrolled students in the first stage. The results from the Mini-International Neuropsychiatric Interview for Children and Adolescents and evaluations from two psychiatrists based on the Diagnostic and Statistical Manual-IV were used to make a diagnosis. Point weighted prevalence for TD and OCD was estimated.

In the first stage, 73,992 participants aged 6-16 years old were selected. The prevalence rates of

OCD and TDs were 1.37% (95% CI: 1.28-1.45) and 2.46% (95% CI: 2.35-2.57), respectively. The prevalence of OCD was found to be higher in girls ( $p < 0.001$ ) and higher in boys with transient tic disorder (TTD) ( $p < 0.001$ ) and Tourette's syndrome (TS) ( $p < 0.001$ ). The most common comorbidity of TS was OCD (40.73%), and for OCD, it was TS (11.36%). Our study is the first nationwide survey on the prevalence of TD (2.46%) and OCD (1.37%) in school students aged 6-16 years old in China. The high comorbidity between OCD and TD individuals suggested overlap based on the prevalence dimensions, which might be influenced by age and sex. This result suggested that we also need to pay more attention to the homogeneity and heterogeneity between TS and OCD.

### **S35-3**

#### **Tourette and Chronic Tic Disorders: Results From Multimodal Brain Imaging Studies in Korea**

Jae Hyun Yoo<sup>1</sup>, IN-HYANG KIM<sup>2</sup>, Soo-Min Jang<sup>3</sup>, Woo-Seok Choi<sup>3</sup>, Yu-Bin Lim<sup>3</sup>, Bung-Nyun Kim<sup>3,4</sup>

<sup>1</sup>Psychiatry, The Catholic University of Korea, Seoul St.Mary's Hospital, Seoul, Korea

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<sup>3</sup>Psychiatry, Seoul National University Hospital, Seoul, Korea

<sup>4</sup>College of Medicine, Seoul National University, Seoul, Korea

#### **ABSTRACT**

**Introduction:** Tic and tourette disorders are neurodevelopmental disorders that develop in early childhood. Literature suggested tic symptoms are associated with widespread structural changes including cortico–striatal–thalamocortical pathway and ascending cortical inputs. Still, methods and sample size have varied widely across imaging studies, findings from structural imaging have not been converged yet in tic disorder.

In the current study, we aimed to find neural correlates of tic disorder by exploring subcortical morphologic changes and associated anatomical connectivity findings.

**Methods:** Current study recruited 62 subjects with chronic tic disorder and 62 age-matched controls. To reveal collective alterations alongside subcortical structures and white matter, we sequentially analyzed multimodal imaging data. Using FIRST of FSL, comparison of morphologic alteration has been conducted using high-resolution T1-weighted images. Hence, regions with significant change inputted as seed mask for diffusion tractography by mrtrix3.

**Results:** The shape of subcortical structure among participant with tic disorder showed significant shrinkage in posterodorsal facet of right amygdala ( $p=0.017$ ), ventromedial facet of right putamen (corrected  $p=0.029$ ), posterior and lateral facet right pallidum (corrected  $p=0.041$ ), inferior and lateral facet of right thalamus (corrected  $p=0.030$ ) and posterodorsal facet of left thalamus (corrected  $p=0.029$ ). Seed based tractography revealed that tic group showed reduced connectivity between right thalamus-right inferior insula ( $p=0.001$ ), right thalamus-right posterior lateral fissure ( $p=0.043$ ), and right putamen-right inferior insula ( $p=0.037$ ). In contrast, connectivity between right putamen-right orbital area ( $p=0.028$ ), and right pallidum-right caudate ( $p=0.013$ ) was stronger in tic group than that of control group.

**Discussion:** Current study highlighted that children with chronic tic disorder had morphological changes across several subcortical regions including thalamus, putamen, pallidum and amygdala. In addition, cortical connectivity network from such regions are also well corresponded to neural correlates of genesis, premonitory urge, and suppression of tic.

### **S35-4**

#### **Case report on Indonesian Computer-based game intervention for children with Tourette's Syndrome (TS): A focus on executive function stimulation**

Tjhin Wiguna<sup>1</sup>

<sup>1</sup>Child and Adolescent Psychiatry Division, Department of Psychiatr, Faculty of Medicine Universitas Indonesia - Dr. Cipto Mangunkusumo General Hospital, Jakarta, Indonesia

#### ABSTRACT

**Objective:** Tourette syndrome (TS) is a developmental neuropsychiatric childhood-onset disorder characterized by involuntary and premonitory urge-driven motor and vocal tics. Several studies reported significant executive functions impairments in TS patients, and it was speculated that some young TS patients show reorganization of prefrontal areas with consequent increased executive functions ability enabling remission of TS symptoms. Indonesian computer-based game intervention was developed several years ago, and it showed a good effect on improving executive function. Therefore, this presentation aimed to present three TS/tic disorder cases and using the Indonesian-computer based game approach as an adjunct and main alternative intervention.

**Method:** This was a case study that generated from the child and adolescent psychiatry outpatient clinic and did not count into the research study. Therefore, it have not had any ethical clearance yet. The first case is a six years old boy with ADHD and tic disorder, after several weeks with immediate-release Methylphenidate Hydrochloride, the tics severity become more prominent and parents was reluctant to continue psychostimulant medication. The second case is a eleven years old boy with TS. The medication was antipsychotic second generation and it induced sleepiness. The third case was an eight years old boy with TS that was treated by using second generation-antipsychotic but the symptoms did not remit significantly. The whole three cases were treated by using Indonesian computer-based game intervention as an adjunctive therapy or main intervention. Results were analyzed case by case and discussion was made qualitatively.

**Results:** The three cases intervened by Indonesian computer-based game stimulation once, twice or three times in a week. One case was also treated by low dose of second generation antipsychotic. After seven to ten times of stimulation, the tics symptoms decreased quite significant. Parents reported that their child academic achievements improved, behavior and emotional expression was much more controllable, and there were not any others side effects or complaints.

**Conclusion:** This case report showed that Indonesia computer-based game therapy may become an adjunct alternative intervention that conjunctively given with medication or may be also given solely without any medication to reduce TS/tic disorder. This study raised a question whether Indonesian computer-based game therapy may improve executive function in children with ADHD and TS/tic disorder, and as a final result it help them to control their own behavior and emotional expression. Further study need to be proposed in order to answer this question.

I don't have any conflict of interest of this presentation.

#### **Venue 4 (Room C-1)**

9:10-9:50 **Research Topics 19**

#### **Ifenprodil tartrate treatment of adolescents with post-traumatic stress disorder: A double-blind, placebo-controlled trial**

Tsuyoshi Sasaki<sup>1,2</sup>, Kenji Hashimoto<sup>3</sup>, Tomihisa Niitsu<sup>4</sup>, Yutaka Hosoda<sup>2</sup>, Yasunori Oda<sup>2</sup>, Yuki Shiko<sup>4</sup>, Yoshihito Ozawa<sup>4</sup>, Yohei Kawasaki<sup>4</sup>, Nobuhisa Kanahara<sup>3</sup>, Akihiro Shiina<sup>3</sup>, Tasuku Hashimoto<sup>2</sup>, Takaaki Suzuki<sup>5</sup>, Takeshi Sugawara<sup>6</sup>, Hideki Hanaoka<sup>4</sup>, Masaomi Iyo<sup>1,2,3</sup>

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<sup>3</sup>Chiba University Center for Forensic Mental Health, Chiba, Japan

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<sup>6</sup>Translational Research and Development Center, Chiba University Hospital, Chiba, Japan

#### ABSTRACT

Background: Several lines of evidence suggest that glutamatergic neurotransmission via the N-methyl-D-aspartate (NMDA) receptor plays a role in certain behavioral manifestations common to Post-Traumatic Stress Disorder (PTSD). Ifenprodil tartrate is a neuroprotective agent that binds to the GluN2B subunit of the NMDA receptor. The aim of this study is to confirm whether ifenprodil tartrate is effective in the adolescent PTSD patients. Methods: This is a randomized, double-blind, placebo-controlled trial. Ten adolescent (13 to 18 years old) PTSD patients were randomized into two arms: placebo (n = 4), 40 mg/day ifenprodil tartrate (n = 6) for 4 weeks. All of the patients were assessed by IES-R-J (Primary outcome measure), TSCC-J, CDRS-R, DSRS-C-J and CGI-I. Results: A comparison of baseline IES-R-J total scores and 4-week end-point scores showed a mild trend of improvement (p = 0.0895) and the difference score was -9.314. A comparison of baseline scores and 2-week intermediate-point scores showed that IES-R-J hyperarousal subscores and TSCC-J subscores (dissociation subscores, sexual concerns subscores) improved significantly. A comparison of baseline TSCC-J sexual concerns subscores and 4-week end-point scores improved significantly.

Conclusions: Our study may prove to be an short-term effective alternative safe treatment for adolescent patients with PTSD.

Ethics statement: This study was performed in accord with the Declaration of Helsinki II. The Institutional Review Board of Chiba University Hospital approved the study protocol (approval no. G25013). After receiving a full explanation of the study as well as any potential risks and benefits, all subjects (person him/herself and legally acceptable representative) provided written informed consent for participation in the study.

Trial registration: We registered this trial on the official database of clinical research (ClinicalTrials.gov) as NCT01835093 on July 11, 2013 and on the UMIN clinical trial registry as UMIN000011720 on September 11, 2013.

COI: Tsuyoshi Sasaki reports grants and personal fees from Otsuka and Shionogi, personal fees from Janssen, Kyowa, Yoshitomi, Eli Lilly, Novartis, Takeda, Shire, Meiji, Sumitomo Pharma, Nobel Pharma and Towa outside the study.

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#### 10:00-11:30 **Symposium 28**

##### **Early child mental health interventions**

Moderator 1: Tjhin Wiguna (Faculty of Medicine, Department of Psychiatry, University of Indonesia, Indonesia)

Moderator 2: Andre Sourander (Department of Clinical Science/Faculty of Medicine, University of Turku, Finland)

#### **S28-1**

##### **The rationale and practical skills of a school-based universal prevention program**

Shin-ichi Ishikawa<sup>1</sup>, Kohei Matsubara<sup>1</sup>, Kohei Kishida<sup>1</sup>, Noriko Hida<sup>1</sup>

<sup>1</sup>Department of Psychology, Doshisha University, Kyoto, Japan

#### ABSTRACT

A school-based universal psychological intervention is one of the avenues to prevent and promote child and adolescent mental health. The workshop will provide the rationale and practical skills of a school-based universal prevention program, called the Universal Unified Prevention Program for Diverse Disorders (Up2-D2; Ishikawa et al., 2019), based on cognitive behavioral and positive psychological interventions. First, current evidence and theoretical

background of school-based psychosocial programs for anxiety and depression in children will be provided. Second, the components in the Up2-D2 will be explained referring materials for teachers and students as well as actual classroom management. Participants will learn the basic knowledge and skills regarding school-based universal prevention programs for mental health.

The studies in this presentation were conducted with the approval of the Institutional Review Board of the authors' university (17002, 201904, 202012, 22003) and Ethics Committee of the National Center of Neurology and Psychiatry (A2016-035). The authors declare no conflict of interest.

## **S28-2**

### **The Translation and Cultural Adaptation Process of a School-Based Mental Health Intervention on Emotional Awareness in Children Living in Finland**

Tiia Ståhlberg<sup>1,2,3</sup>, Yuko Mori<sup>1,2</sup>, Lotta Lehti<sup>1,2</sup>, Sonja Gilbert<sup>1,2</sup>

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<sup>2</sup>INVEST Child Psychiatry, INVEST Research Flagship Center, Department of Clinical Medicine, Faculty of Medicine, University of Turku, Turku, Finland

<sup>3</sup>Department of Child Psychiatry, Turku University Hospital, Turku, Finland

#### **ABSTRACT**

Cultural adaptation process (CAP) of evidence-based interventions is critical to delivering an intervention to a new population. The aim of this presentation is to describe the CAP of the Universal Unified Prevention Program for Diverse Disorders (Up2d2) program developed in Japan, to Finnish elementary school context. First, a CAP working group, including two bilingual translators, a linguist, mental health researchers, psychiatrists, and cognitive behavioural therapy (CBT) specialists, was established. Japanese researchers and two Finnish education specialists were consulted throughout the process. Second, the program contents were translated into Finnish and adapted to local culture, teaching and school system. The aim throughout the CAP was to balance between three factors: (1) fidelity and spirit of the original program, (2) appropriateness to the Finnish culture, school and teaching system and (3) preserving the integrity of the CBT core content. Contextual modifications were documented. The feasibility of the Finnish 'Let's learn about emotions' version of the program will be examined in a pilot study in 36 classes from February to May 2023. Let's learn about emotions will be delivered to 4th graders at primary schools in the city of Hyvinkää, Finland.

Research ethics were followed in the cultural adaptation process, being faithful for the original program but also considering ethical approach of Finnish children. Ethical approval for the feasibility study of the program was granted by The Ethics Committee for Human Sciences at the University of Turku, Health Care Division (8/2023). The authors declare no conflict of interest.

## **S28-3**

### **Online Mental Health Strengthening Module to Build Resilience and Overcome Stress for Transitional Age Medical Students in Indonesia**

Fransiska Kaligis<sup>1</sup>, Tjhin Wiguna<sup>1</sup>

<sup>1</sup>Department of Psychiatry, Faculty of Medicine, Universitas Indonesia, Cipto Mangunkusumo General Hospital, Jakarta, Indonesia

## ABSTRACT

First-year college students are prone to stress due to changes in biological, psychological, and environmental situations they encounter. To overcome those challenges, college students need to increase their resilience. Currently, there is no module for improving resilience among transitional age youth in Indonesia. A mixed method research is used in this study. Qualitative research is carried out at the module development stage by conducting in-depth interviews with students, and a Delphi survey with experts. The module effectiveness test on resilience is measured by the Connor-Davidson Resilience Scale (CD-RISC) questionnaire, knowledge and attitudes towards mental health, Perceived Stress Scale (PSS), and Depression Anxiety Stress Scale (DASS). The presentation will share and discuss the result of this study.

The study has got ethical approval from ethical committee of the Faculty of Medicine Universitas Indonesia number ND-701/UN2.F1/ETIK/PPM.00.02/2021. Authors declare no conflict of interest.

## S28-4

### **Stronger Together – randomized controlled trial of a population-based iCBT - intervention for antenatal depression**

Terja Ristkari<sup>1,2</sup>, Tarja Korpilahti-Leino<sup>1,2</sup>

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<sup>2</sup>INVEST Child Psychiatry, INVEST Research Flagship Center, Department of Clinical Medicine, Faculty of Medicine, University of Turku, Turku, Finland

## ABSTRACT

Untreated antenatal depression is associated with postpartum depression and severe child outcomes, e.g. emotional and behavioral problems and difficulties in bonding and early attachment. These risks could be reduced by providing effective treatment for antenatal depression. As a part of this ongoing study, a new iCBT intervention for antenatal depression has been developed. The intervention "Stronger Together" is delivered in internet platform and it includes highly structured phone coaching by health care professionals. The intervention contains seven weekly themes and it utilizes core components of CBT adapted to pregnancy. The aim of the RCT-study (n= 400 + 400) is to combine population based screening (EPDS  $\geq$ 10 points) in Finnish maternity clinics, with a low threshold intervention. The efficacy of the intervention is studied. In this workshop we will introduce the RCT- study and the content of the Stronger together –intervention.

The study has been registered at ClinicalTrials.gov (ID NCT04223115). It has been approved by the Research Ethics Board of the Hospital District of Southwest Finland (115/1801/2019). Participation in the study is voluntary. Authors declare no conflict of interest.

## S28-5

### **Tele-mental health bridging the service gap in child and adolescent mental health in Nepal**

Arun Raj Kunwar<sup>1</sup>

<sup>1</sup>The Head, Child and Adolescent Psychiatry unit, Kanti children's hospital, Kathmandu, Nepal

## ABSTRACT

Child and adolescent mental health (CAMH) is a critical issue in developing countries, where

access to mental health services is often limited. The CAMH needs and services in Nepal have a significant gap. There is only one full-time child and adolescent psychiatry (CAP) out-patient clinic in the country. Tele-mental health is a promising solution that can help to improve access to mental health care for children and adolescents in countries like Nepal. In the first half of this presentation we discuss the use of Tele-mental health intervention during COVID pandemic in providing CAMH support. In the second half, we will discuss the use of chatbot and direct tele-video consultations to bridge the service gap in CAMH in Nepal.

Authors declare no conflict of interest.

### 12:30-13:10 **Research Topics 23**

#### **Project to reinforce medical treatment, care, and promotion of mental health among children and adolescents collaborated with Japan and Philippines**

Masahide Usami<sup>1</sup>

<sup>1</sup>Department of Child and Adolescent Psychiatry, Kohnodai Hospital, National Center for Global Health and Medicine, Ichikawa, Japan

#### **ABSTRACT**

National Center for Global Health and Medicine (NCGM) conducted training programs in collaboration with the University of the Philippines Manila, the National Center for Mental Health, and the Philippine Society of Child and Adolescent Psychiatry in 2017, 2019, 2020 and 2021 to discuss the children's mental health issues.

The Philippine Mental Health Act came into force in 2019, and it is expected that people with mental illness will be more concerned about human rights protection. Children with mental health problems are also a cause of concern (Cagande, 2013, Larson LM., 2017). In the Philippines, 16% of children had mental disorders (WHO AIMS, 2007). Furthermore, due to the impact of COVID-19, there is no prospect of resumption of face-to-face classes in the Philippines, and the problem of psychological stress is expected to be even greater than in Japan due to the strict restrictions on going out. The COVID-19 pandemic has exacerbated mental health problems among children and adolescents. The COVID-19 mitigation measures such as school closures and stay-at-home orders have disrupted the daily routine of children and adolescents, which subsequently increased the risk of their exposure to violence and developing mental health problems such as depression, anxiety, and internet addiction. The disruption in the delivery of mental health care and promotion emphasizes the need for strengthening the provision of psychiatric care not only in specialized health facilities but also in empowering communities in addressing mental health concerns of children and adolescents. Collaboration between health facilities, schools, the local government, different stakeholders, and the families, is needed to ensure the well-being of children and adolescents during public health emergencies such as the COVID-19 pandemic. Therefore, we think that children's mental health during COVID-19 pandemic will be more socially important issues in the future.

The face-to-face and/or online activities of the training program by NCGM provided an opportunity to share the current situation, challenges, and good practices in mental health treatment, care, and promotion for children and adolescents in Japan and the Philippines before/during the COVID-19 pandemic. The training program provides an opportunity for sharing best practices towards the improvement of child and adolescent mental health care and promotion after COVID-19 pandemic.

### 13:20-14:50 **Symposium 32**

#### **Social phenotypes of autism spectrum disorders and Williams syndrome**

Moderator 1: Ryo Kimura (Department of Anatomy and Developmental Biology, Graduate School of Medicine, Kyoto University, Kyoto, Japan)

Moderator 2: Masahiro Hirai (Department of Cognitive and Psychological Sciences, Graduate School of Informatics, Nagoya University, Nagoya, Japan)

### **S32-1**

#### **Williams syndrome: Clinical features, diagnosis, and management**

Ryo Kimura<sup>1</sup>

<sup>1</sup>Department of Anatomy and Developmental Biology, Graduate School of Medicine, Kyoto University, Kyoto, Japan

#### **ABSTRACT**

Williams syndrome (WS), also referred to as Williams–Beuren syndrome, is a rare genetic disorder caused by the heterozygous deletion of 26–28 genes at 7q11.23, occurring in 1 of 10,000 individuals. In particular, hypersociability and over-friendliness to strangers, so called “cocktail party” personality, have received considerable attention. Such hypersocial behavior seems to be opposite to autism spectrum disorders (ASD), which are characterized by reduced interest in social stimuli and genetic heterogeneity. Therefore, studying WS is expected to illuminate genes and pathways relevant to social behavior.

In addition to hypersociability, WS presents with characteristic fairy-like facial features, cardiovascular abnormalities (such as supravalvular aortic stenosis), endocrine abnormalities (such as hypercalcemia), intellectual disability, visual cognitive impairment, attention deficit/hyperactivity and hyperacusis. However, not all symptoms are present, and the complications vary with age. Moreover, the manifestations of the symptoms after adolescence are not well understood. Also, the mechanism of the variety of symptoms arise remains largely unknown.

In this symposium, we will outline the clinical features, diagnosis, and management of WS so that they will be useful in daily medical practice. We will also present the results of recent epigenomic studies that we have been conducting with the cooperation of patient and family associations. WS is a rare disease and is not yet fully recognized. Throughout this symposium, we hope to attract more people's interest in WS, and to encourage collaborative research.

Our study was approved by institutional ethics committees at each participating institution. Written informed consent was obtained from all participants and/or their parents according to the Declaration of Helsinki. I have no financial relationships to disclose.

### **S32-2**

#### **Exploring social phenotype in Williams syndrome: cross-syndrome approach**

Masahiro Hirai<sup>1</sup>

<sup>1</sup>Department of Cognitive and Psychological Sciences, Graduate School of Informatics, Nagoya University, Nagoya, Japan

#### **ABSTRACT**

Williams syndrome (WS) is a rare genetic disorder caused by a partial deletion of chromosome 7 with a prevalence of approximately 1 in 10,000. In recent years, WS has attracted much interest due to its characteristic sociability (hypersociability), and the social phenotype of WS has been discussed in comparison with autism spectrum disorders (ASD), which are associated with difficulties in social communication. Using the Social Responsiveness Scale-2, we demonstrated that WS had lower severity scores than autism for social motivation and social communication, but no differences were found for other social cognition, social awareness, and restricted repetitive behaviors (Hirai et al., 2022). Regarding social perception, it has been reported that children with ASD have difficulty orienting to faces (Riby et al., 2011). We investigated looking behavior of individuals with WS using an eye tracker. The results of a

series of studies showed that children with WS had significantly greater attention to faces unrelated to the task than typically developing children, suggesting that they may have difficulty disengaging their attention from faces during a search for a target. Furthermore, we found a negative correlation between the duration of looking time for faces and nonverbal reasoning ability (Hirai et al., 2016a; Hirai et al., 2016b). As for social cognition, it has been reported that children with ASD have difficulty understanding the perspective of others, which is an important social interaction (Hamilton et al., 2009). We demonstrated that children with WS also have more difficulty understanding others' perspectives than in controlled tasks. Furthermore, while the performance of children with typical development improved with the development of verbal mental age, the performance of children with WS on the task of perspective-taking did not correlate significantly with the development of verbal mental age (Hirai et al., 2013).

The results of these studies suggest that the social perceptual and cognitive characteristics of children with WS, which have been uniformly regarded as "hypersocial," may have social-cognitive characteristics similar to those of children with ASD, with unevenness depending on the hierarchy of processing of social information.

A series of studies were approved by institutional ethics committees at each participating institution. Written informed consent was obtained from all participants and/or their caregivers according to the Declaration of Helsinki. I have no financial relationships to disclose.

### **S32-3**

#### **The ambiguity of the generative model of rational agents in relation to mind-reading deficits**

Kazunori Terada<sup>1</sup>

<sup>1</sup>Gifu University, Faculty of Engineering, Gifu, Japan

#### **ABSTRACT**

Prediction of others individuals' behavior is essential in society. In a highly organized society, it is difficult to pursue one's own interests alone, so people cooperate, but cooperation can be exploited by so-called 'free-riders'. Therefore, it is important to predict whether the other party will output good (cooperative) or bad (exploitative) behavior. Behavior prediction is performed based on models. One powerful possible model is mechanical causality, such as the if-then rule, but it cannot make predictions when the rule is not archived in memory. To address this, people employ generative models of rational agents that endeavor to attain goals. Behavior prediction is made by using the observed situation and behavior, Bayesian inference of the agent's goal using the generative model of rational agents as the likelihood, and the assumption that the agent will take rational action to achieve that goal. In this presentation, we will introduce experiments that showed that people actually infer their counterpart agent's goals and make rational decisions in iterated two-person two-move games in which the preference structures are given by a 2x2 matrix. We also discuss the possibility that the difficulty in reading the minds of others, which is the typical deficit of people with autism spectrum disorder, can be explained by the ambiguity of the generative model of rational agents.

### **S32-4**

#### **Communication characteristics of individuals with Autism spectrum disorder and Williams Syndrome**

Kosuke Asada<sup>1</sup>

<sup>1</sup>Department of Social Psychology, Faculty of Sociology, Toyo University, Tokyo, Japan

## ABSTRACT

In this presentation, I present a review of the studies using experimental psychological methods on the communication characteristics of individuals with autism spectrum disorder (ASD) and Williams syndrome (WS). ASD is a developmental disorder, characterized by difficulties in social communication and interaction, as well as restricted and repetitive behavior, interests, or activities. WS is a genetic disorder, characterized by relatively good vocabulary skills and difficulty in visuospatial cognition. The social phenotypes of ASD have been contrasted with those of WS. In other words, individuals with ASD are not particularly sociable (preferring not to interact with others), but individuals with WS are hypersociable (preferring to interact excessively with others). However, recent studies have proposed the similarities in these disorders in addition to the differences. For example, individuals with ASD preferred shorter interpersonal distances than typically developing individuals. In addition, children with ASD showed difficulties with understanding pragmatic language, as shown by their understanding of conversational rules, compared with typically developing children. On the other hand, children with WS showed less attention-sharing communication than did typically developing children, even though children with WS produced the same amount of language. In addition, children with WS showed greater difficulty in clarifying their meaning when miscommunication occurred than did typically developing children. Overall, individuals with these disorders have opposite characteristics where the tendency to interact with others is concerned. However, both individuals with ASD and WS show difficulty in social communication. A model for understanding developmental disorder with social difficulties can be derived from these studies. Individuals with ASD have difficulties in both social communication and interaction. If we focus on the ASD model, the ability to communicate successfully and tendency to interact with others can be regarded as being closely related. However, individuals with WS have difficulties in social communication despite their preference for interacting with others. If we focus on the WS model, the ability to communicate successfully and tendency to interact with others can be regarded as being dissociated. I discuss how social difficulties are manifested in different disorders and how characteristics of communication and interaction are related to each other in cases of typical and atypical development. I also discuss the importance of cross-syndrome studies, examining different developmental disorders with social difficulties.

The studies presented were conducted in accordance with ethical considerations through the approval of institutional review boards. I have no financial relationships to disclose.

## 15:00-16:30 Symposium 36

### **Epidemiological Studies of Children in Japan and Taiwan**

Moderator 1: Kazuhiko Nakamura (Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Hirosaki, Japan)

Moderator 2: Susan Shur-Fen Gau (Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan)

#### **S36-1**

#### **Is screen time in infancy associated with suboptimal neurodevelopment? Findings from a birth cohort study**

Kenji J. Tsuchiya<sup>1,2</sup>, Mika Sugiyama<sup>1</sup>, Tomoko Nishimura<sup>1,2</sup>

<sup>1</sup>United Graduate School for Child Development, Osaka University, Kanazawa University, Hamamatsu University School of Medicine, Chiba University, University of Fukui, Suita, Japan

<sup>2</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

## ABSTRACT

Is higher screen time (ST) at age 2 years associated with suboptimal neurodevelopment in

communication, daily living skills, and socialization at age 4 years? If so, how strong is the association, and is there any mediating factor, of the association? We addressed these questions using a population-based birth cohort, the Hamamatsu Birth Cohort for Mothers and Children (HBC Study; Takagai et al., 2016, *Int J Epidemiol*). HBC Study has enrolled 1 258 children born from 1 138 mothers, representative of Japanese children and pregnant women, since December, 2007 until March, 2012. Using a subsample (n=885) of HBC Study participants, we found higher ST (>1 hour a day) at age 2 years was associated with both lower communication (-0.2SD) and daily living skills (-0.1SD) at age 4 years. For daily living skills, 18% of the association was mediated by the frequency of outdoor play at 2 years 8 months. A link between ST in infancy and suboptimal neurodevelopment was confirmed but small in magnitude, and frequent outdoor play mitigated the link. Future research should specify factors that could alleviate the association enabling targeted interventions that reduce the potential risk in ST.

Ethical considerations: This study was approved by the Institutional Review Board of Hamamatsu University School of Medicine (No. 20-233). Written informed consent was obtained from all caregivers for their own and their child's participation.

COI disclosure: No authors reported conflict of interest to be disclosed.

### **S36-2**

#### **Co-occurring neurodevelopmental disorders of autism spectrum disorders in five-year-old children**

Yui Sakamoto<sup>1</sup>, Manabu Saito<sup>2</sup>, Tomoya Hirota<sup>1,3</sup>, Ayako Osato<sup>1</sup>, Tamaki Mikami<sup>2</sup>, Ai Terui<sup>1</sup>, Kazuhiko Nakamura<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, Hirosaki University Graduate School of Medicine, Hirosaki, Japan

<sup>2</sup>Department of Comprehensive Rehabilitation Science, Graduate School of Health Sciences, Department of Clinical Psychological Science, School of Medicine, Hirosaki University, Hirosaki, Japan

<sup>3</sup>Department of Psychiatry and Behavioral Sciences, Weill Institute for Neurosciences, University of California San Francisco, San Francisco, USA

#### **ABSTRACT**

In Japan, we have a health check-up system for children aged 18 months and 3 years old, which is required by law, and the participation rate is over 90%. However, the problem is that the detection rate for neurodevelopmental disorders (NDDs) is low and many children with NDDs miss the opportunity for early intervention.

For this reason, we have been in cooperation with the Hirosaki Municipal Health Center and the Hirosaki City Government to conduct the Hirosaki Five-year-old Children Developmental Health Check-up (HFC) annually since 2013. The HFC was conducted in two stages: initial screening and comprehensive assessment. In the initial screening stage, the following measures were used: Autism Spectrum Screening Questionnaire (ASSQ), Strengths and Difficulties Questionnaire (SDQ), ADHD-Rating Scale-IV (ADHD-RS-IV), Developmental Coordination Disorder Questionnaire (DCDQ), and Parenting Stress Index (PSI). Caregivers complete all of the above screeners, and the teachers of nursery schools complete the SDQ. All children who screened positive were invited to a comprehensive assessment. The clinical data were taken together to diagnose neurodevelopmental disorders (NDDs), specifically autism spectrum disorder (ASD), attention deficit hyperactivity disorder, developmental coordination disorder, and intellectual disability. Between 2013 to 2016, caregivers of 3954 children returned the screening and 559 children underwent the assessment.

87 children received an ASD diagnosis and only 11.5% of them had ASD alone; the remaining 88.5% had at least one co-existing NDD. Common co-occurring conditions include ADHD 50.6%, DCD 63.2 %, 36.8% ID, and 20.7% borderline intellectual functioning. This result is



consistent with previous research. In view of these results, it is necessary to examine the broad developmental characteristics and the support that depends on each characteristic.

This study was approved by the Committee of Medical Ethics of Hirosaki University Graduate School of Medicine. The authors declare that they have no competing interests.

### **S36-3**

#### **Trajectories to Onset of Non-suicidal Self-injury in 9th Grade Students in Japan**

Nobuya Takayanagi<sup>1</sup>, Hiroyuki Ito<sup>2</sup>, Megumi Hamada<sup>3</sup>, Mitsunori Myogan<sup>4</sup>, Yasuo Murayama<sup>5</sup>, Masatsugu Tsujii<sup>6,7</sup>

<sup>1</sup>Department of Psychology, Aichi University of Education, Kariya, Japan

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<sup>6</sup>School of Contemporary Sociology, Chukyo University, Toyota, Japan

<sup>7</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

#### **ABSTRACT**

Although many studies have reported that non-suicidal self-injury (NSSI) is associated with mental health problems, family distress, and social maladjustment, comprehensive research has not yet been conducted in Japan. Since 2007, our project has been surveying preschool through 9th grade students, their parents, and teachers in our partner city to examine mental health issues. This study examined factors associated with the onset and trajectories of NSSI in adolescents. We obtained data from 4050 students (2051 boys and 1999 girls, 7–9th grades) from five cohorts who were followed up for three years. A comparison between the self-injurious group in 9th grade (NSSI group) and the non-self-injurious group showed that the NSSI group had more problems such as depression (0.29-1.17SD), family distress (0.44-1.04SD), and rumination (0.40-0.89SD) from 7th to 9th grade. The NSSI group not only had significant problems in 9th grade, but also showed a tendency toward depressive, family distress, and school maladjustment as early as 7th grade. The findings are expected to lead to early identification and prevention of high-risk students.

Ethical considerations: This study was approved by the Institutional Review Board of Hamamatsu University School of Medicine (No.18-166). An explanatory document was distributed to all adolescents and parents, and opt-out/refusal by them were obtained.

COI disclosure: No authors reported conflict of interest to be disclosed.

### **S36-4**

#### **Prevalence of DSM-5 mental disorders and disease burden in a nationally representative sample of children in Taiwan**

Susan Shur-Fen Gau<sup>1</sup>

<sup>1</sup>Department of Psychiatry, National Taiwan University Hospital and College of Medicine, Taipei, Taiwan

#### **ABSTRACT**

Introduction: There has been a lack of prevalence estimates of DSM-5 mental disorders in child populations at the national level worldwide. Little is known about the discrepancies in the

burden of child mental disorders based on differences in prevalence between treated and untreated populations. Identifying such discrepancies provides a better understanding of the unmet needs related to child mental disorders. Hence, this study estimated the lifetime and six-month prevalence of DSM-5 mental disorders and compared the years lived with disability (YLD) between children with treated and untreated mental disorders using a representative national survey, Taiwan's National Epidemiological Study of Child Mental Disorders (TNESCMD), and the Taiwan National Health Insurance Research Database (TNHIRD). Methods: TNESCMD used stratified cluster sampling to select 69 schools in Taiwan, resulting in a nationally representative sample of 4816 children in grades 3 (n=1352), 5 (n=1297), and 7 (n=2167). All the participants underwent face-to-face psychiatric interviews using the Kiddie-Schedule for Affective Disorders and Schizophrenia-Epidemiological version, DSM-5 version. The comorbidity-adjusted YLD rate ratio (RR) was reported to quantify the YLD discrepancy. Results: The inverse probability censoring weighting (IPCW) adjusted weighted (lifetime and six-month) prevalence rates for overall mental disorders were 31.6% and 25.0%, respectively. The most prevalent mental disorders (lifetime and six-month prevalence rates) were anxiety disorders (15.2%, 12.0%) and attention-deficit hyperactivity disorder (ADHD; 10.1%, 8.7%), followed by sleep disorders, tic disorder, oppositional defiant disorder, and autism spectrum disorder. The overall YLD rate in the TNESCMD was 9.05 times higher than that in the TNHIRD, with the lowest and highest YLD RRs for autism spectrum disorder (RR: 3.51) and anxiety disorders (RR: 360.00). Unlike the YLD proportion explained by attention-deficit/hyperactivity disorder and autism spectrum disorder, the proportions explained by anxiety disorders and conduct disorder/oppositional defiant disorder compared to the total YLD were relatively lower in the TNHIRD than in TNESCMD and the Global Burden of Disease 2016. Conclusions: DSM-5 mental disorders are common in the Taiwanese child population suggesting the need for public awareness, early detection, and prevention. High YLD discrepancies in child mental disorders suggest significant unmet needs for care in child mental disorders and that estimates of disease burden that rely heavily on a single source may result in unreliable results.

This study was approved by the Research Ethics Committee of National Taiwan University Hospital. No conflicts of interest.

## **Venue 5 (Room C-2)**

9:10-9:50 **Research Topics 20**

### **Is ADHD a Disorder of Altered Reinforcement Sensitivity?: Evidence from fMRI studies**

Emi Furukawa<sup>1</sup>, Patrica Bado<sup>2</sup>, Raquel Quimas Molina Da Costa<sup>2</sup>, Gail Tripp<sup>1</sup>, Jeff Wickens<sup>1</sup>, Paulo Mattos<sup>2</sup>, Jorge Moll<sup>2</sup>

<sup>1</sup>Okinawa Institute of Science and Technology Graduate University (OIST), Human Developmental Neurobiology Unit, Okinawa, Japan

<sup>2</sup>D'Or Institute of Research and Education, Rio de Janeiro, Brazil

#### **ABSTRACT**

Altered behavioral sensitivity to positive reinforcement has been proposed as a core deficit in attention deficit hyperactivity disorder (ADHD). The neurobiological mechanisms underlying this alteration are unclear. In non-human primates and rodents, dopamine cells fire in response to unexpected rewards; this transfers to cues that predict rewards with repeated pairing. Tripp & Wickens (2008) hypothesized this transfer of dopamine firing from reward to reward-predicting cues may be impaired in ADHD, leading to altered reinforcement sensitivity. Referred to as a Dopamine Transfer Deficit (DTD).

To evaluate this proposal in humans, we conducted a series of functional magnetic resonance imaging (fMRI) studies in young adults with and without ADHD. In these studies, we used a classical conditioning paradigm, in which one cue was followed by reward and another cue by non-reward. We assessed blood-oxygen-level-dependent (BOLD) activation in the striatum in response to reward-predicting cues and to monetary, food and affiliative rewards (Furukawa et al, 2014; 2022). We also examined the effects of stimulant medication, methylphenidate (MPH) on BOLD activation in response to cues and monetary reward (Furukawa et al, 2020). Increased striatal responses to cues predicting monetary and affiliative rewards were observed in control but not ADHD participants. Conversely, increased striatal responses to images of monetary and affiliative rewards were observed in the ADHD groups, relative to controls. The ADHD and control groups responded similarly to food reward cues and images of food. These results suggest individuals with ADHD have reduced sensitivity to reward cues while increased sensitivity reward images, likely modulated by reward modality. Separately, we showed that MPH modulates striatal responses to reward-predicting cues in adults with ADHD (Furukawa et al., 2020). BOLD responses to reward cues were larger in ADHD participants when taking MPH versus placebo. MPH appears to improve discriminability between reward and non-reward cues. MPH also reduced the fronto-striatal BOLD time-series correlation during reward delivery. Together these results suggest individuals with ADHD do not develop robust responses to reward-predicting cues compared with their typically developing peers. The observed BOLD response patterns in these studies are consistent with impaired predictive dopamine signaling in ADHD as proposed in the DTD hypothesis and may underlie their altered reinforcement processing.

All studies were reviewed and approved by the OIST Human Subjects Review Committee (HSR-2010-002) and D'Or Institute of Research and Education Scientific Review Committee (25000.638339). The author has no conflicts of interest.

10:00-11:30 **Symposium 29**

**Attachment perspectives on children and adolescent psychopathology –Clinical application in child and adolescent mental health in Japan–**

Moderator 1: Keiko Yoshida (Mental Clinic Iris and Kyushu University Hospital, Fukuoka, Japan)

Moderator 2: Hiroshi Yamashita (Department of Child Psychiatry Kyushu University Hospital, Fukuoka, Japan)

**S29-1**

**Adolescent Psychiatric Care from the Perspective of Attachment and Emotional Availability**

Arata Oiji<sup>1</sup>

<sup>1</sup>Mamenoki Clinic, Tokyo, Japan

**ABSTRACT**

I am a child and adolescent psychiatrist engaged in clinical assessment of developmental disorders and consultation for professionals who are caring maltreated children. In this occasion, I described my consideration on adequate approaches for treatment of children and adolescents in my daily clinical practice from the perspective of attachment and emotional availability.

Puberty is a period when secondary sexual characteristics begin to emerge and children who have grown up under the protection of their parents question their parents' values and rebel against them. Peter Blos (1962) thought this period as the second individuation process. Erik Erikson described the developmental task of this period as "identity vs. role confusion".

Adolescents are interacting with their peers, separating from their parents, and deciding their own direction in their life and their place in society. In a clinical setting with relatively healthy young people at the end of the 20th century, it was not inadequate to adapt these understandings to psychiatric consultation.

The problem is that in the current child and adolescent psychiatric care, the pathology of the patients seems to be more severe and complicated. Above all, more and more patients have developmental disorders. At the same time, an increasing number of patients have been maltreated. There is also an impression that an increasing number of children have problems in terms of emotional development from infancy, even if they do not have developmental disabilities and have not been explicitly maltreated. The quality of parenting may be changing and the number of children with attachment problems may be increasing in a situation where community ties are fading, the number of children is decreasing, and the gap between rich and poor is widening. In the treatment of these recent patients, I believe that therapeutic approaches that considers understanding from the perspective of attachment and emotional responsiveness will be necessary.

Attachment problems are naturally also an important therapeutic target in young people who have been maltreated. However, I believe that attachment problems are often a therapeutic target in developmental disorders as well. This is because developmental disabilities often result in poor parent-child interactions in infancy. In any case, psychiatrists and psychotherapists working with patients with serious pathologies who have attachment problems need to be able to read the patient's emotions and mental processes, create a good framework, draw boundaries and be emotionally stable.

The author has no financial conflict of interest to disclose concerning the presentation.

## **S29-2**

### **Therapeutic approach to complex PTSD by a multidisciplinary team in a child psychiatric ward and a child welfare institution**

Naoki Horikawa<sup>1</sup>

<sup>1</sup>Nozoonooka Hospital, Fukuoka, Japan

#### **ABSTRACT**

Children and families in social care are a high-risk population for trauma-related disorders due to their cumulative experiences of childhood adversity, but the pathways from early detection and assessment to treatment and care are still being developed. In formulating treatment and care for the complex difficulties of treatment cases, it is necessary to describe broad-band emotional and behavioral problems at the symptom level, as well as assess the care needs of each developing child and caregiver from multiple dimensions. Complex PTSD is a revolutionary diagnostic concept that includes categorical assessment: PTSD symptoms and dimensional assessment: disorders of self-organization, and can be clinically formulated to comprehensively address both treatment and care aspects. In pediatric and psychiatric care, it is often difficult for a single institution to provide multidisciplinary, multifaceted assessment and care for complex PTSD. Timely introduction of assessment tools and psycho-educational sessions for understanding and recognizing complex PTSD can lead to multi-agency treatment and care. Specialized child psychiatric unit and child welfare institutions are tertiary support organization, and can provide specialized treatment support through multidisciplinary assessment and multidisciplinary cooperation. They are expected to play a key role in providing treatment and care for complex PTSD and other trauma-related disorders in children in social care and their families.

At Nozoonooka Hospital, the Child Psychiatry Unit and the Child Psychotherapy Facility (Child welfare institution) are working together in a new initiative that integrates psychodynamic team approach and a therapeutic community model. This approach enables the provision of

comprehensive treatment and care for children in social care. Through the experiences from these unique clinical practices, the clinical significance of the diagnosis of complex PTSD in children and the creation of a therapeutic environment and approach to children and families by a multidisciplinary team will be discussed.

The author has no financial conflict of interest to disclose concerning the presentation.

### **S29-3**

#### **Social care and attachment: treatment and support for adolescents in social care**

Kenichi Yamane<sup>1</sup>

<sup>1</sup>Department of Child Psychiatry Kyushu University Hospital, Fukuoka, Japan

#### **ABSTRACT**

Social care for children is classified as institutional and foster care, and millions of children worldwide live in institutional care. In the USA and Western Europe, a shift from institutional to family foster care was promoted, but in Japan, the Child Abuse Prevention Act was finally enacted in 2000 and the foster care system began to be developed. Recent years. Attachment theory has been of central significance in the formulation of treatment and support for children facing the breakdown of emotional bonds and the loss and separation of attachment objects under social care. A large body of empirical evidence on attachment has been reported in prospective cohort studies in foster care intervention programmes based on international support measures for Romanian orphans in the UK and the USA. There is evidence of treatment responsiveness of foster care interventions, making it important to understand the broad range of mental health problems of children who have been inappropriately fostered as attachment problems in an integrated way and to address child and adolescent treatment and support in a long-term framework.

The Fukuoka City Child Guidance Centre was established in 1972. The "Comprehensive Consultation Centre for Children", which was conceived as a centre for child and adolescent mental health in the "three-tier system for supporting children and families", was opened in May 2003. When conducting detailed, multifaceted assessments of the needs of children with complex family environments and diverse problems, who experience threats and crises on a daily basis, not only the child's developmental status but also attachment and trauma perspectives are incorporated. Boris and Zeanah propose to view the level of adjustment in attachment on a continuous spectrum from mild to severe. The adaptive level of a child's attachment behaviour corresponds to the adaptive level of attachment-based family nurturance functioning and is also a process of assessing the child's safety. By understanding the child's developmental status, attachment and trauma issues, and by assessing the problems in the child's care environment and family functioning, the following support strategies can be established: ((1)in-home support, (2) alternative care measures and family reunification, and (3) nurturing care environments other than the original caregivers'. In this presentation, present status and new initiatives of Attachment based assessment and intervention system will be shared.

The author has no financial conflict of interest to disclose concerning the presentation.

### **S29-4**

#### **Clinical Application of Attachment Framework and concept of complex PTSD in children with Adverse Childhood Experience**

Hiroshi Yamashita<sup>1</sup>

<sup>1</sup>Department of Child Psychiatry Kyushu University Hospital, Fukuoka, Japan

## ABSTRACT

A major clinical issue in child psychiatry is the diagnosis and treatment of trauma-related disorders as well as comorbidities in children with neurodevelopmental disorders. Specialized child psychiatric units belong to the secondary and tertiary levels of psychiatric care and are capable of multidisciplinary assessment and multidisciplinary collaboration. Children in social care and their families are a high-risk population for trauma-related disorders due to their cumulative experiences of childhood adversity, but the pathways leading from early detection and diagnosis to treatment and care are still being developed. As a child psychiatrist, I am involved in medical consultation at child guidance centers and child psychotherapy facilities. When formulating the complex difficulties of consultation cases, it is important to visualize the clinical needs by describing the emotional and behavioral problems at the symptom level, and at the same time, assessment of the care needs of the developing child in the framework of attachment. Complex PTSD is a comprehensive diagnostic concept that includes both categorical assessment: PTSD symptoms and dimensional assessment: disorders of self-organization, and is an innovative concept that can formulate both treatment and care needs aspects.

To introduce such a multi-axial diagnostic system combining categorical and dimensional assessment into clinical practice, multiple disciplines capable of assessing multi-dimensional aspects of child development, family functioning, and multigenerational upbringing history. A support team with multidisciplinary expertise is needed.

On the other hand, when the process of receiving treatment and care in social welfare system is examined in medical consultation, two generations of parents and children use general psychiatric care in many cases. The recognition, diagnosis, and intervention from the perspective of trauma-related disorders in the two generations of parents and children in general psychiatric care leads to primary and secondary prevention in the community. In general psychiatric care settings, it is often difficult for a single institution to provide comprehensive multidisciplinary assessment and care. The introduction of screening tools and psychoeducational sessions for understanding and recognizing complex PTSD can lead to treatment and care in collaboration with multiple institutions. Specialized child psychiatric treatment facilities and child psychological treatment facilities belong to tertiary support institutions among psychiatric and child welfare institutions. These specialized institutions are expected to play a key role in providing treatment and care for complex PTSD and other trauma-related disorders in children and families in social care.

The author has no financial conflict of interest to disclose concerning the presentation.

12:30-13:10 **Research Topics 24**

### **Longitudinal MRI studies of children with Attention-Deficit/Hyperactivity Disorder**

Ayaka Ishii-Takahashi<sup>1</sup>, Rio Yamaguchi<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

## ABSTRACT

In the past two decades, neuroimaging studies of children with Attention-Deficit/Hyperactivity Disorder (ADHD) have shown developmental changes in brain volumes, cortical changes, gyrification, and connectivity using structural and functional MRI. Early studies focused on structural development of the brain whilst recent work shows development of diffusion neural network in children with ADHD. However, there is no systematic review conducted to date, of longitudinal developmental changes in the brain of children with ADHD.

In this review, we aimed to summarize the evidence to date regarding the trajectory of brain development for children with Attention-Deficit/Hyperactivity Disorder, specifically using MRI. The protocol was registered with the Database for Prospective Register of Systematic Reviews

PROSPERO (No. CRD42022303719). All modality of brain structure and development (measures of anatomy including but not limited to volume, surface area, thickness; resting state MRI, DTI..etc) was reviewed. A comprehensive search was conducted using seven databases (PubMed, Web of Science, CINAHL, PsychINFO, ERIC, Scopus and Medline) by two independent researchers. The search strategy was as follows: an initial search conducted with ADHD related terms; a second search conducted with terms associated with longitudinal studies; a third search was then conducted with MRI related terms. Subsequently, a combined “AND” search was conducted with the three initial searches, extracting papers that were included in all three searches. The entire article was retrieved and read if the abstract indicated the article potentially met the inclusion criteria. The initial search produced 5328 studies. After removing duplicates, 2691 remained. Following a careful screening of the title and the abstracts, the full paper was reviewed for 56 studies. In the end, seventeen studies were selected for the purpose of the current review. In this systematic review, we found that the volume of the brain was the most studied modality and the frontal lobe was the most studied region. While the association between brain development and clinical outcomes were reported in five studies, two did not find any associations and ten did not examine such relationships. Due to the highly heterogenous designs, analyses and results in the reviewed papers, the findings could not be combined, quantitatively. Studies using MRI to uncover the longitudinal trajectory of brain development in ADHD is increasing. However, it is critical that future studies address the heterogeneity in the methodology used in order to validate and replicate findings which could contribute to improved clinical care.

13:20-14:50 **Symposium 33**

**Elucidating pathology of ADHD: updates from recent neuropsychological studies**

Moderator 1: Yuka Egashira (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

Moderator 2: Sayuri Hayashi (Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan)

**S33-1**

**Heterogeneity in ADHD: possible contributions of cognitive neuroscience and their clinical implications**

Takashi Okada<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

**ABSTRACT**

Attention-deficit hyperactivity disorder (ADHD) is diagnosed by inattention and/or hyperactivity in two or more different settings that started before the age of twelve and continues for at least six months. These symptoms appear unsuitable for developmental age, and interferes with daily functioning. It is often comorbid with other neurodevelopmental disorders or psychiatric disorders.

Neuropsychological studies vigorously explored the neurobiological basis of ADHD. These hypotheses include 1) disturbance in executive functions, 2) delay aversion, 3) difficulty in taking timing, and 4) low activations of default mode network. These disturbances are associated with brain dysfunctions in prefrontal cortex, reward system, and cerebellum. However, it is also important to emphasize that individuals with ADHD don't have all of these disturbances, i.e. the ADHD is heterogenous in its pathology. This fact is essential because the heterogeneity may be related with different trajectory and responses to interventions. Recent cohort studies indicated that ADHD in childhood persists in to adulthood in less cases that has been considered so far. Recent diffusion tensor imaging study reported that low fractional anisotropy in the left uncinate and inferior fronto-occipital fasciculi, which is

associated with inattention. In addition, neuropsychological studies examining time reproduction suggested the impairments in adults with ADHD and unaffected first-degree relatives and that increased grey-matter volume in the cerebellum was associated with poorer temporal reproduction performance. Persistent ADHD may be one of the phenotypes among originally diagnosed ADHD in childhood, and its neurobiological basis will be more specifically determined.

It is also well known that ADHD is frequently comorbid other mental disorders: internalizing disorder, such as depressive or anxiety disorder, and externalizing disorders, such as oppositional and defiant disorder or conduct disorder. It should be cautious because these symptoms appear to fulfill the item to diagnose ADHD. To identify the core ADHD, clinicians should understand the precise life history from childhood, and rule out the influences to behavioral presentations from other psychopathologies.

In summary, recent studies are elucidating the true nature of ADHD as a neurodevelopmental disorder. In future studies, follow-up studies are essentially important to elucidate the relationship between ADHD and comorbidities.

Presenter declared that there is no conflict of interest to disclose in this presentation.

### **S33-2**

#### **Executive function in attention deficit hyperactivity disorder and its impact on reward feedback**

Sayuri Hayashi<sup>1</sup>, Shota Uono<sup>1</sup>, Yuka Egashira<sup>1</sup>, Masatoshi Ukezono<sup>1</sup>, Miki Takada<sup>1,2</sup>, Takashi Okada<sup>1</sup>

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#### **ABSTRACT**

Positive feedback from others can help facilitate appropriate behavior in children with attention deficit hyperactivity disorder (ADHD). Psychological research has shown that positive feedback activates the reward system and aids cognitive processing. Meta-analyses have indicated that feedback rewards improve executive function for all ages, sex, and diagnoses, including those with and without ADHD regardless of reward type. However, it is essential to note that the effectiveness of feedback rewards in adults with ADHD is not yet fully understood.

We investigated the impact of social reward feedback on response inhibition task performance in adults with ADHD. A total of 39 participants with ADHD and 39 typically developed adults, matched for age and sex and Full Scale Intelligence Quotient, participated in the study. They completed a social incentive go/no-go task under three feedback conditions: mosaic, certain, and uncertain. In the mosaic condition, both successful and unsuccessful inhibition trials were followed by the presentation of a mosaic image. In the certain condition, a successful inhibition trial was followed by a presentation of a happy face, and a missed trial was followed by a neutral face. In the uncertain condition, approximately 87.5 % of successful inhibition trials were followed by a happy face, while the remaining trials were followed by a neutral face.

Contrary to our expectations, feedback effects were not clear in adults with ADHD. The low effectiveness of the feedback was not attributed to autistic traits or negative moods among the participants. Previous large cross-sectional studies have demonstrated that neural systems involved in the feedback-reward effects vary among children, adolescents, and adults. However, few studies have examined these developmental effects in individuals with ADHD. We speculate that neurological development might play a role in changing the feedback-reward effects of ADHD, which should be the focus of further research.



The study was conducted per the Ethical Guidelines for Medical and Health Research Involving Human Subjects. The Ethics Committee of the National Centre of Neurology and Psychiatry, Japan (A2021-125) approved the study protocol. The authors have no conflict of interest.

### **S33-3**

#### **Investigation of the Characteristics of “Genuine” Time Perception in ADHD**

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#### **ABSTRACT**

Time perception deficit is one important factor of the pathological model of attention-deficit/hyperactivity disorder (ADHD). The functional networks related to ADHD pathology and the neural networks involved in time and timing perception overlap. Children and adolescents with ADHD show decreased connectivity in a fronto-striato-parieto-cerebellar network, which are partly involved in processing time or timing. Regarding time and timing perception, the cerebellum and basal ganglia networks are involved in the sub-second timing tasks, whereas the supra-second timing tasks activated cortical structures, such as the supplementary motor area and prefrontal cortex in typically developing individuals. Although low performance on both sub- and supra-second timing tasks has been reported in ADHD, it is unclear whether the dysfunction is uniform regardless of temporal duration or task characteristics.

To clarify the specific time perception deficits in ADHD, we examined this ability in adults and children with/without ADHD using three conventional time perception tasks. In addition, how the performances are associated among tasks in typically developing adults are considered. Three tasks were performed: the time reproduction (TR) as sub-second task, the duration discrimination (DD) as supra-second task, and the tapping as supra-second motor timing task. In the TR, the participants sustained a button pressing for the same duration as the preceding stimulus (5 seconds). In the DD, the participants detected a target tone among three tones, consisting of two pure tones (1200ms) as standard and one target tone (400, 700, 800, 900, 1000, or 1100ms). In the tapping task, the participants pressed the button to 50ms tones with 450ms intervals for 15 seconds; after that, they continued the button pressing for 15 seconds without tones.

As a result, children with ADHD (C-ADHD) demonstrated lower duration discrimination rate of DD compared to typically developing children (TDC). However, in the TR, mean duration reproduction length had no significant difference, although standard deviation (SD) of reproduction length in C-ADHD was bigger than TDC. In addition, in case of adults with ADHD, only SD of TR's length was bigger than non-ADHD. These results suggest that time perception deficits related to cerebellum and basal ganglia networks in ADHD might be affected by neural development. Moreover, the prefrontal cortex related task performance, such as SD of reproduction length might need to be separated from time perception ability. The neuroimaging approach will help to clarify the common aspects of tasks in detail.

### **S33-4**

#### **Why children with ADHD can't wait?: The impact of reward availability and predictive cues**

Emi Furukawa<sup>1</sup>

<sup>1</sup>Human Developmental Neurobiology Unit, Okinawa Institute of Science and Technology

Graduate University (OIST), Okinawa, Japan

#### ABSTRACT

Altered motivational processing is considered as one of the core mechanisms underlying ADHD symptoms. It has been well documented that children with ADHD have a stronger preference for immediate rewards and discount delayed rewards, even when doing so results in smaller earnings. However, little attention has been paid to children's capacity to withhold responding until a "better" reward becomes available, and their behavior while waiting.

We developed a novel computer task to examine the ability of children to wait to collect a large reward in the presence of a small available reward, and the effects of reward-predicting cues on waiting (Furukawa et al., 2022). Data from 136 children (6-12 years), 90 with ADHD and 46 typically developing (TD) children were examined. The children could collect a small immediately available reward or wait to access a larger reward after a variable delay, its imminent availability sometimes signaled by a cue. Unlike other commonly used tasks, children were not required to make a decision between the two choices before waiting was initiated. Children with ADHD were less successful in waiting for a better outcome in the presence of an immediate reward opportunity. They were also more likely to terminate waiting once commenced, collecting the small reward or attempting to collect the large reward early. Reward-predicting cues increased their response readiness but interfered with their ability to wait when the cue-reward association was disrupted. Children with ADHD more often abandoned efforts to wait, especially when wait times were extended and when expected rewards failed to appear. The results highlight the complexity of difficulties children with ADHD experience in waiting and the impact of cues in the environment on their reward seeking and waiting behavior. Increased vulnerability to immediate reward opportunities likely results in suboptimal outcomes for children with ADHD.

The study was reviewed and approved by the OIST Human Subjects Review Committee (HSR-2008-001). The authors have no conflict of interest.

Furukawa E, Alsop B, Alves H, Vorderstrasse V, Carrasco KD, Chuang CC, Tripp G. Disrupted waiting behavior in ADHD: exploring the impact of reward availability and predictive cues. *Child Neuropsychol.* 2022 May 9:1-20.

15:00-16:30 **Symposium 37**

#### **Behavioral parenting programs for ADHD: Cross-cultural considerations and implementation challenges**

Moderator 1: Yushiro Yamashita (Kurume University School of Medicine, Department of Pediatrics and Child Health, Fukuoka, Japan)

Moderator 2: Gail Tripp (Okinawa Institute of Science and Technology Graduate University Human Developmental Neurobiology Unit, Okinawa, Japan)

#### **S37-1**

#### **Well Parent Japan: A Pragmatic Multi-Site Trial of Parenting Program Designed to Address the Needs of ADHD**

Shizuka Shimabukuro<sup>1</sup>, David Daley<sup>2</sup>, Takahiro Endo<sup>3</sup>, Satoshi Harada<sup>3</sup>, Akemi Tomoda<sup>4</sup>, Yushiro Yamashita<sup>5</sup>, Takashi Oshio<sup>6</sup>, Boliang Guo<sup>7</sup>, Gail Tripp<sup>1</sup>

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## ABSTRACT

Attention-deficit/hyperactivity disorder (ADHD) is a common neurodevelopmental disorder associated with numerous functional deficits and poor long-term outcomes for the affected child, threats to the mental health of the parents, and with significant financial burden to the individual and society.

Internationally, parent training is recommended as part of a multimodal treatment approach for children with ADHD. In Japan, parent training programs target general behavior problems and do not expressly target the needs of children with ADHD and their parents. The effectiveness of available programs has not been rigorously evaluated and training for therapists is limited. There is a recognized need for empirically supported parenting programs addressing the needs of Japanese children with ADHD and their families, and the training needs of those delivering such programs.

We conducted a pragmatic multi-site randomized control trial (RCT) to examine the effectiveness of Well Parent Japan (Shimabukuro et al, 2020) against treatment as usual (TAU) in routine child psychiatry services. Well Parent Japan (WPJ) is a new parent training program that combines psychological support for mothers with parenting skills specifically developed for families dealing with ADHD (NFPP, Thompson et al, 2009; Thompson et al 2017). This study included 124 mothers of children with ADHD recruited from three hospitals in Fukui, Fukuoka and Okinawa prefectures. Therapists were trained and supervised to deliver the 13-session WPJ program in groups of 6-8 mothers (two therapists per group).

The primary outcome for the study was stress in the parent domain with secondary outcomes addressing child behavior, parenting efficacy, parenting practices and family strain. Analyses were conducted with data collected immediately post intervention and at three-month follow-up using intention to treat methodology (ITT). The cost of program delivery and cost effectiveness of WPJ were also evaluated in this study.

The study findings confirm the superiority of WPJ over TAU in routine clinical care in reducing parenting stress, improving parenting practices, enhancing parenting efficacy and reducing family strain. Treatment delivery costs are moderate. We believe WPJ is a valuable addition to the suite of parenting programs currently available in Japan.

The study was reviewed and approved by the OIST Human Subjects Review Committee. The three implementation and data collection sites for this study received the ethical approvals from their own Research Ethics Committees. The author has no conflict of interest.

## S37-2

### **Community Implementation of Well Parent Japan (WPJ): From Research to Clinical Practice**

Ryoko Shigematsu<sup>1</sup>, Shizuka Shimabukuro<sup>2</sup>

<sup>1</sup>Life, Support Center for People with Developmental Disabilities, Kasuga, Fukuoka, Japan

<sup>2</sup>Okinawa Institute of Science and Technology Graduate School (OIST), Human Developmental Neurobiology Unit, Okinawa, Japan

## ABSTRACT

The first community implementation (outside of a research program) of Well Parent Japan (WPJ) is being undertaken at the Life, Support Center for People with Developmental Disabilities in Fukuoka. This group program for mothers of children with ADHD is being led by an accredited WPJ group leader who participated in the recent pragmatic multi-site trial of the program (Shimabukuro et al, 2022).

WPJ is a 13-session group delivered program (2 hours per session) program for mothers of children with ADHD. This includes 5 sessions of psychoeducation and parent support (stress management, problems solving, communication skills, cognitive restructuring) and 8 sessions of the culturally adapted New Forest Parenting Program (NFPP) for ADHD. The results of two randomized control trials (RCT) have demonstrated the efficacy of WPJ for Japanese mothers parenting children with ADHD. On the basis of their experiences in the research trial, service providers in Fukuoka have decided to implement a parenting program, specifically WPJ. The first community implementation of the WPJ program is currently underway.

In this presentation the group leader implementing the WPJ will share her experiences of initiating the program in in their service center. This will include a discussion of the challenges of moving the program from research to clinical practice and barriers to implementation including recruitment. With participants' consent, the group leader will anonymously review the groups experiences of receiving the program and any changes in their wellbeing, parenting practices, and the behavior of their children. Lessons learned through this implementation will be shared in the hope that other health care agencies will be encouraged to implement evidence-based programs such as WPJ.

The author has no conflict of interest.

### **S37-3**

#### **Mobile-Health Parenting Program in Brazil: Development and “Wizard-of-Oz” Pilot Testing**

Emi Furukawa<sup>1</sup>, Patrica Bado<sup>2</sup>, Camila Bernardes<sup>2</sup>, Raquel Quimas Molina Da Costa<sup>2</sup>, Paulo Mattos<sup>2</sup>

<sup>1</sup>Okinawa Institute of Science and Technology Graduate University (OIST), Human Developmental Neurobiology Unit, Okinawa, Japan

<sup>2</sup>D’Or Institute of Research and Education, Rio de Janeiro, Brazil

#### **ABSTRACT**

Accessible and affordable quality behavioral healthcare for children is limited in many countries, especially in non-English speaking and lower-resourced countries. We conducted a qualitative needs assessment to understand the experiences and needs of families of children with Attention Deficit Hyperactivity Disorder (ADHD) in Brazil. Semi-structured telephone interviews were conducted with parents (n = 23), health professionals (n = 16), and educators (n = 15). Two major barriers to access were identified: 1) difficulty obtaining a diagnosis to access traditional in-person non-pharmacological treatment, and 2) lack of professionals trained to provide evidence-based behavioral interventions for ADHD symptoms and associated difficulties.

In response to these identified needs, we are developing a mobile health program to increase access to research-informed behavioral management training for caregivers of children with ADHD. The program aims to provide training and support for caregivers through WhatsApp, a popular messaging application. This program integrates the latest research findings on altered reinforcement sensitivity in ADHD. Training materials and instruction are provided to caregivers via short videos and text messages, designed to be easily digested and engaging. We conducted a before-and-after pilot study to examine the feasibility and acceptability of the program (n = 34). This was done using Wizard-of-Oz methodology, where participants interacted with what they believe to be an autonomous program, which was managed by humans. Researchers manually sent videos, tips, reminders, and behavior ratings twice daily via WhatsApp throughout the study. Pilot results are promising; caregivers used and liked the program and reported that they gained new knowledge which changed their perceptions and behaviors. Questionnaire data indicated significant reduction in their children’s ADHD symptoms and oppositional behaviors, and negative parenting practices.

This program has the potential to provide low-cost quality caregiver training to families struggling to access and utilize services to support their children's needs in Brazil and other countries.

The studies were reviewed and approved by the OIST Human Subjects Review Committee (HSR-2020-029/HSR-2021-011) and D'Or Institute of Research and Education Scientific Review Committee (4.507.418/4.974.614). The authors have no conflict of interest.

### **S37-4**

#### **A Community-Based Participatory Research Approach to Developing a Behavioral Parenting Program**

Aya Kasai<sup>1</sup>, Kiraboshi Family Support Group<sup>2</sup>, Gail Tripp<sup>3</sup>, Emi Furukawa<sup>3</sup>

<sup>1</sup>Miyazaki International College, School of International Liberal Arts, Miyazaki, Japan

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<sup>3</sup>Okinawa Institute of Science and Technology Graduate University (OIST), Human Developmental Neurobiology Unit, Okinawa, Japan

#### **ABSTRACT**

Parent training programs have been recognized and promoted by Japanese governmental agencies and mental health professionals as an effective means to support families with children who are experiencing behavioral difficulties. Behavioral parent training is the recommended form of psychosocial treatment for ADHD. However, challenges remain in reaching families who may benefit from such programs.

We are currently developing a stakeholder-driven parenting program in a small suburban community in Japan using community-based participatory research (CBPR). In CBPR, researchers and community stakeholders engage as partners in all steps of the research process with the goal of educating, improving practice or bringing about social change. Community partners in the current research include: parents of pre-school and school-age children (some with children demonstrating developmental and/or behavioral difficulties), special education teachers, a kindergarten principal and vice principal, and a founder and staff member of a non-profit organization (with a mission to create a community that supports children and families of diverse needs).

Researchers and community partners have met monthly to discuss the needs of the community, the content of the parenting program, and possible modes of implementation. Identified needs include: reducing the stigma of neurodevelopmental disorders, reaching families who are struggling with the child's behavioral difficulties but who are reluctant to seek help, and creating opportunities for parents to support each other. Our community partners emphasize that parents may hesitate to engage with evidence-based behavioral strategies unless they feel safe and supported. The consensus was that the program should consider the specific needs of children with ADHD, while being inclusive of all parents who show interests in learning behavioral strategies. Community partners also expressed strong desire that the content be easily understood and readily accessed, in this case via electronic media.

We will continue to work with our community partners on program content and to pilot test the feasibility and acceptability of the program. We will identify the similarities and differences with other parenting programs in Japan, highlighting where the program fits within Japanese efforts to promote effective parent and child support.

The study was reviewed and approved by the OIST Human Subjects Review Committee (HSR-2022-016). The authors have no conflict of interest.

## **Venue 6 (Room K)**

9:10-9:50 **Research Topics 21**

### **Cognitive-behavioral therapy intervention for parenting stress of parents of children with autism spectrum disorder**

Atsurou Yamada<sup>1</sup>, Fujika Katsuki<sup>2</sup>

<sup>1</sup>Department of Psychiatry and Cognitive-Behavioral Medicine, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan

<sup>2</sup>Department of Psychiatric and Mental Health Nursing, Nagoya City University School of Nursing, Nagoya, Japan

#### **ABSTRACT**

Autism spectrum disorders (ASD) are disorders defined by symptoms such as persistent deficits in social communication and interpersonal interaction, restricted and repetitive patterns of behavior, interests or activities. A prevalence of 1.85% has been reported among 8-year-old children, and it is considered to be a common disease. Parents raising children with ASD are known to be more stressed, have lower quality of life, and exhibit higher rates of psychiatric symptoms such as depression.

Various studies have been conducted on parental stress from the perspective of parental coping and direct interventions against stress. Coping strategies are divided into problem-focused coping strategies and emotion-focused coping strategies. Parents of children with ASD have been reported to have more symptoms of parenting stress, depressive symptoms, and use aggressive avoidance coping than parents of children with normal development. Another report found that problem-focused coping was associated with lower levels of depression and pessimism, while emotionally-focused coping was associated with higher levels of coping by mothers of children with ASD.

Direct interventions are effective but limited, restoring parenting confidence and slightly improving mental health. The family psychoeducation we tried for parents did not have a significant effect. There are some reports that a cognitive-behavioral therapy (CBT) approach is effective. For example, acceptance and commitment therapy for parents whose children have recently been diagnosed with an ASD has been reported to reduce parental depression. The effectiveness of problem-solving therapy (PST) has also been pointed out. It has been reported that depressive symptoms were alleviated when PST was given to mothers of children diagnosed with ASD, and that negative emotions of parents were reduced and problem-solving skills were improved.

Recently, several attempts have been made to make such interventions via the web. One study reported that a web-based parent training tutorial increased parental knowledge and increased satisfaction, and another study reported that a web-based parent-child physical activity program improved the mental health of parents.

We focused on PST using smartphones as information and communication technology. In fact, CBT using computers and smartphones has been performed, and its usefulness has been demonstrated. This time, we have developed a PST using smartphones, and we are actually conducting it on breast cancer patients and confirming its effectiveness.

This trial uses CBT that combines not only PST but also behavioral activation and assertion training simultaneously, and verifies its effects in a multicenter, randomized, open-label, parallel group comparison trial design.

10:00-11:30 **Symposium 30**

### **Atypical sensory processing and its consequence in autism spectrum disorder — Social cognition, language, and adaptive function**

Moderator 1: Shota Uono (National Center of Neurology and Psychiatry, Kodaira, Japan)

Moderator 2: Sayaka Yoshimura (Kyoto University, Kyoto, Japan)

### **S30-1**

#### **Role of verbal communication: A perspective on speech rate perception**

Ayako Kaneko<sup>1,2</sup>

<sup>1</sup>Department of Rehabilitation for Brain Functions, Research Institute of National Rehabilitation Center for Persons with Disabilities, Tokorozawa, Japan

<sup>2</sup>Japan Society for the Promotion of Science, Tokyo, Japan

#### **ABSTRACT**

Verbal conversations are a part of daily life and allow the successful interactions. Speaking manners differ among ethnic groups that use different languages, dialects, and accents. Furthermore, infants engage in “baby talk”, while individuals with high positions in society tend to talk authoritatively. Manners of speaking allow the recognition of relationships with conversation partners. For example, the culture of a conversation partner can often be inferred from their speech. Individuals with similar manners of speaking tend to be perceived as belonging to the same group, while those with different manners of speaking are placed into different social categories (Giels & Ogay, 2007). Individuals with autism spectrum disorder (ASD) have a different manner of speaking to typically developing (TD) individuals (Hauser et al., 2019). This difference would lead TD individuals and individuals with ASD to perceive each other as different; ASD individuals tend to be perceived as having a communication difficulty. This talk will focus on speech rate because studies have indicated that ASD individuals have a specific form of temporal perception that relates to communication difficulties (Wallace et al., 2020). Speech rate varies from person to person, with some individuals speaking faster than others. Studies conducted on TD individuals have shown that speech rate similarity increases social attractiveness and confidence, as perceived by conversation partners (Buller & Aune, 1992). In addition, TD participants altered their speech rates to match those of their communication partners (Borrie & Liss, 2014). These indicate that the entrainment to the other person can earn the conversation partners' friendly feeling, and in return, the conversation partners' entrainment can be expected. Thus, speech rate matching with a partner helps ensure a successful interaction. However, ASD individuals have tendency to maintain their speech rate regardless of that of their partner (Wynn et al., 2018). Our group investigated the perceptual mechanism underlying this tendency in individuals with ASD. It was hypothesized that ASD individuals have a low sensitivity to speech rate differences or a low likelihood of making partners' impression according to that of the communication partner. The elucidation of particular perceptual manners in ASD would improve our understanding of verbal communication impairments.

Ethical considerations: All procedures of the author's researches performed in studies involving human participants were in accordance with the ethical standards of the ethics committee of the National Rehabilitation Center for Persons with Disabilities and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. All participants gave written informed consent after the study procedures had been fully explained.

COI: The author has no conflict of interest.

### **S30-2**

#### **Variation in temporal processing and multisensory integration and their contribution to non-verbal communication**

Sayaka Kawakami<sup>1</sup>

<sup>1</sup>Research Center for Child Mental Development, Hamamatsu University School of Medicine, Hamamatsu, Japan

## ABSTRACT

Communication requires the sharing of considerable amounts of nonverbal information, in addition to verbal information. This involves the use of facial expressions, gestures, eye contact, distance, language, vocal tone, pauses, and several other nonverbal cues. Among them, information that includes others' emotions is important in several situations, such as decision-making (e.g., whether or not to approach another person).

In most cases, there are multiple modalities used to provide nonverbal information that expresses emotion. For instance, emotional recognition would differ between a case seeing smile while speaking in a happy tone and a case seeing smile while speaking in a depressed tone. It is essential to integrate information from various modality to accurately infer a person's mental state.

We conducted experiments in typically developing and people with a certain degree of autistic traits or autism spectrum disorder (ASD), and investigated whether it was easier to infer the mental state of other individuals in social situations on the basis of multisensory information or information from a single sensory domain (e.g., visual information only) using the Reading the Mind in Films task. We also performed the following two experiments: a test to determine whether the integration of multisensory information is more difficult for individuals with ASD or autistic traits, even in the case of simple information (flashes and beeps) with no social meaning, and a test assessing the perceived accuracy of the temporal proximity of various pieces of information, which may be important for determining whether or not specific pieces of information should be integrated.

We demonstrate that subtle differences in lower-order functions may have some effect on higher-order social cognitive functions, such as inferring the mental states of others. These subtle differences in lower-order functions may not be easy to change, and it remains unknown whether or not they should be adjusted. However, if these subtle differences are causing problems in some circumstances of their daily lives, it may be important to implement appropriate solutions for each circumstance based on how their perceptions and recognitions differ.

**Ethical Approval & Informed Consent:** Our researches, introduced in this presentation, was conducted in accordance with the ethical standards of the Ethics Committee of the Graduate School and Faculty of Medicine at Kyoto University and/or the Ethics Committee of Hamamatsu University School of Medicine, as well as with the 1964 Declaration of Helsinki and its later amendments. All individual participants in the current study either provided written informed consent for those who had not experienced the tasks or provided an opportunity for denial about the secondary use of their data for those who had.

COI: I declare that I have no conflict of interest.

## S30-3

### Autistic traits and speech perception in noise

Yurika Tsuji<sup>1,2</sup>

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<sup>2</sup>Japan Society for the Promotion of Science, Tokyo, Japan

## ABSTRACT

Background noise can exacerbate internalizing problems in autism spectrum disorder (ASD) individuals. I investigated the relationship between sensory abnormalities and internalizing problems in children with and without ASD. Higher sensory abnormality scores were associated with greater suffering due to sensory abnormalities, which served as a predictor of internalizing problems. The parents of the ASD children reported that their children suffered most from background noise, and could not concentrate in class because of the noisy environment. Speech perception difficulties may be related to the suffering caused by background noise. ASD



children may not be able to concentrate because they cannot hear teachers and other children in noisy classrooms. Previous experimental studies have demonstrated that ASD individuals have speech perception difficulties only in the presence of background noise with temporal dips. This indicates that ASD individuals are less able to integrate the auditory information present in the temporal dips of background noise. It has been suggested that these deficits in temporal integration may also affect other modalities, including vision. However, the autistic traits most related to these deficits remain unknown.

Therefore, I investigated the relationship between speech-in-noise test performance and autistic traits in the general population, and found that participants with greater imagination difficulties performed worse on the test. Thus, imagination difficulties in autism may be related to deficits in temporal integration and speech perception in the presence of background noise.

Speech perception difficulties in the presence of noise may influence language development and communication in noisy places, as well as exacerbate internalizing problems in individuals with ASD or autistic traits. It is hoped that these findings will aid measures designed to support ASD individuals with social deficits and internalizing problems.

Ethical consideration: Our researches introduced in this talk were approved by the ethics committee of Kitasato University School of Allied Health Sciences, Ochanomizu University, and Chiba University, and with the 1964 Declaration of Helsinki and its later amendments. All participants gave written informed consent after the study procedures had been fully explained. COI: The author declares no conflict of interest.

#### **S30-4**

#### **Social function and sensory processing in autism spectrum disorder: A brief literature review**

Shota Uono<sup>1</sup>

<sup>1</sup>National Center of Neurology and Psychiatry, Kodaira, Japan

#### **ABSTRACT**

Autism spectrum disorder (ASD) is characterized by persistent deficits in social communication, along with restricted and repetitive behavior. Inattention to social information, such as faces, eye gaze, and biological motion, in the early years of life may impair joint attention, and the development of theory of mind and empathy. However, prospective studies of infants at high risk for ASD have demonstrated clear differences in sensory and motor function, rather than social function, compared with typically developing infants in the first year of life. In recent years, significant attention has been paid to the influence of atypical sensory processing on social functioning. Up to 95% of ASD children have sensory abnormalities, such as hyper- and hypo-sensitivity, across multiple domains that can influence social function through multiple pathways. Sensory abnormalities reduce attention to social stimuli, resulting in limited opportunities for learning social stimuli; moreover, abnormalities such as hypersensitivity may indirectly affect overall brain development (e.g., through sleep disturbances), and atypical sensory processing may make it more difficult to process social stimuli. ASD individuals have an intact or enhanced ability to process simple sensory stimuli, but have difficulty processing complex stimuli and integrating information across sensory modalities. Electrophysiological studies have suggested the neural mechanism underlying these features: the sensory cortices of ASD individuals show greater variation in their responses to the same sensory stimuli than those of typically developing individuals. This might lead to difficulties in forming stable representations, particularly of complex social stimuli. To determine the role of sensory processing in atypical cognitive development, future studies need to investigate differences in fundamental sensory processing between individuals with and without ASD, and how these differences affect symptoms. In this symposium, researchers will present the role of temporal processing and/or multisensory integration on verbal and nonverbal

communication in ASD

Ethical consideration: This presentation is a brief literature review and do not include newly collected data.

COI: The author declared no conflict of interest.

12:30-13:10 **Research Topics 25**

**Functional analysis of autism spectrum disorder risk gene mutations using high-content analysis**

Jun Egawa<sup>1</sup>, Vance P. Lemmon<sup>2</sup>, Toshiyuki Someya<sup>1</sup>

<sup>1</sup>Departments of Psychiatry, School of Medicine, and Graduate School of Medical and Dental Sciences, Niigata University, Niigata, Japan

<sup>2</sup>Miami Project to Cure Paralysis, University of Miami Miller School of Medicine, Miami, USA

**ABSTRACT**

Comprehensive analysis using Next Generation Sequencing has identified single-nucleotide polymorphisms (SNPs) and copy number variations (CNVs) that are reproducibly associated with autism spectrum disorders (ASD). Although functional analysis of individual risk genes has progressed, the overall picture of ASD pathogenesis as portrayed by the vast number of risk genes is unclear. The main reason for this may be the biological heterogeneity at the gene level in the ASD patient population. By focusing on ASD risk genes associated with specific clinical phenotypes (e.g., CNTN5, ASD risk genes associated with auditory abnormalities) and analyzing the function of these genes, discovering common features at any phenotypic level (protein, cell, brain region, and brain circuit) is possible. Using a high-content analysis approach, we are conducting functional analysis at the cellular level. We will identify compounds that ameliorate the effects of these mutations using comprehensive methods such as mixture-based and common structure ranking approaches that can comprehensively examine the effects of more than 400 million compounds. The comprehensive approach, which eliminates bias as much as possible, is expected to identify candidate drugs for ASD that affect the pathogenesis of risk gene mutations that act similarly at the cellular level. All animal experiments were performed following approval from the Animal Resource Center of Niigata University.

The presenters declare no conflicts of interest associated with this presentation.

13:20-14:50 **Symposium 34**

**The Progress of WHO CST in Asian Countries (Part I: Adaptation and Outcomes)**

Moderator 1: Yen-Nan Chiu (Department of Psychiatry, National Taiwan University Hospital, Taiwan)

Moderator 2: Yeni Kim (Department of Neuropsychiatry, Dongguk University School of Medicine, Republic of Korea)

**S34-1**

**The effects of WHO CST on challenging behaviors and adaptive functioning of children with developmental delays: Taiwan experience**

Guan-Jye Seng<sup>1,2</sup>, Yen-Nan Chiu<sup>1,3</sup>, Wen-Che Tsai<sup>1,3</sup>, Hsiang-Yuan Lin<sup>4</sup>, Su-Chen Li<sup>1</sup>, Mei-Ni Hsiao<sup>1,5</sup>, Tseng-Jung Liu<sup>6</sup>, Heng-Man Chen<sup>6,7</sup>, Andy Shih<sup>8</sup>, Ya-Chih Chang<sup>9</sup>, Wei-Tsuen Soong<sup>1,3</sup>

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## ABSTRACT

The World Health Organization Caregiver Skills Training for families of children with developmental delays or disabilities (WHO CST) is a global program designed to improve the caregiving skills and the developmental outcomes of children with developmental delays, such as autism. The program focuses on important caregiver skills, including shared engagement, facilitating communication, dealing with challenging behaviors, building up skills, and the well-being of caregivers. In 2022, CST-Taiwan reported its adaptations, promotion model, and the effectiveness of the program on caregiver and child outcomes. However, the previous study did not measure the improvements in challenging behaviors and adaptive functioning of children with developmental delays.

To investigate the effects of CST-Taiwan on these outcomes, a new study was conducted with an independent sample of 71 children and 70 caregivers (mean age of children [standardized deviation, SD] = 3.69 [1.03] years, mean age of caregivers [SD] = 38.96 [6.94]). Caregiver outcomes, including knowledge, confidence, and empowerment, were assessed, as well as child outcomes, including autistic symptoms (assessed using the Autism Treatment Evaluation Checklist), challenging behaviors (assessed using the Aberrant Behavior Checklist), and adaptive functioning (assessed using the Adaptive Behavior Assessment System-II, ABAS-II). Assessments were conducted before the intervention, after the intervention, and 3 months after the completion of the intervention.

The results showed significant improvement in all caregiver outcomes between the baseline and postintervention assessment (n=52), and this improvement was maintained at the 3-month follow-up (n=40). There was also a significant reduction in autistic symptoms, including speech/language/communication, sociability, sensory/cognitive awareness, and the total score, between the baseline and postintervention assessment (n=54), which was maintained at the follow-up (n=40). In terms of challenging behaviors, significant reduction was only found in lethargy/social withdrawal between the baseline and postintervention assessment, but significant reductions were found in irritability/agitation/crying, lethargy/social withdrawal, hyperactivity/noncompliance, and inappropriate speech between the baseline and follow-up. In terms of adaptive functioning, significant improvement was found in all subscales of the ABAS-II except motor between the baseline and postintervention assessment (n=51), and this improvement was also maintained at the follow-up (n=37).

In conclusion, the WHO CST program was effective in improving caregiver knowledge, confidence, and empowerment, as well as reducing autistic symptoms in participating children, which is consistent with our previous report. We also found that it was effective in improving challenging behaviors and adaptive functioning in children.

Ethical statement: The study was approved by National Taiwan University Hospital Institutional Review Board (#201703123RIND). We obtained written informed consent from the parent or substitute decision maker of each participated child after explaining the present objectives and procedures.

Conflicts of Interest: Andy Shih is employed by Autism Speaks. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### **S34-2**

#### **From adaption to sustainability: The implementation process of the WHO-CST in Hong Kong**

Paul Wai-Ching Wong<sup>1,2</sup>

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#### **ABSTRACT**

The World Health Organization Caregiver Skills Training Program (WHO-CST) was developed to strengthen caregivers' skills in supporting children with developmental delays and the caregivers' well-being. The WHO-CST Hong Kong (HK) was adapted, and pre-pilot tested to support families with children suspected of having developmental delays and autism spectrum disorder and to empower the caregivers to foster their children's learning, social communication, and adaptive behavior. A sequential mixed-methods research methodology was undertaken to examine the adaptation process and initial implementation experiences. The acceptability, feasibility, and perceived benefits of the WHO-CST were assessed using stakeholders' and caregivers' qualitative and caregivers' quantitative pre- and post-intervention feedback. The data included materials generated from (1) three consultation meetings with stakeholders; (2) detailed reviews of the translated and adapted WHO-CST materials by master trainees (n=10) trained by WHO-CST representatives; (3) needs assessment focus group interviews with caregivers (n=15) of children with autism spectrum disorder; and (4) pre- and post-CST program qualitative focus group interviews and quantitative evaluation. Consultation with stakeholders suggested that the program was acceptable for the local community, but the home visit and fidelity components were initially considered to be challenges to the feasibility and sustainability of the program. Caregivers in the needs assessment focus groups gave widely diverse views about the program's uniqueness, length, delivery mode, and the inclusion of videotaping in-home visits. Post-intervention comments by caregivers about the program were mainly positive, while the MTs were critical of the content and length of the training and fidelity process. As one of the first high-income locations to adopt the WHO-CST, the evaluation findings of the WHO-CST-HK indicate that it is feasible and acceptable to implement the program in a metropolitan area where families have busy work schedules and are very conscious of privacy issues. The study results suggest that the WHO-CST program in HK and other high-income countries require scaling up and further evaluation of its implementation in real community settings. This involves systemic and contextual changes to allow task-sharing between professionals and non-specialists at the macro level. Furthermore, technology should be used to support the supervision of non-specialists. In addition, easier access to the WHO-CST materials at the micro level is required to ensure equity, equality, diversity, and inclusion of diversified families of children with developmental delays.

Ethical statement: The study was approved by HKU's Human Research Ethics Committee (EA1901033). All data collection was conducted in accordance with HKU guidelines and regulations.

Conflicts of Interest: The author declares no competing interests.

### **S34-3**

#### **Challenges and issues in translating WHO-CST module to the Malay Language**

Sazlina Kamaralzaman<sup>1</sup>, Mardhiah Mohd Zain<sup>1</sup>, Syahidatul Amirah Zubir<sup>1</sup>, Masne Kadar<sup>1</sup>, Hasnah Toran<sup>2</sup>, Nur Zakiah Mohd Saat<sup>1</sup>, Nor Afifi Razaob<sup>1</sup>, Hanani Harun Rasit<sup>3</sup>, Azlis Sani Md. Jalil<sup>3</sup>, Kartini Ilias<sup>4</sup>, Nil Farakh Sulaiman<sup>5</sup>, Zulkarnain Abdul Wahab<sup>3</sup>, Anis Abdul Razak<sup>3</sup>,

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## ABSTRACT

Access to healthcare services and assistance for parents of children with developmental delay or disabilities was restricted by the COVID-19 pandemic. Therefore, researchers in Malaysia initiated the translation and adaption of the WHO-CST modules from English to Malay, the official language of Malaysia. Even though English is the second language in Malaysia and widely spoken in the community, the Malay translation process proved challenging. The purpose of this paper is to explore the difficulties encountered by researchers when translating modules. This study had received approval from The Research Ethics Committee at Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2022-366). The translation and adaption procedures were adapted from the World Health Organization's Adaptation Implementation Guidelines. The three-phase project consists of (1) the translation and modification of WHO-CST modules, (2) pre-pilot testing, and (3) a pilot study in the central region of West Malaysia. This study employs sequential mixed methods and a formative qualitative approach. It took more than a year to complete Phase 1, which engaged more than fifty experts with diverse backgrounds in healthcare, linguistics, and education, as well as stakeholders from ministries and non-government organisations. Initially, the translation, which started in early 2022, was based on the WHO-CST 3rd version. When WHO launched the final version of the programme, modifications were made, and the modules were successively harmonised. Throughout the translation process, issues included grammatical translation, syntax, context interpretation, and cultural application based on Malaysia's diverse ethnicities and regions. In addition, the Malay language lacked number of English terms and expressions such as 'regulation' and 'shared engagement'. This paper discusses researchers' solutions and language adaptation recommendations for overcoming these obstacles. After various harmonisation procedures, version 4.0 of the WHO-CST Malay language has just been completed and is ready to be used in the pre-pilot testing. Overcoming the challenges not only creates translation groundwork for the WHO-CST programme to all Malay-spoken countries such as Brunei and Indonesia but also provides guidelines to researchers conducting similar English-Malay translation study in healthcare.

Ethical statement: The Research Ethics Committee at Universiti Kebangsaan Malaysia approved this study (UKM PPI/111/8/JEP-2022-366).

Conflicts of Interest: This study is sponsored by Southeast Asian Ministers of Education Organisation (SEAMEO) Regional Centre of Special Educational Needs with registered grant number, NN-2021-013. We thank Autism Speaks and WHO Focal Point for their continuous support.

## S34-4

### CST Adaptation and Implementation in Korea

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## ABSTRACT

According to a survey in Korea, the major difficulties reported by parents of children with developmental disorder and delay were the acceptance of their children's disability and the lack of information or resources related to support for disability. To solve these issue of parents, Autism Society of Korea, one of the major organizations of parents of people with developmental disabilities had introduced WHO CST since 2015.

In 2018, the Pre-Pilot test was conducted for the feasibility and reliability of CST, and the results were reported at the International CST Adaptation and Implementation Technical Consultation Meeting. The CST pilot test for the effectiveness was conducted online to reduce the risk of COVID-19 infection and inconvenience from a distance. In this symposium, the process and results of the CST Pilot test in Korea will be presented.

Evaluation tools for the Pilot test were explored through the CST Pre-Pilot test. The experimental design method was used which compares the pre-non-intervention period and the CST intervention period. Caregivers reported caregiver's knowledge and confidence, caregiver's mental health, child's functioning and disability, child's need for help, child's challenging behavior, and family functioning and professionals observed caregiver's social interaction with child. A total of 17 caregivers participated in the pilot study during the year.

During the CST period, caregivers' knowledge and confidence, caregivers' social interaction, children's self-help and social functions, and family functioning increased significantly compared to the non-CST period. And it was statistically significant to decrease difficulties in children's life activities and social participation. The depression and stress of the caregivers decreased but were not statistically significant and children's challenging behavior showed no difference. CST participants expressed satisfaction and effectiveness, and some of them voluntarily shared their experience of participating in CST to spread it to more caregivers through YouTube of the Autism Society of Korea.

The current results of pilot tests in Korea are limited by the small numbers of research data. Since the CST was first introduced in Korea in 2015, it has taken about 3 years to establish reliability and feasibility of CST, and additional 3 years to prove its effectiveness. In 2022, the Ministry of Health and Welfare of Korea has supported 10 CST sites. It is expected that more data-based research will be conducted through more participation and support in the future.

Ethical statement: The study was approved by Autism Society of Korea Institutional Review Board(#ASKIRB-2017-001, #ASKIRB-2021-S001). In this study, written consent was obtained from the parent or legal guardian of each participating child after explaining the purpose and procedure of the study.

Conflicts of Interest: All authors declare that they have no conflicts of interest.

15:00-16:30 **Symposium 38**

### **The Progress of WHO CST in Asian Countries (Part II: Training of Trainers and the Users' Stress)**

Moderator 1: Yen-Nan Chiu (Department of Psychiatry, National Taiwan University Hospital,

Taiwan)

Moderator 2: Wei-Tsuen Soong (Department of Psychiatry, College of Medicine, National Taiwan University, Taiwan)

### **S38-1**

#### **Experience of Implementing WHO CST Training of Trainers in India**

Disha Zaveri<sup>1</sup>, Sanchita Mahadik<sup>1</sup>, Dr. Koyeli Sengupta<sup>1</sup>

<sup>1</sup>Ummeed Child Development Center, Mumbai, India

#### **ABSTRACT**

In Low-Middle Income countries (LMIC) like India, access to evidence-based intervention for children with developmental disabilities is limited and expensive. Among the available therapies for young children with autism, parent-mediated interventions (PMIs) are effective, feasible, and acceptable in increasing parent engagement and thereby reducing the service gap. Due to the almost 2-year long period of home confinement during Covid -19 pandemic, remotely delivered intervention became the need of the hour. The World Health Organization-Caregivers Skills Training (WHO-CST), an evidence-based, culturally, and linguistically adapted PMI in India was conducted online during this period.

Changes were made in training structure and delivery, the process of competency building and attaining fidelity in the WHO-CST, and a mixed-methods approach was adopted to evaluate the acceptability, feasibility, and efficacy of the program. Remotely delivered training of trainers (TOT) made it possible to reach 27 professionals across 10 different cities in India, who in turn trained 102 caregivers. Quantitative results (n = 27) showed positive changes in trainer fidelity and significant changes in trainers' efficacy in delivering training and coaching caregivers.

Qualitative analysis from interviews revealed that trainers found internet-based TOT convenient and acceptable and in turn, could enhance caregivers' confidence in improving their children's communication skills and behaviours. The Covid-19 pandemic has allowed us to rethink training models and provide a catalyst for further research to deliver better services for children with ASD.

Ethical statement: All participants provided informed consent for their participation in the study as well as sharing of data. Ethical guidelines are followed while conducting studies on behaviour to ensure a safe and secure environment for the participants to protect them from any psychological/physical/emotional harm.

Information of conflict of interest (COI): The authors have no conflicts of interest to disclose.

### **S38-2**

#### **The Adaptation of WHO CST Training of Trainers in Taiwan: A Comparison between pre- and post-COVID-19 Pandemic**

Mei-Ni Hsiao<sup>1,2</sup>, Heng-Man Chen<sup>3,4</sup>, Su-Chen Li<sup>1</sup>, Guan-Jye Seng<sup>1,5</sup>, Yen-Nan Chiu<sup>1,6</sup>, Wen-Che Tsai<sup>1,6</sup>, Hsiang-Yuan Lin<sup>7</sup>, Tseng-Jung Liu<sup>3</sup>, Andy Shih<sup>8</sup>, Ya-Chih Chang<sup>9</sup>, Wei-Tsuen Soong<sup>1,6</sup>

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## ABSTRACT

In order to address the treatment gaps and worldwide needs of children with developmental disorders or delays, the World Health Organization Caregiver Skills Training for families of children with developmental delays or disabilities (WHO CST) program has been developed. WHO CST utilizes a concatenation training model and continuous supervision approach to maintain scalability and sustainability. Through the Training of Trainers (ToT), both knowledge and skills of intervention and coaching will be ensured, starting with the training of Master Trainers (MTs), then moving on to the training of Facilitators (FTs). The ToT consisted of a 5-day workshop with post-ToT supervision; while the Taiwan CST team adapted the workshop into two 2.5-day sessions with more in-person practice among lectures, incorporated three rehearsals in post-ToT supervision, and had two FTs deliver jointly supervised by one MT. Unfortunately, the COVID-19 outbreak in Taiwan impeded one-on-one interaction with child and face-to-face feedback from MT, which were the key elements of ToT to foster active learning of FT. To accommodate such constraints, Taiwan CST team adapted the ToT into predominantly on-line with partial on-site training. COVID-19 pandemic adapted ToT in Taiwan, especially the format preceding post-ToT supervision, included four modules to fit different situations of COVID community alert. In Module 1, FTs were instructed to practice with peers remotely, using the demonstration part of the Facilitator Guide. Module 2 required each FT to do self-record videos of interaction with either an adult or a child, and to gain feedback from one MT. In Module 3, MTs offered real-time coaching for FT-child interaction and individual consultation at local institutions of FTs. Module 4 featured a whole-day live practice workshop of FT-child and FT-peer interaction sessions supervised by MTs. Feedback from FTs and evaluation from MTs suggested that Module 4 was the most beneficial, followed by Module 3, Module 2, and Module 1. Such results indicated that it was difficult to substitute virtual training for actual interaction in the practice component of ToT; further, FT-child interaction was best conducted in groups for not only practicing but also observational learning and mutual discussion.

In conclusion: 1. As the adaptation of ToT for continuing CST promotion in Taiwan was inevitable during COVID-19 pandemic, the flexibly modified modules did compromise the effectiveness of the training to some degree. 2. Although web-based training could benefit imparting intervention knowledge, implementation skills still heavily relied on close in-person FT-child interaction supervised by MTs.

Ethical statement: The study was approved by National Taiwan University Hospital Institutional Review Board (#201703123RIND).

Information of conflict of interest (COI): Andy Shih is employed by Autism Speaks. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## S38-3

### Exploring the Changes of Caregivers' Perception of Parenting Stress after Participation of WHO CST

Heng-Man Chen<sup>1,2</sup>, Mei-Ni Hsiao<sup>3,4</sup>, Chiou-Shiue Ko<sup>2</sup>, Yen-Nan Chiu<sup>3,6</sup>, Wen-Che Tsai<sup>3,6</sup>, Su-Chen Li<sup>3</sup>, Guan-Jye Seng<sup>3,5</sup>, Hsiang-Yuan Lin<sup>7</sup>, Tseng-Jung Liu<sup>1</sup>, Andy Shih<sup>8</sup>, Ya-Chih Chang<sup>9</sup>, Wei-Tsuen Soong<sup>3,6</sup>

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## ABSTRACT

Caregivers of children with developmental delays or disabilities generally reported higher caregiving stress which might be alleviated in various ways, such as enhancing family support, offering caregiver skills training and providing early intervention for their children. However, caregiver skills training programs for families with children with developmental delays have been rather inadequate in Taiwan. World Health Organization Caregiver Skills Training Program for Families of Children with Developmental Delays or Disabilities (WHO CST) has been proved as an effective early intervention model in helping the caregiver participants and their children. Since 2015, The Taiwan CST team has been putting much effort in the promotion of WHO CST. They published the effectiveness of culturally adapted Taiwan CST program as positively affecting caregiver knowledge and confidence and reduced the severity of the children's autistic symptoms last year. However, changes in perceived parenting stress of the caregiver participants were not examined in previous reports.

The aim of this study was to explore the changes of caregivers' perception of parenting stress after participation of WHO CST program.

This study recruited 32 caregivers, 17 from the WHO CST program (experimental group) and 15 from community early intervention sample (control group). Qualitative information was collected through focus groups and quantitative data was collected through a structured questionnaire, Parental Stress Scale Simplified Chinese Scale - Fourth Edition (PSI). Paired t-test and repeated measure analysis of variance (ANOVA) were performed to evaluate the Time x Group differences on the outcome measure.

From qualitative analysis, the CST group reported overt reduction of perceived parenting stress which was attributed to gains of skills of sharing engagement through play and home routines and managing challenging behaviors for facilitating the development of their children, peer interactions in the group, feeling empowered regarding self-care, and recognizing both the limits and potential of their children. ANOVA of pre- and post-test PSI of the two comparison groups revealed significant group difference only in the subscale of parent-child dysfunctional interaction, but not in other subscales and total score.

In conclusion, the WHO CST reduced parenting stress among parents of children with developmental delays or disabilities; however, only parent-child interaction was statistically significant, which was essential for caregivers. Accordingly, we encourage families to participate in WHO CST that can positively impact parent-child interaction and reduce parental pressure.

Ethical statement: The study was approved by National Taiwan Normal University Research Ethics Committee (#202007ES012). We obtained written informed consent from the parent or substitute decision maker of each participated child after explaining the present objectives and procedures.

Information of conflict of interest (COI): Andy Shih is employed by Autism Speaks. The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## S38-4

### The Strategy of Developing Master Trainer Assistant Scheme for Implantation of WHO CST in Taiwan

Yen-Nan Chiu<sup>1,2</sup>, Wen-Che Tsai<sup>1,2</sup>, Su-Chen Li<sup>1</sup>, Mei-Ni Hsiao<sup>1,3</sup>, Guan-Jye Seng<sup>1,4</sup>, Heng-Man Chen<sup>5,6</sup>, Tseng-Jung Liu<sup>5</sup>, Wei-Tsuen Soong<sup>1,2</sup>

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<sup>3</sup>School of Occupational Therapy, College of Medicine, National Taiwan University, Taipei, Taiwan

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<sup>5</sup>Foundation for Autistic Children and Adults in Taiwan, Taipei, Taiwan

<sup>6</sup>Department of Special Education, National Taipei University of Education, Taipei, Taiwan

#### ABSTRACT

**Background:** Taiwan has been participating WHO caregiver skills training program (CST) since 2015, in order to reduce the gap of needs for children with developmental delays and their families. Among four fully trained master trainers (MTs) of Taiwan, only one works full time for CST. Facing the vast demand in promotion of CST, Taiwan CST team started master trainer assistant (MTA) scheme in 2020.

**Objectives:** To evaluate the initial effect of MTA scheme and its impact on MTs and MTAs.

**Study Design & Methods:** This is a qualitative study. Interviews with MTs were conducted, and self-designed questionnaires for MTs and MTAs were collected separately. The expansion of Taiwan CST program, content of core team meetings and the budget were reviewed.

**Results:** Well-trained facilitators (FTs) of CST with good performance and strong motivation may be recruited into the MTA scheme to assist the training of FTs. There are three stages of training and evaluation for MTAs, i.e. MTA3, MTA2 and MTA1, which may be completed in three years under close supervision by MTs. Reimbursement scheme for the participation of MTs and MTAs was designed. In 2022, Taiwan CST program had eighteen collaborative units holding nineteen caregiver groups. Four MTAs were involved in four units separately. All the MTs and MTAs were satisfied with the MTA scheme. Although most MTs and MTAs experienced additional stress from executing MTA scheme, due to time constraints from their jobs and the need to accommodate different situations, while they were positive towards the scheme and took this opportunity as valuable for the development of their professions. MTAs shared the load in training workshop and supervisions for FTs. MTA2 was mature enough to supervise FTs independently. There were overt individual variations among MTAs, and some of them expected to get MT qualification. Difficult issues met by MTs were discussed during CST core team meetings or helped by senior members. Subsidy for the MTAs scheme took a significant portion of the total budget. Group supervision for or after MTA1 stage was suggested.

**Conclusions:** The CST MTA scheme is helpful for the promotion of CST in Taiwan. However, to be more successful, intensive supervision and strong financial support are much needed.

Minor modifications for the scheme may be considered in the future, including the development of group supervision for MTA1s.

**Ethical statement:** National Taiwan University Hospital IRB approval: 201703123RIND

**Information of conflict of interest (COI):** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Exhibition Booth: “Calm-down Space”

Kanako Ueno<sup>1</sup>

<sup>1</sup>Department of Architecture, School of Science and Technology, Meiji University, Kawasaki, Japan



Calm-down Space  
set at a sensory friendly event

### Summary of the exhibition:

Calm-down space, or cool-down space, is a place for people with developmental disabilities or hypersensitivity to escape from environmental stimuli and take rest. In Japan, there is a recommendation regarding the installation of the calm-down space as a facility for people with developmental disabilities in “The guidelines for smooth movement, etc. regarding passenger facilities of public transportation”. In recent years, calm-down spaces have been installed in public facilities such as advanced international airport terminals. Even in facilities that are used on a daily basis, such as supermarkets, movie theaters, and museums, the indoor environment is sometimes adjusted to suppress sensory stimulation, so-called sensory-friendly events, and in such cases, a calm-down space can be temporary installed.

From the standpoint of architectural acoustics, we have been investigating sound environment adjustment methods for people with atypical hearing characteristics. The sound environment is controlled in two ways: sound insulation which blocks the propagation of sound, and sound absorption which suppresses the reflection of sound. Here, materials for sound absorption are easy to introduce into living spaces, and can suppress reflected sounds and reverberations, as well as increase quietness. By applying these control methods, we installed temporary calm-down spaces at sensory-friendly events and introduced assistive spatial settings using sound-absorbing materials.

In this exhibition, we set up a temporary calm-down space using panels and sound absorbing materials. In addition, a small calming box with sound-absorbing materials, attached inside to allow one to place his/her head down and take rest in a quiet environment, is exhibited. These examples of use, as well as other tools using sound-absorbing materials that have been utilized at after-school day care service facilities for children with developmental disabilities, will be introduced in a poster.

## Art Exhibition Theme: “SAISAI~差異才彩”

Ayaka Ishii-Takahashi<sup>1</sup>

<sup>1</sup>Department of Developmental Disorders, National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan

“Nanpujisai(南風時差異)” in cooperation with Diversity on the Arts Project (DOOR)



Illustration by Udon  
for Dokuneko's novel “Insect”

### Summary of the exhibition:

This exhibition is an art installation in cooperation with the Diversity on the Arts Project (DOOR) of Tokyo University of the Arts. It features a documentary film in which students diagnosed with developmental disorders and students from the university discuss the relationship between developmental disorders and art. All the participants in the film took turns interviewing each other and expressed what inspired them on the canvas. Additionally, we will exhibit related works, including a novel titled “Insect” written by one of the participants, a student with Attention Deficit Hyperactivity Disorder (ADHD), as well as illustrations for that novel by another participant, a student also diagnosed with ADHD.

We hope that this exhibition will not only highlight the differences among people but also showcase the creativity that arises from those differences.

This project was designed and produced by a team of six students from DOOR with different backgrounds, including students from the University of the Arts, a psychiatric nurse, and a child psychiatrist. They collaborated under the name “南風時差異 (Nanpujisai).” One of the team members has a hearing impairment, and the team uses an application that automatically transcribes speech during their discussions and in the documentary video.

The communication was sometimes transcribed incorrectly, and the team had to work together to resolve any discrepancies. The team's name, “南風時差異 (Nanpujisai)” comes from a line in the documentary, which was accidentally mistranscribed.

Within our group “Nanpujisai,” which was arbitrarily formed within the DOOR program, there were a number of “gaps” in communication due to many differences among group members, including those in occupation, generation, gender, and hearing ability. While such differences sometimes caused frustration during the production process of this artwork, they also produced moments of endearment.

## **POSTER PRESENTATIONS**

### **PO-1**

#### **Risks of Hyperopia, Myopia, Astigmatism, and Strabismus in Children with Autism Spectrum Disorder: A National Population-Based Cohort Study**

Cheng-Fang Yen<sup>1</sup>

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#### **ABSTRACT**

**Background:** Research has indicated that several ophthalmic diseases (e.g., hyperopia, myopia, astigmatism, and strabismus) are cross-sectionally associated with autism spectrum disorder (ASD) in children. However, further cohort study is needed to longitudinally examine the risks of incidences of these four pediatric ophthalmic diseases in children with ASD. This population-based cohort study investigated the risks of incident hyperopia, myopia, astigmatism, and strabismus in children with ASD compared with those without ASD.

**Ethical consideration:** The study was approved by the Research Ethics Committee of the China Medical University and Hospital (approval number: CMUH108-REC1-142 and date of approval: 25 December 2019).

**Methods:** This study enrolled children in the Taiwan Maternal and Child Health Database who were born at any time from 2004 to 2017. We included 20,688 children with ASD and 2,062,120 matched controls to assess the risks of incident hyperopia, myopia, astigmatism, and strabismus. Cox proportional hazards regression models were implemented to estimate the risks of incident four ophthalmic diseases in children with ASD after adjustments for age, sex, and gestational age at birth. Statistical significance was indicated using adjusted hazard ratios (aHRs) and 95% confidence intervals (CIs).

**Results:** Children with ASD had higher risks of incident hyperopia (aHR = 2.06, 95% CI: 1.92-2.21), astigmatism (aHR = 1.43, 95% CI: 1.37-1.50), and strabismus (aHR = 3.82, 95% CI: 3.53-4.13) compared with the control group. However, children with ASD had a lower risk of incident hyperopia (aHR = 0.96, 95% CI: 0.93-0.99) compared with the control group.

**Conclusions:** Children with ASD had higher risks of incident hyperopia, astigmatism, and strabismus but a lower risk of incident hyperopia compared with those without ASD.

**Conflict of interest:** The authors declare no conflict of interest.

### **PO-2**

#### **Have Children with Attention-Deficit/Hyperactivity Disorder an Increased Risk of Alopecia Areata?**

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#### **ABSTRACT**

**Objective:** Alopecia areata (AA) is an autoimmune disease that causes sudden hair loss.

Although few studies have reported the association between AA and attention-deficit/hyperactivity disorder (ADHD), the impact of methylphenidate (MPH) on AA has not been examined. This study examined whether AA risk is higher in children with ADHD than in those without ADHD as well as the impact of MPH use on AA risk in children with ADHD.

**Ethical consideration:** The study was approved by the Research Ethics Committee of the China Medical University and Hospital (approval number: CMUH108-REC1-142 and date of approval: 25 December 2019).

Method: From the Taiwan Maternal and Child Health Database, we enrolled all 1,750,456 newborns from 2004 to 2017 in Taiwan. Of them, 90,016 children received a diagnosis of ADHD whereas the remaining 1,660,440 did not. To compare AA risk in ADHD and the impact of MPH treatment on it, multiple Cox regression with adjustments for covariates (i.e., age, sex, and psychiatric comorbidities) was performed.

Results: The results indicated that 88 (0.098%) children with ADHD and 1,191 (0.072%) children without ADHD had AA. Nevertheless, after adjustment for the covariates, AA risk was higher in children with ADHD than in those without ADHD (adjusted hazard ratio [aHR]: 1.30, 95% confidence interval [CI]: 1.04–1.64). Our data indicated a considerable reduction in AA risk (aHR: 0.64) among children with ADHD who received MPH than among those who did not receive MPH; however, this difference was nonsignificant, indicated by a wide 95% CI (0.32–1.25).

Conclusions: ADHD and AA may share some underlying mechanisms.

Conflict of interest: The authors declare no conflict of interest.

### **PO-3**

#### **Gender Difference on the Association between Sexting and Self-harm Behavior among Taiwanese Adolescents**

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#### **ABSTRACT**

Sexting, defining as the transmission of sexually explicit content (such as texts, images, or videos) to others through digital technology (such as smartphones or computers), is one of the emerging issues in the Internet era, especially among adolescents. Sexting had been linked with negative mental health, such as depression or anxiety. We tried to identify the gender effect on association between sexting and self-harm behavior among adolescents. A representative sample of total 5190 adolescents (aged  $14.5 \pm 2.0$  years, 49.0% were female) were enrolled into this survey. Demographic data, bully and sexting experiences, and self-harm behaviors were recorded, and two-way interaction linear regression model was used to identify the gender effect on the association between sexting and self-harm behaviors. There were 130 (2.5%) adolescents had all kind of sexting in recent 1 year, while 89 (1.7%) sexting their own picture/video, 53 (1.0%) had experience of non-consensual sexting, 47 (0.9%) sexting under pressure. Sexting one's own information ( $\beta = 3.869$  95% CI [1.918-5.819],  $p < 0.001$ ) and pressured sexting ( $\beta = 7.573$  95% CI [4.839-10.307],  $p < 0.001$ ) showed significantly positive association with self-harm, while male sex had negative association with self-harm ( $\beta = -1.215$  95% CI [-1.477- -0.952],  $p < 0.001$ ). In both genders, having history of sexting one's own information ( $\beta = 1.581$ , 95% CI [0.412-2.751],  $p = 0.008$ , and  $\beta = 4.336$ , 95% CI [2.059-6.612],  $p < 0.001$ , for male and female respectively) and pressured sexting ( $\beta = 4.662$ , 95% CI [2.962-6.361],  $p < 0.001$ , and  $\beta = 7.772$ , 95% CI [4.574-10.969],  $p < 0.001$ , respectively) had significantly higher risk of self-harm behavior, and the risk was higher in female compared to male. Our study highlight the concern about negative mental health impact of sexting on female adolescents.

This study was approved by the Institutional Review Board of National Health Research Institute of Taiwan (EC1100502).

The author had no conflict of interest.

### **PO-4**

#### **Association between language processing speed, inhibition, and behavioral problems, among children with language delay: A longitudinal study from**

## preschool to school age

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### ABSTRACT

**Background and purpose:** Children with language delay (LD) have difficulties with language processing speed, often along with inhibition problems. However, the relationship among language processing speed, inhibition, and behavioral problems, in children with LD were not clear. This study aimed to examine the association between preschool language processing speed and inhibition, and school-aged behavioral problems among children with LD. **Methods:** Thirty-eight children with LD participated in this study at two time points, preschool (T1: Mage (SD)=5.70 (0.40) years) and first-grade (T2: Mage (SD)=6.63 (0.32) years). Their nonverbal intelligence quotient assessed by Wechsler Preschool and Primary Scale of Intelligence Fourth Edition were above 70. Inhibition subtest (Condition 1- Naming) of NEPSY-II was used to assess a child's language processing speed (i.e., Total error (TE)) and inhibition problems (i.e., Self-corrected error (SCE)) at T1. Child Behavior Checklist (CBCL/6-18) was used to measure a child's emotional and behavioral problems (anxiety, depression, somatic complaints, social problems, thought problems, attention problems, rule-breaking behavior, and aggressive behavior) based on parent rating at T2. The severity of problems was indicated by T-score. **Results:** Pearson's correlation analysis showed that attention problems T-score is negatively related to language processing speed ( $r(38) = -.345, p = .036$ ) and positively related to inhibition behaviors ( $r(38) = .472, p = .003$ ). In addition, hierarchical linear regression analysis was used to predict attention problems T-score, initially controlling for age in step 1. In step 2, language processing speed and inhibition behaviors accounted for 18.2% ( $p < .05$ ) increment in the variability; inhibition behaviors was positively associated with attention problems T-score ( $\beta = .491, p = .054$ ), but language processing speed was not ( $\beta = -.073, p = .772$ ). **Conclusions:** Both language processing speed and inhibition, are associated with attention problems in children with LD. Furthermore, preschool impulsivity behaviors may be a predictor for school-aged attention problems among children with LD.

This study is ethical and has no conflicting interests to declare. (IRB code number: CS2-19046)

## PO-5

### **Social Media Influencers: How They Shape Young Peoples' Attitudes towards Mental Health**

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### ABSTRACT

**Background:** Social media "influencers" have enormous reach and sway with youth. With thousands to millions of followers, many researchers have acknowledged the successful role of influencers in commercial marketing and even public health. However, aside from limited ethnographic observations, little is known about how influencers talk about mental health and what impact (if any) this may have on young people. The aim of this doctoral research is to explore the role of social media influencers in young people's knowledge, beliefs and behaviours (e.g. help-seeking) in relation to mental health.

**Methodology:** Two qualitative studies consisting of in-depth interviews with A) youth who actively follow influencers and B) local influencers. Interviews (60-90 min) are conducted online using text (e.g. WhatsApp) or video conferencing (e.g. Zoom). Participants receive \$30-\$50 gift cards as incentive. To date, Study A included 23 youth (aged 16-24) and Study B included 7 influencers (aged 18+) who meet audience, post frequency and advertising criteria.

Findings: Preliminary thematic analysis suggests there are several key tensions in how participants view the role of influencers in discussing mental health online. Further analysis is scheduled, with Study B still actively recruiting. We will present further insights as they come to hand.

Conclusions: Social media and its influencers are here to stay, however their possible future role in shaping youth mental health is underexplored. It is important that clinicians, services and health promotion agencies understand the dynamics of this evolving space to bring youth mental health into the digital future.

Conflicts of interest: None to declare

## **PO-6**

### **Regarding the significance of assessing the sensorial properties in support strategies destined toward improving inappropriate behaviors in children with autism spectrum disorder: Two cases of the analysis of occupational therapists' professional reasoning and their pre- and post-case behavior**

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#### **ABSTRACT**

**Introduction:** Despite the commonly held belief that developmental stage and environmental factors are the primary causes of inappropriate behaviors in children with autism spectrum disorder (ASD), recent years have seen an increased focus on the role of sensorial properties, such as sensation seeking and sensitivity to stimuli, as potential causes. However, it remains challenging to demonstrate the impact of assessing sensory characteristics on the goal-setting and intervention selection for inappropriate behavior in children with ASD.

**Objectives:** The aim of this report is to validate the significance of assessing sensorial properties in the occupational therapy process to improve inappropriate behaviors in children with ASD. Ethical approval was obtained from the research ethics review committee of the relevant medical institution on August 24, 2018.

**Method:** Two ASD case children (from a set of triplets) at a similar developmental stage and living environment but presenting with different sensorial properties were subject to occupational therapy performed at the same time and with the same frequency (once a week for 10 weeks). The occupational therapist's professional reasoning towards each child, and the behavior of the cases before and after, were analyzed and compared accordingly.

**Results and Implications for Practice:** The results showed that the narrative, pragmatic, and ethical reasonings of the occupational therapist were similar in the two cases, whereas the scientific and interactional reasonings of the occupational therapist differed in the two cases. This preliminary categorization of the causes of the inappropriate behavior was crucial, as for case A, it was related to inadequate sensory modulation, while for case B, considerations were related to sensory processing. As a result, these differences affected the goal-setting of objectives and the selection of suitable intervention methods.

**Conclusion:** This paper highlights the importance of assessing sensorial properties along with a well-defined strategy for supporting children with ASD in improving their inappropriate behaviors.

No conflicts of interest with any companies or entities in connection with the presentation of this abstract exist.

## **PO-7**

### **Effectiveness of the group social cognition program on jumping to conclusion**



## **bias in adolescents with autism spectrum disorder**

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### **ABSTRACT**

**Background and Purpose:** Jumping to conclusion (JTC)—a cognitive bias in thinking processes—leads to drawing conclusions based on little information, and could be related to psychosis and paranoia. JTC bias is a cognitive trait widely found in schizophrenia with remission of the expressed symptoms, as well as in autism spectrum disorders (ASD) and even in healthy controls, and has been noted to be associated with a reduced level of functioning in longitudinal follow-up. Although social cognition programs targeting JTC bias in adults with schizophrenia exist, there have been no reports of the effectiveness of interventions targeting JTC bias in adolescents with any of the disorders other than schizophrenia. First, this exploratory study investigated the effects in adolescents with ASD, using a previously reported comprehensive social cognition program that includes interventions for JTC bias. Next, we created a program specifically designed to improve JTC bias, based on the previously reported comprehensive social cognition program, and examined its effectiveness.

**Patients and Methods:** First the group rehabilitation using social cognition and interaction training (SCIT) and then the original program was conducted for 12- to 18-year-old adolescents with ASD. The changes before and after the SCIT intervention, social cognitive functioning tasks, and subjective quality of life (QOL) were examined. The beads task was used to assess JTC bias. Subjective QOL was assessed using a QOL questionnaire. The change before and after SCIT was determined using McNemer's test and Wilcoxon signed-rank test. Differences, with  $p < 0.05$ , were considered statistically significant in all cases. Ethical approval was obtained for the study (Ethics Committee of Tokushima University Hospital). **Results:** In SCIT program group, the proportion of participants with JTC bias decreased significantly before and after SCIT (before: 7/10; after: 1/10;  $p = 0.041$ ), and subjective QOL increased significantly ( $p = 0.014$ ). In original program group, the proportion of participants with JTC bias and subjective QOL did not change significantly before and after SCIT (beads task; before: 2/5; after: 2/5). **Conclusion:** The group social cognition program with a JTC bias approach may improve the JTC bias and increase subjective QOL in adolescents with ASD. Further study is needed in the original program.

**Conflict of Interests Disclosure:** There is no conflict of interests to disclose in relation to this paper.

### **PO-8**

#### **Association of preschool emotional understanding and school-aged behavioral problems among children with language delays**

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### **ABSTRACT**

Longitudinal studies found a negative association between behavioral problems and emotional understanding in samples from the general population. However, it was not clear whether behavioral problems can negatively correlate with emotion comprehension among children with

language delays (LD)—and can also be independently explained unique variance in their understanding of emotions. This study aimed to examine that the emotion understandings were lower in preschoolers with language disorders than in preschoolers with typical language development, and emotional understandings was a predictor for their later behavioral problems. A total of 66 preschoolers aged 4–6 were included in this study, including 38 preschoolers with LD (Mage [SD]=5.80 [0.42] years, boys=28) and 28 preschoolers with typical language development (TLD; Mage (SD)=5.90 (0.27) years, boys=25). No significant differences were noted regarding age, and NVIQ (nonverbal intelligence quotient, i.e., assessed with WPPSI-IV), and sex ratio in both groups ( $PS > .05$ ). The Test of Emotion Comprehension (TEC; Pons and Harris, 2000) was used to test participant's preschool emotional understandings (EU; Time 1). Further, it was employed to calculate correct rates of emotional understanding and three components, i.e., external component, mental component, and reflective component, respectively. Behavioral problems of children with TLD were assessed at Time 2 (i.e., in the first-grader) using the Mandarin-Chinese version of the Child Behavior Checklist for Ages 6–18 years, a component of the Achenbach System of Empirically Based Assessment (CBCL-MC). The independent samples t-tests across both groups revealed that preschoolers with LD had a significantly lower correct rate of total [LD: MEU(SD)=0.35(0.12); TLD: MEU(SD)=0.41(0.12)], external component [LD: Mexternal(SD)=0.62(0.16); TLD: Mexternal(SD)=0.74(0.14)], and mental component [LD: Mmental(SD)=0.22(0.21); TLD: Mmental(SD)=0.33(0.24)] than children with TLD [ $t(64)s = 2.03, 3.08, \text{ and } 2.06, ps = 0.046, 0.003, \text{ and } 0.043$ ]. Two-tailed Spearman's correlations further revealed that emotional understandings were negatively associated with aggressive behaviors and total problems behaviors [ $r(38)s = -0.36 \text{ and } -0.36, ps = 0.029 \text{ and } 0.027$ ]. Mental components were positively associated with activity and school competencies [ $r(38)s = -0.43 \text{ and } -0.35, ps = 0.007 \text{ and } 0.031$ ], and negatively associated with externalizing behaviors [ $r(38) = -0.37, p = 0.024$ ]. To summarize, the ability to understand emotions is lower among preschool children with LD compared to those of the same age with similar nonverbal cognitive abilities. The findings of this research suggest that it may be essential to provide early intervention to help improve the emotional understandings of preschool children with LD.

Conflict of interest: The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. Ethics statement: The Institutional Review Board of the Chung Shan Medical University Hospital approved the study and the parents of all the participants provided informed consent (CS2-19046).

## **PO-9**

### **The Impact of Music Therapy on Speech, Music and Emotion Perception in Children with Hearing Impairment: A Case Series Study**

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#### **ABSTRACT**

Children with hearing impairment have difficulty in tone recognition of speech perception; in music perception, it is difficult to distinguish between tone and pitch; and in emotional perception. Children with normal hearing can foster musicality in daily musical experiences in life, but hearing-impaired children are struggling against the difficulty to understand and enjoy music and found not easy to benefit from the musical experience.

Therefore, the purpose of this study is to explore the effect of music therapy activities in children with hearing impairment on speech, music, and emotional perception. We conducted

music therapy activities and applied the music elements to promote the training of children with hearing impairment on speech, music and emotional perception.

This is a cross-sectional study. 5 school-age children with congenital hearing loss on hearing aids were recruited during the period 2020~2021. We designed once a week, a total of eight thirty minutes music therapy activities sessions including using various musical elements such as rhythm, tone, melody, harmony, loudness, speed etc., with the hand sign, pictures, compose simple music songs and reciting ballad, and the concept of oral motor and respiratory exercises and rhythmic speech cuing in neurological music therapy. The effect of impact is design using pre- and post-test by Praat: doing phonetics by computer, Profile of Music Perception Skills (PROMS), and Wong-Baker Face Pain Rating Scale.

The preliminary results of this study showed that music therapy activities are effective way for children with hearing impairment in the area such as the perception of changes in spoken tone, improved in terms of time pauses and beat points, recognition of music perception and musical emotions.

Conflict of Interest: No conflicts of interest to disclose.

(Approved by the IRB of Fu Jen Catholic University, FJU-IRB No C108055)

## **PO-10**

### **Prevalence and Characteristics of Temper Tantrum in 1-6 year old Children and Impact from Temper Tantrums on Caregivers**

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#### **ABSTRACT**

**Background:** Temper tantrums are common behaviors whereby children show anger or frustration, which are found in 50-80% of children. Although tantrums are classified as age-related behaviors that tend to disappear on their own as children grow older, there are certain tantrum characteristics that might indicate problematic behaviors. These include tantrums more than 15 minutes, more than 3 times a day, violent tantrums which harm self or others, and tantrums in children older than 5. These types of tantrums can be associated with mental health issues in children and can also negatively impact their caregivers' emotional wellbeing.

**Objective:** To study the prevalence and characteristics of temper tantrums in children aged 1-6 years at the daycare center and the kindergarten of Thammasat University, Thailand, and impact of temper tantrums on their caregivers.

**Method:** This cross sectional-descriptive study was conducted in 2021. The main caregivers of participants completed self-reported questionnaires. The questionnaires collected data including demographic information, characteristics of temper tantrums and impact from temper tantrums on caregivers' emotions.

**Results:** Data of 221 children were included for analysis. Mean age of children was 4.4 years  $\pm$  1.2 years. Two hundred and three (91.9%) parents reported that their children had at least one tantrum behavior, of which verbal tantrums were the most common among these children (85.97%). One hundred and twenty-two (60%) children had tantrums which were defined as problematic tantrums; tantrums that exhibit aggressive physical behavior, duration greater than 15 minutes, frequency greater than 5 times per day, or more than 3 days per week. The emotional burden of children's temper tantrums on their parents reveals scores of 23.3 (8.4) and 17.7 (8.3) out of 55 in parents of children with problematic tantrums and without problematic tantrums, respectively, which were statistically significant.

**Conclusion:** Almost all children aged 1-6 years had exhibited some form of tantrum behaviors toward their parents. Problematic temper tantrums significantly impacted their caregivers' emotions. Therefore, children with problematic tantrums and their families should be assisted without allowing the problem to improve on its own.

Conflict of Interest: None

### **PO-11**

#### **The Treatment Effects of Daycare Program on Preschool Children with Autistic Spectrum Disorder – See the Progress and Future**

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#### **ABSTRACT**

The benefits of early intervention for children with autism have been well-established, but relatively few studies have examined the effectiveness of treatment provided in an autistic daycare setting.

In this study, we recruited children who received early intervention in the inpatient daycare ward for autism at National Taiwan University Hospital (NTUH) from 2016 to 2019. We measured their progress using the Chinese Child Developmental Inventory (CCDI), Group Adaptation Function Index (GAFI), and Clinical Global Impression (CGI) both at admission and before discharge. We then compared pre-treatment and post-treatment scores using a paired-t test and examined the correlation between improvement and children's age at admission. We also divided the children into good responder and poor responder groups based on their CGI-improvement scores and used an independent t-test to compare the characteristics of the two groups. We used binomial logistic regression to predict response group based on information at admission.

Our sample included 94 children with autism (80 male, 85.1%), ranging in age from 1 to 6 years. The mean age at admission was 3.07 and that mean inpatient days was 298. At discharge, we found statistically significant improvements in CCDI scores for expressive language, concept comprehension, social comprehension, self-help, personal social, and general development compared to pre-treatment scores. All scores on the GAFI also improved significantly at discharge, including group regulation, learning response, communicating behavior, and social behavior. We also found that age at admission was negatively correlated with the improvement of concept comprehension on the CCDI and learning response on the GAFI, and was positively correlated with the improvement of gross motor on the CCDI. Good responders have longer inpatient days, higher score of concept comprehension on the CCDI, and lower CGI-severity score compared with poor responders.

In conclusion, the early intervention program provided in the inpatient daycare ward for autism at NTUH is a beneficial treatment for preschoolers with autism in multiple domains of development. Future research should focus on specific areas of improvement and explore which populations are most likely to benefit from treatment in this setting.

Ethical considerations: The institutional review board of National Taiwan University Hospital approved the publication of this research (IRB protocol number = 202012259RINB).

Conflict of interest: The authors report no financial relationships with commercial interests.

### **PO-12**

#### **Sleep Disturbance among Adolescents and Youths with Substance Use Disorder Attending a Therapeutic Community in Taiwan**

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#### ABSTRACT

**Objective:** Sleep disturbance is a growing health concern among young people, especially those with substance abuse. Previous studies indicate a bidirectional association between sleep and substance use. Sleep disturbance influences mood regulation, cognitive performance, and may increase the risk of mental illness and substance relapse. We conducted a cross-sectional study to investigate the prevalence of sleep disturbance and its relations with socio-demographic, substance-related factors, family support, life events, and depression among adolescents and youths.

**Method:** Young people aged 15-24 years with the diagnosis of substance use disorder based on the Diagnostic and Statistical Manual, Fifth Edition (DSM-5), attending the therapeutic community at Tsaotun Psychiatric Center between February 2007 and April 2020 were recruited. Participants completed questionnaires on the first day of treatment program, which included socio-demographic data, substance-related characteristics, List of Threatening Experiences, Family APGAR score, Centre for Epidemiologic Studies Depression Scale, Severity of Dependence Scale, and Pittsburgh Sleep Quality Index. Sleep disturbance was defined as a global score of Pittsburgh Sleep Quality Index greater than 5. All participants agreed to participate in this study and provided written informed consent before participation. The study was reviewed and approved by the Institutional Review Board of the Tsaotun Psychiatric Center, Ministry of Health and Welfare, Taiwan. Mann-Whitney U test, chi-square test, and multivariate logistic regression were used to examine the relationship between variables and sleep disturbance.

**Results:** Among 135 young substance users, the 1-month prevalence of sleep disturbance was 47.4 %. Compared to those without sleep disturbance, participants with sleep disturbance had higher frequency of substance use, greater severity of dependence, higher rate of lifetime suicide attempt, more life events in the previous year, and greater severity of depression. In the multivariate logistic regression, the severity of depression was independently associated with sleep disturbance after adjusting for key variables.

**Conclusion:** Sleep disturbance affect about half of adolescents and youths with substance use disorder and warrants early assessment and intervention, especially for those with depression.

**Conflict of interest:** The authors have no conflicts of interest to declare.

**Ethics approval:** This study was reviewed and approved by the Institutional Review Board of Tsaotun Psychiatric Center, Ministry of Health and Welfare, Taiwan (IRB No. 110023).

#### **PO-13**

#### **Efficacy and tolerability of psychostimulants for symptoms of ADHD in preschool children: a systematic review and meta-analysis**

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#### ABSTRACT

**Background** The benefits and safety of medications for attention-deficit hyperactivity disorder (ADHD) in preschool children. remain controversial, and guidelines are inconsistent on which medications are preferred across different age groups. There was no previous meta-analysis investigating efficacy and tolerability of psychostimulants for symptoms of attention-deficit hyperactivity disorder (ADHD) in preschool children.

**Methods:** Electronic databases including PubMed, the Cochrane Library, EMBASE,

ScienceDirect, and ClinicalTrials.gov were searched from inception to March 2022 for eligible randomized controlled trials (RCTs) investigating the therapeutic efficacy of psychostimulants against ADHD symptoms in preschool children (defined as  $\leq 6$  years of age) compared with placebos. A random effects model was employed to calculate the effect size using standardized mean difference (SMD) and odds ratio (OR). The primary outcomes were (1) changes in ADHD symptoms evaluated by any clinically validated rating scale from parents' and teacher's observation, or (2) post-intervention improvements in neuropsychological performance. Secondary outcomes were risks of adverse events.

Results: Meta-analysis of nine eligible trials including 544 preschool children (mean age=4.86 years, female=11.98%, median treatment duration=4.33 weeks) showed efficacy of psychostimulants against global symptoms from observations of parents (Hedges'  $g=0.6152$ ,  $p<0.0001$ ) and teachers (Hedges'  $g=0.6563$ ,  $p=0.0039$ ). Efficacy of psychostimulants was also noted against symptoms of inattention and hyperactivity/impulsivity especially for symptoms of hyperactivity/impulsivity (i.e., main symptoms in preschool children). Moreover, male gender, older age, and longer treatment duration were associated with better therapeutic effectiveness. Regarding adverse events, only risk of poor appetite was higher in the psychostimulant group than in the placebo group (OR: 2.39).

Conclusions: Our results supported effectiveness of psychostimulants against the symptoms of ADHD in preschool children, especially hyperactivity/impulsivity from teachers' observation, with tolerable side effects for most preschool children. More research is warranted to support our findings.

This metanalysis does not need any institutional review board approval.  
I declare no conflict of interest.

## **PO-14** **Autism spectrum disorder features in children with selective mutism**

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### **ABSTRACT**

Background: Selective mutism (SM) is classified as an anxiety disorder and autism spectrum disorder (ASD) is considered as an exclusion criterion for SM in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. However, recent studies have shown that not only social anxiety but also problems related to ASD contribute to SM. In addition, a study examining clinical reports of SM in Japan reported comorbidity of ASD in 10.6% of participants with SM, suggesting that SM and ASD may coexist. Therefore, the purpose of this study was to compare the ASD features of children with SM with those of children with ASD and typical developing (TD).

Methods: We investigated the ASD features of 22 SM, 22 ASD, and 198 TD children aged 6–18. The SM group consisted of children who had experienced states in which they could speak at home but had been unable to speak at school or preschool for more than one month. The ASD group consisted of children who had been pointed out as having ASD or had been diagnosed with ASD. ASD features were assessed using the Autism Spectrum Screening Questionnaire (ASSQ). Participants were asked to answer about how their child was in the lower grade of elementary school, considering that ASD traits appear in early childhood. We compared the total ASSQ scores and the three subcategories of social difficulties, tics/motor/obsessive-compulsive disorder (OCD), and autistic style among the three groups using the Kruskal-Wallis test. This study was approved by the Kyoto University Graduate School and Faculty of Medicine, Ethics Committee (R0018-6).

Result: The scores of social difficulties and tics/motor/OCD in the SM and ASD groups were significantly higher than those in the TD group, without significant differences between the SM

and ASD groups. Autistic style scores in the SM group did not differ from those in the TD group, but those in the ASD group were significantly higher than those in the TD group and marginally significantly higher than those in the SM group. Both the SM and ASD groups had significantly higher total scores than the TD group, with marginally significantly higher scores in the ASD group than in the SM group.

Conclusion: Children with SM were shown to have ASD features partially, suggesting that assessment of ASD features is necessary in children with SM as well, regardless of diagnostic criteria.

Conflicts of interest: All authors have no conflict of interest.

## **PO-15**

### **Associations between media use and executive dysfunction in Thai preschool children**

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#### **ABSTRACT**

**Background:** Executive dysfunction in preschool children is related to school failure during adolescence, adult unemployment, and physical and mental health problems. Screen-based media use is usually one of the essential factors associated with impaired executive function. Although the association between executive functions and screen time has been frequently studied, the contexts of media utilization such as co-viewing and quality of content are rarely explored and mostly are in terms of experimental research. Therefore, this study aims to address the relationship between media use characteristics in the real-world setting and executive functions in Thai preschoolers.

**Methods:** A cross-sectional study was conducted among 114 caregivers of preschool children applying structured questionnaires. The question includes: (1) a sociodemographic information form for children and the caregiver; (2) a parenting style and dimensions questionnaire (PSDQ); (3) a one-week screen time diary, and (4) the behavior rating inventory of executive function-preschool version (BRIEF-P). This study protocol was approved by the Siriraj Institutional Review Board (COA no. 833/2562 (IRB4)). Descriptive analysis, Chi-square tests, and multivariable logistic regression analysis were used to investigate the association between media use, other potential factors, and executive dysfunction.

**Results:** The prevalence of executive dysfunction among Thai children aged 4 to 6, who studied in kindergarten schools in Bangkok, was 22.8%. The characteristics of children's media use that associated with the impaired global executive function was less time for co-viewing with caregivers (Adjusted OR 5.51, 95%CI = 1.56-19.45). Considering each aspect of executive functions, children who spent less co-viewing time with caregivers were at greater risk of impairments of inhibition (Adjusted OR 11.12, 95%CI = 2.69-45.96), emotional control (Adjusted OR 17.87, 95%CI = 1.75-182.18), and plan and organization (Adjusted OR 4.52, 95%CI = 1.32-15.50). Meanwhile, more extended periods of viewing low-quality content were associated with impaired working memory (Adjusted OR 6.97, 95%CI = 1.37-35.40). However, total screen time and setting screen time limits had no association with executive dysfunction.

**Conclusion:** Our findings suggest that co-viewing with caregivers and limiting low-quality content exposure should be promoted to minimize adverse effects on the development of executive functions. Since Thailand has no policy to control the use of children's screen media, our results may be an important message to raise awareness for policymakers in the future.

Conflicts of interest: The authors declare no conflicts of interest.

## **PO-16**

### **Reliability and Validity of the Child Externalizing Disorder Scale - ADHD-RS-5 and DBDRS**

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#### **ABSTRACT**

**Objectives:** Attention-Deficit/Hyperactivity Disorder (ADHD) with aggression, Oppositional Defiant Disorder (ODD) and Conduct Disorder (CD) in childhood can cause serious psychological and social problems if not treated, and affect their long-term prognosis, so appropriate screening and early treatment is necessary.

In this study, we examined the diagnostic performance of the ADHD Rating Scale for DSM-5 (ADHD-RS-5) and the Disruptive Behavior Disorder Rating Scale (DBD-RS) for ADHD, ODD, and CD in a psychiatric outpatient setting, using the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime version for DSM-5 (K-SADS-PL-5) and the child behavior checklist for ages 4–18 (CBCL/4-18) as reference.

**Methods:** Since there is no Japanese version of the DSM-5 version of ADHD-RS, ODD and CD items of ADHD-RS, and DBD-RS, we translated them into the Japanese version. The internal consistency reliability, test-retest reliability, inter-rater reliability, and diagnostic performance of the ADHD-RS and DBD-RS were examined in 135 Japanese psychiatric outpatients, using the best estimate diagnosis of ADHD, ODD, and CD based on the K-SADS-PL-5 as the gold standard diagnosis.

All procedures for this study were approved by the Ethical Review Committees of the University of Fukui School of Medicine (No. 20210009), Tsuruga Nursing University (No. 21004)

**Results:** Test-retest reliability was high for ADHD-RS-5 and DBD-RS. Internal consistency reliability was also high for ADHD-RS and DBD-RS. The internal consistency reliability of the ADHD-RS-5 and DBD-RS was high for both the parent and teacher versions, but only the CD item of the teacher version could not be calculated due to a large number of non-responses. The area under the ROC curve of ADHD items for ADHD-RS-5, ODD and CD items for ADHD-RS, and ADHD, ODD, CD items for DBD-RS were greater than 0.7, indicating criterion related validity.

The correlations between ADHD items for ADHD-RS-5, ODD and CD items for ADHD-RS, and ADHD, ODD, CD items for DBD-RS, and each related item of CBCL were higher than 0.7, and construct validity was confirmed.

**Conclusions:** The ADHD-RS-5, ADHD-RS and DBD-RS, which detect ADHD, ODD, and CD



in children and adolescents, functioned well as screening instruments.

Disclosure Statement of COI: The authors have no financial conflicts of interest to disclose concerning the presentation.

### **PO-17**

#### **The therapeutical effects of computerized cognitive training via the internet in children with ADHD**

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#### **ABSTRACT**

The proximal (neural function and neurocognitive performance) and external effects (behavioral symptoms) of computer-based cognitive training for attention-deficit/hyperactivity disorder (ADHD) were inconclusive. Our main objective was to broadly assess the therapeutic effects of the cognitive training by event-related potential (ERP) on Stop Signal Task, visual/auditory working memory, continuous performance task, and the multiple behavior rating scales (the severity of ADHD symptoms and executive function performance). We recruited thirty-two children with ADHD into the high-training group (five times a week), 32 children with ADHD into the low-training groups (training twice times a week), and 26 elementary school students as the typically developing group (TD). The results showed that the high-training ADHD group had significant improvement in the severity of Inattentive and Hyperactivity/Impulsive symptoms; the improvement also showed in working memory assessed by the CHEXI rating scale. However, the low-training ADHD group did not show significant training effects in any assessment. Meanwhile, the training effect did not show in neural function assessed by ERP and the performance of the neurocognitive function.

The current study showed that computerized cognitive training delivery via the internet had some therapeutic effects. However, there still had a lot of clinical and theoretical arguments for ADHD that need to be concerned.

### **PO-18**

#### **Relationship between autism spectrum characteristics and decision-making style**

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#### **ABSTRACT**

Previous studies on the decision-making styles of people with autism spectrum disorder (ASD) have had inconsistent results. Brosan et al. (2014, 2016) showed that people with ASD have circumspect reasoning bias, while Jansch et al. (2014) and Sahuqullo-Leal et al. (2019) showed that people with ASD have jumping to conclusions bias (JTC). One reason for the discrepancy in these results may be that previous studies focused on whether a person had a diagnosis of

ASD or exceeded the cutoff score of a scale measuring ASD propensity, and did not consider individual differences in the characteristics that constitute ASD. Therefore, this study focused on the characteristics that constitute ASD and examined their influence on decision-making styles.

The participants included 33 university students (male=8, female=25, mean age=19.33±1.65). ASD characteristics were measured using the Autism Quotient (AQ), which measures social skills, attention switching, attention to detail, communication, and imagination. The beads task was used to measure decision-making style. In this task, participants were presented with two physical jars, one containing 85 red beads and 15 blue beads and the other containing 85 blue beads and 15 red beads. Then, the two jars were hidden and the participants were told that one of the jars would be selected at random by the experimenter, who would then draw beads from it upon their request. If participants needed fewer than two beads to reach a conclusion about which jar was being taken out, they were considered to have JTC. Mann-Whitney's U test was conducted with JTC as the independent variable and AQ as the dependent variable for each subfactor. This study was conducted with the approval of the Research Ethics Review Committee of the University of Human Environments.

Mann-Whitney's U test results showed a significant difference between groups in imagination ( $U=166.00$ ,  $p=0.02$ ,  $r=0.42$ ). There was no significant difference in total AQ scores between groups ( $U=1467.00$ ,  $p=0.11$ ,  $r=0.28$ ).

The results of this study indicate that imagination is related to the characteristics that influence decision-making styles in people with ASD. That is, participants with imagination difficulties were more likely to make quick decisions. However, the beads task used in this study has low cognitive load, and further studies are needed to determine whether similar results can be obtained through tasks with high cognitive loads.

Conflict of interest: The authors declare no COI for this study.

## **PO-19**

### **Do Preschool Autism Symptoms Predict School-Aged Emotional Go/No-Go Performances in Children with Autism Spectrum Disorder?**

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#### **ABSTRACT**

**Introduction:** Children with Autism Spectrum Disorder (ASD) tend to have poor emotional regulation. Although previous studies have found a relationship between autism symptoms and emotion regulation, only few have investigated their predictive relationship. Thus, in this study, we aimed to examine whether severity in preschool autism symptoms can predict school-aged emotional regulation in children with ASD. **Method:** Fifty-four preschoolers (male=49) with ASD diagnosis and a nonverbal intelligence quotient >70 participated in this study at two-time points; preschool (T1: Mage(SD)= 5.93y(0.40)) and school age (T2: Mage(SD)= 6.72y(0.34)). The Autism Spectrum Quotient-Children's Version (AQ-Child) was used at T1 as a measure of autism symptoms. The AQ-Child five symptom domains (social skills, attention switching, attention to detail, communication, and imagination) were recorded. An emotional Go/No-Go Task with three emotional conditions: Happy/Neutral, Angry/Neutral, and Fearful/Neutral, was used at T2 as a measure of emotion regulation. The commission error rate in the three emotional No-Go trials (Neutral Go/Happy No-Go, Neutral Go/Angry No-Go, and Neutral Go/Fearful No-Go) were calculated. **Results:** Hierarchical multiple regressions were conducted with the commission error rate in Neutral Go/Happy No-Go, Neutral Go/Angry No-Go, and Neutral Go/Fearful No-Go as the dependent variables, respectively. The age was entered in Step 1 as a control variable while scores of the AQ-Child social skills, attention switching, attention to detail, communication, and imagination, were entered using a stepwise method in Step 2.

Results revealed that the commission error rate in Neutral Go/Happy No-Go trials was significantly predicted by attention to detail ( $\beta = 0.316$ ,  $p = 0.022$ ), while that in Neutral Go/Angry No-Go and Neutral Go/Fearful No-Go were not predicted by any symptom domain ( $ps > 0.05$ ). Repeated measures were carried out on the commission error rates using ANOVA. A significant difference was found ( $F(2, 78) = 4.58$ ,  $p = 0.013$ ); the commission error rate in Neutral Go/Happy No-Go trials was significantly higher than that of Neutral Go/Angry No-Go ( $p = 0.004$ ) and Neutral Go/Fearful No-Go ( $p = 0.004$ ). Conclusion: Severity of preschool autism symptoms, particularly attention to detail, can predict school-aged emotional regulation to happy emotional stimuli in children with ASD. The result of this study highlights the importance of early identification of the types of autism symptoms and their severity in children with ASD.

This study is ethical and has no conflicting interests to declare. (IRB code number: CS2-19046)

## **PO-20**

### **Association Between Autism Symptoms Severity and Facial Emotion Recognition Ability in Children with Autism Spectrum Disorder: A Longitudinal Study from Preschool to School Age**

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#### **ABSTRACT**

**Background/purpose:** Previous research has suggested that children with autism spectrum disorder (ASD) may experience challenges in accurately interpreting emotions through facial expressions. However, it is currently unknown what factors may contribute to this deficit in facial emotion recognition ability in children with ASD from preschool to school age. This study aimed to determine if ASD symptoms in preschool-age children predict their ability to recognize facial emotions at school age. **Methods:** This study included 60 children with ASD (boys=53) with a Full Scale Intelligence Quotient of more than 70. The data were collected at two-time points (T1: Mage (SD)=5.92 (0.40) years; T2: Mage (SD)=6.73 (0.34) years). At preschool age assessment (T1), parents reported on the severity of their children's autism symptoms using the Autism Spectrum Quotient—Children's Version (AQ-Child). The total AQ-Child score and scores in five subdomains (social skills, attention switching, attention to detail, communication, and imagination) were calculated. At school age (T2), participants' emotion recognition abilities were assessed using the NEPSY-II Affect Recognition subtest and total recognition accuracy was recorded. **Results:** The AQ-Child score ( $r [58] = -.268$ ,  $p = .039$ ) and communication score ( $r [58] = -.275$ ,  $p = .034$ ) were negatively associated with emotion recognition, respectively. Additionally, a linear regression analysis showed that children with ASD with higher AQ-Child scores in preschool age tended to have lower emotion recognition abilities at school age ( $B = -.268$ ,  $p = .039$ ). Finally, we used multiple linear regression with a stepwise method to analyze the influence of social skills, attention switching, attention to detail, communication, and imagination on emotion recognition. Communication skills in preschool-age children with ASD were found to be a predictor of their emotion recognition ability at school age ( $B = -.275$ ,  $p = .034$ ). **Conclusions:** The study found that children with ASD who have more severe autism symptoms may have difficulty recognizing facial emotions at school age, particularly with communication problems. Thus, the severity of autism symptoms may be a predictor of facial emotion recognition ability in children with ASD.

This study has been approved by the institutional review board (IRB; code number: CS2-19046) and there are no conflicts of interest.

## **PO-21**

### **The Effect of Experiences of Family Abuse on the Treatment of Anorexia Nervosa**

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#### **ABSTRACT**

Background: Stress is deeply involved in the development and maintenance of eating disorders such as anorexia nervosa, and Sports that require a thin body shape, physical and psychological abuse, and interpersonal stress are risk factors for the development of these disorders.

Psychological factors that predispose to the onset of the disease include perfectionism, introversion, obsessive-compulsive, etc. The evidence suggests that family therapy is the most effective treatment for the treatment of anorexia nervosa in patients under 19 years of age and within 3 years of onset, followed by cognitive-behavioral therapy.

Objects: In the case of neurogenic emaciation in abused children, whether the experience of abuse affects treatment.

Case: We report a 16-year-old girl with anorexia nervosa (AN) who was physically and psychologically by her parents. She has always been very particular about her work, and has a tendency to do things at his own pace and to be uncomfortable unless things are clearly defined as black and white. Furthermore, she felt inferior because he had been compared to her superior younger sister since childhood, and she was unable to talk about her feelings at home. Spending time with the parents at home itself was a strong stress for the child. Therefore, family therapy was initiated to treat the low body weight. Although she had a strong fear of obesity and was hospitalized and tube feeding was administered, he lost weight again after being discharged from the hospital, which did not go well. This is because she refused to eat with her family. She continues to see the patient on an outpatient basis, but her low weight persists due to her strong refusal to participate in family therapy.

Discussion: The patient's experience of family abuse makes family therapy and cognitive-behavioral therapy as treatment for AN difficult. In the future, Various methods of involvement are needed, including treatment for abuse and working with parents using social resources as well.

In order to protect the patient's personal information and privacy, consent was obtained from the family in writing.

The authors have no financial conflicts of interest disclose concerning the study.

## **PO-22**

### **The Associations of Oxytocin Receptor Polymorphism (rs2254298), Right Insula Cortex Functional Connectivity, Sustained Attention, and Symptom Severity in Autism Spectrum Disorder**

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#### **ABSTRACT**

Background: Oxytocin is related to social cognitive functions, such as joint attention, and may be involved in the pathological mechanisms of autism spectrum disorder (ASD). Oxytocin receptor (OXTR) polymorphism (rs2254298) has been identified as being associated with ASD risk and social deficits. However, current research on the effects of rs2254298 on brain functional connectivity and neuropsychological performance in individuals with ASD remains limited.

Methods: The study was granted ethical approval by the Research Ethics Committee of National

Taiwan University Hospital (approval no. 201201006RIB; ClinicalTrials.gov no. NCT01582256). A total of 105 participants diagnosed with ASD and 105 typically developing control (TDC) participants were included in the study. All participants underwent a brain resting state fMRI and neuropsychological evaluation, including Conners' Continuous Performance Test (CPT) and The Cambridge Neuropsychological Test Automated Battery (CANTAB). The Autism Spectrum Quotient (AQ), the Social Responsiveness Scale (SRS), and the Chinese version of the Social Communication Questionnaire (Chinese SCQ) were used to evaluate the severity of ASD symptoms. ICA-based analysis and dual regression were used to assess differences in functional connectivity. Further linear correlations were used to explore the relationship between functional connectivity and clinical measurements.

Results: Among all participants, 50.5% of ASD and 45.7% of TDC carry risk allele (A-carrier). In the ASD group, there was no significant difference in demographic data and clinical measurements, including the AQ, SRS, SCQ, and CPT, between A-carriers and non-A-carriers. In the resting state fMRI, there was a decrease in functional connectivity between the medial visual network and the right insular cortex among A-carriers compared to non-A-carriers ( $p < 0.05$  after age and sex adjustment). Such hypoconnectivity was also significantly associated with longer CPT reaction times ( $r = -0.286$ ,  $p = 0.003$ ) and increased severity of ASD symptoms, as measured by the AQ ( $r = -0.251$ ,  $p = 0.024$ ), SRS ( $r = -0.196$ ,  $p = 0.049$ ), and SCQ ( $r = -0.249$ ,  $p = 0.012$ ).

Conclusion: The OXTR polymorphism (rs2254298) has been associated with aberrant functional connectivity in regions responsible for visual processing and responding to joint attention in ASD. This altered connectivity is also significantly associated with ASD symptom severity. Through the integrative analysis of genetics, neuroimaging, and neuropsychological performance to clinical measures, these findings highlight the role of OXTR in the pathogenesis of ASD.

Conflict of Interest: The authors declare that there is no conflict of interest regarding the presentation of this poster.

## **PO-23**

### **Detection of dyadic motor synchrony based on automated facial action coding of simultaneous video recordings**

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#### **ABSTRACT**

Real-life and second-person neuroscience aim for more substantial ecological validity using a bidirectional interaction design and symmetric measurements to reveal dyadic physiological or neural couplings. We employed a live image relay system that delivered models' real-time performance of positive (smiling) and negative (frowning) dynamic facial expressions or their prerecorded videos to participants. Previous analysis using facial electromyograms (fEMG) of the zygomaticus major (ZM) and corrugator supercilii (CS) muscles revealed enhanced spontaneous facial mimicry when observing live facial expressions (Hsu et al., Sci Rep, 2020). In the present analysis, we used automated Facial Action Coding System (FACS) software, FaceReader 9, to detect dyadic facial movement coupling based on facial video recordings. Participants' action unit (PAU) 12 (lip corner puller) responses significantly correlated with participants' ZM responses ( $r = 0.5052$ ,  $df = 2945$ ,  $p = 1.09491e-190$ ), but not AU4 responses, possibly due to the electrode and fixative tape placement around the eyebrows. PAU12 responses reproduced the interaction effect between emotional and presentation conditions ( $t = 3.523$ ,  $df = 2037$ ,  $p = 0.000436$ ), showing that live conditions enhanced facial mimicry. Cross-correlation between model AU (MAU) 12 and PAU12 amplitude up to 27 lags in steps of 1/30 seconds showed that correlations in live-positive conditions peaked at the 4th lag (0.133 s past

onset,  $r = 0.114$ ), while correlations in video-positive conditions peaked later at the 13th lag (0.433 s past onset,  $r = 0.099$ ). Live conditions elicited a faster and stronger facial mimicry. Dynamic time warping (DTW) between pairs of PAU12 and MAU12 time series showed that the Euclidian distance was significantly larger in the video than in live conditions ( $t = 4.904$ ,  $df = 49.9646$ ,  $p = 1.04e-05$ ). We performed multilevel vector autoregressive regression (mlVAR) models, including MAU12 and PAU6, 12, and 25 (based on principle component analysis) with lags of 5, 10, and 15 frames (informed by the cross-correlation results). mlVAR results suggested a negative-positive-negative temporal pattern of spontaneous facial mimicry, which progressed faster in the live than in the video condition. Our results indicated that automated FACS coding of high-quality facial video recordings is valuable for dyadic synchrony detection.

This study was approved by the ethics committee of the Unit for Advanced Studies of the Human Mind, Kyoto University (approval number: 30-P-7), and performed in accordance with the ethical standards of the committee. The authors declare no conflict of financial or non-financial interests.

#### **PO-24**

#### **Our children then and now: Changes in mental health symptoms among Singaporean children from 2003 to 2017**

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#### **ABSTRACT**

In recent years, there appears to be a rise in the diagnosis and treatment of child mental health disorders in many countries, including Singapore. While this increase may be alarming, it could possibly be attributed to factors such as changes in diagnostic criteria, improved screening in schools and primary health settings, changes in clinical practices, and an increase in help-seeking behaviour. Hence, an examination of community-level trends in mental health symptoms can elucidate how child psychopathology has changed over the years. This study aimed to investigate differences in symptoms of mental health between two cohorts of young Asian children aged six to eight living in Singapore. Child Behaviour Checklist (CBCL) scores from a sample in 2003 (Cohort 1;  $n = 524$ ) were compared to another sample taken in 2017 (Cohort 2;  $n = 655$ ). Cohort 2 had lower externalizing scale scores as compared to Cohort 1, but there were no significant differences in total problem scores or internalizing scale scores. Among the CBCL subscales, Cohort 2 had comparatively lower levels of aggressive behaviour and withdrawn/depressed symptoms, but higher levels of thought problems and somatic complaints as compared to Cohort 1. Our findings suggest that children in Singapore are progressing as well as, or even better than, children 14 years ago on most aspects of mental well-being.

#### **Conflict of Interest**

The above research has been published in the Asian Journal of Psychiatry Lee, C. Y., Goh, T. J., Meaney, M. J., Cai, S., Tan, K.-H., Shek, L. P.-C., Chong, Y.-S., Broekman, B., & Fung, D. S. (2021). Our children then and now: Changes in mental health symptoms among Singaporean children from 2003 to 2017. *Asian Journal of Psychiatry*, 63, 102773. <https://doi.org/10.1016/j.ajp.2021.102773>

#### **PO-25**

#### **The Causal Relationship among Personality, Rolefulness, Self-esteem, and Identity in Japanese High School Students**

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## ABSTRACT

Kato and Suzuki (2018) defined rolefulness as “the continuous sense of role satisfaction in daily lives” and it includes two subfactors, namely, social and internal rolefulness. Previous studies demonstrated a partial causal relationship between personality and rolefulness (Sakakibara & Kato, 2021) and among rolefulness, self-esteem, and identity (Kato & Suzuki, 2021). However, studies that comprehensively investigated the causal relationships among these factors remained lacking. Therefore, the present study intended to examine the causal relationship among personality, rolefulness, self-esteem, and identity in Japanese high school students. It hypothesized that rolefulness mediates the causal effects among personality, self-esteem, and identity.

The study recruited 715 high school students (male: 326, female: 389; first grade: 359, second grade: 356). Data with missing values were omitted, which left 617 data for analysis. The study employed the Ten-Item Personality Inventory (Oshio et al., 2012) for measuring personality, which included five subfactors, namely, extraversion, openness, conscientiousness, agreeableness, and neuroticism. The study used the Rolefulness Scale (Kato & Suzuki, 2018) to measure rolefulness, which included two subfactors, namely, social rolefulness and internal rolefulness. For self-esteem, the study selected four items related to self-esteem from KINDLE (Ravens-Sieberer & Bullinger, 1998a, 1998b). Lastly, the study used the psychosocial identity factor of the Multidimensional Ego Identity Scale (Tani, 2001) as the criteria of identity.

The study examined the validity of the hypothesized model using structural equation modeling. Analysis illustrated that social and internal rolefulness were converged into the latent variable of rolefulness. Agreeableness, conscientiousness, openness, and extraversion increased rolefulness, then facilitated self-esteem and identity in a stepwise manner. In addition, rolefulness directly increased identity. The fit indexes of the model were adequate (CFI = 0.94, RMSEA = 0.075). The result will be useful for enhancing the understanding of the dynamic process of the formation of self-esteem and identity in adolescents. Moreover, evidence can be applicable to future student support and psychology education.

The ethics committee of Kinjo Gakuin University granted ethical approval of the study. The authors declare no conflicts of interest that are directly relevant to the content of this article.

## **PO-26**

### **Case Report: Methylphenidate Improved Chronic Pain in an Adult Patient with Attention Deficit Hyperactivity Disorder**

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## ABSTRACT

Introduction: Chronic pain remains a health problem that is difficult to treat adequately. Its unknown cause and complex comorbidity with other illnesses, including mental disorders, amplify the severity of symptoms, which consequently decreases the quality of life of patients

long term. In our clinical practice, we coincidentally found evidence that methylphenidate (MPH) effectively managed chronic pain in an adult patient with attention deficit hyperactivity disorder (ADHD). The effectiveness of MPH in the treatment of ADHD is well-established; however, its utility in treating pain remains unclear.

Case presentation: We present a rare case of a 43-year-old male patient with 15 years of chronic idiopathic pain symptoms that did not adequately respond to standard pain management, such as acetaminophen, non-opioid analgesics, and muscle relaxers. Pain also persisted after treatments with antidepressants and an epidural block. Furthermore, symptoms worsened following several sessions of modified electroconvulsive therapy. After a thorough assessment at our child and adolescent psychiatric outpatient clinic, we confirmed a diagnosis of adult ADHD with a predominantly inattentive type. Considering this newly established diagnosis, we prescribed osmotic-release oral system (OROS) methylphenidate. Within 1 month of treatment at a dose of 18 mg/day of OROS-MPH, the patient's chronic pain unexpectedly improved dramatically, and the patient no longer experienced pain symptoms. The dosage of OROS-MPH was titrated monthly, reaching 72 mg/day as a maintenance dose, and ADHD symptoms improved after 4 months of treatment. The patient was followed up regularly for 7 years during his OROS-MPH treatment. No adverse effects were reported, including stimulant addiction. He was stable overall and functioned well in his daily activities. His pain never recurred.

Conclusion: This case report suggests that MPH may be potentially effective in treating chronic pain. Further studies are needed to confirm whether MPH improved chronic pain simultaneously with or separately from the improvement in ADHD. Moreover, elucidating the anatomical sites and molecular pharmacological mechanisms related to the action of MPH in pain modulation and perception is essential. Such sites include the descending dopaminergic pain pathway and higher cortical areas. Furthering our understanding will reinforce the justification for treating chronic pain using MPH.

Ethical considerations: this case report did not require institutional review board approval, and we obtained written informed consent from the patient for presenting the case at a scientific conference.

Conflict of interest: the presenter and co-presenters declare no conflict of interest in this case report.

## **PO-27**

### **Association between social support for mothers of patients with eating disorders and mothers' active listening attitude: A cohort study**

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#### **ABSTRACT**

Background: Family members of patients with eating disorders, especially their mothers, experience heavy caregiving burdens associated with supporting the patient. We predict that increasing caregivers' support will have a positive effect on their active listening attitudes, mental health, loneliness, and self-efficacy. This study aimed to investigate whether there were differences in mothers' active listening attitudes, mental health, loneliness, and self-efficacy improvements between mothers who did and did not experience increased perceived social



support.

**Methods:** Participants were mothers of patients with eating disorders. Questionnaires for this cohort study were sent to the participants' homes at three time points (baseline, 9 months, and 18 months). Participants were evaluated for social support using the Japanese version of the Social Provision Scale (SPS-10), listening attitude using the Active Listening Attitude Scale (ALAS), loneliness using the UCLA Loneliness Scale (ULS), self-efficacy using the General Self-Efficacy Scale (GSES), depression symptoms using the Beck Depression Inventory (BDI-II), and psychological distress using the K6. To determine whether participants' status differed between the groups that did and did not experience increased perceived social support, we used an unpaired t-test to compare the two groups. This study was approved by the Ethics Review Committee of Nagoya City University Graduate School of Medical Sciences, Japan (Ref: No 60-17-0001).

**Results:** Participants' mean age was  $55.1 \pm 6.7$  (mean  $\pm$  SD) years. The duration of their children's eating disorders was  $7.6 \pm 5.5$  years. The degree of improvement for each variable (active listening attitude, loneliness, self-efficacy, depressive symptoms, and mental health) was the difference in each score (ALAS, ULS, GSES, BDI-II, and K6) from T1 to T3. The degree of improvement in active listening attitude and loneliness was significantly greater in the improved social support group than in the non-improved social support group ( $p < 0.002$  and  $p < 0.012$ , respectively).

**Conclusions:** Our findings suggest that increasing mothers' perceptions of social support may be associated with improving their active listening attitudes and loneliness.

**Conflict of interest:** FK has received speaker fees from Otsuka Pharmaceutical Co., Ltd. AY has received medical fees from Gifu Hospital, speaker fees from Aichi Education and Sports Foundation, Kyowa Pharmaceutical Industry Co., Ltd., Meiji Seika Pharma Co., Ltd, Mental Care Association Japan, Mochida Pharmaceutical Co., Ltd., Otsuka Pharmaceutical Co., Ltd., Shionogi & Co., Ltd., and other fees from Nagoya City. HS declares no conflicts of interest. MK reports a grant from Novartis Pharma K.K., personal fees from Shionogi & Co., Ltd., and personal fees from Yoshitomi Yakuhin Corporation, outside the submitted work. TA has received lecture fees from Astra Zeneca Co., Ltd., Daiichi Sankyo Co., Ltd., Dainippon-Sumitomo Co., Ltd., Eisai Co., Ltd., Janssen Co., Ltd., Kyowa Co., Ltd., Eli Lilly Japan K.K., MSD K.K., Meiji-Seika Pharma Co., Ltd., Mochida Co., Ltd., Nipro Co., Ltd., Nihon-Zoki Co., Ltd., Otsuka Pharmaceutical Co., Ltd., Pfizer Co., Ltd., Takeda Co., Ltd., and Tsumura Co., Ltd. TA has received research funds from Daiichi Sankyo Co., Ltd., FUJIFILM RI Pharma Co., Ltd., MSD Co., Ltd., Otsuka Co., Ltd., and Shionogi Co., Ltd. NW has received royalties from Sogensha, Medical View, and Advantage Risk Management. TA has received royalties from the Igaku-shoin. TA is the inventor of the pending patents (2019-017498 & 2020-135195).

## **PO-28**

### **Caregivers' attributing credentialism as the etiology of attention-deficit/hyperactivity disorder: Its related factors and associations with caregiver depression and anxiety**

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#### **ABSTRACT**

**Aims:** Attention-deficit/hyperactivity disorder (ADHD) is the most prevalent childhood-onset neurodevelopmental disorder. Although most caregivers attribute their child's ADHD to biological causes, such as genetic causes and neurochemical imbalances, caregiver beliefs about the causes of ADHD may diverge from the biomedical explanatory model. The aim of this

survey study was to examine the proportion of caregivers who attributed credentialism as the etiology of their child's ADHD, the factors related to the attribution, and the associations of attributing credentialism as the etiology of ADHD with caregiver depression and anxiety. Methods: This study had 213 caregivers of children with ADHD as participants. Caregivers were asked whether they considered credentialism as the etiology of their child's ADHD. Caregivers' affiliate stigma was assessed using the Affiliate Stigma Scale. Caregivers rated their child's ADHD and oppositional defiant disorder symptoms on the short Chinese version of the Swanson, Nolan, and Pelham, Version IV Scale. Caregivers' depression and anxiety were assessed using the Beck Depression Inventory and Beck Anxiety Inventory, respectively. Results: In total, 58 (27.2%) caregivers reported that credentialism might be the etiology of their child's ADHD. The results of multivariate logistic regression analysis found that caregivers' affiliate stigma was significantly associated with caregivers' attributing credentialism as the etiology of ADHD. Caregivers who attributed credentialism as the etiology of their child's ADHD had higher levels of depression and anxiety compared with those who did not attribute credentialism as the etiology of ADHD. Conclusion: Caregivers' affiliate stigma was significantly associated with their attribution of credentialism as the etiology of their child's ADHD. Moreover, caregivers' attributing credentialism as the etiology of their child's ADHD was significantly associated with caregivers' depression and anxiety. Health professionals should consider caregivers' attributed etiologies when developing intervention programs for enhancing mental health of caregivers and their children with ADHD.

Institutional Review Board Statement: This study was approved by the Institutional Review Board of Kaohsiung Medical University Hospital (KMUHIRB-SV(II)-20170077) and Chang Gung Medical Foundation (201800740A3).

Conflicts of Interest: The authors have no conflicts of interest to declare.

## **PO-29**

### **Prevalence of Comorbid High-Functioning ASD in Children Initially Diagnosed with ADHD**

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#### **ABSTRACT**

**Introduction:** Intellectually capable school-aged children with autism spectrum disorders (ASD) may not exhibit stereotypical features of ASD. Moreover, symptoms of attention deficit hyperactivity disorder (ADHD) may overshadow the symptoms of ASD. Therefore, distinguishing a child with both ADHD and ASD from a child with ADHD alone is challenging in a clinical setting. The purpose of the present study was to examine the prevalence of ASD in children with ADHD and to examine the cognitive and clinical characteristics of those with both ADHD and ASD compared to those with ADHD alone.

**Methods:** The present study involved a retrospective chart review of the data of the children referred at the psychiatry clinic in a tertiary hospital located in South Korea. The study was approved by the institutional review board of Soonchunhyang University Bucheon Hospital (SCHBC 2021-10-0002). The inclusion criteria of the study were school-aged children from 6 to 12 years who were clinically initially diagnosed with ADHD. Those who were initially diagnosed with ASD and those who had intellectual disability were excluded in this study. Autism Diagnostic Observation Schedule (ADOS-2) and Autism Diagnostic Interview (ADI-R) were performed to confirm the diagnosis of ASD.

**Results:** Among the 103 children (mean age= 7.83±1.72 years, female=15.53%) initially diagnosed with ADHD, 27 (26.21%) children were later co-diagnosed with ASD. While the Full

Scale Intelligent Quotient ( $p=0.485$ ) showed no significant difference between the two groups, Verbal Comprehension Index ( $p=0.004$ ) was significantly lower in the ADHD+ASD group, and Processing Speed Index ( $p=0.025$ ) was significantly higher in the ADHD+ASD group compared to the ADHD group. Continuous Performance Test (CPT) results showed that the omission errors ( $p=0.001$ ), commission errors ( $p=0.000$ ) and response time variability ( $p=0.008$ ) were significantly lower in the ADHD+ASD group than in the ADHD group. Child Behavior Check List (CBCL) results showed that scores of Anxious/depressed ( $p=0.002$ ), Social problems ( $p=0.004$ ), Affective problems ( $p=0.023$ ), Anxiety problems ( $p=0.027$ ), and Obsessive-Compulsive Symptoms ( $p=0.001$ ) were significantly higher in the ADHD+ASD group than in the ADHD group.

Conclusion: Delayed diagnosis of ASD could deteriorate the prognosis of a child with both ASD and ADHD. ADHD children with relatively fair results on the processing speed and CPT that do not reflect the poor daily functions reported by the parents may be distinct characteristics of a comorbid ASD. Higher anxiety and obsessive-compulsive symptoms may also suggest the diagnosis of ASD in children with ADHD.

Conflicts of Interest: The authors have no potential conflicts of interest to disclose.

### **PO-30**

#### **Hopelessness and Its Multidimensionally Related Factors in Children with Attention-Deficit/Hyperactivity Disorder**

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#### **ABSTRACT**

Caring for children with attention deficit hyperactivity disorder (ADHD) is stressful for caregivers. Hopeless feeling of caregivers can compromise caregivers' mental health and impede their ability to take care of their child with ADHD. Identifying factors related to hopelessness in caregivers of CADHD can facilitate the development of intervention programs. The aims of this study were to examine the associations of caregiver factors (demographics), child factors (demographics and ADHD symptoms and oppositional defiance), child-caregiver interaction factor (parenting stress), and child-caregiver-society interaction factor (affiliate stigma) with caregiver hopelessness among caregivers of children with ADHD in Taiwan. In total, 213 caregivers of children with ADHD participated into this study. Caregiver hopelessness was assessed using the Beck Hopelessness Scale. Children's ADHD symptoms and oppositional defiance were assessed using the Parent Form of the Swanson, Nolan, and Pelham Scale, Version IV. Parenting stress was assessed using the Parenting Stress Index, Fourth Edition Short Form (PSI-4-SF). Affiliate stigma was assessed using the Affiliate Stigma Scale. The multidimensional factors related to caregiver hopelessness were examined using hierarchical regression analysis. The result indicated that 26.8% of caregiver had mild hopelessness; 12.2% had moderate hopelessness; and 1.9% had severe hopelessness. The results of hierarchical

regression analysis found that child inattention, parenting stress, and caregiver affiliate stigma were significantly associated with caregiver hopelessness. The results of this study indicated that hopeless feeling was common among caregivers of children with ADHD. Intervention programs for relieving hopeless feeling among caregivers of children with ADHD should take child inattention, and caregiver parenting stress and affiliate stigma into consideration.

This study was approved by the institutional review boards of two university hospitals (201800740A3 and KMUHIRB-SV(II)-20170077).

### **PO-31**

#### **Psychological experiences of mothers of the child with neonatal surgical diseases: Focusing on the relationship with the child until school age**

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#### **ABSTRACT**

**Introduction:** The purpose of this study was to clarify the difficulties for mothers of children with neonatal surgical diseases and to explore the mothers' experiences based on their relationship with their children.

**Methods:** Six mothers of children with biliary atresias, cloacal anuses, and spina bifida in Japan were interviewed about their psychological experiences, such as difficulties, feelings, and behaviors, in relation to their children from infancy to school age.

**Results:** Qualitative analysis using the Modified Grounded Theory Approach (M-GTA) indicated that parent-child conflicts were likely to occur after school age. Mothers feel a sense of responsibility for the health of their children after experiencing the confusion of illness in infancy and the stress of hospitalization. This sense of responsibility facilitates the mothers' care at home, but the burden of care on the mothers could lead to fatigue and overprotective and controlling attitudes toward their children. As the child grows up, they express why surgical scars exist and medical care need. It may increase the child's doubts about their illness and desire for social activities. In the conflict between the child and the mother, the mothers devised some methods. To give an example, they described the disease positively or respected for the child's autonomy. This led to the child's sense of acceptance, but if the mother felt difficulty, it took time to devise new ways to interact with the child. Through nurturing, the mothers showed changes in their perceptions, such as affirmation of the existence of the child and acceptance of the illness.

**Conclusion:** The results of this study indicate the need for psychological support for mothers from infancy to school age. They play a role in conveying the meaning of treatment and the experience of illness to their children, since children have no memory of their neonatal surgeries. There is room for support for mothers' sense of difficulty in the school-age period.

This study was conducted with the approval of the ethics review committees of the affiliated and cooperating institutions.

There are no conflicts of interest (COI) related matters to be disclosed for this paper.

### **PO-32**

#### **A case of psychogenic polydipsia associated with anorexia nervosa**

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#### ABSTRACT

Psychogenic polydipsia, a frequent complication of schizophrenia and other disorders, remains poorly understood. We report a case of a patient with anorexia nervosa who developed compulsive drinking behavior. The patient is a 13-year-old female. She was born as the second child of a pair of siblings, and no developmental abnormalities were observed. In October X-1, She began restricting her diet and exercising excessively after a school friend commented on her weight. She also began consuming greater than 6 liters of water daily, based on information obtained from the internet that suggested water consumption would aid weight loss. She continued to exercise even during school breaks, and her weight continued to decrease. In May X, she was diagnosed with anorexia nervosa and admitted to our hospital. Following admission, we implemented a behavioral therapy regimen in which the patient's scope of activities expanded in correlation with weight gain. Additionally, we imposed limitations on her fluid intake. She was steadily gaining weight, resulting in a reduction of her fears of obesity. However, the patient's obsession with drinking water intensified, and she frequently demanded that the drinking restrictions be lifted. She also began drinking a specific amount of water at a very precise time each time and insisted that the nursing staff pour the exact amount of water. In addition, she licked the glass after each drink. She stated that "Initially, I drank water to lose weight, but now it somehow alleviates my anxiety." An obsessive-compulsive disorder related to polydipsia was suspected and fluvoxamine was prescribed, however, there was no improvement in her symptoms. Subsequently, through psychological testing and another detailed interview of her developmental history, it was determined that she had an autism spectrum disorder. Therefore, her compulsive drinking behavior was thought to have started with a desire to lose weight in anorexia nervosa and later changed to the repetitive behavior of autism spectrum disorder, which was exacerbated by prolonged hospitalization, behavioral restrictions, and other stresses. To alleviate these stresses, we eased her drinking restrictions and allowed her to stay overnight at home. Additionally, the nursing staff refrained from commenting on her repetitive drinking behavior, and instead engaged her in conversation on other topics. Gradually, her repetitive drinking behavior improved and she was able to limit her drinking to 2-3 liters daily. Her weight also increased to a healthy level, and she was discharged from the hospital in December X.

This study was approved by Tokyo Metropolitan Children's Medical Center, Tokyo and the consent of the patient and their families was obtained for this presentation. The subjects' personal information has been carefully considered to maintain her anonymity.

The presenters have no conflicts of interest to disclose concerning the presentation.

#### **PO-33**

#### **Long-term effects of online cognitive behavioral therapy for preschoolers with obsessive-compulsive disorder: A case study**

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#### ABSTRACT

Objective: The prevalence of early onset obsessive-compulsive disorder (OCD) is rather high, and earlier onset symptoms may distress family and patients for long time. Several intervention programs have been developed to treat very young children with OCD, of which, family based cognitive behavioral therapy (FB-CBT) is the most promising one. However, few case reports discuss the effectiveness of FB-CBT in treating preschoolers suffered from OCD in Japan.

Further, because of the COVID-19 pandemic, online treatment is required. This study reports the case of a five-year-old boy with early-onset of OCD. The purpose of this case study was to examine the effectiveness of an online CBT program for a child with OCD.

Methods: The participant was a five-year-old child with OCD and Tourette's Disorder. His OC symptoms were identified as contamination/washing and aggressive/checking. For example, owing to the anxiety over writing a letter incorrectly, he erased and wrote the letter repeatedly. Aggressive obsession involved checking with his teacher or mother whether he had done something "bad." Ten sessions were conducted via the Internet: three sessions with the child and seven with his mother. FB-CBT consisted of 1) psychoeducation about anxiety, OCD, and habituation; 2) monitoring of emotions (for both the child and mother); 3) graded exposure and prevention; 4) a cognitive technique to manage OCD; 5) a relaxation technique; 6) modeling; and 7) scaffolding. Additionally, children's Yale-Brown Obsessive-Compulsive Scale (CY-BOCS), the Strengths and Difficulties Questionnaire (SDQ), and Child Behavior Checklist (CBCL) were measured before and after treatment.

Result: Through the program, the OC symptoms and internalizing and externalizing problems decreased (CY-BOCS: 17 to 13, SDQ difficulties score: 15 to 6, CBCL total score: 58 to 19). The child gradually tried going to the bathroom alone, changed the rituals for cleaning his teeth, and demonstrated an understanding of how to cope with OCD. Ten months later completing the program, a detailed progression was reported by his mother, it supported the long-term efficacy of CBT.

Discussion: As early-onset OCD is difficult to cure and tends to be chronic, intensive intervention, such as exposure therapy, is necessary. As CBT often requires a certain amount of cognitive ability, watching and waiting are often recommended for very young patients. Sometimes, untreated symptoms cause family frustration and deteriorating relationships. Family accommodations must be reinforced to avoid these frustrations. The risks should be considered when contemplating no treatment for OCD in the very early life stage.

Ethical Considerations: This study was approved by the ethics committee for Life Science research ethics and safety at the University of Tokyo. Consent for this research was obtained from the young subject and his mother. This study was partially reported by Nonaka and Shimoyama (2022) at the Annual Meeting of the Japanese Association of Behavioral and Cognitive Therapies.

The author declares no conflicts of interest associated with this presentation.

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## **PO-34**

### **Challenges of Teachers Working with Children with Social, Emotional, and Mental Health Difficulties**

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#### **ABSTRACT**

Background: Social, emotional, and mental health difficulties (SEMH) refer to a wide range of social and emotional difficulties experienced by children and young people, reflecting mental health problems such as attention deficit hyperactivity disorder and attachment disorder.

Although studies have suggested special education teachers' difficulties in relationships and communication aspects of children with SEMH, the core concept of the difficulties in school situations has not been well-investigated.

**Purpose:** We aimed to understand the actual situation of teaching communication and interpersonal relationship formation to children with SEMH, as experienced by teachers in special needs schools, to identify challenges and issues and discuss potentially effective supports.

**Methods:** We conducted semi-structured interviews with 16 special education teachers with experience working with students with SEMH. Written informed consent was obtained after the study's procedures were fully explained to participants. Participants were asked to describe the following aspects regarding their educational practice and experience: a) their emotional experiences in educational practice with the students, b) how they plan and provide guidance and support for challenges in learning interpersonal relationship formation and communication, and c) what measures and devices they use to consider the characteristics of students' disabilities and challenges. These data were analyzed using thematic analysis.

**Results:** We identified four main themes: "difficulties and rewards," "difficult characteristics in children," "role as a professional," and "perspectives for post-graduation." Teachers were working with hesitation and difficulties in teaching and supporting their students, and several teachers implied that their past "failure experiences" were due to their own lack of knowledge and sought training sessions and educational opportunities.

**Discussion:** We found that teachers experienced difficulties in understanding and dealing with 1) children's absences from school and anxiety disorders and 2) the great diversity among children with SEMH, which were obstacles to instructional planning based on adequate disability assessment. Some teachers experienced psychological exhaustion and deadlock on these issues. Support for teachers working with children with SEMH, such as assigning school psychologists or staff to work with students individually, may have important implications.

**Ethical consideration:** This study was conducted with ethical approval from the Research Ethics Committee of the Faculty of Education, Oita University.

**COI:** The authors declared no conflict of interest to disclose.

**Funding:** This work was supported in part by research grants from the Japan Society for the Promotion of Science KAKENHI (20K14050 and 17K14067).

## **PO-35**

### **Taking care of traumatised children and adolescents: Key learnings and perspectives from a 3-year study by the Nice Pediatric Psychotrauma Center created after the 2016 mass terror attack**

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#### **ABSTRACT**

The mass terrorist attack in Nice (France) on the evening of July 14th, 2016 (French National Day), is one of several terrorist attacks in public places across European countries in recent years.

More than 30,000 people were in the area, including many babies, children, and adolescents to celebrate the national day and enjoy the fireworks on the city's renowned Promenade des Anglais.

86 people died in the attack, including 10 children, the youngest four years old.

A dedicated Paediatric Psychotrauma Centre (Nice Paediatric Psychotrauma Centre - NPPC) opened on the 2nd of January 2017 in response to care for children and adolescents who experienced different traumatic events.

This poster reports data on traumatic events and psychiatric diagnoses related to the activity of the NPPC during the three years after the unit inception and provides considerations on health care policies.

This study was reviewed and approved by CERNI No: 2021-064. The participant's legal guardian provided informed consent to participate in this study.

866 children and adolescent outpatients, aged 10±4 years, 51% girls and 49% boys, were followed by the NPPC between January 2017 and December 2019. This study recorded the potentially traumatic events, the DSM-5 primary diagnoses and comorbidities, and the number of new and follow-up consultations per week.

Over these three years, 529 children and adolescents consulted for the terrorist attack and 337 for another type of trauma. In addition, many youngsters impacted by the 2016 mass terrorist attack required follow-up consultations (an average of thirty consultations per week). One of our main findings is that the first request for this mass trauma can still occur three years later (an average of one per week in 2019).

Overall, we report a high rate of Post-Traumatic Stress Disorder (PTSD) (DSM-5; 71%) with a high level of comorbidities (67%), mainly sleep disorders (34.7%) and mood and anxiety disorders (16.2%).

This large retrospective study suggests the significant impact of mass trauma in children and adolescents with a very high level of PTSD associated with a high rate of comorbidities, thus emphasising the need for early interventions and long-term care to prevent the development of PTSD and reduce the severity, chronicity, and consequences of symptoms.

These results evidence the need to create paediatric referral centres without age limitations and develop public health policies to care for and prevent paediatric PTSD after mass terrorist attacks and, more generally, after complex humanitarian emergencies.

## **PO-36**

### **Emergence of psychiatric adverse events during antipsychotic treatment in a naive paediatric population**

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#### **ABSTRACT**

Over the last decades, antipsychotic (AP) prescriptions in the paediatric population have increased worldwide, mainly for second-generation antipsychotics (SGA), quite often off-label. However, despite SGA having an overall better tolerability and safety profile than first-generation AP, adverse events (AEs) are frequently observed, some still poorly documented, including psychiatric ones.

ETAPE was a French multisite, naturalistic and observational study aiming to determine the incidence of AEs potentially attributed to the antipsychotic treatment prescribed for psychotic or non-psychotic symptoms in naive paediatric patients (ClinicalTrial.gov NCT 02007928).

The study protocol was approved by the Ethics Committee 'Sud Méditerranée V' (number 12.082) and the French National Agency for Medicines and Health Products Safety (number 2012-004546-15).



All patients and their parents signed informed consent.

The ETAPE protocol and main results have been published:

doi:10.1016/j.euroneuro.2019.10.006, doi:10.1136/bmjopen-2015-011020

This poster will report recent additional statistical analyses focusing on psychiatric adverse events that have just been performed and published: doi:10.1186/s13034-022-00517-3

One hundred ninety children and adolescents, aged 12±3 years, most of them being males (73.7%), were included in the study and followed over 12 months with quarterly visits at the end of the first quarter (Q1), the second (Q2), the third (Q3), and the fourth (Q4).

Several quantitative and qualitative measures were assessed during the study, including the Pediatric Adverse Events Rating Scale (PAERS), which allows to search and identify AEs systematically.

We classified AEs into two clinical dimensions: (1) psychiatric AEs, including aggressiveness/agitation/challenging behaviours, mood changes, suicidal ideation/behaviour..., and (2) non-psychiatric AEs.

Among these 190 paediatric patients, 63.2% (n=120) presented at least one psychiatric AE, with 55.9% of them potentially attributed to the AP by the investigator. Risperidone and aripiprazole constituted most prescriptions, respectively, 52.5% and 30.83%. The most frequently observed psychiatric AEs were externalised behaviours such as aggressiveness, agitation or challenging behaviours (22.7%), mood changes (18.4%) and suicidal ideas or behaviours (11.8%).

Half of the psychiatric AEs occurred during the first quarter, 49.46% (Q1), compared to 23.79% during Q2, 15.77% during Q3, and 10.96% during Q4.

This additional analysis of ETAPE emphasises that psychiatric AEs are more frequently observed than expected in the paediatric population.

The potential risk of psychiatric AEs should be part of the benefit-risk evaluation when prescribing an AP to paediatric patients.

Psychiatric AEs should be monitored in routine clinical practice, especially during the first quarter after introducing an AP in a drug naïve paediatric population.

Declaration of interest: David Cohen has consulted for or received honoraria from Otsuka, Lundbeck, and Nestlé.

### **PO-37**

#### **Effects of A Parent Training Program on Two Spectra of Children's Behaviour: A Randomised Controlled Study**

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#### **ABSTRACT**

**Introduction:** Evidence shows a stronger impact of the behaviour-based parent training programs on children's externalizing behaviours compared to the internalizing behaviours. The effects of such intervention on these spectra of behaviours have never been compared in the clinical settings in Malaysia. **Methods:** This randomized controlled study determined the effectiveness of the Incredible Years parent training program in improving behaviour in children, and compared the improvement of the externalizing behaviour with that of the internalizing behaviour. Seventy mother-child dyads from three tertiary hospitals with Child and Adolescent Mental Health Service (CAMHS) were divided into the parent training program (PTP) and waitlist control (WLC) groups. Parent training sessions were held for 2-3 hours weekly for 14 weeks. The main outcomes of interest were the scores of total difficulties (SDQ-TDS), externalizing behaviour (SDQ-EXT), and internalizing behaviour (SDQ-INT), using the

Strengths and Difficulties Questionnaire. These were measured at three points: baseline before randomization (T0), two weeks after the intervention (T1), and three months after the intervention (T2). The generalized estimating equation was used for data analysis. The study was approved by the Research Ethics Committee of UPM (JKEUPM-2021-163) and the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (NMRR-19-107-45772). Results: For overall behaviour scores (SDQ-TDS), compared to children of the control group participants at baseline, intervention group participants had 4.2- and 3.5-point lower SDQ-TDS at two weeks post-intervention and three months follow-up, respectively,  $B = -4.20$ , 95% CI [-6.68, -1.72],  $p = .001$ ;  $B = -3.51$ , 95% CI [-6.37, -0.66],  $p = .016$ . Compared to children of the control group participants at baseline, intervention group participants had 1.8- and 1.9-point lower SDQ-EXT at two weeks post-intervention and three months follow-up, respectively,  $B = -1.80$ , 95% CI [-3.09, -0.51],  $p = .006$ ;  $B = -1.891$ , 95% CI [-3.28, -0.50],  $p = .008$ . Compared to children of the control group participants at baseline, intervention group participants had 2.4-point lower SDQ-INT at two weeks,  $B = -2.40$ , 95% CI [-4.21, -0.59],  $p = .009$ . Conclusion: The Incredible Years' parent training program was effective in improving children's behaviour. Children whose mothers participated in the program showed a positive and sustained improvement in their externalizing behaviour compared to those in the waitlist control. However, although the program improved children's internalizing behaviour right after program completion, any further improvement was not observed.

The author certifies that there is no actual or potential conflict of interest for this study.

### **PO-38**

#### **Effects of Parents' COVID-19 Infection Control Burden on their Firstborn Child's Depressive Mood and Bulimic Tendencies in Japan**

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#### **ABSTRACT**

**Introduction:** Have psychological problems such as adolescent and parents' depressive tendencies due to COVID-19 infection improved since the start of the 2020 pandemic? This study examined adults with a first child between middle and high school age. We examined how parent-child eating lifestyle, mealtime communication, and parental prevention burden related to COVID-19 infection affected parent-child mental status, including depressive mood and parents' and children's tendencies to overeat.

**Methods:** This study conducted a web survey using reminiscence ratings and participants consented to the research responded. Four hundred fifty fathers and four hundred fifty-eight mothers living in government-designated cities with more than one million people in Japan and the Kanto metropolitan area in 2022 December responded. The inclusion criteria were that participants' firstborn children should be first-year middle to third senior high school students. In addition, the participants parent should be marriage lasting and have lived with their first child from 2020 to 2022. The measurement tools included the Eating Lifestyle, Mother/Father and Child Mealtime Interaction, COVID-19 Prevention Burden, Bulimia, and Depressive Mood scales. The Depressive Mood and the Overeating Scales assessed the parents and their first child from the parent's perspective.

**Results and Discussion:** The Depressive Mood scores of the parents and their perception of their firstborn child were highest in 2020. They subsequently decreased in 2021 and 2022. Mothers' depressive mood scores were higher than fathers' and decreased significantly over time. Regarding the COVID-19 Prevention Burden subscale scores, prevention burden of infection from shopping and eating were significantly higher for mothers than fathers in 2020. These differences decreased over time. Multiple regression analysis with structural equation modeling suggested that fathers' sensitivity to food and health affected the increasing sense of the burden

of infection prevention. Furthermore, fathers' depressive mood and burden of infection prevention scores influenced each other in 2020. For mothers, eating with family positively affected the first children's bulimia via family ties with a significant trend in 2020. Furthermore, mothers' bulimia scores positively influenced the feeling of burden of infection prevention in 2022.

This study was supported by a grant from the Mayekawa Foundation for the Public Interest. The author has no conflicts of interest to disclose. This study was approved by the Research Ethics Committee of the affiliated university.

### **PO-39**

#### **Association of Affiliate Stigma with Parenting Stress and Its Moderators Among Caregivers of Children with Attention-Deficit/Hyperactivity Disorder**

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#### **ABSTRACT**

Caring for children with attention deficit hyperactivity disorder (CADHD) is stressful for caregivers. Identifying factors related to parenting stress in caregivers of CADHD can facilitate the development of intervention programs. The aims of this study were to examine the associations between affiliate stigma and various domains of parenting stress among caregivers of CADHD and to analyze the moderating effects of demographic characteristics and the symptoms of childhood ADHD and oppositional defiant disorder (ODD) on the associations between affiliate stigma and various domains of parenting stress. In total, 213 caregivers of CADHD participated into this study. Parenting stress was assessed using the Parenting Stress Index, Fourth Edition Short Form (PSI-4-SF). Affiliate stigma was assessed using the Affiliate Stigma Scale. ADHD and ODD symptoms were assessed using the Parent Form of the Swanson, Nolan, and Pelham Scale, Version IV. The results indicated that affiliate stigma was significantly associated with increased parenting stress in all three domains of the PSI-4-SF. ODD symptoms increased the magnitude of parenting stress in two domains of parenting stress among caregivers with affiliate stigma. Intervention programs for relieving parenting stress among caregivers of CADHD should take affiliate stigma and child ODD symptoms into consideration.

Institutional Review Board Statement: This study was approved by the Institutional Review Board of Kaohsiung Medical University Hospital (KMUHIRB-SV(II)-20170077) and Chang Gung Medical Foundation (201800740A3).

Conflicts of Interest: The authors have no conflicts of interest to declare.

### **PO-40**

#### **Relationship between adverse childhood experiences and resilience among mothers**

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#### **ABSTRACT**

Background: Adverse childhood experiences (ACES) are traumatic experiences that occurred

before the age of 18. The ACEs can have impact on lifelong health, mental health an opportunity.

Objective: To study the relationship between adverse childhood experiences (ACEs) and resilience in women who are in their motherhood.

Methods: A cross sectional study was conducted in mothers aged 18 years and over. Participant mothers must have a child between 0 to 15 years of age. Participants completed self-report questionnaires which included; basic information, ACEs, and Connor-Davidson resilience scale (CD-RISC- 25). The study was approved by Lampang Hospital ethical committee No. 7/2562.

Results: Of 519 participants who completed the questionnaires, 150 had ACEs. Mothers with ACEs tended to live separately from their husband (AOR= 0.4, P =.001), had lower income (P = 0.05), and had more insufficient income (P =.001). In addition, these mothers tended to use physical and verbal violence against their husbands (AOR = 2.57, P =0.026 & AOR = 2.04, P=0.008) and tended to have alcoholic and substance abuse husband (AOR = 1.47, P= 0.043 & AOR = 18.8, P=0.023). These mothers had lower resilience scores (68.8 Vs.73.6, P < 0.001). One event of ACEs could decrease 1.5 points of resilience scores (P= 0.019). The least three resilience items that these mothers mentioned were “know where to turn for help,” “like challenges,” and “can handle unpleasant things”

Conclusion: Mothers with ACEs tended to have less life opportunity, more marital problems, and had less resilience in adulthood. Therefore, diagnostic these mothers with any tools that have and have intervention with them might change their resilience attitude and others impacts on their later lives.

The author has nothing to declare for this study.

#### **PO-41**

#### **Parental burden among caregivers of children with diabetes mellitus type 1 in Thailand**

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#### **ABSTRACT**

Objective: To assess the perceived parental burden associated with caring for children with diabetes and the association between parental burden and glycemic control in children with type 1 diabetes mellitus at King Chulalongkorn Memorial Hospital.

Methods: This was a cross-sectional study. Participants were the pairs of parents and children diagnosed with type 1 Diabetes Mellitus aged 8 -18 years old, who were receiving treatment at King Chulalongkorn Memorial Hospital from November 2021 to April 2022. A questionnaire was used to assess demographic data, perceive parental burden associated with diabetes care (by PAID-PR Thai version), parental depression and anxiety (by HADS Thai version), and child's quality of life (by PedsQL4.0 Thai version). Glycemic control (HbA1c) and comorbidity were collected from electronic medical records. The population's demographic data and questionnaire scores were presented in descriptive statistics of percentage, mean, minimum-maximum values, and standard deviation. The inferential statistics were analyzed for parental burden in relation to other psychosocial factors and glycemic control by Independent T-test and multiple logistic regression. This study was approved by the Ethics Committee of the Faculty of Medicine, Chulalongkorn University (COA No. 1435/2021 and IRB No. 756/64).

Results: Mean PAID-PR score (parental burden) was 36.34±22.86 of 100. There was a significant difference in the mean of parental burden score between the good glycemic control group and the poor glycemic control group (t = 2.40, P = 0.020, Cohen's d = 0.74). There was no significant association between other studied factors and glycemic control in this study.

Conclusion: Since our results showed a significant association between parental burden and

glycemic control in children with Diabetes Mellitus type 1, we suggested that the emotional well-being of parents or caregivers of youth with diabetes should be managed properly since these may improve glycemic control of pediatric patients.

We have no conflicts of interest to disclose.

## **PO-42**

### **Sensory characteristics of children at developmental risk due to individual and environmental factors: Comparison of children with and without developmental disabilities and child abuse**

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#### **ABSTRACT**

The study aims to clarify the sensory characteristics of children with and without developmental disabilities and child abuse experience and to obtain suggestions for support.

The subjects were children with developmental disabilities (DD), foster home residents (with developmental disabilities and experience of child abuse, hereafter DA) and children with typical development (TD). Parents or foster care staff reported the frequency of sensory problems using the Short Sensory Profile (SSP). SSP assessed overresponsiveness or underresponsiveness across 38 items with seven subscales: tactile sensitivity, taste/smell sensitivity, movement sensitivity, underresponsive/seeking sensation, auditory filtering, low energy/weak, and visual/auditory sensitivity. We calculated each subscale and total scores. Then we compared three groups by the Kruskal-Wallis test, followed by Bonferroni correction and two group comparisons by Mann-Whitney's U-test. The study was approved by the Kumamoto University Ethics Review Committee (approval number: Ethics No. 1917).

There were 8 (6 males) in the DD group, 10 (4 males) in the DA group and 7 (5 males) in the TD group, with an overall mean age of  $13.16 \pm 1.84$  years. The three-group comparison showed significant differences in taste/smell sensitivity ( $p=0.012$ ), underresponsive/seeking sensation ( $p=0.007$ ), auditory filtering ( $p=0.007$ ) and total SSP ( $p=0.002$ ). In the Bonferroni-correction, the three subscale scores were significantly higher among DD children than TD. We found significant differences in the SSP total items for groups between TD and DD and between DA and DD. The U-test then showed significant differences between DD and TD in taste/smell sensitivity ( $p=.014$ ), underresponsive/seeking sensation ( $p<0.001$ ), auditory filtering ( $p=0.001$ ), low energy/weak ( $p=.029$ ), visual/auditory sensitivity ( $p=.040$ ) and SSP total ( $p<0.001$ ). DD and DA showed significant differences in tactile sensitivity ( $p=0.009$ ) and SSP total ( $p=0.003$ ). DA and TD showed significant differences in movement sensitivity ( $p=0.043$ ).

DD group was characterised by significantly higher taste/olfactory sensitivity, underresponsive/seeking sensation, auditory filtering and SSP total than TD. DA had significantly lower tactile sensitivity than DD and significantly lower movement sensitivity than TD. Overall, DD showed the highest sensory abnormalities among the three groups, whereas DA showed less sensitivity to tactile and movement. The challenge is to examine the factors contributing to these differences and to provide support.

The authors declare no conflict of interest.

### **PO-43**

#### **The Development of a Thai Social Skill Assessment for Children Aged 6 to 12 Years**

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#### **ABSTRACT**

**Background:** Social skills are essential for children's social and emotional development and can greatly impact their psychological well-being. However, there is currently a lack of assessment tools specifically designed for Thai children.

**Aim:** To develop the Thai Social Skill Assessment for Children Aged 6 to 12 Years.

**Method:** The tool was developed through a mixed method methodology with three phases. The first phase was a review of relevant literature to examine the construct of social skill assessment from around the world. The second phase included focus group sessions with parents, teachers, and mental health professionals which aimed to gather feedback on the content in Thai culture. The last phase was a content validity assessment and expert panel evaluations with 16 multidisciplinary experts who have more than 5 years of experience in working with social developmental delayed children from four regions of Thailand.

**Results:** An initial version of the Thai Social Skill Assessment Tool was developed, including 63 items from 4 underlying dimensions of social skills:

1. Intrapersonal abilities, which include self-awareness, self-evaluation, self-control, and self-expression.
2. Interpersonal abilities, which include social sensitivity and expression.
3. Social Learning abilities, which include peer imitation and adaptation to social rules.
4. Motivation to be part of the social group.

The content validity assessment was conducted with 16 experts and resulted in a revised tool with 57 items, including 35 items with an IOC  $\geq 0.8$  and 25 items between 0.5-0.8. Some items were removed due to being culturally inappropriate or redundant.

**Conclusion:** This newly developed tool is the first social skill assessment tool designed specifically for Thai children in expected to be a valid instrument for evaluating their social skills. Its aim is to identify children who may require support in enhancing their social skills, and it provides valuable insights by assessing four underlying dimensions of social skills. These insights can be used to create targeted interventions and programs aimed at promoting their social skills, relationships, and overall well-being.

**Ethical Considerations:** The study was approved by the : Yuwaprasart Waithayopatum Child and Adolescent Psychiatric Hospital Review Board and all ethical principles were strictly followed. Informed consent was obtained from participants and confidentiality was maintained throughout the study.

**Conflict of Interest:** The authors declare no conflict of interest.

### **PO-44**

#### **Facility dog activities at Kanagawa Children's Medical Center**

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## ABSTRACT

Facility dogs are working dogs that are professionally bred to work full-time at a particular facility. They are further selected from pedigrees that have been rigorously screened for temperament and health, and are then teamed with professionally trained medical personnel (handlers) who have also undergone professional training.

In Japan, the first facility dog was introduced at Shizuoka Children's Hospital in January 2010, followed by Kanagawa Children's Medical Center (KCMC) in July 2012. Currently, facility dogs are active at a total of four hospitals, but the number of facility dogs is still small compared to the United States, where they are widely used.

KCMC's facility dog is currently Annie, the second generation. Annie mainly works in animal-assisted therapy, that is performed as a specialized treatment in a medical setting. Examples of animal-assisted therapy for in-patients include accompanying patients during procedures such as blood draws, accompanying patients into the operating room, and accompanying patients during functional training. When an order is received from the medical staff, the handler checks the child's condition in the medical records. Then, Annie actually interacts with the child to build a relationship of trust and help the child gain the courage to undergo the treatment. Positive changes can be seen, such as the child smiling during the treatment or increasing the distance walked during gait training. In many cases, the child's family is also brought peace of mind. Annie's current activities in the child psychiatry ward include weekly visits to the wards and round visits to children in private rooms. In the past, Annie has participated in group occupational therapy, chaperoned group vaccinations, and attended patient case conferences. Some of children in this ward have strong interpersonal tension, reject communication with staff and other children, and withdraw to their rooms. The children's anxiety and nervousness are greatly reduced when they are visited by Annie. However, there is still limited experience in integrating facility dogs into the treatment structure on an ongoing basis. Since many children with eating disorders, emotional and behavioral problem with developmental disorders, and children who have been abused are admitted to this ward, we believe there is much room to explore how facility dogs can be used to facilitate treatment for these patients.

Conflicts of Interest: The authors have no conflicts of interest directly relevant to the content of this article.

## **PO-45**

### **Comparing structural and pragmatic language skills in the conversations of children with and without ADHD**

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## ABSTRACT

**Objectives:** Children with ADHD obtain lower scores than their peers on standardized language measures. Such language difficulties may interfere with their ability to communicate effectively. Here we evaluated the ability of children and adolescents with ADHD, and their peers, to monitor and repair their language during a conversation (social discourse) with a young adult confederate.

**Methods:** Forty-nine 9-14-year-old children with ADHD and 49 typically developing (TD) children, matched for age + 3 months and gender, engaged in a 15-minute conversation with a young adult confederate. The conversation was recorded, transcribed, and coded for structural and pragmatic language use by trained raters blind to the children's age, gender and group membership. The occurrence of structural (e.g., morphosyntactic (grammatical) and semantic mistakes, word disfluencies) and pragmatic (e.g., unrelated responses, disfluent utterances)

errors and corrections were compared across the two groups.

Results: Children and adolescents with ADHD made significantly more structural language errors, specifically morphosyntactic mistakes and word repetitions. The groups did not differ in their efforts to correct their structural language errors. For pragmatic language, children with ADHD were more likely to make unrelated utterances and were less successful in repairing disfluent responses. The young adult confederates made more attempts to keep TD group participants engaged in conversation and rated them as more likable.

Conclusions: We identify subtle differences in the structural and pragmatic language of children with and without ADHD during semi-structured conversations with young adults. The confederates were more engaged in their conversations with the TD children and appeared to experience these interactions more positively. These findings raise questions about the impact of subtle language impairments on the quality of children's conversations and the reactions of others to them. We encourage clinicians to consider the quality of children's language skills in their assessment protocols and intervention plans (as needed).

This study was approved by the Otago Ethics Committee approval (Approval number 00/11/82). There is no conflict of interest (COI).

## **PO-46**

### **Identifying Predictors of Social Problem-Solving Skills in Children with ADHD**

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#### **ABSTRACT**

More than 50% of children with Attention Deficit Hyperactivity Disorder (ADHD) experience social interaction difficulties. The specific cause of these problems is not fully understood. Poorer social problem skills have been identified in those with ADHD and are thought to contribute to their ongoing social problems. Here, we explore the contribution of ADHD symptoms severity, age, verbal working memory, theory of mind (ToM) and language skills to social problem-solving performance. We also assess the relationship between social problem-solving performance and reported social skills.

One hundred and eight 6-12-year-old children (69% boys) diagnosed with DSM-5 ADHD participated in this study. The children completed comprehensive psychological evaluations including assessment of their ADHD symptoms, cognitive functioning and language skills. Parents rated their behavior and social skills.

The children also completed a version of the Interpersonal Negotiation Strategies in which minor social conflict situations were presented via brief video-recordings. The children were asked a series of questions about the interaction followed by a short role-play with the experimenter. The children's answers are being coded to assess their understanding of the problem situation, the participants emotions, their suggestions for how the problem might be resolved and their ability to enact these solutions with the experimenter.

Regression analyses are being employed to assess the extent to which the children's performance is explained by their symptom severity, age, working memory, ToM and language skills. This includes mediation and moderator analyses. Correlation between task performance and parent perception of their children's social skills is also being explored.

Study findings will be presented and discussed with an emphasis on their meaning for managing the social difficulties of children with ADHD.

The research described was reviewed and approved by the Okinawa Institute of Science and Technology Graduate University Human Subjects Research Review Committee. There is no conflict of interest.



## **PO-47**

### **Randomized, double-blind, placebo-controlled trial of oral aripiprazole solution in children and adolescents with Autistic disorder in China**

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#### **ABSTRACT**

We evaluated the efficacy and tolerability of an oral aripiprazole solution for children and adolescents (6–17 years) with autistic disorder (AD) in a randomized, double-blind, placebo-controlled, 8-week trial in China. The oral solution was used in this trial to improve compliance in children. All patients received a flexible dose of the oral aripiprazole solution (1 mg/mL, range, 2 to 15 mg). Among the 111 enrolled patients, 52 (91.2%) in the aripiprazole group and 49 (90.7%) in the placebo group completed the study. The aripiprazole group showed a statistically significant improvement in the parent/caregiver-rated Aberrant Behavior Checklist-Irritability subscale score (ABC-I) compared with the placebo group from week 1 through week 8. The clinician-rated Clinical Global Impression-Improvement (CGI-I) in the aripiprazole group was significantly higher than that in the placebo group from week 1 through week 8. The response rate, which was the percentage of patients with a score of 1 or 2 on the CGI-I, in the aripiprazole group was significantly higher than that in the placebo group at week 8. The aripiprazole group showed a statistically significant improvement in ABC- stereotype behavior and inappropriate speech subscales, compared with the placebo group at week 8. The incidence of treatment emergent adverse events (TEAEs) reported in  $\geq 1$  patient was 86.0% in the aripiprazole group and 75.5% in the placebo group. All TEAEs had mild or moderate severity. No serious AEs or death occurred in this study. The oral aripiprazole solution was effective, well-tolerated, and safe for treatment of children and adolescents with AD. To the best of our knowledge, this is the first randomized, placebo-controlled trial to investigate the acute treatment of AD in children and adolescents using an oral aripiprazole solution.

The study protocol and amendments, informed consent form, and patient recruitment materials were reviewed and approved by the ethics committee at each investigational site. This trial was supported by Otsuka Beijing Research Institute. Drs. Xian and Uki are employees of Otsuka Beijing Research Institute, China and Otsuka Pharmaceutical Co., Ltd., Japan, respectively.

## **PO-48**

### **How have sleep patterns in ADHD children changed during the COVID-19 pandemic?**

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#### **ABSTRACT**

Thailand's lockdown policy and measurements on the COVID-19 pandemic caused many changes in children's daily activities, especially their sleep cycles. This study is the only one in Thailand that focused on and analyzed the sleep problem in attention deficit hyperactivity disorder (ADHD) children comparatively.

**Objective:** To comparatively study and analyze the sleep problem of ADHD children during the COVID-19 pandemic

**Methods:** An observational prospective cohort study was 80 ADHD children aged between 4 and 10 years old at Phichit hospital (0173/2564) before the second COVID-19 outbreak and major lockdown. Data were collected from participants' parents and guardians, provided demographic data, sleep patterns (bedtime, wake-up time, and sleep duration), and also completed the Child's Sleep Habits Questionnaire (Thai version). The statistical analyses were a Chi-square test, independent t-test, causation analysis, diagnostic analysis, and factor cluster analysis.

**Results:** Among 80 ADHD children clearly reported significant sleep and wake-up time delays during the COVID-19 outbreak. There was a statistical significantly increased in the children's bedtime 1-1.5 times, while the extended wake-up time was at least 30-60 minutes later than usual. Their wake-up time was significantly delayed 6 times more than usual (6.14 am- 8.21 am). The sleep duration per day also decreased. Regarding the Child's Sleep Habits Questionnaire, the increase in sleep-breathing disorder was the only module that significantly changed during the COVID-19 outbreak. The factor cluster analysis revealed a significant change in sleep patterns in delayed wake-up time and prolonged sleep duration more than 6 times.

**Conclusion:** During the COVID-19 outbreak, the government enforced many regulations that inevitably affected the children's regular activities, resulting in profound changes in their sleep patterns and problems, as found in this study.

Acknowledging and understanding such effects of the COVID-19 outbreak on sleep patterns will raise awareness and prepare and help all the relevant professionals to manage better, advise and properly care for ADHD children as well as their parents should a similar circumstance occurs again.

#### **Information of conflict of interest (COI)**

The author sincerely declares that there has not been any known competition or any financial interests whatsoever or any personal relationship or any conflict of interest that may have caused any influence on the conduct and report of this study.

## **PO-49**

### **The study of prevalence and factors associated with medication nonadherence in child and adolescent psychiatric department, Nakorn Nayok Hospital, Thailand**

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#### **ABSTRACT**

**Objective:** To determine the prevalence and associated factors of medication nonadherence among children and adolescent psychiatric patients at Nakhon Nayok Hospital, Thailand. **Method:** After an approval from the corresponding ethical committee of Nakhon Nayok Hospital, Thailand (Research Ethics Committees, Number 07/2022), a cross-sectional descriptive study was conducted on 71 children and adolescent psychiatric patients aged 5-18 years old. The sample population were patients at the child and adolescent psychiatry out-patient clinic at Nakhon Nayok Hospital from 1 January 2022 to 31 April 2022. The demographic data and the medication histories of both the parents and their children were collected by direct question, questionnaire and medical record review, which were analysed by descriptive and analytic statistics via Statistical Package for the Social Science (SPSS) version 26.

**Result:** From the analysis of the 71 subjects (63.4% were male) with a mean age of 11.9±4.1 years and lived with their parents. Most of them were studying at the secondary school level (50.7%) and were diagnosed with attention deficit hyperactivity disorder (56.3%). The most prescribed medication was methylphenidate (56.3%) and the average duration of the treatment was 20.0±14.9 months. The prevalence of medication nonadherence (defined as not taking medications for more than one meal/day from 2 days/weeks or more) was 49.3%. The most common causes of medication nonadherence were forgetfulness (28.1%), unattendance to follow up the appointment (21.1%) and a refusal to take medication (15.5%), respectively. Drowsiness (15.5%) and headache (8.4%) were the most and second common side effects among patients. Medication adherence were statistically significant with age 5-10 years (p-value = 0.03) and were resident in domicile, Nakhon Nayok Province, (p-value = 0.03). Factors associated with medication nonadherence were not found in this study.

**Conclusion:** The results should be used to determine risk factors and to develop tools to improve medication adherence in child and adolescent psychiatric patients.

## **PO-50**

### **Mental health of high school teachers in Chiang Mai during the Covid-19 pandemic: Depression, anxiety, stress, and resilience**

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#### **ABSTRACT**

**Background:** Due to the Covid-19 pandemic, people were forced to regulate themselves to the new normal, with uncertainty and fewer coping strategies. Consequently, psychological problems are increased in all ages including children and adolescents. Efforts have been made to promote mental health in children and adolescents. A number of researches focus on youth depression, family function, parenting, and family interventions. School mental health was mentioned in some studies, however, teacher mental health was rarely mentioned. Previous works suggested that teachers are at risk for mental health problems and even more stressful during the pandemic. This work aimed to study the prevalence of depression, anxiety and stress symptoms among Thai secondary school teachers in Chiang Mai during the pandemic.

**Materials and methods:** Online survey was conducted on 171 teachers from 6 schools in Chiang Mai province during July to October 2022. The questionnaire consists of 4 parts; 1) demographic data such as age, gender, teaching subjects, educational degrees, etc., 2) Self-perception about professional knowledge, money and time management, relationships with students/school administrators/colleagues/family members, and stress about the Covid-19 pandemic situation, 3) DASS-21 (Depression, anxiety, stress symptoms), and 4) RI-9 (Resilience). Logistic regression analysis was used to analyze the factors associated with depression, anxiety, stress, and resilience. The study protocol was approved by the Research

Ethics Committee, Faculty of Medicine, Chiang Mai University (Certificate of Ethical Approval no. 213/2022).

Results: Depressive, anxiety and stress symptoms were 34.5%, 42.7%, and 24%, respectively. Most of the teachers (66.1%) reported high level of resilience. Logistic regression analysis revealed that type of school (private/government/university demonstration) is the only factor among demographic data that significantly associated with resilience level ( $p$ -value < 0.05); teachers in private school reported highest level of resilience. Self-perception about professional knowledge, money and time management, relationships with students/school administrators/colleagues/family members, and stress about the Covid-19 pandemic situation were all associated with depression, anxiety, stress, and resilience.

Discussion: Teachers play an important role in child and adolescent mental health as well as parents. This work showed high level of depression, anxiety and stress among Thai teachers working in secondary schools during the Covid-19 pandemic. We recommend that school administrators should pay more attention to teacher mental health. Teacher support about professional knowledge is needed. In addition, programs to promote their interpersonal relationships, ability to manage time/money are suggested to improve teacher resilience.

All authors have no potential conflict of interest. This study had no commercial or financial relationships with any third party.

#### **PO-51**

#### **A multicenter, randomized, double-blind, placebo-controlled phase III study to evaluate the efficacy and safety of EDP125 in children and adolescent patients with attention deficit/hyperactivity disorder (ADHD)**

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#### **ABSTRACT**

**Objective:** The purpose of this study was to assess the efficacy and safety of EDP125, a selective norepinephrine, in children and adolescents patients with attention-deficit/hyperactivity disorder (ADHD).

**Method:** In this multicenter, double-blinded, phase III study, 221 subjects aged between 6 to 18 years who were diagnosed as ADHD were randomized at ratio 3:1 to receive EDP125 0.2mg/kg/d or placebo daily, stratified by age (6-12 vs 12-18). The primary endpoint was the change from baseline in total score of ADHD-IV-parental rating scale at week 8. The secondary endpoints include the change from baseline in regional scores of ADHD-IV-parental rating, effective rate (score reduction  $\geq$  40%), WFIRS-P score, CGI-I score and CGI-S score, etc.

**Results:** A total of 221 patients were randomized to placebo ( $n = 55$ ) and EDP125 ( $n = 166$ ), with average age of 8.5 ( $\pm 1.98$ ) years and 83.5% of male. The results from mixed model repeated measurement (MMRM) showed that after 8 weeks of treatment, the reduction in total score of ADHD-IV-Parental Rating Scale in the EDP125 treatment group was statistically significantly greater than that in the placebo group (Lsmean difference: -7.09 [-15.58 for EDP125 vs -8.5 for placebo];  $p < 0.0001$ ), which confirmed the efficacy of EDP125 in the treatment of ADHD. In addition, the secondary endpoints also support the clinical efficacy of

EDP125. During the study, the incidence of treatment emergent adverse events (TEAE) in the EDP125 treatment group was 74.7%, and that in the placebo group was 63.6%. Most commonly treatment related TEAE was decreased appetite, abdominal pain and vomiting, the incidences of them were 23.5% vs 10.9%, 10.8% vs 14.5%, and 9.0% vs 3.6% for EDP125 group vs placebo group. Only two serious AE occurred, and neither was related to the study drug.

Conclusions: EDP125 This study demonstrated the significant efficacy of EDP125 in the treatment of children and adolescents with ADHD with good safety profile and will be well tolerated.

## **PO-52**

### **Family cognitive remediation therapy for adolescents with anorexia nervosa: a feasibility study**

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#### **ABSTRACT**

**Objectives:** Family therapy is the first-line treatment for adolescents with anorexia nervosa (AN). However, there remains a subset of adolescents who do not respond well to family therapy. Cognitive remediation therapy (CRT) aims to increase patients' cognitive flexibility through practicing new ways of thinking as well as facilitating bigger picture thinking, supporting patients with relevant tasks, and making them aware of their own thinking styles. CRT has been applied in the treatment of both adults and adolescents with AN and could be an adjunct treatment for severe and enduring AN. Regardless of the treatment that is chosen, family is a vital part of adolescent AN treatment. This study aimed to examine the feasibility of CRT for adolescents with AN and their families.

**Methods:** We recruited participants aged 10-18 at Shinshu University Hospital with a clinical diagnosis of AN according to DSM-5 criteria. The participants received a usual treatment that included individual and family sessions, behavioral therapy, nutritional therapy, and psychoeducation. They also received four sessions of CRT with their families. All sessions were provided weekly, and each session lasted for 40 minutes. Feasibility was assessed with regard to dropout rate and adolescents' and families' feedback. The study was approved by the ethics committee of Shinshu University School of Medicine.

**Results:** As of currently, six adolescents and their mothers have participated in this study. The average (standard deviation) age, duration of illness, and standard body weight ratio of adolescents were 14.5 (1.9) years, 23.3 (19.2) months, and 77.5 (6.5)% at pre-CRT, respectively. Dropout rate was low (17%, one case dropped out). Adolescents' and families' feedback were mainly positive. Most participants actively took part in the sessions and could reflect their thinking styles and the relationships between their thinking styles and real-life situations.

**Conclusions:** Family CRT for adolescent AN could be acceptable and feasible. Further research will be required for more formal evaluation of the effects.

There are no conflicts of interest to disclose.

## **PO-53**

### **Societal Attitudes Towards Children with Autism**

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#### ABSTRACT

Background: Autism Spectrum Disorder (ASD) is a neurodevelopmental disorders characterized by a lack of ability in social communication and limited interest and repetitive behavior. The disturbance in the field of social communication and limited interest of peoples with autism will affect their interaction with the social environment. They appear "different", "strange" and disable make them frequently experiencing bullying at a rate of three to four times more often than their non-disabled peers. The increase of biological age in children with ASD means that the demanding of social environment will increase too. However, their capacity to relate with others, ability to regulate emotional is still lacking even retarded. Along with lack of ability to regulate their emotion makes them vulnerable to have mental health disorders and implicate to academic functioning, work, increased risk of violence and suicide and impact on productivity in society life. Students are the next generation of the nation and also have an important role in society. As an agent of change in society, it is important if students have positive attitude even as role model thorough appropriate attitude and behavior toward individuals with autism. This is feasible to achieve with a good understanding of this disorder.

Objective: To find out the Societal Attitudes of Students of the Faculty of Medicine, Hasanuddin University, General Practitioner Education Study Program towards Autism Spectrum Disorder.

Method: We recruited students which passed psychiatry subject curriculum as respondent. Using consecutive sampling until minimum 84 respondents was met. We asked respondent to filling out the Questionnaire of Societal Attitudes Towards Autism by online.

Results: 60% respondents have very positive attitudes, 37% respondents have positive attitude and 3% respondents have a negative attitude.

Conclusion: Most students do not have a stigma of autism. Students show sufficient acceptance but their understanding of autism is still lacking. This shows that education about autism comes from mental health of children and adolescents professionals need to be improved so the public understands on it particularly students become much better.

Conflict of interest: The authors declare no conflict of interest.

This study protocol had been approved by the ethical committee of the Faculty of Medicine, Hasanuddin University with number 717/UN4.6.4.5.31/PP36/2022.

#### **PO-54**

#### **Internalizing and Externalizing subscale performance on SDQ of Kindergarten aged children in Singapore with learning and/or behavioural concerns**

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#### ABSTRACT

Background: Behavioural markers of long-term risk for mental health problems are present from preschool years. The Strengths and Difficulties Questionnaire (SDQ) is widely used for assessing child mental health. Broader internalizing (peer and emotional subscales) and externalizing (hyperactivity and conduct subscales) are useful when comparing interrater agreement and for studying behavioural profiles.

Objectives: We aimed to (i) study the behavioural profiles (internalizing vs externalizing) using SDQ parent (SDQ-P) and teacher (SDQ-T) reports of kindergarten aged children presenting with primary learning and/or behavioural concerns; (ii) study demographic risk factors such as household income, gender and parental education levels; and (iii) understand whether language

or literacy difficulties affect behaviour.

Methods: 226 kindergarten aged children (Mean age = 5.42, SD = 0.62), who were referred to the Learning and Behaviour (LB) clinic of the Department of Child Development at KK Women's and Children's Hospital in Singapore, had their data retrospectively collected between 2016 and 2018. Data were collected from either Ages & Stages Questionnaires, Third Edition (ASQ®-3) or the Developmental Profile 3 (DP™-3), and also clinically developed screeners for language, literacy, numeracy, along with SDQ-P and SDQ-T. Pearson's correlation was conducted to assess interrater agreements, and independent t-tests were performed to understand the relationships between behavioural profiles and factors that influence SDQ scores.

Results: Ninety-four (94) out of 188 (50%) SDQ-P and 125 out of 184 (67.9%) of SDQ-T scores were borderline to abnormal, and a higher proportion presented with elevated externalizing versus internalizing scores. Significant positive interrater agreements were found for both externalizing ( $r = 0.38, p < .001$ ) and internalizing ( $r = 0.37, p < .001$ ) symptoms. SDQ total difficulties scores were higher in boys and in children whose parents had <12 years of formal education. SDQ externalizing scores were higher in boys. SDQ internalizing scores were also higher in children whose parents had <12 years of formal education and who were within a lower monthly household income bracket (<\$3000/month).

Children with primary literacy concerns had elevated SDQ-T conduct ( $p < .001$ ) and peer problems ( $p = 0.014$ ) scores as compared to those without.

Conclusion: More than half the children in our cohort presented with abnormal SDQ scores, with good interrater agreement for both internalizing and externalizing symptoms. Lower parental education levels, lower monthly household income and male gender were associated with higher scores. Literacy difficulties affected conduct and classroom peer scores. Further longitudinal assessment will be helpful.

Ethics board and approvals: This study was approved by the SingHealth Centralized Institutional Review Board (SingHealth-CIRB, 2017/2621)

## **PO-55**

### **Predicting Effect of Mastery Motivation on ADHD Symptoms of Children and Adolescent with ADHD**

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#### **ABSTRACT**

Motivation is correlated with psychopathology of ADHD, but little research has examined this relation from multifaceted mastery motivation perspectives. The study aims to explore whether mastery motivation (a psychological construct that stimulates the child's attempts to master a task; Morgan et al., 2017) is a predictor of ADHD symptoms in school-age children and adolescents with ADHD. Before this research is conducted, approval was received from an institutional review board and participants' informed consents were acquired. It involved 88 children and adolescents with their parents (75 boys, 13 girls; mean age, 10.74 years) in Taiwan. In this study, six indicators of children's mastery motivation, namely, Object/Cognitive Persistence, Gross Motor Persistence, Social Persistence with Adults, Social Persistence with Children, Mastery Pleasure, and Negative Reactions to Challenge, were rated by children on the Dimensions of Mastery Questionnaire (DMQ 18; Morgan et al., 2020). The children's ADHD symptoms were also rated by their parents on the Attention-Deficit/Hyperactivity Disorder Test (Gilliam, 1995). Regression analysis reveals that six indicators of mastery motivation made borderline significant contributions to the children with ADHD symptoms ( $\Delta R^2 = .13; F(6, 81) = 1.98, p = .079$ ). In the finding, the indicator of Social Persistence with Children was a

significant negative predictor of ADHD symptoms ( $\beta = -.34, p = .04$ ). Negative Reactions to Challenge was a positive predictor of ADHD symptoms ( $\beta = .25, p = .07$ ). In contrast, Cognitive/Object Persistence, Gross Motor Persistence, Social Persistence with Adults, and Mastery Pleasure were not significant predictors of ADHD symptoms. The research not only highlights the associations between mastery motivation and ADHD, but also shows how various mastery motivations may affect children with ADHD symptoms differently.

Conflicts of Interest: The authors declare no conflicts of interest.

## **PO-56**

### **The Efficacy of an Online Mindfulness-Based Self-esteem Improvement Intervention in Adolescents: A Pilot Randomized Controlled Trial**

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#### **ABSTRACT**

**Background:** Mindfulness-based interventions are effective in improving many psychological conditions, including anxiety, depression, and insomnia. Low self-esteem is a predictive factor of various psychological illnesses, especially in adolescents. The online platform increases the accessibility of intervention.

**Objectives:** To evaluate the efficacy of developed online Mindfulness-based self-esteem improvement (MBSI online) intervention in increasing self-esteem, mindfulness, and resilience in adolescents and to assess the feasibility and satisfaction of the intervention.

**Methods:** The MBSI online intervention, established in Thailand, has incorporated standard mindfulness-based cognitive therapy (MBCT), acceptance and commitment therapy (ACT) concept, and mindfulness practices with the approval of mindfulness practice experts and program tryouts. The study was approved by the Siriraj Institutional Review Board (SIRB), COA no. Si369/2022. Seventy adolescents aged 15 to 18, with low to moderate self-esteem from across Thailand, were recruited and equally assigned to the intervention and waiting list control groups by stratified randomization by gender. Baseline demographic data, self-esteem, mindfulness, and resilience have no statistically significant difference between the two groups. The intervention group received an 8-week MBSI online group intervention. Self-esteem, mindfulness, and resilience were measured in both groups at baseline, week 4, after the intervention, 1-month follow-up, and 3-month follow-up. The intention-to-treat analysis for within-group and between-group comparison was performed by repeated-measures ANOVA, independent t-test, and ANCOVA adjusted for baseline.

**Results:** The results showed an increase in self-esteem, mindfulness, and resilience in the intervention group over time from week 4, after the intervention, 1-month follow-up, and 3-month follow-up ( $p < 0.001$ ) compared to baseline. There also was a statistically significant difference in self-esteem, mindfulness, and resilience ( $p < 0.05$ ) between the two groups at week 4, after the intervention, 1-month follow-up, and 3-month follow-up. The effect size of the intervention in raising self-esteem was large at both after the intervention ( $n_2 = 0.348$ ) and 3-month follow-up ( $n_2 = 0.251$ ). The dropout rate was 25.7%. The overall intervention satisfaction was high as most participants rated very satisfied in all five aspects: usefulness of the intervention (92.3%), user-friendliness (96.1%), homework satisfaction (92.3%), facilitator satisfaction (100%), and online platform satisfaction (96.1%).

**Conclusions:** The MBSI online group intervention was effective in increasing self-esteem, mindfulness, and resilience with a large effect size and high satisfaction rate for adolescents with low to moderate self-esteem. The intervention is considered to be a useful, practical, and easily accessible intervention, with the goal of preventing psychological illnesses caused by low



self-esteem.

All authors declare that they have no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter or materials discussed in this manuscript.

### **PO-57**

#### **Adolescent–Caregiver Agreement Regarding the School Bullying and Cyberbullying Involvement Experiences of Adolescents with Autism Spectrum Disorder**

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#### **ABSTRACT**

School bullying and cyberbullying victimization and perpetration are prevalent in adolescents with autism spectrum disorder (AASD). However, the levels of adolescent–caregiver agreement regarding the bullying involvement of AASD and factors associated with these levels remain to be evaluated. In the present study, we evaluated the levels of adolescent–caregiver agreement on the school bullying and cyberbullying involvement experiences of AASD and the factors associated with the levels of agreement. This study included 219 dyads of AASD and their caregivers. The school bullying and cyberbullying involvement experiences of the participating AASD were assessed using the School Bullying Experience Questionnaire and Cyberbullying Experiences Questionnaire, respectively. Attention-deficit/hyperactivity disorder, oppositional defiant disorder (ODD), depressive and anxiety symptoms, and autistic social impairment were also assessed. AASD and their caregivers had poor to fair levels of agreement regarding the school bullying and cyberbullying victimization and perpetration experiences of AASD. Severe inattention, hyperactivity–impulsivity, ODD, depressive and anxiety symptoms, and autistic social impairment were associated with high levels of adolescent–caregiver agreement. When assessing the bullying involvement experiences of AASD, mental health professionals should obtain information from multiple sources. In addition, the factors influencing the levels of agreement should be considered.

Ethic considerations: This study was approved by the Institutional Review Boards of Kaohsiung Medical University (approval number: KMUHIRB-20120084)

Conflicts of Interest: The authors declare no conflict of interest.

### **PO-58**

#### **Randomized, double-blind, placebo-controlled trial of oral aripiprazole solution in children and adolescents with Tourette’s disorder in China**

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#### ABSTRACT

We evaluated the efficacy and tolerability of an oral aripiprazole solution for children and adolescents (6–17 years) with Tourette's disorder (TD) in a randomized, double-blind, placebo-controlled, 8-week trial in China. The oral solution was used in this trial to improve compliance in children. All patients received a flexible dose of oral aripiprazole solution (1 mg/mL, range, 2 to 20 mg). The starting dose for all randomized patients was 2 mg. The target doses for patients weighing <50 kg were 2, 5, and 10 mg/day, and those for patients weighing ≥50 kg were 5, 10, 15, and 20 mg/day. Among the 121 enrolled patients, 59 (96.7%) in the aripiprazole group and 53 (88.3%) in the placebo group completed the study. The aripiprazole group showed a statistically significant improvement in the Yale Global Tic Severity Scale Total Tic Score compared with the placebo group from week 3 through week 8. Both the motor and vocal tic scores were significantly different between the aripiprazole and placebo groups at week 8. The response rate, which was the percentage of patients with a score of 1 or 2 on the Tourette's Syndrome Clinical Global Impression-Improvement scale, in the aripiprazole group was significantly higher than that in the placebo group at week 8. The incidence of treatment emergent adverse events (TEAEs) reported in ≥1 patient was 86.9% in the aripiprazole group and 65.5% in the placebo group. All TEAEs were of mild or moderate severity. No serious AEs or death occurred in this study. The oral aripiprazole solution was effective, well-tolerated, and safe for treatment of children and adolescents with TD. To the best of our knowledge, this is the first randomized, placebo-controlled trial to investigate the acute treatment of TD in children and adolescents using an oral aripiprazole solution.

The study protocol and amendments, informed consent form, and patient recruitment materials were reviewed and approved by the ethics committee at each investigational site. This trial was supported by Otsuka Beijing Research Institute. Drs. Xian and Uki are employees of Otsuka Beijing Research Institute, China and Otsuka Pharmaceutical Co., Ltd., Japan, respectively.

#### **PO-59**

#### **Sources of knowledge about attention-deficit/hyperactivity disorder and their associations with parenting stress and anxiety among caregivers in Taiwan**

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#### ABSTRACT

**Aims:** Caregivers of children with attention-deficit/hyperactivity disorder (ADHD) may obtain knowledge for ADHD from various sources in addition to medical professionals; however, the associations between knowledge sources for ADHD and caregiver parenting stress and anxiety have not been examined. The aims of this questionnaire survey study were to examine the kinds of sources except for medical professionals that the caregivers of children with ADHD obtained knowledge for ADHD and the associations between knowledge sources for ADHD and caregiver parenting stress and anxiety in Taiwan.

**Methods:** A total of 213 caregivers of children with ADHD participated in this study. Sources except for medical staff that the caregivers used to obtain knowledge about ADHD were examined. Caregiver parenting stress was examined using the Parenting Stress Index. Caregiver

anxiety was examined using the Beck Anxiety Inventory. The association of the varieties and number of knowledge sources for ADHD with caregiver parenting stress and anxiety were examined using multivariate linear regression analysis.

Results: The most common source was children's schoolteachers (55.4%), followed by social media (52.6%), traditional media (50.7%), friends (33.8%), parents of other children (21.1%), and family members (18.3%). Caregivers' mean sources of knowledge for ADHD was 2.32. Obtaining knowledge for ADHD from social media was significantly associated with caregiver parenting stress. Obtaining knowledge for ADHD from parents of other children was significantly associated with caregiver parenting stress and anxiety. The number of knowledge sources for ADHD was significantly associated with caregiver parenting stress and anxiety.

Conclusion: Caregivers of children with ADHD might obtain knowledge for ADHD from various sources. Obtaining knowledge for ADHD from social media and parents of other children was related to caregiver parenting and anxiety. Mental health professionals should consider what knowledge sources that the caregivers of children with ADHD common use when developing education programs to deliver accurate knowledge about ADHD.

Institutional Review Board Statement: This study was approved by the Institutional Review Board of Kaohsiung Medical University Hospital (KMUHIRB-SV(II)-20170077) and Chang Gung Medical Foundation (201800740A3).

Conflicts of Interest: The authors have no conflicts of interest to declare.

## **PO-60**

### **Application of complementary and alternative intervention strategies for attention-deficit/hyperactivity disorder: relationships with demographics, child symptoms, and affiliate stigma**

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#### **ABSTRACT**

It has long been known that use of complementary and alternative intervention strategies (CAIS) was common among children who had received a diagnosis of attention-deficit/hyperactivity disorder (ADHD) or in whom ADHD was suspected. Preference for only CAIS without evidence of their effectiveness may delay the use of effective treatment for children with ADHD, and untreated individuals have worse outcomes than treated patients in terms of academic, occupational, and social functioning. This cross-sectional questionnaire study was designed to examine the CAIS employed by caregivers for their children's ADHD and the associations of demographics, child ADHD and oppositional defiant disorder (ODD) symptoms, and affiliate stigma with the employment of these CAIS in Taiwan. A total of 213 caregivers of children with ADHD participated. CAIS that the caregivers employed were surveyed. Associations of demographics, child ADHD and ODD symptoms, and affiliate stigma with the application of the CAIS were determined using forward conditional logistic regression analysis. The results indicated that exercise training (22.5%), sensory integration (20.7%), sugar restriction (17.8%), and omega fatty acid supplementation (15.0%) were the most common CAIS that the caregivers employed. Caregiver's affiliate stigma was significantly associated with the employment of any CAIS for children's ADHD. Children's inattention and hyperactivity/impulsivity was significantly associated with the employment of sensory integration and sugar restriction, respectively. Caregiver's education level was significantly associated with the employment of omega fatty acids supplement. This study found that various CAIS were employed by the caregivers to address their children's ADHD. Caregiver's affiliate stigma and education level and children's ADHD symptoms were significantly associated with

the application of several CAIS.

Institutional Review Board Statement: This study was approved by the Institutional Review Board of Kaohsiung Medical University Hospital (KMUIRB-SV(II)-20170077) and Chang Gung Medical Foundation (201800740A3). Conflicts of Interest: The authors have no conflicts of interest to declare.

## **PO-61**

### **Applying implementation science in the development of a community mental health literacy program for adolescents in Singapore**

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#### **ABSTRACT**

**Background:** Mental Health Literacy (MHL) is the knowledge and beliefs about mental disorders which aid in their recognition, management, and prevention. MHL is essential in public health, where it empowers individuals to obtain, process, and understand basic health information and services, which in turn increases their capability to make appropriate health decisions. The Institute of Mental Health, a tertiary psychiatric hospital in Singapore, has embarked on a population-based study entitled “Mind Matters: A study of Mental Health Literacy” to better understand the MHL of the Singaporean population. While there is evidence that improving MHL can better promote mental health at the individual and public levels, there is a paucity of data on how to implement and enhance MHL in the community. Implementation science is a growing field in psychiatry, and is aimed at translating evidence-based practices effectively into routine clinical usage.

**Aims:** We aim to apply the framework of implementation science in enhancing mental health literacy in adolescents, linking up with a community partner to develop a train-the-trainer curriculum and evaluate its effectiveness.

**Methods:** The project will be co-created with a community partner who has expressed a keen interest in enhancing the mental health literacy within the organization, and to implement them within their adolescent outreach programs. With the identified need established, the organization would proceed to assign several trainers to be involved in the project. Through an internal survey, we can establish and identify potential barriers of the implementation. Implementation strategies considered would include having several in-person half-day workshops, as well as two reviews of the trainers involved in this train-the-trainer curriculum. Video recordings and written materials will also be co-developed, and will be reviewed every quarterly to tailor the existing needs of the organization as well as to sustain the training. Evaluation of this curriculum would include monitoring the fidelity of the training, any changes or increase in knowledge, and measuring confidence in training of the recipients. These evaluations would be administered and measured in intervals, namely pre-implementation, after training, and at the 6-month mark.

**Conclusion:** The implementation framework enhances the robustness of translating evidence-based practices to more successful applications, and has potential in improving performances of community interventions and bringing about sustainable systems-level change.

Conflicts of interest: The authors have no potential conflicts of interest to disclose.

## **PO-62**

### **Effects of Transcranial Magnetic Stimulation in Children and Young People with Autism Spectrum Disorder: A Systematic Review and Meta-analysis**

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## ABSTRACT

**Background:** Autism Spectrum Disorder (ASD) is a neurodevelopmental disability manifested as deficits in social interaction and communication, as well as restricted or repetitive behaviors, interests, and activities. Current pharmacologic interventions in ASD are limited to the management of co-occurring psychopathology and not for the core symptoms of the disorder. In recent years Transcranial Magnetic Stimulation (TMS), a non-invasive neurostimulation technique, has drawn much attention for its potential effects on various psychiatric conditions. However, the effect of TMS on adolescents with ASD still needs to be determined. To examine the effects of TMS in children and young people with autism spectrum disorder, we conducted a systematic literature review and meta-analysis on the use of TMS to treat the population.

**Methods:** We performed a systematic literature search on PubMed, EMBase, and PsycInfo.

Controlled and uncontrolled studies reporting treatment response of TMS on behavior and cognitive symptoms of ASD and related adverse effects in the recent decade were eligible.

Studies with investigated individuals below 24 years of age were included. Two researchers, including one experienced TMS physician and one child and adolescent psychiatrist, performed article selection and data extraction independently, according to PRISMA guidelines. The primary outcome measures were changes in ASD clinical symptoms or cognitive function. For heterogeneity within studies, we applied random-effects models for further meta-analyses.

**Results:** We identified 18 eligible studies, comprising four sham-controlled trials, five controlled trials with a comparison of the waiting-list group, and nine non-controlled trials. While most studies used low-frequency (0.5-1 Hz) repetitive TMS with a treatment frequency of once or twice a week, studies using high-frequency TMS have been growingly published since 2019. The unilateral or bilateral dorsolateral prefrontal cortex was the most common target area. The random-effect meta-analyses showed a moderate effect size on behavior symptoms and cognitive function. Common adverse effects were headache, scalp discomfort, and irritability, which were mild and temporary, with a prevalence of 10-20%. According to Cochrane guidelines, most studies had a moderate to high risk of bias.

**Conclusions:** The results of our review revealed that TMS might offer a promising and safe treatment modality for children and people with ASD. Aside from behavior symptoms and cognitive functions, electrophysiological signals such as heart rate variability or EEG could be potential predictors for treatment outcomes. However, the current findings need to be interpreted with caution due to the shortcomings and limitations of study designs. To determine optimal TMS parameters, target regions, and treatment protocols for various subtypes of ASD, further randomized sham-controlled trials are warranted.

**Conflict of interest:** The authors declare that they have no conflict of interest.

## **PO-63**

### **A transient period of neuroregression in early childhood in a 12-year-old boy with very early onset schizophrenia**

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## ABSTRACT

The neurodevelopmental theory of early onset schizophrenia proposes the presence of subtle

abnormalities from an early childhood period. These abnormalities include developmental delays, difficulties with social interactions and cognitive deficits. Many subtle cognitive, motor and behavioural deviations are seen years before the onset of illness. These have been described in literature to be more prominent in patients who present with very early onset psychosis. A 12-year-old boy with very early onset schizophrenia and normal childhood development is described in this report. His development was generally normal except for a transient period of neurogression. At the age of 5, he was evaluated for regression in his speech and cognition for a period of 8 months. The investigations including a magnetic resonance imaging (MRI) brain and spectroscopy showed no abnormality. There was no known family history of mental illness. Subsequently, he presented to psychiatric services at age 11 when he had visual hallucinations and overvalued ideas. He had an extensive organic workup at this juncture, which did not reveal any abnormalities. He was closely followed up and his symptoms improved for a few months after. Despite the improvement in his psychotic symptoms, his academic performance started to deteriorate significantly. Subsequently he developed florid paranoid delusions, auditory hallucinations with disorganized behaviour and speech. He was initiated on oral risperidone and there has been some improvement so far on a dose of 3.5mg per day. Although very early onset schizophrenia is rare, it is important for a child psychiatrist to be aware of the varied early presentations of psychosis in children and adolescents, even in the absence of developmental abnormalities. This would help to prevent delayed diagnosis and result in early initiation of pharmacological and psychosocial interventions for a better prognosis.

I declare that I have no conflict of interest. Consent was obtained from the parents for the presentation. Child is not well enough to assent. Anonymity will be maintained by not including any identifying information.

#### **PO-64**

#### **A pilot study for suicide prevention program to reduce stigma among teachers**

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#### **ABSTRACT**

Currently, partly because of the COVID-19 pandemic, suicide among children and adolescents is increasing in Japan, and a suicide prevention program targeting these age groups is being considered. Teachers are key individuals to prevent suicide among children and adolescents, and it is hoped that they will do so without stigma. However, effective means for educating teachers to reduce stigma regarding suicide among children and adolescents has not been established. Therefore, we initiated a study on the effectiveness of suicide prevention education for high school teachers in Kanagawa Prefecture.

The study comprised lectures on the three topics provided to teachers over a two-year period.

(1) “Medical intervention” that explains the kind of care provided in the psychiatric department. (2) “Psychological support” that explains the best response to a child who wants to commit suicide. (3) “Social resource and support” that considers specific suicide prevention measures and ways to work with the community. We compared the lecture content that was more effective in reducing teachers’ stigma of suicide and acquiring and retaining knowledge. The lectures are included online and in-person because of the COVID-19 pandemic. Each lecture consists of approximately 1 h and includes a 15-min question and answer session.

The study period was from 2021.4 to 2023.3, and six schools participated in the study.

Questionnaires, including the stigma of suicide scale, were administered before and after the first lecture. There were 163 participants who correctly answered the stigma of suicide question. Stigma of suicide before the lecture was T1 and after the lecture was T2, and the difference

between before- and after the lecture T1-T2 (SD) for each was as follows; ” medical intervention (N=84)” (estimate=0.67, SE=2.05), “psychological support(N=40)” (estimate=2.87, SE=1.56), and “social resource and support (N=39)” (estimate=1.30, SE=2.05). Consequently, the difference between before and after the lecture opened in “psychological support.” This study indicated that it reduced the stigma of suicide among teachers and facilitated better cooperation between medical and educational fields. We plan to continue lectures and study more schools and conduct a cluster randomized controlled trial to further compare effective methods of knowledge dissemination to teachers.

This study was approved by the Institutional Review Board at the Yokohama City University Hospital.

There is no conflict of interest (COI).

### **PO-65**

#### **A case of gender identity disorder with anorexia nervosa from maturity-related fear**

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#### **ABSTRACT**

**Background:** People with gender identity disorders are at increased risk for developing eating disorders due to factors such as stigma from others and discrepancies between self-gender and body. In particular, female secondary sexual characteristics have been identified as a risk factor for eating disorders in transgender men. We report our experience with a case suffering from gender identity disorder with anorexia nervosa from maturity fear.

**Objects:** This presentation aims to review better treatment options for anorexia nervosa associated with gender identity disorder.

**Case:** Our patient is a 17-year-old female. After entering elementary school, she began to feel uncomfortable with her gender, and her first menstrual period triggered a strong aversion to the changes in her feminine body. After entering junior high school, she became aware of her gender identity disorder and started a diet to achieve an ideal, slim male body shape. Her weight gradually decreased to the point where she weighed 36.2 kg and had a BMI(Body Mass Index) of 13.8, which was a markedly low body weight, at the time of her first visit to our department at the age of 17. Despite receiving outpatient care, her weight did not improve much. Thus, she was admitted to the hospital. During the course of her treatment, we found that she had a prominent aversion to the secondary sexual characteristics of females, such as menstruation and breast development. Later, we shared with the patient’s family members her conflicted feelings about her own sexuality. We will continue to support her in finding an ideal future vision that takes her selfhood into consideration. After being discharged from the hospital, the patient received hormone therapy to suppress menstruation in cooperation with her obstetrician and gynecologist. Her progress has been good, with no recurrence of her fear of obesity.

**Discussion:** The treatment of anorexia nervosa associated with gender identity disorder should consider not only the fear of obesity but also the gender identity of the patient.

The authors have no financial conflicts of interest to disclose concerning the study.

### **PO-66**

#### **Correlation between Internet Use, Perceived Stress and Depressed Mood among Secondary School Students at Northern Taiwan**

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#### ABSTRACT

**Objectives:** Understand the status and correlation between depressed mood, stress and internet use among Taiwanese Secondary School Students.

**Methods:** This study was conducted using the survey datasets from the John Tung Foundation Mental Health Center. The survey was carried out in June 2019. Senior high school students from Greater Taipei area in Taiwan were recruited using convenience sampling. A total of 26 senior and vocational high schools participated. 2,140 valid questionnaires were collected anonymously by allocating students filled out the self-administered questionnaire.

**Results:** 12.4% of the adolescents was found “Depressed mood, which need help”; 30.7% of them “often” and “always” felt stressed over the last 6 months; 13.5% of them “often” and “always” felt lonely. More often they felt lonely, more intense of their depressed mood noted significantly. The proportion of “Depressed mood, which need help”; “Often and always felt stressed”; and “Often and always felt lonely” in girls were significantly higher than that in boys. The proportion of “four hours or more” average online time on weekdays and holidays in boys were significantly higher than that in girls, and independent of how often they perceived stress. Multiple logistic regression analysis was performed to examine factors of gender, depressed mood and loneliness associated with “four hours or more” average online time on weekdays and holidays respectively. After adjusting for other variables, predicting for “four hours or more” average online time on weekdays was significantly increased with boys, more often of feeling loneliness, more tense of depressed mood; whereas predicting for “four hours or more” average online time on holidays was significantly increased with boys and more often of feeling loneliness, but nonsignificant with tense of depressed mood.

**Conclusions:** Untangling the intricacies of relationship between perceived stress, internet use, and depressed mood shed some light on clinical intervention.

**Conflict of Interest:** No conflicts of interest to disclose.

(Approved by the IRB of National Cheng Kung University, IRB No 111-065)

#### **PO-67**

#### **Factors Affecting Changes in Urine Osmolality in Pediatric Bipolar Disorder Taking Lithium**

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#### ABSTRACT

**Objective:** To investigate the changes in and factors affecting urine osmolal concentration during hospitalization and discharge following lithium drug treatment in children and adolescent inpatients with bipolar disorder

**Methods:** Among patients under 19 years of age who were admitted to the pediatric and adolescent psychiatric ward of Yangsan Pusan National University Children’s Hospital from December 1, 2018 to November 16, 2022, those who were diagnosed with bipolar disorder and discharged after at least three weeks of hospitalization with lithium treatment were included. From hospitalization to discharge, urine osmolal concentration tests were periodically performed. This study was reviewed by Institutional Review Board of Pusan National University Yangsan Hospital.

**Results:** The urine osmolal concentration at the time of discharge significantly decreased compared to that at hospitalization in all groups: lithium-taking, non-lithium-taking, and all patient groups ( $p < 0.001$ ). Patients who took lithium before hospitalization had lower urine



osmolal concentration at hospitalization than those who did not ( $p < 0.030$ ). The under-13 group had significantly higher urine osmolal concentration at hospitalization than the 13 and over group ( $p=0.036$ ) and had significant differences in urine osmolal concentrations between hospitalization and discharge ( $p=0.041$ ). Females had significantly lower urine osmolal concentrations at discharge than males ( $p=0.008$ ).

Conclusion: In children and adolescents with bipolar disorder, the urine osmolal concentration at discharge significantly decreased compared to that at hospitalization in all patient groups, regardless of whether lithium was taken during hospitalization. Factors affecting urine osmolal concentration at hospitalization and discharge include whether lithium is taken before hospitalization, age, and sex. Further studies on the long-term effects of lithium on height and subsequent symptoms are needed.

Conflicts of Interest: The authors declare no conflict of interest.

## **PO-68**

### **The neural correlates of disembodiment in patients with ASD: possible correlation with interoceptive accuracy**

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#### **ABSTRACT**

Objective; Many studies of sense of self in patients with ASD have been reported continuously, but there are still very few studies on their 'disembodiment' experiences. The purposes of this study were to investigate the difference of brain activity between ASD patients and neurotypicals (NTs) in a state of disembodiment, and to find the correlation between the psychological characteristics, interoception abilities and the activities of disembodiment-related areas.

Method: All subjects measured psychological evaluation and cardiac interoception two weeks before the fMRI scan. The fMRI images were taken while the ASD group (N=18) and the NT group (N=21) were asked to perform the task composed with ball-throwing animations. The task reflected on either self-agency about ball-throwing or location of a ball. And each block was shown with either different (Changing View) or same animations (Fixed View). The disembodiment-related condition was the interaction between Agency Task and Changing View.

Results: Within-group analyses revealed that the ASD group exhibited higher activation in the bilateral temporo-parietal areas and precuneus. And between-group analyses showed that the ASD group exhibited higher activation in the area near the left temporo-parieto-occipital junction, left precuneus, left hippocampus, and mid-temporal area. Finally, the cardiac interoceptive accuracy showed significantly negative correlation with the activity of left temporo-parietal area (superior parietal gyrus), and the social communication scores of ADOS-2 showed significantly positive correlation with the activity of left mid-temporal area in ASD group.

Conclusion: These results show that the disembodiment-related activation of the brain is easily manifested in ASD patients. In addition, the disembodiment-related brain activation is closely related with the problem of interoception in ASD patients.

Conflict of interest: none

Ethical consideration: This study was conducted after receiving IRB and is not a study with ethical issues.

(Chungbuk National University Hospital IRB No. ;2022-04-021-003)

## **PO-69**

### **The prevalence and associated factors of depression and anxiety in senior high school students in Chiang Mai, Thailand**

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#### **ABSTRACT**

Depression and anxiety are widespread mental illnesses with rising prevalence among youth. Early onset of depression and anxiety were associated with poor outcomes. However, most of the previous studies focused on junior high school students. This study was to determine the prevalence, associated factors, and severity of depression and anxiety in senior high school students in Chiang Mai.

We conducted a cross-sectional study including 275 senior high school students in 5 random schools and did a structured interview including information about sociodemographic data, associated factors, depression, anxiety, and self-esteem. PHQ-A, SCARED, and Rosenberg's Self-Esteem Scale – Thai versions were used. Potential associated factors were examined using binary logistic regression analysis.

We found the prevalence of depression was 46.6% (male 40.5%, female 59.5%). The students who have stress from relationship with their parents (aOR=3.26, 95%CI=1.15–9.26, p=0.026), stress from relationship with their friends (aOR=3.34, 95%CI=1.25–8.85, p=0.016) and choose to relax by travelling (aOR=2.80, 95%CI=1.36–5.78, p=0.005) had a high prevalence of depression. For the relationship factor, these findings concurred with previous studies that family and peer relationships are positively associated with depression. However, the association between travelling and depression was assumed to be the result of the lockdown during the COVID-19 pandemic, because those who usually relax by travelling cannot use this method to relieve their stress.

The prevalence of anxiety was 45.9% (male 29.7%, female 70.3%). Contrary to most studies, we discovered that students with better GPAs have a significant prevalence of anxiety (aOR=3.18, 95%CI=1.50–6.74, p=0.003). Some studies found that individuals with a moderate amount of anxiety perform better in school. It is possible that the appropriate amount of anxiety could enhance self-motivation in academic achievement.

Playing games for relaxation was found to have a negative association with anxiety (aOR=0.48, 95%CI=0.25–0.92, p=0.027) which was conflicting with previous studies. Nevertheless, some findings showed that simple games can improve players' moods and promote relaxation. Lastly, high self-esteem had negative associations with both depression (aOR=0.83, 95%CI=0.75–0.92, p<0.001) and anxiety (aOR=0.79, 95%CI=0.72–0.86, p<0.001). These were consistent with the previous study that high self-esteem correlates with positive relationships and helps emotional problems.

From this knowledge, we can develop a prevention plan for routine screening and early management. However, travelling and gaming need further research to verify results and examine the causality of these associations. To summarize, the interventions to promote self-esteem could reduce the prevalence of both depression and anxiety.

Ethical considerations: Ethical approval for this cross-sectional clinical-based study was obtained from the ethical committee of the Faculty of Medicine, Chiang Mai University (REC no. 032/2020). Written informed consent and assent were obtained from all parents and the

participants prior to participating in the study. This work was supported by the Faculty of Medicine, Chiang Mai University, grant no 016/2563. The authors declare that they have no conflict of interest.

## **PO-70**

### **Psychoeducational approach to the teaching staff and nursing staff of the special needs school adjacent to our hospital**

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#### **ABSTRACT**

In this study, we tried to investigate the influence of aspects of psycho-education for teachers and staff on group art psychotherapy (hereafter referred to as G-APT), which is conducted as a mental health measure for teachers and staff of special needs schools.

This school adjacent to our hospital is a special needs school where children who require ongoing medical care and lifestyle management due to illness or other reasons can “learn while curing their illnesses”.

The school has elementary, junior high, and senior high schools, and includes 1: regular classes, 2: duplicate classes where students learn in an educational curriculum that focuses on special support for intellectual disabilities and independent activities, 3: bed classes where students learn according to their actual conditions in their hospital rooms due to their medical conditions, and 4: in-hospital classes where students learn in an educational curriculum that focuses on independent activities inside the hospital wards.

The number of students in 2022 is 117 (30 elementary students, 38 middle school students and 39 high school students). The difference between this school and other special needs schools is that this school is attended not only by children with traditional physical disabilities, but also by children who suffer from emotional disorders. These include children with ASD, ADHD, abused children, and others who are unable to attend regular schools for various reasons. In addition, since the school is located adjacent to our hospital, some children come from the closed ward of the child psychiatry department.

Mental health problems among teachers and staff have already become more serious in recent years, even before the spread of COVID-19 infection.

In previous studies, most of the interventions were conducted as educational practices or in the form of lectures to teachers and staff, and there were no studies in which teachers and staff actually experienced and deepened their understanding of the subject.

In this study, by having teachers and staff experience art psychotherapy, we expected that there is an aspect of mental health measures for them, and that the deepening of their own understanding through this experience may lead to a better understanding of their students.

This study has been approved by the research ethics committee.

Disclosure of COI: I have nothing to declare for this study.

## **PO-71**

### **The effects of smartphone usage for mental states through body dissatisfaction among junior high school students in Japan: A path analysis model study**

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## ABSTRACT

**Introduction:** Individual body shape strongly influences body dissatisfaction in adolescents, and they tend to lose weight according to the cultural request of thinness. In addition, mental states such as depression and anxiety are their important factors for developmental stage. In recent years, digital devices such as smartphone are available among junior high school students and their internet addiction has been reported to affect body dissatisfaction. This study investigated relations among smartphone addiction, mental status such as anxiety and depression, and body mass index through body dissatisfaction score in junior high school students.

**Methods:** Participants were junior high school students between the age of 12 and 15 years in Japan. Participants completed items on structured questionnaires; Body Shape Questionnaire (BSQ), Smartphone Addiction Scale-Short Version (SAS-SV-J), Patient Health Questionnaire-9 (PHQ-9), and Short-Spence Children's Anxiety Scale (SCAS). Their body mass index (BMI) was measured at school. Path analysis was employed to test the model that illustrated the mediating effects of smartphone addiction using SAS-SV-J, depression using PHQ-9, anxiety using SCAS, and BMI on body dissatisfaction using BSQ by gender.

**Results:** The participants included 293 junior high school students (male: 137, female: 156). Direct effect found smartphone addiction ( $\beta=0.64$ ,  $P<0.001$ ), anxiety ( $\beta=0.39$ ,  $P<0.001$ ), and BMI ( $\beta=0.49$ ,  $P<0.001$ ) in male students, and anxiety ( $\beta=0.29$ ,  $P=0.003$ ) and BMI ( $\beta=0.35$ ,  $P<0.001$ ) in female students on body dissatisfaction. Although there was no direct effect smartphone addiction, mediate indirect effect found on smartphone addiction through anxiety found on body dissatisfaction in female students. However, there was no indirect effect in male students.

**Conclusion:** Body dissatisfaction in junior high school students was affected smartphone addiction but the effect is different between male and female students.

The study was approved by the Institutional Review Board of Ehime University Graduate School of Medicine (IRB No. 2002006). Participants and their parents provided written informed assent and consent, respectively.

## **PO-72**

### **A systematic review of global trends in the prevalence of child and adolescent mental health symptoms**

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## ABSTRACT

There appears to be a global rise in the diagnosis and treatment of child and adolescent mental disorders in recent years. Studies on community samples are needed to assess if rates of mental health problems are truly rising in prevalence. Bor and colleagues (2014) conducted a systematic review and reported that adolescent girls experienced increased levels of internalising symptoms over time, whereas levels among children remained stable. We conducted a follow-up systematic review, with the aim of examining recent trends in the community-level prevalence of mental health symptoms among children and adolescents globally. Studies meeting the following criteria were included in our review: 1) published between 2013 and 2020, 2) included representative community or school samples of children aged 0 - 18 years of age with at least two comparative time points, and 3) utilized diagnostic interviews or formal questionnaires to assess mental health symptoms (self, parent or teacher-reported). The studies were identified and evaluated by two independent reviewers. 34 studies were included in our review. Among children, findings generally suggest stable or improving trends in mental health symptoms. Among adolescents, levels of externalising symptoms are

stable, but evidence points towards increasing prevalence of internalising symptoms and emotional problems. Our findings suggest that the factors leading to increased presentation of individuals seeking treatment for mental health conditions is multi-faceted. Factors such as improved mental health literacy, reduced stigma and more prompt help-seeking behaviours can contribute to the rise in the numbers of individuals presenting for treatment. Changes in diagnostic criteria may also play a role. Notably, the majority of the studies reviewed were conducted in developed countries. More studies are needed to evaluate disparities in mental health symptoms across different demographic groups as well as mental health trends in developing countries.

Conflict of interest: None to declare

### **PO-73**

#### **Psychometric properties of the help-seeking cognitions scale and the help-seeking skills scale for children and adolescents according to the COSMIN checklist**

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#### **ABSTRACT**

The systematic review and meta-analysis focusing on help-seeking interventions highlight the need to develop better measurement instruments (Hayes et al., 2022; Honda, 2021). Based on such implications, we developed new scales measuring help-seeking cognitions and skills for children and adolescents according to the Consensus-based Standards for the selection of health Measurement Instruments (COSMIN) checklist. Honda and Shinkawa (in press) have reported the development of the scales and their content validity using the study design of Terwee et al. (2018). The purpose of this study was to examine structural validity, internal consistency, and test-retest reliability. This study was approved by the research ethics review board of Hokkaido University of Education. Participants were 2,274 children and adolescents in Japan (9-18 years old). The questionnaires included both the Help-Seeking Cognitions Scale (HSCS; subscales: “positive expectations of help-seeking” and “thoughts of resistance to help-seeking,” each 9 items) and the Help-Seeking Skills Scale (HSSS; 12 items). Of all participants, 681 completed the same questionnaire after two weeks interval. The result of confirmatory factor analysis using robust DWLS estimation showed the robustness for two-factor model on the HSCS (CFI = .975, TLI = .992, RMSEA = .047, SRMR = .062), and for single-factor model on the HSSS (CFI = .993, TLI = .992, RMSEA = .027, SRMR = .040). The Cronbach’s alpha for each subscale of the HSCS (“positive expectations of help-seeking” = .913, “thoughts of resistance to help-seeking” = .895), and for the HSSS (overall = .888) indicated sufficient internal consistency. Test-retest reliability was assessed by calculating intraclass correlation coefficients (ICC). Using data from 681 participants, the ICC for each subscale of the HSCS (“positive expectations of help-seeking” = .855, “thoughts of resistance to help-seeking” = .790), and for the HSSS (overall = .790) indicated good reliability. These results suggest that both new scales have good structural validity, internal consistency, and test-retest reliability. Future research needs to examine other measurement properties such as measurement error, hypothesis testing for construct validity, cross-cultural validity, and responsiveness.

This work was supported by JSPS KAKENHI Grant Number JP20K03408. The authors declare that they have no conflicts of interest.

### **PO-74**

## **Relative contribution of childhood adversity to suicide attempts and suicidal ideation among youth offenders**

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### **ABSTRACT**

Adverse childhood experiences (ACEs) are disturbing traumatic experiences, and longitudinal studies have shown that ACEs have a significant impact on future mental and physical health. Justice-involved individuals are one of the groups with the highest accumulation of ACEs. The purpose of this study was to estimate the prevalence rates of ACEs among Japanese youth incarcerated offenders, and to examine the relative contribution of the subitems of household dysfunction and child maltreatment to both suicide ideation (SI) and attempts (SA). A self-report questionnaire was administered to 398 youths admitted to four Juvenile Classification Homes (JCHs) between September 2021 and April 2022. This study was approved by the Humanities and Social Sciences Research Ethics Committee of Ochanomizu University (approval number: 2021-63), and prior written consent to conduct the survey was obtained from the respective JCHs. There were 351 (88.19%) boys and 47 (11.81%) girls. The mean age was 17.03 years (SD = 1.59) for boys and 16.62 years (SD = 1.55) for girls, with an age range of 12-19 years. Results showed that more than 60% of boys and approximately 90% of girls have experienced some form of adversity in their lifetime. The highest prevalence rate was parental death or divorce, which was reported to have been experienced by more than half of the participants, both boys and girls. The next most common type of adversity was physical abuse for both boys and girls. With the exception of parental death or divorce, the rate of experience was consistently significantly higher for girls than for boys. The ACE score indicates that girls report experienced multiple adversities, with an average value of at least 3. Binary logistic regression analysis was performed to examine the association between respective adversity items and SI/SA. Participants who reported witnessing their mother being treated violently had significantly increased odds ratios of SA. Exposure to suicide attempts of family members was significantly associated in the direction of higher SI among youth offenders in our sample. Contrary to expectations, incarcerated family members significantly decreased the adjusted odds ratios for all the dependent variables even after controlling for covariates. Based on these findings, suicide prevention and countermeasures among youth offenders will be discussed. Finally, this work was supported by the Innovative Research Program on Suicide Countermeasures of the Japan Suicide Countermeasures Promotion Center (JSCP).

All authors declare that they have no conflicts of interests with regards to this presentation.

### **PO-75**

#### **Demand for remote mental health medical consultation from students' mental health for school nurses at junior high and high schools in Kanagawa Prefecture**

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### **ABSTRACT**

Background: In Europe and the United States, schools have long had school nurses and systems

in place to collaborate with medical care, but in Japan, schools are assisted by school nurses who are not licensed to provide medical care. In Japan, schools are supported by school nurses who are not medically qualified. To address this issue, we wondered if we could develop a support system for schools. We first performed a preliminary survey of school nurse teachers and school teachers to find out what their present challenges are.

Methods: Interviews with school nurses and teachers at four junior high and high schools in Kanagawa Prefecture (as of January 30, 2023)

Results: Some students and guardians are concerned about their mental health, but do not know how to react to them. Many respondents admitted that they were unsure of how to react when kids or parents balked at getting medical attention.

Consideration: It is crucial to establish a system to connect medical professionals and school nurses. The remote consultation service will be launched in April 2023.

The authors have disclosed no financial conflicts of interest concerning the study. The ethics review approval was obtained for this study.

This work was supported by JST Grant Number JPMJPF1234

## **PO-76**

### **Evaluating the Impact of the Waiting Period on the Effectiveness of a Parent Training Program for Parents of Adolescents with Autism Spectrum Disorder**

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#### **ABSTRACT**

Background: Children with autism spectrum disorder (ASD) have problems in acquiring daily living skills (DLSs), even after high school graduation. Parent training (PT) is a support program that aims to help parents of children with ASD by improving children's adaptive behaviors and parental psychological distress. Although previous studies have suggested that the effects are limited in older children, they have not examined the effectiveness of PT targeting DLSs in children. Various factors may complicate intervention effects, including duration to medical treatment. Thus, the aim of this study was to evaluate the effect of delayed treatment in a quasi-experimental PT intervention study in parents of adolescent children with ASD.

Methods: Twenty-five parents of adolescent children with ASD aged 10-15 years were divided into an immediate-treatment (IT) and a delayed treatment control (DTC) group. Assessments were conducted at three time points: at inclusion (Time 1), the end of the IT intervention/beginning of the DTC intervention (Time 2), and the end of the DTC intervention (Time 3). The intervention and waiting periods were both for three months in this study. Time 3 evaluation for the IT was not available. The effects were evaluated by the instruments, including the Vineland Adaptive Behavior Scales-Second Edition (Vineland-II), Child Behavior Checklist, Parenting Stress Index, and Confidence Degree Questionnaire (CDQ).

Results: In the Time 1-Time 2 group comparison, the IT showed significant improvement in the Vineland-II Communication score and for one item on the CDQ ("Praise your child at least once a day"). The trajectory of change from Time 2-Time 3 in the DTC was also examined to explore the effects of delayed treatment as reflected by these two scales. For the CDQ item score, the

change in the DTC (mean change = 0.6, 95% confidence interval [CI] = -0.3-1.4) was similar to that of the IT in Time 1-Time 2 (mean change = 0.7, 95% CI = 0.1-1.3). For the Vineland-II Communication scores, the change in the DTC (mean change = 4.2, 95% CI = -0.5-8.9) was slightly less than that of the IT (mean change = 8.8, 95% CI = 5.4-12.3).

Discussion: Despite being explorative and preliminary, the results suggested that treatment delay may affect expected improvement through PT intervention for some variables, while the parent confidence improved equivalently to immediate treatment.

Even though explorative and preliminary, the results show that despite a treatment delay, PT intervention was still found to yield a partial improvement.

Ethical Considerations: the study was approved by the Ethical Review Committee of Osaka University Hospital.

COI: No conflict of interest declared.

## **PO-77**

### **Reconsidering comorbidity of ADHD and eating disorders**

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#### **ABSTRACT**

Previous studies have suggested that individuals with attention-deficit/hyperactivity disorder (ADHD) are frequently comorbid with eating disorders (EDs), especially with binge-eating and purging behaviors. Recent reports show that 20% of children with ADHD develop any EDs. However, ADHD should be carefully assessed because EDs patients can present with ADHD-like symptoms. Furthermore, various physical effects of frequent binge-eating and purging, lack of sleep due to nocturnal symptoms, and the psychiatric comorbidity such as depression and substance use disorders make the diagnosis of ADHD more challenging. A detailed growth history prior to the onset of EDs is essential to prevent overdiagnosis of ADHD. However, it is often unavailable for postadolescent patients, and also ADHD may be underestimated in women, who account for the majority of EDs.

Although psychosocial treatment is the mainstay of EDs treatment, in patients with ADHD, their characteristics may interfere with the treatment of EDs. Furthermore, when clinicians try to focus on ADHD symptoms, patients tend to associate all of their daily problems with EDs. As a result, when EDs and ADHD coexist, those two manifestations can interact each other and worsen the outcome.

Regarding pharmacotherapy, lisdexamphetamine is indicated for Binge Eating Disorder in the United States, and the efficacy of ADHD medications for EDs has been reported overseas, even in the absence of ADHD comorbidity. On the other hand, there are no drugs available for EDs in Japan, and it should be noted that some patients seek ADHD medication for appetite suppression and weight loss, which are side effects of the drugs. Clinicians must strictly diagnose ADHD to avoid misuse and abuse, especially stimulant medication.

Although recent studies of EDs have pointed the need for assessment and therapeutic intervention for comorbid ADHD, many problems still exist in practice. This presentation will discuss the differences in symptoms between patients with EDs only and those with comorbid ADHD, key points in the treatment of ADHD in patients with EDs, and some points that need further study in the future.

Patients were informed and gave their written consent to use the data. The patients' privacy will be protected.

There are no conflicts of interest to be disclosed.



## **PO-78**

### **The Association Between Parenting Style, Severity Symptoms of ADHD, and Parental Competence Among Mothers of Children with Attention-deficit Hyperactivity Disorder**

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#### **ABSTRACT**

**Objective:** Raising a child with attention deficit hyperactivity disorder (ADHD) is challenging. Mothers of children with this disorder are obliged to face doubts about their competence. The severity of ADHD and parenting styles can have an impact on maternal perception of competence, which has detrimental effects on childcare. The objective of the study was to investigate the association between the type of parenting style, the severity of ADHD, and parenting competence among Thai mothers of children with ADHD.

**Methods:** This was a cross-sectional descriptive study. We recruited 84 mothers of children with ADHD who visited the Outpatient Child and Adolescent Psychiatry Clinic at King Chulalongkorn Memorial Hospital from 1 January to 30 June 2022 for the study. Participants were asked to complete questionnaires as follows: Demographic data questionnaire, short form of the Parenting Styles and Dimensions Questionnaire (PSDQ), Swanson, Nolan and Pelham IV scale (SNAP-IV), The Parenting Sense of Competence in Thai version. Data on diagnoses and comorbidities of ADHD were extracted from their medical records. Frequency, mean, and standard deviation were used to present descriptive statistics of the participants. The independent T test and Pearson correlation were used to investigate the relationship between parenting style, severity of ADHD, and mother's perception of competence. In the study, a significance level of 0.05 was applied.

**Result:** The average scores of authoritarian parenting style ( $r = -0.376$ ,  $p < 0.001$ ) and permissive parenting style ( $r = -0.530$ ,  $p < 0.001$ ), and the sum scores of SNAP-IV in the domains of inattention ( $r = -0.583$ ,  $p < 0.001$ ), hyperactive-impulsive ( $r = -0.483$ ,  $p < 0.001$ ), and ODD ( $r = -0.561$ ,  $p < 0.001$ ) were significantly negatively correlated with maternal perception of parenting competence.

**Discussion and Conclusions** Using authoritarian and permissive parenting style and greater deficits in attention are associated with the perception of poor parenting competency in mothers of children with ADHD. The endorsement of adaptive parenting practice and the alleviation of ADHD symptoms may help mothers perceive a greater sense of competence, which in turn would improve their quality of life.

This research has been approved by the Institutional Review Board (IRB) of the Faculty of Medicine, Chulalongkorn University. IRB number is 847/64.

The Author declares that there is no conflict of interest.

## **PO-79**

### **Examining Possible Sex Differences in the Effectiveness of Social Skills Enhancement Programs**

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#### ABSTRACT

**Background:** Girls and boys with autism spectrum disorder (ASD) are different from each other in terms of social attention, verbal or nonverbal communication, and the nature of friendships. Social skills training is used to improve social adjustment in children with ASD, and sex differences in ASD may also have an impact on social skills learning. This study aimed to examine the relationship between sex and changes in social skills, problem behaviors, and competence in children who participated in a social skills enhancement program (SEP).

**Methods:** Eighty-six children with ASD (68 boys and 18 girls) between the ages of 7 and 10 participated in the SEP. The SEP consisted of 10 sessions, and the content included peer relationship formation and maintenance and communication skills. Caregivers also participated simultaneously in learning sessions focused on social skills. Children completed the Competence Scale for Children, their school teachers completed the Social Skills Scale (SS), and their caregivers completed the Child Behavior Checklist (CBCL). These were measured before (T1) and after the intervention (T2). To examine changes between pre- and post-SEP, a paired t-test was used for the overall sample. We compared the change scores of the outcome variables with the pre-SEP score as a covariate to determine the potential sex difference in the effectiveness of the SEP.

**Results:** A comparison of T1 and T2 scores using the overall sample showed that T2 scored higher on SS communication skills ( $t = 3.61, p < 0.001$ ) and SS peer relationship skills ( $t = 2.04, p < 0.05$ ) and lower on CBCL externalizing problem scores ( $t = -2.59, p < 0.05$ ). We found no statistically significant effects of sex on the change scores, while the CBCL internalizing problem showed possible effects of sex ( $\beta = -0.20$ ; 95% confidence intervals: -0.51 to 0.04;  $p = 0.089$ ). A visual inspection of the confidence intervals suggests that girls may be more effective than boys.

**Discussion:** Even though the findings are preliminary, sex could be a potential factor influencing SEP in children. Girls with ASD may be more likely to adjust after participating in the SEP, even if changes in social skills are similar to those in boys. Since females with ASD are more likely to have internal problems, learning social skills in the early school years may be useful.

**Ethical Considerations:** the study was approved by the Ethical Review Committee of Osaka University Hospital.

**COI:** No conflict of interest declared.

#### **PO-80**

#### **Differentiation between schizophrenia spectrum and neurodevelopmental disorders using the Child psychosis-risk screening system**

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#### ABSTRACT

**Introduction:** Adolescents presenting with a first psychotic episode often have a long history of pediatric treatment. However, there is insufficient evidence of children's subclinical characteristics in non-psychiatric settings. To address this issue, we retrospectively studied

schizophrenia spectrum disorder (SSD) patients to identify characteristic patterns of subclinical psychological, behavioral, and physical problems in childhood. In the previous study, we have had developed the child psychosis-risk screening system (CPSS) that incorporates this pattern as a risk evaluation algorithm.

**Objectives:** In this present cross-sectional study, we evaluated the SSD diagnostic specificity of the CPSS in pediatric and psychiatric patients and determine its discriminatory power and cutoff values.

**Methods:** To identify the risk of developing psychosis in pediatric and psychiatric outpatients, we evaluated data from 336 patients aged 6–18 years selected for the present study using the CPSS. We defined six major diagnostic categories i.e., Neurodevelopmental Disorders, SSD, Depressive Disorders, Anxiety Disorders (including Obsessive-Compulsive Disorder), Somatic Symptom Disorders, and Others to examine the specificity of the CPSS variance in diagnosis. We analyzed the receiver operating characteristic (ROC) curve using the onset of schizophrenia spectrum as the outcome and determined the discriminatory power and cutoff values of CPSS. The study was approved by the Ethics Committees of Kyoto Women's University and Shiga University of Medical Science. Informed assent was obtained from all study participants, and written informed consent was obtained from the parents.

**Results:** We found significant differences in CPSS variance among the diagnostic categories (Kruskal–Wallis test;  $p < 0.001$ ), especially between SSD and neurodevelopmental disorders (Bonferroni method;  $p < 0.001$ ). Similarly, significant differences were identified in variance when comparing the CPSS for each neurodevelopmental disorder category and SSD, particularly between SSD and attention deficit hyperactivity disorder (ADHD) (Bonferroni method;  $p < 0.001$ ) and SSD and autism spectrum disorder (ASD) (Bonferroni method;  $p = 0.004$ ). CPSS showed sufficient discriminatory power for SSD diagnosis (area under the ROC curve = 0.853 [95% confidence interval: 0.774–0.931]). The cutoff value for the risk of SSD was determined to be 3.94, achieving the best mean of the sum of sensitivity (90.9%) and specificity (84.0%). 18.3% of patients (12.5% pediatric and 29.1% psychiatric) were identified as risk groups above the cutoff value.

**Conclusions:** These results suggest that CPSS can be applied in pediatric clinical practice not only for early detection and risk identification of psychosis but also for differentiation from neurodevelopmental disorders.

**COI Disclosure:** There are no conflicts of interest to disclose for this study.

## **PO-81**

### **Transdisciplinary collaborative support for children facing neurodevelopmental disorders in an adverse environment**

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#### **ABSTRACT**

Raising a child with neurodevelopmental disorders (NDDs) significantly strains parenting skills more than raising typically developing children. As a result, many parents struggle to provide the best environment for their children with NDDs. Many adverse childhood events have recently been recognized as significant risk factors for most mental health problems. When gathering the necessary information for diagnosis and treatment, a pediatrician may be found that some children with NDDs face an adverse environment. In such cases, medical professionals should provide transdisciplinary collaborative support to both parents and children and follow the progress so that the child's behavioral disorders do not become more severe due

to reduced family functioning. In this study, we report on the background and support methods of 115 children (81 males, 34 females, ages 2-14) with NDDs who visited our pediatric department between 2020 and 2022 and were supported in collaboration with local specialized support agencies. They were suspected of being raised in an adverse environment (e.g., abuse or dysfunctional families). The diagnoses were attention deficit hyperactivity disorder (ADHD) in 57 (49.6%), autistic spectrum disorder (ASD) in 30 (26.1%), comorbidity of ASD and ADHD in 22 (19.1%), and intellectual disability in 6 (5.2%); 65 (56.5%) had a (possible) history of abuse. In addition, parental impairment was identified in 55 (47.8%) and sibling impairment in 57 (49.6%). Regarding support methods (some duplicated), 88 cases were linked to educational institutions (e.g., preschools and schools), 86 cases were linked to administrative institutions (e.g., health and child guidance centers), and 43 were linked to local rehabilitation and education institutions. Only five cases dropped out during the three years of treatment. We found that if medical staff paid attention to the child's treatment and daily life problems at home and school, they could provide support according to the child's and family's needs, thus building a trusting relationship, leading to appropriate consultations for the child.

This presentation has been modified so that it does not affect the study's main purpose. The utmost care has been taken to protect personal information. There are no conflicts of interest(COI) to be disclosed.

## **PO-82**

### **Social behaviors observed from teachers may predict future medical adherence among children with ADHD (attention deficit and hyperactivity disorder): a preliminary study**

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#### **ABSTRACT**

**Background and object:** Adherence to continuous medical intervention is important to the outcomes of children with ADHD (attention deficit and hyperactivity disorder). The objective of this study was to explore the behavior and social factors that can predict further medical visit adherence.

**Method:** We reviewed medical chart records for patients who were diagnosed during 2020-2021. Patients who visited below 3 times were excluded. The adherence was defined by the medical visit times in the following one year after first visit. Those who visited below the median of visits per month were defined as a low adherence group. Social competence and behavior problems were assessed by social behavior assessment system for children (SBASC) rating scales, which is an established tool filled by parents and teachers at their first visit. The study was conducted in accordance with the Declaration of Helsinki and approved by the Institutional Review Board of Chi Mei Medical Center (protocol code 11112-009), with approval granted on January 6, 2023.

**Results:** Sixty-nine patients were included (17 females and 52 males, age =  $8 \pm 2.2$ ,  $1.1 \pm 1.7$  visits per month). Lower adherence was not associated with rating from parents, but with rating from teachers in several domains, including emotional management ( $p < 0.001$ ), communication expression ( $p = 0.016$ ), cooperation empathy ( $p = 0.001$ ), learning habit ( $p = 0.045$ ), total social competence ( $p = 0.001$ ), self-coping ( $p < 0.001$ ), interpersonal coping ( $p = 0.002$ ), environment coping ( $p < 0.001$ ) hyperactivity/impulsivity ( $p = 0.049$ ), oppositional defiant ( $p = 0.003$ ), instinct delinquency ( $p = 0.036$ ), total problem ( $p = 0.005$ ).

**Conclusion:** Our results suggest these factors can be used to predict medical visit adherence in children with ADHD. The rating from professionals, such as teachers, would bring important information for clinical decisions. Additional attention should be paid on those children to

improve medical quality. In order to further explore this topic, we will need to carry out further studies with larger sample sizes. Additionally, other factors such as and family environment should also be considered in order to provide a more accurate prediction of medical visit adherence.

The authors declare no conflict of interest (COI).

### **PO-83**

#### **Child dissociation: The descriptive psychopathology analysis of a case**

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#### **ABSTRACT**

With a reliable retrospective link to early-life traumatic stress, dissociation is commonly formulated as a pathology of abnormal socioemotional development. Legitimately, dissociation should be identifiable and diagnosable in childhood for early intervention. However, except for some experts' analysis primarily of western cases, no clear guidance is offered for the diagnosis of dissociation in children. With the still developing reflective ability, the applicability of adult criteria to children remains unknown, particularly for the discontinuous self-knowledge which is key to making a differential diagnosis from other mental disturbances such as psychosis. A 10-year-old boy in a residential care setting accommodating children from high-risk families (e.g., accidents and financial crisis, domestic violence, or child maltreatment) was referred to assessment and individual psychotherapy. Discontinuity of autobiographical memory was evident from the observation of episodic memory lapses and delayed recall of emotion-laden memories. Discontinuity was also noted in consciousness and self-perception, including a switch into a trance state when there came a distressing internal experience and sensory experiences from disowned self-aspects (e.g., hearing voices of a meeting among internal others, and falling asleep to stop hearing the voice of an internal hostile other). Imaginary others were reported, for their support in managing intolerable distressing episodes (e.g., acquiring a sense of security when feeling threatened or a sense of affiliation when feeling lonely). In conclusion, a symptom profile similar to adult dissociation is documented, with a disruption of ordinarily integrated functions in multiple domains of mental processing. Crucially, the discontinuous self-knowledge which is core to dissociative pathology is ready to be detected in children. While discontinuity of self-perception as well as autobiographical memory is evident, our finding highlights that some children may be able to recognize and articulate pertinent anomalous experiences. This finding gives support for the current formulation of dissociative pathology and its applicability to high-risk cases in an early developmental stage.

The Survey and Behavioral Research Ethics Committee of The Chinese University of Hong Kong approved the experimental design. Written informed consent was obtained. The authors declared that there were no conflicts of interest with respect to the authorship or the publication of this abstract.

### **PO-84**

#### **Children's report of parental involvement in emotion regulation and trauma symptoms**

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## ABSTRACT

A child's capacity for emotion regulation is theorized to emerge from the dyadic regulatory system involving significant others. Collaborative involvement by caregivers, such as encouraging the expression of emotion, facilitating the containment of emotion, and modeling how to tackle the problem, may enhance a child's management of stress. Dysfunctional parenting is hence nominated as a cardinal candidate for the vulnerability to mental disturbances, particularly for those with an intimate tie to childhood maltreatment. This hypothesis gained empirical support from the correlation between trauma-related psychopathologies and perceived early-life experiences in adult patients. Yet, there come critiques in clinical science for such a relationship, for the susceptibility to recall bias of retrospective self-report. Interpretation of early experiences may also be shaped and misrepresented by late-life exposure such as mass media or psychotherapy.

The current study aimed to address this gap by analyzing the association of children's experience of parental involvement in emotion regulation with their trauma symptoms, including symptoms of post-traumatic stress disorder (PTSD) and dissociation. Participants were recruited from local communities. In addition to individual assessment, to facilitate children's introspection, we adopted an interactive approach with assistance from an interviewer (i.e., an interviewer-assisted self-report). Our results showed a differential pattern of negative and positive parental involvement. While negative parental involvement contributed to both clusters of trauma symptoms, a lack of positive parental involvement, either through an experiential approach or a problem-solving strategy, contributed solely to dissociation. In alignment with studies using adult participants, we found a correlation in children between negative parental involvement and trauma symptoms. Furthermore, the potential role of positive parental involvement was discovered in the formation of complex trauma symptoms such as dissociation. Our findings refute the sociocognitive account for trauma and dissociation as the correlation cannot be accounted for by the exposure to mass media or psychotherapy. For future studies, the role positive parental involvement plays in the development of complex trauma symptoms should be investigated.

The Survey and Behavioral Research Ethics Committee of The Chinese University of Hong Kong approved the experimental design. Written informed consent was obtained. The authors declared that there were no conflicts of interest with respect to the authorship or the publication of this abstract.

## **PO-85**

### **Assess pathological trauma memory in children: Formulation and operationalization of a measure for affect-centric narrative coherence**

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## ABSTRACT

The assessment of trauma memory is crucial for the diagnosis and intervention for survivors of a potentially traumatizing event. While the event-based approach popular for adult survivors concentrates on the very episode of a potentially traumatizing event, it meets difficulty in assessing the trauma memory of child survivors. Childhood trauma typically involves close others such as family members, which prevents the likelihood of the incident to be reported and identified before the assessment. Also, childhood trauma occurs repetitively, with multiple blows across various contexts. The incident is hard to be established and specified for the assessment.

To address this issue, we designed a new measure that targets the cardinal feature of

pathological autobiographical knowledge in trauma survivors—*affect-centric narrative incoherence*. In this theme-based approach, we targeted the self-referential deficit in the organization of affective autobiographical knowledge. Using a validated story-telling test, the Roberts-2, we elicited narratives from pictures depicting moments of parent-child interaction in a family context. We analyzed the coherence of the narratives, rating to what extent the narrative was well organized and elaborated, with event boundaries set, self-other dynamics developed, and emotional reactions articulated.

In a community study, we investigated the reliability of this new measure in school-aged children (8 to 12 years old). Three raters scored the narratives independently. Our results showed promising interrater reliability comparable to those of the conventional Roberts-2 indices, indicating the usefulness of the criteria. Besides, we found that this new measure was sensitive to younger children as well (8 and 9 years old). Compared with the content-specific indices of the Roberts-2, a high score of affect-centric narrative coherence could be obtained with less abstract knowledge for problem identification and resolution. We conclude that affect-centric narrative coherence can serve as a reliable tool to analyze the relational autobiographical knowledge in school-aged children. Future studies should examine its predictive validity for the differentiation of trauma-related pathologies.

The Survey and Behavioral Research Ethics Committee of The Chinese University of Hong Kong approved the experimental design. Written informed consent was obtained. The authors declared that there were no conflicts of interest with respect to the authorship or the publication of this abstract.

#### **PO-86**

#### **Looking into the shattered mirror: Linking narrative incoherence to symptoms of post-traumatic stress disorder and dissociation**

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#### **ABSTRACT**

Despite the widespread impact of adverse childhood experiences on mental and physical health, early detection and intervention of trauma-spectrum disorders remain challenging for mental health professionals, particularly those working with children. Identification of high-risk cases is uneasy as caregivers, the key persons who can spot children's need for clinical care, could be the source of stress. For those high-risk cases who are known to clinical service, behavioral symptoms such as emotional outbursts, conduct problems, and inappropriate social behaviors often become the treatment focus, yet overlooking the unresolved traumatic stress. With the still-developing reflective ability, atypical memory experiences which define pathological autobiographical knowledge—memory intrusion, memory discovery, and memory unavailability—are less likely to be reported spontaneously by school-aged children.

Narrative incoherence, an inability to give a reflective account of an affect-charged situation in connection with emotions and cognitions with reference to the rest of personal experiences, characterizes the traumatic event and autobiographical memory of adult patients with trauma-spectrum disorders (e.g., intrusive memory of post-traumatic stress disorder, recovered memory of dissociation, or memory with intimate others of borderline personality disorder). A decade of experimental research in our laboratory indicates the importance of neurocognitive underpinning, i.e., atypical attentional disengagement and self-referential processing, in linking pathological autobiographical knowledge to trauma-spectrum disorders. This finding, which stresses the essential role of neurocognitive footing, provides an alternative model to delineate the impact of traumatic stress on mental well-being.

To devise an assessment tool for the diagnosis of trauma-spectrum disorders in school-aged children, we launched a study of children aged 8-12 recruited from ordinary families in local

communities and high-risk families from a residential setting. In this initial analysis, we explored the applicability of narrative incoherence to the assessment of trauma-spectrum disorders. Affect-centric narrative incoherence, a measure newly devised for the assessment of pathological autobiographical knowledge, was derived from a story-telling test designed to investigate a child's internal working model of self-other relationships (i.e., The Roberts-2). PTSD symptoms and dissociation were assessed through a clinician-assisted self-report scale. Our results showed a negative correlation between affect-centric narrative incoherence and PTSD symptoms. Intriguingly, a positive correlation was evident with dissociation when PTSD symptoms were controlled for. The results provided preliminary support for the predictive validity of affect-centric narrative incoherence.

The Survey and Behavioral Research Ethics Committee of The Chinese University of Hong Kong approved the experimental design. Written informed consent was obtained. The authors declared that there were no conflicts of interest with respect to the authorship or the publication of this abstract.

### **PO-87**

#### **Interprofessional collaboration using a partial program of Dialectical Behavior Treatment (DBT) that was effective for a junior high school boy attempting suicide**

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#### **ABSTRACT**

This poster presentation was made with the consent of the patient and his family. To prevent recurrence of repeated suicide-related behaviors, we were able to provide effective inpatient treatment for a 13-year-old boy with autism spectrum disorder and attention-deficit hyperactivity disorder by partially using the DBT program. Because it worked effectively when it is used through interprofessional collaboration among the attending physician, the certified psychologist, and the ward nurse in charge, and be shared the treatment details with his parents. In addition to adults, evidence of DBT for adolescents has emerged that it is effective for suicide-related behavior and emotion dysregulation, and we use a partial program of DBT for cases with high impulsivity and suicide-related behavior.

Here, the physician provided weekly personal psychotherapy and monthly family interviews, and the psychologist provided weekly personal psychotherapy. The nurse supported him with various problems that arise in self-care and interpersonal relationships with other patients and staff in the ward and the in-hospital class. In this therapeutic structure, a partial program of DBT was used.

The physician, the psychologist, and the nurse used DBT validation skills to help him verbalize his feelings and thoughts, accumulate experiences of being understood by others, and build a relationship of trust with the treatment team. For suicidal-related behavior, the psychologist used mindfulness skills and distress tolerance skills that avoids acting impulsively with strong emotions.

The physician used behavioral chain analysis of drug overdose and used the skills he had learned from the psychologist to prevent recurrence. The nurse encouraged him to strengthen and generalize the use of the skills in his daily ward life, and used them to make a plan to prevent recurrence before staying home overnight. The physician also used validation skills to parents, verbalizing various thoughts and feelings about their children and building trust, and explained the treatment based on the DBT-like approach to the parents to help him cope at home.



The physician, the psychologist, and the nurse had a common understanding of the DBT-like approach and consistently engaged with the patient and his parents through interprofessional collaboration. Therefore, it was easy for us to understand each other's treatments, cooperation was easily strengthened, and efforts were focused on preventing recurrence, and effective inpatient treatment was possible. After this inpatient treatment, he only needed respite hospitalization.

In connection with this presentation, there is no COI to be disclosed with any companies.

### **PO-88**

#### **Setting up another Adolescent Mental Health Service in Singapore – What are the needs?**

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#### **ABSTRACT**

Findings from The Singapore Mental Health Study (SMHS) 2010 and 2016 revealed that the onset of many mental health disorders in Singapore occurs during childhood to early adulthood years. Mental health statistics in Singapore also show an increasing trend of suicide amongst youths in Singapore over the past few years. With the highest proportion and growing numbers of young population in the North-East region of Singapore, there is foreseeable increase in the need and demand for child/adolescent psychiatric services particularly in this region. Amongst the 6 public hospitals providing adolescent psychiatric services in Singapore, Institute of Mental Health (IMH) is currently the sole child/adolescent psychiatric service provider in the North-East region. However, limited bed space, manpower and resources may make it increasingly difficult for IMH alone to meet this growing demand, calling for further measures to be put in place to plan for the future. To target this mismatch in supply to the demand for child psychiatric services particularly in the North-East region of Singapore, Sengkang General Hospital which is a restructured hospital in this region is currently setting up an adolescent mental health service. The aim of this poster is to highlight the needs and key requirements in setting up a new adolescent mental health service in an urbanized city of Singapore with existing hospitals running well established services. This new service looks to provide secondary services for adolescents with mild to moderate mental illnesses in the North-East region and to right-site cases with higher needs to the appropriate tertiary service. However, setting up a new service requires careful designing, ensuring the presence and availability of relevant manpower and resources, ensuring right sitting of patients to the service, and integrating the new service to existing community network and infrastructure. Barriers to setting up a new service may include difficulty in designing an integrative and comprehensive service, shortage of qualified professionals to form a specialized multidisciplinary team, underdeveloped postgraduate training in child and adolescent psychiatry, underdeveloped network for inter-agency communication, and limited funding.

Conflicts of interest: The authors have no potential conflicts of interest to disclose.

### **PO-89**

#### **The relationship between parental adverse childhood experiences and parenting behaviors**

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## ABSTRACT

**Background:** Adverse childhood experiences (ACEs) are traumatic events in various forms of abuse, neglect, and household dysfunction experienced in childhood. ACEs are common and strongly related to several health problems. The researches on the intergenerational effect of ACEs have found the association between parental ACEs and child psychopathology. The potential factors that mediated this association are parent mental health and parenting. However, the mechanism of this intergenerational transmission has not been clearly examined and the studies on the effects of ACEs on parenting practices are still limited.

**Objectives:** This study aimed to examine the relationship between parental ACEs and their parenting, the effect of mental health problems which possibly related to parental ACEs and mediated parenting behaviors, and the prevalence of ACEs in parents of students in Chiang Mai.

**Methods:** Data were obtained from 403 parents of 6–18-year-old students in Chiang Mai, Thailand. Participants reported their information, history of ACEs, current mental health, and parenting behaviors using (1) ACE questionnaire, (2) Depression Anxiety Stress Scales (DASS-21), and (3) Alabama Parenting Questionnaire (APQ) parent form. Relationships between ACEs, parent mental health, and parenting were examined using correlation analysis. The direct and indirect effects of potential associated variables on five dimensions of parenting were examined using path analysis.

**Results:** In the current sample, 62.5% of parents reported at least one ACE. Path analysis revealed statistically significant direct effect from number of ACEs to poorer parent mental health in all subscales – depression, anxiety, and stress ( $\beta=0.19, 0.20, 0.18$  and 95% CI [0.17, 0.52], [0.17, 0.48], [0.19, 0.61] respectively). Parental ACEs was directly associated with use of corporal punishment (0.14, [0.05, 0.27]). Parental ACEs also had positive indirect effect on inconsistent discipline via parents' reports of stress (0.03, [0.001, 0.16]) while stress had positive direct effect on inconsistent discipline (0.18, [0.03, 0.36]).

**Conclusions:** ACEs are common in parents and associated with mental health problems. Parental ACEs also affect parenting behaviors via direct and indirect pathways. It is important to detect and provide interventions to parents having histories of ACEs and poor mental health, to improve the quality of parenting and mitigate the intergenerational transmission of ACEs to their children.

**Ethical considerations:** This study was approved by the Research Ethics Committee of the Faculty of Medicine, Chiang Mai University (REC no. 442/2022).

**Conflict of interest:** The authors declare no conflict of interest.

## **PO-90**

### **Relationship Between Occupational Performance and Challenging Behavior of Persons with Developmental Disabilities and Mental Health of Parents**

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## ABSTRACT

**Background:** Occupational performance (OP) is the ability to recognize, plan, execute occupational behaviors and an important indicator of development. Challenging behaviors, one of characteristics among people with developmental disabilities (DD) make difficulties for their development. Diverse developmental issues of children affect parents' mental health difficulties, which in turn tends to lead to negative impacts on children. This mutual effect worsens when proper support is not provided to DD and their families.

**Objective:** The purpose of this study was to analyze the relationship between the level of OP

and types of challenging behaviors of DD and their parents' depression, anxiety, and stress. Method: Participants were selected as DD (n = 23) and their parents (n = 23) living in the metropolitan area in Korea among participants of camp held to support DD and their families during the COVID-19 pandemic and endemic situation. The level of DD's OP was measured by modifying the scales presented in ICF (International Classification of Functioning, Disabilities and Health), OTPF-4 (Occupational Therapy Practice Framework: Domain & Process 4th), and OTIPM (Occupational Therapy Intervention Process Model) and it was measured by occupational therapists who trained OP assessment. DASS-21 (Depression Anxiety Stress Scale) was used to measure parents' depression, anxiety, and stress, and MAS (Motivation Assessment Scale) was used to measure the types of challenging behaviors by parents' report. Statistical analysis was performed with SAS 9.4.

Results: In this study, the mean age of DD was  $20.89 \pm 5.67$  years old, and there were more males (86.96%) than females (13.04%). The higher the level of DD's OP, the lower the parental anxiety ( $\beta = -3.62$ ,  $p = .02$ ), stress ( $\beta = -3.60$ ,  $p = .01$ ), and depression ( $\beta = -3.21$ ,  $p = .08$ ). The higher the challenging behavior score of DD, the higher the parental depression, anxiety, and stress. Attention-seeking behavior was the most influential of the challenging behavior types to parents and was statistically significant (depression:  $\beta = 2.38$ ,  $p = .00$ ; anxiety:  $\beta = 1.83$ ,  $p = .01$ ; stress:  $\beta = 1.69$ ,  $p = .01$ ).

Conclusions: DD's OP and challenging behaviors are related to their parents' mental health. It suggested that health support for DD should focus on improving OP and focusing on family mental health.

Ethical Statement: The data in this study obtained all written consent in advance from the parents or legal guardians of the DD. This study was conducted by analyzing using existing data, and the IRB for it will be approved later.

COI: There are no conflicts of interest to disclose regarding this study.

## **PO-91**

### **A Systematic Review of Clinical Practice Guidelines for the Diagnosis & Management of Attention Deficit Hyperactivity Disorder: Assessment Using the Appraisal of Guidelines for Research and Evaluation (AGREE II) Instrument**

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#### **ABSTRACT**

Background: Trustworthy clinical practice guidelines (CPGs) for the diagnosis and management of attention deficit hyperactivity disorder (ADHD) are crucial to assist in decision-making. Thus, we conducted a systematic review to critically appraise the quality of current guidelines related to the diagnosis and management of ADHD by using the Appraisal of Guidelines for Research and Evaluation (AGREE II) instrument and to identify which methodological rigor quality needs to improve for the future development of high-quality guidelines.

Methods: We performed a systematic review (protocol registration number INPLASY202280001) with a literature search in PubMed, Google Scholar, the Agency for Healthcare Research and Quality (AHRQ), Dynamed, the National Institute for Health and Care Excellence (NICE), the National Health and Medical Research Council (NHMRC), and other

local or online databases between January 19 and January 31, 2021, by 3 independent authors. Our study was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. Informed consent was not necessarily required due to no humans being involved in this study, and the Ethics Committees of Niigata University approved this study's protocol (approval No. 2021-0360).

Results: After screening, 11 CPGs were included and appraised for methodological quality using the AGREE II Instrument by five reviewers, who were unaware of each other's scores. The majority of the CPGs reached the highest score in domain 4 "Clarity of Presentation" (mean  $\pm$  SD, 73,73%  $\pm$  12,5%). On the other hand, the domains that achieved poor scores were domain 5 "Applicability" (mean  $\pm$  SD, 45,18%  $\pm$  16,4%), and domain 3 "Rigour of Development" (mean  $\pm$  SD, 51,09%  $\pm$  24,1%). The guidelines from the National Institute for Health and Care Excellence (NICE) and the Ministry of Health Malaysia (MAHTAS) were identified as the only strongly recommended guidelines. All AGREE II domains illustrated poor to excellent interrater reliability, with the full domain intraclass correlation coefficient (ICC) ranging from 0,265 (95% CI, -0,470-0,665) to 0,758 (95% CI, 0,515-0,889).

Conclusion: According to the quality assessment from AGREE II, strongly recommended, recommended, and not recommended CPGs were identified. Findings from this study highlight the need for special attention to all domains based on the AGREE II validated tool, especially domains 3 and 5 (rigour of development and applicability), while developing new ADHD guidelines to improve the quality that can be implemented in daily practice.

Conflict of Interest: Muhammad Dwi Wahyu: None; Atsunori Sugimoto: received research funding or honoraria from the following organizations in the last 5 years, including Developmental Science Research and Education Center, Taiju Life and Welfare Foundation, Kawano Pediatric Medical Scholarship Foundation, Shimadzu Corporation, Takeda Pharmaceutical Co., Ltd., Nobel Pharma Co., Ltd., Shionogi Co., Ltd., and Mochida Pharmaceutical Co., Ltd.; Ekachaeryanti Zain: None; Faisal Budisasmita Paturungi Parawansa: None; Hiroyuki Kasahara: None, Kiyohiro Yoshinaga: None, Jun Egawa: received research funding or honoraria from the following organizations in the last 5 years, including Takeda Pharmaceutical Co. Ltd., and Shionogi Co. Ltd; Toshiyuki Someya: received research funding or honoraria from the following organizations in the last 5 years, including Astellas Pharma Inc., Eli Lilly Japan K.K., Janssen Pharmaceutical K.K., Mitsubishi Tanabe Pharma Co., Mochida Pharmaceutical Co., Ltd., MSD K.K., Novartis Pharma K.K., Otsuka Pharmaceutical Co., Ltd., Shionogi Co., Ltd., and Sumitomo Pharma Co., Ltd.

## **PO-92**

### **Relationship between perceived parental academic pressure, academic self-efficacy and test anxiety among high-school students**

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#### **ABSTRACT**

Background: For Thai high-school students, high academic performance was not only required for admission, but was also family value. High level of test anxiety could impair academic achievement and subjective well-being. Understanding personal and situational factors that effected on test anxiety could lead to evidence-based interventions.

Objective: To study the prevalence of test anxiety related to midterm exam in Thai high-school students. To study the relationship between perceived parental academic pressure and test anxiety related to midterm exam among Thai high-students. To Investigate the mediating effect of academic self-efficacy in this relationship.

Methods: Our study was a cross-sectional descriptive study. 235 High-school students from two

public schools completed questionnaires in June 2022. Questionnaires were composed of demographic questionnaire, Thai version of FRIEDBEN Test Anxiety Scale (FTA) questionnaire, Thai version of Perceived Parental Academic Pressure (PPAPS) questionnaire and Thai version of Academic self-efficacy scales of Self-Efficacy Questionnaire for Children (SEQ-C) questionnaire. Relationships were examined through correlational and mediation analysis.

Results: 85.1% of students were male. Mean age was  $16.22 \pm 0.95$  years old. Data was collected one month prior to midterm exam. 83.8% of students did not attend cram school. Prevalence of students with high level of test anxiety was 4.7 percent. Perceived parental academic pressure had both direct effect ( $\beta = .535$ , 95% CI: .444, .626) and indirect effect ( $\beta = -.038$ , 95% CI: -.075, -.004) on test anxiety. Academic self-efficacy was the mediating factor of this relationship.

Conclusion: Perceived parental academic pressure had not only directly positive effect on test anxiety, but also indirectly negative effect on test anxiety via increasing academic self-efficacy. However directly positive perceived parental academic pressure was beyond indirectly negative effect. Interventions promoting academic self-efficacy and parental support could prevent test anxiety.

The study was approved by Chulalongkorn university Institutional Review Board. (IRB NO.845/64)

Conflict of Interest: The authors declare that they have no conflict of interest.

### **PO-93**

#### **Are the socioeconomic factors associated with the children's Internet addiction?**

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<sup>1</sup>Funded Research Division of Child and Adolescent Psychiatry, Hokkaido University Hospital, Sapporo, Japan

#### **ABSTRACT**

Background: The Internet has become widespread and easily accessible to young children. According to the survey conducted by the Ministry of Internal Affairs and Communications of Japan in 2020, the Internet usage rate for all ages was 83.4%, and the rate for 6-12-year-olds was 80.7% with increased tendency. While there are benefits for children, such as the sharing of information and the spread of communication technology education, there are also increasing problems associated with the Internet, and the internet addiction is one of them. According to the "Survey on the Internet Use Environment of Youth" conducted by the Cabinet Office in 2020, more than half of children aged 12 and older have their personal Internet terminals. We investigated whether there are any factors related to internet addiction in the young generation that most people use the internet by the devices shared with their family.

Methods: Of the 308 first-time patients who visited the Department of Child Psychiatry at Hokkaido University Hospital between April 2020 and November 2022, 106 children aged 5 to 11 who were able to obtain written consent from their parents or guardians participated in the study. The database was created based on the medical records of eligible children, including gender, age, initial diagnosis, mother's education level, and household income. We used the Internet addiction test (IAT) developed by Kimberly Young to assess internet addiction. This study was conducted with the approval of the Hokkaido University Hospital Division of Clinical Research Administration.

Results: The mean age of the participating children in this study was 8.28 (SD 1.81), and 67 (63.2%) were boys; the mean IAT score was 37.40 (SD 14.40), with 37.7% of the participating children scoring above 40, indicating that they had Internet use problems. Multiple regression analysis adjusted for child gender and age showed that the IAT score was significantly lower for the group with higher household income ( $\beta = 0.24$ , 95% CI: 0.35-13.08).

Conclusion: This study suggests the socioeconomic factors of the family are associated with

internet addiction.

COI: Satoshi Suyama, Mariko Nakau, and Takuya Saito are endowed by the City of Sapporo.

#### **PO-94**

#### **Developing the Japanese version of the Mental Health Knowledge Questionnaire (MHKQ-J)**

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#### **ABSTRACT**

**Introduction:** Knowledge of mental health is significant in improving people's mental health, and proper knowledge of mental illness can effectively reduce the stigma associated with mental illness.

However, there are few studies of knowledge on psychiatric disorders in Japan. One reason for the lack of studies is the absence of a standardized scale of knowledge on psychiatric disorders. This study aimed to develop the Japanese version of the Mental Health Knowledge Questionnaire (MHKQ-J), which was translated from the Chinese original version (MHKQ) and to examine its reliability.

**Methods:** A total of 100 university students were recruited in for our survey. The questionnaire consisted of the Japanese version of the MHKQ which was developed through the process of related works in translation, and a preliminary investigation of the scale.

Moreover, opinions on the first author's Japanese translation were obtained from someone with both Japanese and Chinese backgrounds.

Besides, within a preliminary investigation of the scale, internal consistency (100 participants) and test-retest reliability (21 participants) were examined.

**Results:** Using the Japanese version of the MHKQ (20 items, 2-point scale), we obtained responses from 100 participants, an internal consistency reliability test was performed for the collected data and obtained Cronbach's  $\alpha$  coefficient = 0.487

However, when verifying the test-retest reliability, there is no significant difference between the scores with one-week interval.

**Discussion:** The Japanese version of the MHKQ was found to have unacceptable reliability, in terms of internal consistency. However, as for test-retest reliability, it is satisfactory enough. The reason we concerned is that there are several questions which are too difficult to answer for students. And from the results of this study, it is also essential to investigate the issue of the effect of the difference in cultural backgrounds between Japan and China on the results of the same questionnaire. Therefore, further research is required regarding the reasons leading to this result, for example, using statistical methods to optimize and re-implement the survey, etc.

The institutional review board at Ryukoku University approved this study.

The authors declare no conflict of interest associated with this presentation.

#### **PO-95**

#### **Effects of increased game playing time on children's anxiety during a COVID-19 pandemic in a disaster-affected area: a longitudinal study**

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## ABSTRACT

**Problems and objectives:** COVID-19 disaster is thought to have placed restrictions or changes on lifestyles, in particularly children, and it is unclear how they have affected their mental health. In addition, behavioral problems such as restlessness is recognized for children born within a year in disaster-affected area after the Great East Japan Earthquake (GEJE), and it is possible that the lifestyle changes caused by the COVID-19 disaster had some impact on their mental health. In this study, we focus on game playing time as a children's lifestyle, and report effects of increased game playing time from 2020 to 2021 on children's mental health, based on the result of a cohort study conducted in GEJE-affected area.

**Methods:** 148 data with consent from 2020 to 2021 was included in this study, and they were obtained from "a longitudinal supportive study for children born after the Great East Japan Earthquake and their families" (MICHINOKU CHILDREN COHORT) conducted in the coasts of a disaster-affected prefecture. We also included 31 data with consent during the same time periods in the interior of a disaster-affected prefecture as areas with little damage from the GEJE, for the purpose of comparing with the coasts as a seriously damaged regions. We used SCAS and DSRSC as children's mental health scales, and also measured children's lifestyles in houses such as a game playing time. This study was approved by the Ethics Committee of Iwate Medical University (No H27-89).

**Results:** Statistical analysis showed a significant increase of about 10% in the group playing games for more than 2 hours on weekdays in one year from 2020 in the coasts. To examine the effect of the increase in game time, we conducted a mixed linear model analysis comparing groups that had more than 2 hours of game time and those that did not over time, and found a significant increase in separation anxiety only in the group that had increased game time. In contrast, there was no significant increase in weekday game time in the interior of the disaster-affected prefecture.

**Discussion:** The results of this study revealed that increased playing game time on weekdays affected the separation anxiety for children. Because the increase in game time was particularly pronounced in the coasts of affected area, suggesting that lifestyle changes for children forced to COVID-19 pandemic was likely to be happened and associated with the increased anxiety for children, especially in this region.

**Conflict of interest (COI):** The authors report no competing interests.

## **PO-96**

### **Social dysfunctions and its hormonal background in autism spectrum disorders**

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## ABSTRACT

**Objectives:** It has been demonstrated that the recognition of facial affect recognition is impaired in individuals with in autism spectrum disorders (ASD), which are associated with their social dysfunction. Some previous studies reported that intranasal or intravenous oxytocin (OXT) reduces social misrecognition and obsessiveness, however clinical efficacy seems controversial.

We hypothesized that the enhancement in social recognition is evident in specific domains, we cannot detect the clinical efficacy of OXT in overall assessment. Therefore, we examined six basic facial affect recognition in ASD before and after administration of OXT.

Methods: This study is conducted in parallel with randomized controlled trial (RCT) of intranasal oxytocin (Mol Psychiatry, 2020). Twenty-four male adults with ASD were randomly assigned to OXT and placebo groups. They were administered OXT (24 unit, twice a day) or placebo for seven weeks. In open trial following the RCT, all participants were administered OXT for six weeks. Benton Facial Recognition Test and facial expression recognition task were examined for all participants at three time points (baseline, after randomized controlled trial, after open trial).

Results: OXT does not influence on the identifications of unfamiliar faces. Although the correct response rates for angry and disgusted faces after RCT are higher than those at baseline only in OXT group, it does not reach the significance level. After the open trial, patients recognized more accurately angry faces ( $p < 0.01$ ) and disgusted faces ( $p < 0.05$ ) than baseline. In error analysis, the misrecognition of angry for disgusted faces ( $p < 0.05$ ) and misrecognition of disgusted for angry faces ( $p < 0.01$ ) reduced after OXT administration. These effects are not significantly correlated with reduction in severity of social impairments.

Conclusion: Although both anger and disgust are negative emotions, they were followed by different aggressive expressions to the others. Misrecognition between disgusted and angry faces was also reported in delinquents (Child Adolesc Psychiatry Ment Health. 2009). Oxytocin reduces misrecognition of negative facial emotions in ASD, and it may be the neuropsychological background for improvements associated with social disturbances. This hypothesis should be examined in larger samples with comprehensive assessment of social functions in future.

Ethical consideration: This study protocol was approved by the Ethics Committee of the Nagoya University Graduate School of Medicine.

Funding: This study is funded by Japan Agency for Medical Research and Development (AMED).

COI disclosure: There is nothing to declare.

## **PO-97**

### **The degree of interest in people at 4 years old predicts development of socialization at 5 years old**

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#### **ABSTRACT**

Background: The development of socialization and communication are very complex processes. It is meaningful to identify factors related to development of them. The purpose of this study was to determine how attention to social information affects the development of socialization and communication by typically developed children.

Methods: We recruited 24 typically developed preschool children. Using the all-in-one-eye-tracking system, Gazefinder, we measured the percentage fixation time allocated to areas of interests (AoIs) depicted in movies (the eyes and mouth in movies of a human face with/without mouth motion, upright and inverted biological motion in movies showing these stimuli simultaneously, people and geometry in preference paradigm movies showing these stimuli simultaneously, and objects with/without finger-pointing in a movie showing a woman pointing toward an object) at Wave1 ( $4.01 \pm 0.84$  years) , Wave2 ( $5.22 \pm 0.66$  years) , and



Wave3 (6.57 ± 0.63 years). We also used Vineland Adaptive Behavior Scales Second Edition for measuring socialization and communication at Wave from 1 to 3. We then carried out using 3-wave cross-lagged effects model in structural equation modeling framework to determine the impact of attention to social information on the development of socialization and communication. The study protocol was approved by the ethics committee of the University of Fukui. After a complete explanation of the study, all participants or their parents/legal guardians provided written informed consent.

Results: In the preference paradigm movies simultaneously showed people and geometric shapes, the percentage fixation times to people region of the preference paradigm at Wave1 affected the score of socialization at Wave2.

Limitations: The sample size was very small. Additionally, it is necessary to identify factors that predict the development of socialization and communication using a variety of factors other than attention to social information.

Conclusions: The degree of interest in people has a strong positive influence on the development of sociability at ages 4 to 5, and the degree of interest in people has a strong positive influence on the development of socialization for a limited period of time.

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## **PO-98**

### **Reducing and exacerbating factors of social stigma, considering psychiatric disorders among university students in Japan**

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#### **ABSTRACT**

Social stigma for psychiatric disorders has a huge impact on the development of these issues over time. Social stigma makes it difficult for support workers as well as ordinary people to help individuals with psychiatric disorders. When social stigma is internalized, individuals with psychiatric disorders are shown to feel ashamed of having the disorders (self-stigma).

Consequently, they become reluctant to see mental health professionals to seek help. In this study, Factors that reduce or exacerbate a public stigma for mental disorders among university students were investigated.

Participants were university sophomores attending lectures on special needs education, one of this project's researchers was a teacher. One of the main purposes of these lectures was to reduce a public stigma for psychiatric disorders through lectures including three speeches from a mother and a sibling of individuals with autism spectrum disorder (ASD) and while not a psychological disorder an LGBT individual provided their perspective on dealing with their stigmatized position in Japanese society.

Among the students attending the lectures, 32 students answered open-ended questions, "What is the main event which positively or negatively affected your stigma on psychiatric disorders until now?" Each answer was tagged with code, then based on this, a set of codes was established and applied to categorize the answers.

Stigma-reducing events (the number of students): the speeches of an LGBT individual and relatives (a parent or a sibling) of ASD (5), lectures on special needs education or other lectures at the university (5), interaction with individuals (incl. family members) with psychiatric disorders or marginal perspective (5), student's own experience suffering from psychiatric disorders or marginal perspective (3), TV programs or books (3), DK answer (13); stigma-exacerbating events: media coverage on crimes committed by individuals with psychiatric disorders or marginal perspective (6), negative memories of individuals with psychiatric disorders (1), student's own experience of being teased by others about his psychiatric disorders

(1), the pessimism about the recovery of psychiatric disorders (1), DK answer (23). Results show the possibility of reducing stigma for psychiatric disorders even after university admission and accordance with previous research, the grave negative influence of media coverage on crimes committed by individuals with psychiatric disorders. In this presentation, the efforts of mental health professionals against this biased media coverage on psychiatric disorders in Japan will be introduced.

The institutional review board at Ryukoku University approved this study.  
The authors declare no conflict of interest associated with this presentation.

## **PO-99**

### **A longitudinal study of the relationship between mental health of parents and problem behaviors of children born after the Great East Japan Earthquake**

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#### **ABSTRACT**

**Objective:** The purpose of this study is to investigate longitudinal associations between problem behaviors of children born one year after the Great East Japan Earthquake (GEJE) and mental health of their parents.

**Methods:** The subjects were 132 pairs of parents and children one year born after GEJE in Iwate Prefecture coastal areas where damage was severe and in Iwate Prefecture inland areas where damage was small. The IES-R, PTG, QOL, and BDI-II were used to assess mental health of parents, and the CBCL was used to assess children's behavioral problems. To make year-to-year comparisons, we used data measured in 2016, 2020 and 2021. For the statistical analysis, we divided the subjects into coastal group (N=88) and inland group (N=44), we conducted our analysis with a mixed linear model with each child and parent variable as dependent variables and group (coastal group, inland group) and time (2016, 2020, 2021) as independent variables. We performed a multigroup analysis using path analysis techniques to compare whether there were differences between the two groups in terms of associations between variables over time.

**Results:** In the mixed linear model, the coastal group had significantly higher IES-R scores than the inland group, but there was no significant change over time. In the multigroup analysis, there were differences in the way the variables were related between the coastal and inland groups. In the coastal group, past child CBCL scores had a positive effect on parental IES-R scores, but not in the inland group.

**Conclusion:** In coastal areas where damage was severe, parental trauma symptoms persisted several years after GEJE and were associated with children's problem behaviors. Therefore, it is necessary to observe the mental health of the parents and the problem behaviors of the children over a long period of time.

**Ethical consideration:** This study was approved by the Ethics Committee of the Iwate Medical University School of Medicine.

**Conflict of interest (COI):** The authors report no competing interests.

## **PO-100**

### **Factors associated with suicidal ideation in Japanese junior high school students with Autism Spectrum Disorder**

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#### **ABSTRACT**

**Introduction:** Although suicidal ideation is one of the leading causes of death in adolescents, risk factors of their suicides are complex and remain unclear. Current cohort study reported that a higher rate of suicide ideation and attempt in individuals with Autism Spectrum Disorder (ASD) than without ASD. In this study, we hypothesized that influenced factors of suicidal ideation was different between students with ASD and without ASD. The purpose of this study was to investigate factors affecting suicidal ideation in junior high school students with or without ASD.

**Methods:** The study design was from retrospective medical records from April 2015 to March 2022 at Center for Child Health, Behavior and Department, Ehime University Hospital. Participants were junior high school students aged 12 to 15 years old who visited our center for the first time. Participants who had intellectual disability, schizophrenia, or bipolar disorder were excluded. They completed the Strengths and Difficulties Questionnaire (SDQ) and the General Health Questionnaire 30 (GHQ30), and their parents completed the Autism Screening Questionnaire, the Attention Deficit Hyperactivity Disorder Rating Scale, and the Social Responsiveness Scales. Suicidal ideation was assessed by item 28 of GHQ30: 'make away with yourself'. Participants were divided into two groups: ASD group and non-ASD group, and compared by Mann-Whitney's U test. Each group was performed by multiple logistic regression analysis, with the presence of suicidal ideation as the dependent variable and each questionnaire score as independent variables. The significance level was set at  $p < 0.05$ .

**Results:** The total of 250 participants were included in this study, and categorized ASD group (n=84) and non-ASD group (n=166). Thirty-two participants (38.1%) of ASD group and 71 participants (42.8%) of non-ASD group had suicidal ideation, and the prevalence was not significantly different between both groups. Multiple logistic regression analysis revealed that the SDQ subscale "Peer Problems" was the most significantly associated with suicidal ideation in the ASD group (OR 1.63, 95% CI: 1.22-2.19). In both groups, the SDQ subscale "Emotional Symptoms" was significantly associated with suicidal ideation (ASD group: OR 1.63, 95% CI: 1.22-2.19, non-ASD group: OR 1.49, 95% CI: 1.29-1.73).

**Conclusion:** In this study, there were positive association with suicidal ideation and "Emotional Symptoms" of SDQ in junior high school students both with ASD and non-ASD. "Peer Problems" of SDQ may be a specific risk factor for suicidal ideation in the students with ASD.

The authors have no potential conflicts of interest to disclose. There are no funders report for this submission. The study was approved by the Institutional Review Board of the Ehime University Graduate School of Medicine (IRB No. 1507007).

## **PO-101**

### **Relationship between Sleep Habits and Behavioral Problems in 3-Year-Old Children, and Differences in Sleep Habits with and without Social Development Delay**

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#### ABSTRACT

**Background & Aims:** Recently, there has been growing interest in the effects of children's sleep on their health and development. Children with sleep problems have more behavioral problems (Reynaud, 2018), and children with Autism Spectrum Disorder (ASD) have more sleep problems than without it (Johansson, 2018). The Aims in this study are to investigate the association between sleep habits and behavioral problems in 3-year-old children, and differences in sleep habits with and without social development delay (SDD).

**Methods:** Among the parents of 3-year-old children who underwent health checkups in a city in the Tohoku region in 2021-2022 and responded to a questionnaire, 1327 people who could be analyzed were included. We used the Child Sleep Habits Questionnaire (CSHQ) to assess sleep habits, the Child Behavior Checklist (CBCL) to assess behavioral problems, and Screening for Social Development-14 (SSD-14), which was created by Hirosaki University, to evaluate the social development delay. All participants were examined for associations between sleep habits and behavioral problems. In addition, we examined differences in sleep habits between a group with social development delay (SDD group, n=154) and a group without social development (non-SDD group, n=1173). We used multiple regression analysis for statistical analysis, the  $\chi^2$  test and the Mann-Whitney test.

**Results:** As a result of multiple regression analysis (dependent variable: CBCL, independent variable: CSHQ), there was a moderate effect size association between total scores ( $\beta = 0.431$ ,  $R^2 = 0.185$ ). In the subsections of CBCL and CSHQ, there were significant associations between sleep habits such as Sleep onset delay, Sleep anxiety, Parasomnias, and Sleep disordered breathing and behavioral problems such as Emotional reactive, Anxious/Depressed, Attention problems, Aggressive behavior, Internalizing, and Externalizing. A chi-square test showed that the SDD group was significantly more likely to have some sleep problems ( $p < 0.01$ ). As a result of comparing the sleeping habits of both groups, the total score ( $p < 0.001$ ), each subitem; Bedtime resistance ( $p < 0.01$ ), Sleep onset Delay ( $p < 0.001$ ), Sleep duration ( $p < 0.01$ ), Sleep anxiety ( $p < 0.05$ ), Night time awakenings ( $< 0.001$ ), Parasomnias ( $p < 0.001$ ), Sleep disordered Breathing ( $p < 0.001$ ), and Daytime sleepiness ( $p < 0.001$ ) were all significantly higher in the SDD group.

**Conclusions:** A community survey suggested a significant association between sleep habits and behavioral problems in 3-year-olds. Children with SDD also had more problems with sleep habits.

This study has been approved by the Ethics Committee of Hirosaki University Graduate School of Medicine. All presenters have no conflict of interest.

#### **PO-102**

#### **The Effect of Medication Guidance from Pharmacists on Medication Adherence among Child and Adolescent Outpatients with Mental Disorders**

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## ABSTRACT

**Background:** Poor adherence to medical treatment severely compromises patient outcomes and increases patient morbidity and mortality. Due to language and comprehension problems, there is a negative link between adherence rates and a need for more explanation of the adverse effects of medications. Ignorance about adverse effects happening usually cause treatment discontinuance from the patients. There are currently few reports on medication guidance and its impact on adherence in this field. This study aims to examine the effect of medication guidance by a pharmacist on children's adherence.

**Methods:** This study included 38 child and adolescent outpatients in Niigata Psychiatric Centre who were receiving pharmacotherapy. The medication guidance showing a picture story of the benefits and side effects of medications was given to the patients and their guardians by a pharmacist. We use the Child Adherence Questionnaire (CAQ), which is a modified DAI-10, to measure medication adherence in children receiving psychotropic medications. The CAQ score consists of CAQ total, CAQ attitude, and CAQ comprehension. The CAQ was administered before the medication guidance and at the final outpatient visit after the medication guidance.

**Results:** Of all subjects, 81.6% were male (n=31) and were predominantly diagnosed with attention deficit hyperactivity disorder (ADHD) and autism spectrum disorder (ASD). Some patients received more than one drug therapy. As a result, 19 (35,85%), 14 (26,42%), 11 (20,75%), and 9 (16,98%) subjects received Methylphenidate/MPH, Atomoxetine/ATX, Aripiprazole/ARP, and Risperidone/RIS, respectively. With using paired t-test, CAQ total, attitude, and comprehension scores did not improve before and after the intervention. According to the multiple regression analysis, there were positive correlations between the age of subjects with CAQ total change ( $R = 0.505$ ;  $p < 0.001$ ), CAQ attitude change ( $R = 0.525$ ;  $p = 0.013$ ), and CAQ comprehension change ( $R = 0.525$ ;  $p < 0.001$ ).

**Conclusion:** Our study reveals that medication guidance is significant with medication adherence alteration positively. Moreover, age is significant in understanding medication adherence with the administration and consumption of psychotropic drugs in child and adolescent outpatients with mental disorders.

**Ethical considerations:** This study was approved by the Ethical Review Committee of the Niigata Psychiatric Centre. All patients and their guardians were fully informed, and their written consent was obtained.

**Conflict of Interest:** Faisal Budisasmita Paturungi Parawansa: None; Atsunori Sugimoto: received research funding or honoraria from the following organizations in the last 5 years; Developmental Science Research and Education Center, Taiju Life and Welfare Foundation, Kawano Pediatric Medical Scholarship Foundation, Shimadzu Corporation, Takeda Pharmaceutical Co., Ltd., Nobel Pharma Co., Ltd., Shionogi Co., Ltd., Mochida Pharmaceutical Co., Ltd; Tomoe Yamashita: None; Ekachaeryanti Zain: None; Kiyohiro Yoshinaga: None; Jun Egawa: received research funding or honoraria from the following organizations in the last 5 years, Takeda Pharmaceutical Co. Ltd., Shionogi Co. Ltd; Toshiyuki Someya: received research funding or honoraria from the following organizations in the last 5 years, Astellas Pharma Inc., Eli Lilly Japan K.K., Janssen Pharmaceutical K.K., Mitsubishi Tanabe Pharma Co., Mochida Pharmaceutical Co., Ltd., MSD K.K., Novartis Pharma K.K., Otsuka Pharmaceutical Co., Ltd., Shionogi Co., Ltd., Sumitomo Pharma Co., Ltd.

## **PO-103**

**Three cases of neurofibromatosis type 1 (NF1) with neurodevelopmental disorders -A clinical practice of child and adolescent psychiatry in in-hospital clinical network for NF1-**

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## ABSTRACT

**Introduction:** Neurofibromatosis type 1 (NF1) is known to have frequent neurodevelopmental comorbidity, but in many cases, psychiatric evaluation is inadequate or not connected to support. In 2014, Nagoya University Hospital established the NF1 In-Hospital Treatment Network (Nishida et al. Sci Rep, 2021), and the Department of Psychiatry and the Department of Child and Adolescent Psychiatry are also participating in the network to evaluate, diagnose, and treat comorbid neurodevelopmental disorders and psychiatric disorders. There are few reports on the actual clinical practice for patients with NF1 in child and adolescent psychiatry, and we report three cases with each of the typical comorbid neurodevelopmental disorders.

**Case presentation:**

**Case 1:** 9-year-old boy with attention deficit/hyperactivity disorder (AD/HD)

Prominent hyperactivity and impulsivity had been observed since early childhood. At the age of 9, he was referred to a child and adolescent psychiatrist by his pediatrician and was diagnosed. Although some improvement was observed with environmental adjustment and psychoeducation, he continued to have difficulties in his daily life, and his symptoms became milder after starting ADHD medication.

**Case 2:** 13-year-old boy with autistic spectrum disorder and AD/HD

From early childhood, problems with social communication, repetitive behaviors or interests, and inattention were observed. He was diagnosed with NF1 at pediatric clinic and evaluated and diagnosed with neurodevelopmental disorders at child and adolescent psychiatric clinic.

Consultation on how to deal with his developmental characteristics is ongoing.

**Case 3:** 9-year-old boy with specific learning disorder (dysgraphia) and AD/HD

Hyperactivity and inattention were observed since childhood. After schooling, his difficulty with writing was more pronounced than his other learning abilities. He was referred to a child and adolescent psychiatrist and was evaluated and diagnosed with neurodevelopmental disorders. Cooperation with the school was conducted to discuss learning considerations based on the developmental characteristics of the child.

**Discussion:** When treating patients with NF1, especially pediatric patients, it should be noted that neurodevelopmental disorders often coexist, and support should be tailored to their characteristics after a thorough developmental evaluation. Improvement in daily life adjustment and prevention of secondary mental health problems is expected. It is also expected that an understanding of developmental characteristics will lead to psychological support in the course of treatment of physical ailments.

Authors have no conflict of interest. The patients and/or their parents gave written informed consent for this presentation.

## **PO-104**

### **Association between Physical Activities, Perceived Stress and Depressed Mood among Metropolitan Secondary School Students in Taiwan**

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#### ABSTRACT

**Objectives:** To understand the association between physical activities, perceived stress and depressed mood among six metropolitan secondary school students in Taiwan. **Methods:** This study was conducted using the survey datasets from the John Tung Foundation Mental Health Center. The survey was carried out from May through June in 2020. A total of 30 junior and senior high schools from six metropolitan including Taipei City, New Taipei City, Taoyuan City, Taichung City, Tainan City, and Kaohsiung City were recruited using convenience sampling. 2,222 valid questionnaires were collected by anonymously filled out the self-administered questionnaire by the students allocated.

**Results:** 27.6% of the teenagers often and always felt stressed in the past six months. 17.6% of them was found “Depressed mood, which need help”. Beside physical education in school, 55% of teenagers keep a regular 31-60 minute of exercise habits each time. The most frequently physical activities engaged are “ball games”: followed by “running/walking”: and “dance class”. There were significantly associated between regular exercise habits and gender; and status of depressed mood; but not significantly associated between how often of perceived stress. Parents with regular exercise habits, encouragement from parents, and exercise with parents were factors that significantly high in teenager with regular exercise habits.

**Conclusions:** Having a regular exercise habit for teenagers is significantly association with status of depressed mood and gender. Perception of how teenagers think about the amount of exercise and benefit of physical activities will further discussed. Furthermore, the role of parents is important to cultivate a regular exercise habit for teenagers.

**Conflict of Interest:** No conflicts of interest to disclose.

(Approved by the IRB of National Cheng Kung University, IRB No 111-065)

#### **PO-105**

##### **The title: Parental intervention program for appropriate smart device usage in preschool children with neurodevelopmental problem**

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#### ABSTRACT

**Objects:** The use of smart devices in young children is increasing worldwide. In Korea, National information society agency reported that the risk group for overdependence on smart devices in children aged 3 to 8 reaches 28% in 2021. The purpose of this study is to evaluate the effects of the parental intervention program for appropriate smart device usage for children with neurodevelopmental disorder (NDD).

**Methods:** The children aged 2.5-7 years old with NDD and their parent were enrolled. The parental intervention program for appropriate smart device usage developed in the authors' previous study for children with typical development (TD) with work book was used. In-person or online meetings (during COVID-19 period) were conducted once a week for a total of 6 sessions. At enroll periods, comprehensive neurodevelopmental evaluations and smart device usage related questionnaire were conducted to each patients. Before (A) and after (B) the intervention period, the parent filled the brief questionnaire for smart device usage of their children to compare the effect of intervention. The intervention program included understanding their children, managing the time and frequency of smart device usages, encouraging parental engages while their child is using smart devices, and increasing the ability to apply the contents watched together on smart devices during daily activities with their child.

Results: Twenty-six NDD child-parent pairs were completed the intervention program. (Mean age 3.8±1.0 years, male: female 22:4). The smart device use frequency and time per a day were significantly decreased after the intervention program (A: 1.7±0.7 times/day and 75.7±48.4 minutes/day, B: 1.3±0.8 times/day and 51.5±31.9 minutes/day). The total co-viewing or co-talking times per a day or a week with their parent during smart device usage were not significantly changed. However, the time and frequencies to apply the co-watched contents to daily activities were significantly increased after the program (A: 2.2±1.7 times/day and 8.7±13.9 minutes/day, B: 3.7±2.3 times/day and 13.0±11.3 minutes/day). Although co-talking times per a day was not significantly changed, the percent ratio of co-talking time out of total use time a day were significantly increased after intervention (A: 0.3±0.3, B: 0.8±0.7).

Conclusion: As in TD group, the parental intervention program for smart device usage was effective in reducing the time simply used the device and increasing time interactively use with their parent. If used together with other ore developmental therapies, parental program can promote the adaptive use of smart device in children with NDD older than 2 years.

This work was supported by the research fund of National research foundation of Korea (NRF-2019R1F1A1058704) and preliminary results of the research.

This work was modified result from the oral presentation in 2022 Oct. 53th Korean Child Neurology Society conference in Seoul. It has not been published in any other form.

Conflict of interest: None of the authors have any conflicts of interest to declare.

Ethical considerations: This work was approved by institutional review board approval of Hanyang University Guri Hospital (IRB file No. 2019-08-003)

## **PO-106**

### **Survey of Practice for Children and Adolescents with Eating Disorder in Nagano Prefecture, Japan**

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#### **ABSTRACT**

Introduction: Recently, many countries have reported a substantial increase in the number of eating disorders. The National Center for Child Health and Development reported an increase in patients with eating disorders in Japan after the eruption of the coronavirus disease 2019 (COVID-19) pandemic. Some research have reported a small proportion of medical institutions are required to provide a disproportionate amount of care to these patients. Furthermore, there are few professionals working with eating disorders in Japan. This survey was conducted to elucidate the medical demand and current treatment status of children and adolescents with eating disorders in Nagano Prefecture and to evaluate the issues related to child and adolescent eating disorder treatment.

Method: We sent questionnaires on child and adolescent eating disorder treatment to the pediatric and psychiatric departments of medical institutions in Nagano. Questionnaires returned between April 2022 and June 2022 were used in the analysis. Questionnaires were sent to 205 medical facilities; 49 pediatric hospitals, 59 pediatric clinics, 39 psychiatric hospitals, and 58 psychiatric clinics. The questionnaire included whether they provide outpatient or inpatient treatment for children and adolescents with eating disorders, what kind of cases they find difficult to treat, challenges in the treatment, and requirements needed for better treatment delivery. The ethics committee of the Shinshu University approved this study.

Result: A total of 138 (67%) medical facilities responded to the survey. Forty pediatric hospitals (81%), 36 pediatric clinics (61%), 28 psychiatric hospitals (71%), and 34 psychiatric clinics



(58%) responded. There were 289 patients, treated at 42 medical facilities, which is approximately 20% of the total number of pediatric and psychiatric departments in Nagano. Pediatricians reported difficulty in treating psychiatric complications and adolescent cases, while psychiatrists reported difficulty in treating physical complications and patients below the adolescent age. Both departments reported difficulty in treating cases with significant weight loss and undernutrition. The difficulties in treatment included a lack of professional medical staff, dealing with parents, and the long duration of treatment. The following were mentioned as possible facilitating factors for treatment: access to supervision, securing medical professionals with expertise, collaboration between pediatricians and psychiatrists, and presence of medical facilities that could accept patients when their condition deteriorates.

Discussion: Many medical institutions in Nagano reported difficulty treating children and adolescents with eating disorders. In order to improve the treatment system, it is necessary to train and supervise medical staff and establish a network among hospitals.

The authors have no competing interests to disclose.

### **PO-107**

#### **A preliminary magnetoencephalography study of brain activities during cue reactivity in internet gaming disorder**

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#### **ABSTRACT**

Introduction: Internet Gaming Disorder (IGD) is a new behavioral addiction in psychiatric disorders that has been recognized as a disorder because, like gambling disorder, it has been reported to have functional abnormalities in the reward system of the brain. Functional brain testing in gaming disorder has indicated dysfunction in prefrontal and limbic regions, but it remains unclear whether these brain function changes are plastic and whether these abnormalities are predictive of treatment success. We aim to construct an experimental system to reveal brain activity in IGD patients using 306-channel whole-head magnetoencephalography (MEG).

Method: The patient is a 14-year-old boy diagnosed with IGD according to DSM-5 diagnostic criteria. The patient participated in group therapy sessions once a week for an hour for a total of four times, and MEG was measured before and after the sessions. We presented a cue stimulus task consisting of 48 dependent game images and 48 blurred images alternately for a total of 288 seconds during the MEG measurements. Maxfilter (MEGIN) was applied to remove external noise, a noise covariance matrix was calculated using the empty room data to remove the effect of environmental noise, and the evoked brain magnetic fields were additionally averaged for each condition. Data were analyzed using Brainstorm and SPM12.

Results: Provisional results showed that the first measurement showed significant brain activity

in the cuneus and middle and inferior temporal gyri under cue stimulation compared to the blurred images. In addition, comparing the first and second measurements when the game images were presented, we found reduced brain activity in the occipital gyrus and fusiform gyrus, parahippocampal gyrus, and temporal gyrus.

Conclusion: This experimental system suggests that MEG can capture target brain activity in IGD. We look forward to a larger sample size in the future to provide clinical and biological evidence of the neurobiology of IGD as a psychiatric disorder and the efficacy of group therapy in improving IGD.

Ethical considerations: The study was conducted in accordance with the standards of the Declaration of Helsinki and was approved by the Niigata University Ethics Review Committee (approval number 2018-0393), and a patient gave written consent.

Disclosures: Yoshinaga K: received research funding or honoraria from the following organizations in the last 5 years; Taiju Life and Welfare Foundation; Sugimoto A: received research funding or honoraria from the following organizations in the last 5 years; Developmental Science Research and Education Center, Taiju Life and Welfare Foundation, Kawano Pediatric Medical Scholarship Foundation, Shimadzu Corporation, Takeda Pharmaceutical Co., Ltd., Nobel Pharma Co., Ltd., Shionogi Co., Ltd., Mochida Pharmaceutical Co., Ltd. The other authors declare no competing interest; Egawa J: received research funding or honoraria from the following organizations in the last 5 years, Takeda Pharmaceutical Co. Ltd., Shionogi Co. Ltd, Someya T: received research funding or honoraria from the following organizations in the last 5 years, Astellas Pharma Inc., Eli Lilly Japan K.K., Janssen Pharmaceutical K.K., Mitsubishi Tanabe Pharma Co., Mochida Pharmaceutical Co., Ltd., MSD K.K., Novartis Pharma K.K., Otsuka Pharmaceutical Co., Ltd., Shionogi Co., Ltd., Sumitomo Pharma Co., Ltd. Other speakers have no COI to disclose.

## **PO-108**

### **Is On-Site, Practical Training Effective in Reducing Burnout and Improving Self-Efficacy of Inpatient Staff Working with Individuals with Challenging Behaviors?**

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#### **ABSTRACT**

It is not easy to support children and adults with challenging behaviors (CBs), such as self-injury and aggression toward others, even in specialized inpatient settings. Professional staff working in specialized psychiatric settings may report psychological burden resulting from their work with patients with CBs. It is said that the lack of knowledge and practical training on effective support methods increase the burden on staff. The presenter investigated whether on-site training of staff based on the TEACCH approach would reduce burnout and increased caregiving confidence among staff. A series of on-site workshops were held from August 2022 to February 2023 on one unit of Kikuchi Hospital in Kumamoto, Japan. Participants included 20 nurses and 6 co-medical personnel. Workshops consisted of (a) lectures on the TEACCH approach and (b) “homework” applying one TEACCH strategy with one inpatient presenting CBs. Outcome measures included the General Self-Efficacy Score (GSES), the Japanese Burnout Scale (JBS), Behavior Problems Inventories - Short version (BPI-S) and presenter-developed pre- and post- training/intervention questionnaires. In the post-workshop questionnaire, subjects reported an increase in “using effective strategy for inpatients with CBs”. Although some subjects reported that patients functioned more independently, overall changes in BPI-S scores were not statistically significant. Unexpectedly, self-efficacy scores decreased and scores on the burn-out measure increased post-training. Some staff commented that they were too busy to participate in the training even though they wanted to learn more. The presenter suggests the importance of continuing to assess the effectiveness of on-site, applied

training and possible relationships with caregiver variables such as self-efficacy and chronic work fatigue. In the future, training models need to continue to develop to increase the knowledge and skills of inpatient staff.

This study was conducted with the approval of the ethics committee of Kikuchi Hospital. The presenter has no financial conflicts of interest associated with this presentation.

### **PO-109**

#### **Associations between ADHD Symptoms, Irritability, and Quality of Life in Children/ Adolescents: A Network Analysis**

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#### **ABSTRACT**

**Hypothesis/Objective:** Individuals diagnosed with attention-deficit/hyperactivity disorder (ADHD) have reported a lower quality of life (QOL) across all age groups (Coghill & Hodgkins, 2016; Klassen, Miller, & Fine, 2004; Lee et al., 2016). These studies have compared individuals with an ADHD diagnosis to those without, who are assumed to be the recipients of clinical support. However, individuals with severe ADHD symptoms who remain undiagnosed may also experience psychosocial challenges (Okumura et al., 2019). Therefore, it is important to identify the support needs of children who exhibit ADHD symptoms but remain undiagnosed. The purpose of this study is to investigate the effects of inattention, hyperactivity/impulsivity symptoms, and irritability on various aspects of quality of life, while considering the presence or absence of an ADHD diagnosis.

**Method:** An online cross-sectional survey was conducted, in which a total of 2,000 parents participated; 1,000 with and 1,000 without an ADHD diagnosis in children. Four eligibility criteria were established for parents, including being 20 years of age or older, having a child in their care, having a first child in either the first or third grade at the time of survey response, and expressing willingness to participate in the study. Parents answered about their first child's ADHD symptoms (ADHD-RS), irritability (ARI), and quality of life (KIDSCREEN-52), as well as demographic details such as the child and parent's age and gender, sibling number, academic achievement, nationality, annual income, and place of residence. This study received approval from the institutional review board of the second author's affiliation (Ethics Review Committee, Faculty of Education, Shinshu University) for all the procedures conducted.

**Results/Conclusions:** A network analysis was performed to investigate the relationship between measurements, with and without an ADHD diagnosis. The results revealed that in children with an ADHD diagnosis, symptoms of ADHD and irritability had effects on quality of life, while in those without a diagnosis, the effect was found to be minimal. Specifically, among children with an ADHD diagnosis, hyperactivity/impulsivity symptoms and irritability were found to be correlated with decreased peer acceptance, and it connect to other quality of life factors. Conversely, inattention symptoms were associated with increased peer acceptance. Hence, in order to enhance the quality of life of children with ADHD, it is imperative to provide them with support to promote a sense of acceptance and security in their peer relationships, particularly in the school environment where they spend a significant portion of their time.

This work was supported by Health Labour Sciences Research Grant 20DA0101.

The authors have declared that they have no competing or potential conflicts of interest.

### **PO-110**

## **Creation of a new scale " Screening for Social Development-14 (SSD-14)" for early detection of neurodevelopmental disorders in 3-year-old children and social implementation of its web system**

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### **ABSTRACT**

**Background & Aims:** Early detection of neurodevelopmental disorders (NDDs) is important, but the current situation is that NDDs are not detected in infant health examinations in Japan, compared to the prevalence of about 10%. We created Screening for Social Development-14 (SSD-14), which aims to detect NDD at the age of 3 years. Here, we report on the process of creating the scale and its accuracy.

**Methods:** SSD-14 was created over a period of 5 years.

(1) In 2017, we conducted a preliminary survey of 123 3-year-old health checkup participants and decided on a screening method.

(2) In 2018, 3 criteria were extracted from 1090 screening participants and 63 detailed examination participants in the 3-year-old health checkup.

(3) In 2019, we examined the equivalence of the three new criteria in 1174 screening participants in the 3-year-old health checkup, and finally selected SSD-14.

(4) In 2021-2022, we verified the reproducibility of the scale and the validity of the contents in 1327 children who responded to the SSD-14 in the 3-year-old health checkup.

**Results:** (1) The cutoff value of SRS-2 useful for screening for NDD in children aged 3 years and 6 months was 43.5.

(2) The accuracy and predictive validity of the three criteria are as follows: sensitivity 88.9, specificity 99.5, AUC 0.993 for 14 items; sensitivity 88.9, specificity 99.4, AUC 0.995 for 15 items; and sensitivity 87, specificity 99.7, AUC 0.996 for 16 items.

(3) The predictive validity of the three criteria was almost the same. The SSD-14 cut-off value was  $\leq 29$  on a 40-point scale [sensitivity 82.8%, specificity 96.8%, AUC 0.975]. The estimated detection rate for NDD-risk children was 11.4%. Cronbach's coefficient alpha

(4) Cronbach's coefficient  $\alpha$  was 0.794. The average value was 34.1 (SD4.55), and the score of 29 points was 1 SD value. The number of NDD-risk children extracted was 11.6%, and the reproducibility was good.

**Conclusion:** SSD-14 is a convenient and accurate screening at 3 years of age. SSD-14 has already been made into a WEB system, and social implementation has started in Hirosaki City. It is planned to be used throughout Aomori Prefecture in 2024.

This study has been approved by the Ethics Committee of Hirosaki University Graduate School of Medicine. All presenters have no conflict of interest.

### **PO-111**

#### **Acceptability of Parent Child Interaction Therapy in the rural area of Hokkaido**

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### **ABSTRACT**

**Background:** Parent Child Interaction Therapy (PCIT) is an evidence-based parenting program.

PCIT was introduced to Japan by the members of Tokyo Women's Medical University in 2008, and has been spreading out. However, in Hokkaido, which is the biggest prefecture in Japan, the program is not accessible to all the families, especially for those who live in the rural area. In this study, we have conducted PCIT in Biei, which is in the central of Hokkaido. Until we started PCIT, most of the staffs working at child rearing support center of Biei, or the public health nurse in Biei did not know PCIT. This study reports the qualitative investigation of supporters who experienced PCIT for rural or regional Hokkaido Family.

**Methods:** Qualitative questionnaires were conducted to the supporters of family who experienced PCIT. The questionnaire was conducted after they saw the PCIT for the first time in their life. This study was conducted with the approval of the Hokkaido University Hospital Division of Clinical Research Administration.

**Results:** Most of the staffs were favorable to the therapy. The result will be presented in the poster.

**Conclusion:** Even for those who support families in burden of childcare, PCIT has a very strong impact in a sense the therapy changes the relationship between parent and the child and also the parent her/his self. We would like to continue conducting PCIT in the rural area of Hokkaido, and solve the obstacle that is making difficult to reach PCIT to the families living in the rural area.

COI: Satoshi Suyama, Mariko Nakau, and Takuya Saito are endowed by the City of Sapporo. This study was funded by Yasuda-Life Welfare Foundation

## **PO-112**

### **Exploring book titles on neurodevelopmental disorders in Japan: A text-mining investigation**

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#### **ABSTRACT**

**Background:** The number of individuals diagnosed with neurodevelopmental disorders in Japan is growing. This study focused on published book titles about the disorders. Book titles are considered one of the indicators reflecting public awareness and the needs of those involved, as books are a readily available source of information.

**Methods:** We retrieved all available bibliographic datasets from the National Diet Library (NDL). Searched criteria were: books 1) that include the words “developmental disorders,” “autism spectrum disorder,” “attention deficit hyperactivity disorder,” “specific learning disorder,” and related words in the title and source data; 2) written in Japanese; and 3) registered in the database by January 11, 2023. The search terms were taken from the search results of the WEB NDL authorities. The WEB NDL authorities permitted the retrieval of authority data produced by NDL. The first and second authors individually classified ambiguous titles as “developmental disorders,” “ASD,” “ADHD,” or “LD” and then ascertained the match. Titles containing several classifications duplicated the counts. We applied KH coder, an automated text-mining tool, to explore frequently occurring words and their co-occurring relationships.

**Results:** A total of 2887 books were covered. Of these, about 47% were about “developmental disorders,” followed by “ASD” (36%), “ADHD” (10%), and “LD” (7%). With the enactment of the Act on Support for Persons with Developmental Disabilities in 2006, the number of books increased rapidly, particularly those with a title including “developmental disorders,” which has seen an upward trend since then. A total of 39 books had words related to girls and women in the titles. The top five frequently occurring words were “children,” “support,” “education,” “understanding,” and “guidance.” There are many overlapping topics for individual disorders, such as educational support for children, understanding and practice of the disorders, and life stages (childhood and adulthood). However, specific co-occurring relationships were observed

for LD with “school,” “learning,” and “parents”; for ADHD with “diagnosis” and “brain”; for ASD with “mind,” “behavior,” and “research”; and for developmental disorders with “nurture,” “life,” and “psychology.”

Conclusions: The findings suggested that neurodevelopmental disorders in Japan are broadly understood as “developmental disorders.” Moreover, the framework for understanding each disease and phenotype was not widespread. Books on educational support for children are published mainly for parents, teachers, and professionals. However, there is still a lack of books covering specific characteristics of the disorders, in adulthood, for women, or for individuals with neurodevelopmental disorders.

Ethical considerations: This study is a bibliographic study of publicly available data and does not fall under ethical considerations.

Conflict of interest information: The authors have no conflicts of interest to declare.

### **PO-113**

#### **Reducing Student Absenteeism through a Latent Growth Model Comprising Maladaptive Factors and Signs, and Interest in School Counselors**

Mikie Suzuki<sup>1</sup>, Keiko Otsuka<sup>2</sup>, Sachiko Hida<sup>3</sup>, Yukari Taniguchi<sup>2</sup>, Hitomi Baba<sup>2</sup>

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#### **ABSTRACT**

Introduction: This longitudinal study focuses on school maladjustment and absenteeism. It examines school-related factors of maladaptive signs (physical and emotional signs of school maladjustment) and factors (friendship problems and low self-esteem), which are conceptualized as related but distinct constructs. The analysis of a change in these factors and their impact on student absenteeism across time helps understand the larger phenomenon of student absenteeism.

Method: A sample comprising 194 Japanese elementary school students from Grades 3 to 6 who completed measures over 3 years were investigated. The School Maladjustment Scale (Suzuki et al., 2018) was used to measure school maladjustment, which included two subfactors, namely maladaptive signs (physical and emotional signs of school maladjustment) and factors (friendship problems and low self-esteem). To measure absenteeism, we counted the number of days each student was absent from school during the year. The study selected four items from the “Interest in School Counselor Scale” (Suzuki et al., 2018). Latent growth modeling was employed to examine the predictors of maladaptive signs (physical and emotional signs of school maladjustment) and factors (friendship problems and low self-esteem), and “interest in school counselors” in understanding changes in absenteeism.

Results and discussion: We conducted LGM analyses by using Amos 22.0. Given the significant variances in both intercept and slope, we examined a subsequent LGM model with maladaptive signs and factors, and “interest in school” as predictor. The data fit the model well:  $\chi^2(4) = 2.368$ ,  $p = .668$ , CFI = 1.000, GFI = .991, RMSEA = 0.000. Maladaptive factors were the strongest predictors of changes in absenteeism. Maladaptive signs and “interest in school counselors” predicted an increase and decrease in absenteeism over time, respectively. Future research should continue to examine the complex relationship between individual-psychological and school-environment variables in impacting the incidence of absenteeism. School-based intervention programs may benefit from deploying an approach that targets friendship problems and low self-esteem among students, and from promoting individual psychological help-seeking behaviors.

The ethics committee of Aichi Toho University granted ethical approval of the study. The

authors declare no conflicts of interest that are directly relevant to the content of this article. This work was supported by JSPS KAKENHI (22K03099) JP.

#### **PO-114**

#### **Factors Affecting Child Development Problems in Fukushima Disaster Areas**

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#### **ABSTRACT**

**Objective:** Twelve years are passing since the Great East Japan Earthquake and the subsequent accident in Fukushima Daiichi Nuclear Power Station. This research is a follow-up study in which we use data from infant health checkups conducted in the coastal areas of Fukushima Prefecture to examine factors that influence child development and the associated problems in the affected areas of the Prefecture. Few studies have clarified how children are affected by the long-term evacuation due to the nuclear disaster.

**Methods:** A longitudinal study design was adapted. We administered a questionnaire to parents of second- or fifth-grade of elementary school students regarding their children's current mental and behavioral problems, the parents' mental health, and evacuation status from 2019 to 2021. The Strength and Difficulties Questionnaire (SDQ-Japanese version) was used to measure children's problems. The questionnaires returned were link to the results of health checkups conducted for infants aged 1.5 years and 3.5 years. The reasons for children's behavioral problems in the second and fifth grade of elementary school were investigated by means of multiple logistic regression analysis, using SPSS ver. 26.

**Results:** Questionnaires were distributed to 947 parents of 2nd graders and 1057 parents of 5th graders, and of those who responded, 139 were able to link both 1:6 and 3:6 checkups to 2nd graders and 100 to 5th graders. In the children with high-needs of SDQ in the second grade, the low overall sense of health of the parents, the children's emotional problems at the time of the checkup, and the family's living conditions during the evacuation period at 3.5 years of age contributed to the children's developmental problems. The high-needs group of fifth graders was affected by the lack of support from parents since childhood.

**Ethical considerations:** This study was approved by Taisho University Ethics Committee (approval number:20-21)

**COI:** There are no companies with COI relationships that should be disclosed by the presenters for this research presentation.

#### **PO-115**

#### **Impact of COVID-19 on the mental health of parents of children with autism two years after the outbreak**

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#### **ABSTRACT**

**Objective:** Over two years have passed since the outbreak of the global novel coronavirus

(COVID-19) pandemic. While many studies have examined the various impacts on COVID-19, few studies have targeted parents of children with autism. Therefore, this study aimed to identify factors associated with the risk of depression among mothers of autistic children during the pandemic in Japan.

**Method:** In this cross-sectional study, a questionnaire survey on the internet was conducted in March 2022 with mothers who were members of the Autism Society Japan. The questionnaire included the parents' socioeconomic status and changes, changes of the parents' and the children's psychiatric and physical status, and changes in behavior and lifestyle in the beginning of Omicron-dominant periods. Risk of depression and anxiety disorder of the parents were assessed using the Kessler Psychological Distress Scale (K6-Japanese version). Regression analysis was performed using the K6 score as the dependent variable. All statistical analyses were performed using SPSS Statistics 26.

**Results:** Totally, 260 responses (mean [SD]age, 47.2[8.9] years) were obtained and the average score on the K6 was 7.51 points. There were 47 mothers who scored 13 or more points, which corresponds to the equivalent of a severe mental disorder, with a mean score of 16.72 points. Logistic regression analysis performed on the basis of this cut-off value revealed that "family structure: single parent and child", "increase in the child's requests that cannot be met by the parent" and "increase in the child's violence" were associated with worse psychiatric symptoms in the mothers. (single parent and child OR=.222 (CI:.088-.561, p=.001), increase in the child's requests OR=.404 (CI:.181-.903, p=.027), violence OR=.420 (CI:.185-.953, p=.038))

**Ethical considerations:** This study was approved by Taisho University Ethics Committee.

**COI:** There are no companies with COI relationships that should be disclosed by the presenters for this research presentation.

## **PO-116**

### **Correlation between individual's trait of attention-deficit/hyperactivity disorder (ADHD) and microsaccadic responses following presentation of other's gaze with fearful expression**

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#### **ABSTRACT**

Attention-deficit/hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by inattention and/or hyperactivity-impulsivity persistent from childhood. Some studies have reported deficits in social cognitive processing in ADHD with abnormality in the oculomotor control, including microsaccadic responses. In this study, we investigated whether the microsaccadic responses to a social cue is associated with ADHD traits. Twenty healthy male university students (22.90 ± 0.91 years old) participated in this study. Their ADHD traits were assessed by Japanese version of Conners' Adult ADHD Rating Scale (CAARS). They performed a gaze cueing task – 6 blocks with 24 trials in each. In each trial, a face image (neutral or fearful expression, left or right gaze) was randomly presented for 200ms following a gaze point in the center of a display. After the facial image disappeared, the gaze point reappeared in the center for 800 ms; subsequently, a target stimulus was presented at either the left or right box. The participants reported the target stimulus location (right or left) by pressing a key as soon as possible. We conducted exploratory correlational analysis for testing the association between microsaccadic responses (occurring rate and directional bias) measured by



eye-tracking system in the two intervals (rebound and after-rebound phase), and CAARS subscales' scores. We observed a significant correlation between the occurring rates for a fearful expression in the after-rebound phase and the scores of inattention/memory problems. Moreover, in this after-rebound phase, we found the correlation between directional biases for a fearful expression and the scores of the inattention/memory problems, as well as DSM-IV inattentive symptoms. We did not observe a significant correlation between microsaccadic responses in the rebound phase and CAARS subscales' scores. Our results suggest that specifically in the after-rebound phase, low microsaccade occurrence rates following other's fearful expression were associated with the high-trait of inattention. Moreover, in this phase, microsaccade direction toward the opposite to the other's fearful gaze was possibly reduced in individuals with high-inattentive traits. These results indicate that the inattentive symptom may be associated with the attenuated effects of the fearful expression in the after-rebound phases, which possibly explain a part of the physiological and psychological mechanisms underlying social problems in individuals with high-ADHD traits. Future studies are expected to test our findings with other population, especially individuals with ADHD.

The study was conducted per the Ethical Guidelines for Medical and Health Research Involving Human Subjects. The Research Ethics Committee of Kyushu University approved the study protocol. The authors have no conflict of interest.

## **PO-117**

### **Comparison of School Life Between Students with Autism Spectrum Disorder and Students with Normal Development: A Study Based on the NSCH data**

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#### **ABSTRACT**

**Background:** Students with autism spectrum disorder (ASD) experiencing more difficulties in school life compared to students with normal development. The characteristics of children and adolescents with ASD should be taken into consideration so that they can participate well in school life. **Objective:** The purpose of this study is to compare the school life of children and adolescents with or without ASD, and find out difficulties ASD students have in school life. In addition, the school life according to the severity of ASD and the first diagnosis period of ASD was analyzed. **Method:** Study participants were 12,820 children and adolescents aged 6 to 17 years, using data from National Survey of Children's Health (NSCH) collected in 2021. Independent t-test was conducted to compare the demographic characteristics of students with ASD and those with normal development. Multiple regression analysis was performed to analyze the relationship between the severity of ASD and school life, and between the first diagnosis period of ASD and school life. SAS 9.4 was used for data management and analysis. **Results:** A total of 12,820 children and adolescents were included in the analysis. There were 930 students with ASD (mean age = 11.96 ± 3.55; male = 78.82%; female = 21.18%) and 11,890 students with normal development (mean age = 11.40 ± 3.56; male = 48.59%; female = 51.41%). Comparison of school life between the two groups showed statistically significant differences in all school life items. Students with ASD were more likely to have difficulty controlling themselves when faced with challenges ( $\beta = 0.84, p < .0001$ ). From the school, their parents were more contacted about problems at school ( $\beta = 0.78, p < .0001$ ). They had difficulty making and keeping friends ( $\beta = 0.76, p < .0001$ ) and finishing the work they started ( $\beta = 0.76, p < .0001$ ). **Conclusions:** Children and adolescents with ASD had difficulties in school compared to those with normal development. The more severe the ASD, the more difficulties there were. Schools, specialist and parents of ASD students should ensure that the

characteristics of them are taken into account in school life so that they can better participate in school life.

COI: There are no conflicts of interest to disclose regarding this study.

Ethical Statement: The NSCH's data is child health data collected through online and offline parent surveys. The NSCH data used in the study is secondary data that has been processed and disclosed so that a specific individual cannot be identified, and the data can be used without IRB approval. If the IRB is necessary for poster submission, it is possible to obtain an IRB waiver review prior to poster presentation.

## **PO-118**

### **Management of stealing from parents in the children and adolescents with neurodevelopmental disorders: A case series**

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#### **ABSTRACT**

In children with neurodevelopmental disorders such as ASD, ADHD, repeated stealing from parents is one of the clinical problems.

Epidemiological findings on the relationship between neurodevelopmental disorders and delinquency have been inconsistent. Stealing from parents in particular, much previous literature has attempted to link alcohol, tobacco or drug use problems to the delinquency, but no literature can be found linked to neurodevelopmental disorders.

Here we present the five cases where the children and teenagers stole money repeatedly from parents. The patients are five boys (no girls) between the ages of 11 and 17. Diagnosis is assessed according to DSM-5. Of the five cases, two were diagnosed with ASD and ADHD, two with ASD, and one with ADHD. No case met the criteria of oppositional defiant disorder, conduct disorder, or kleptomania. In all five cases, the first presenter was their primary doctor. In this presentation, we show the course of treatment for each case and discuss of the relationship between neurodevelopmental disorders and the theft.

In each case, the doctor and the parents discussed how to deal with the theft at home. We also worked with the school, the Child Guidance Center, and other agencies to address the problem. In all cases, there was no theft outside the home. Although the background of the problem was different in each case, counseling at the Child Guidance Center and social skills training by the school teacher helped to improve the problem. In all cases, the stealing stopped within a year. According to the literature, there is evidence both for and against the idea that crime is more prevalent in people with ASD than in the general population. With regard to ADHD and delinquency, it has been suggested that ADHD alone is not a risk factor, but that the characteristics of the disorder, the child's environment, and inappropriate interactions with those around the child are risk factors.

Mills(2011) discussed ASD and delinquency in terms of three factors; predisposing factors, precipitating factors and perpetuating factors. In the cases presented here, neurodevelopmental disorders were associated with poor coping skills and immature rule compliance, which were predisposing factors for delinquency. Impulse control difficulties related to ADHD, problems with parents at home, or school refusal were precipitating factors for the delinquency.

Inappropriate interactions with those around them, if present, were perpetuating factors. These factors should be considered by clinicians when dealing with stealing from parents.

Ethical considerations: This study was approved by the Institutional Review Board (IRB) of Kariya Hospital and with the written informed consent of all participants.

Disclosure: The authors have no potential conflicts of interest to disclose.

## **PO-119**

### **Implementation of Social Skills Training for Japanese Part-Time High School Students: Preliminary Effectiveness Verification through Comparison with the General High School Students in Japan**

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#### **ABSTRACT**

In Japan, part-time high schools (PTHSs) aim to provide opportunities for higher education to adolescents who cannot attend full-time high school for various reasons. PTHS students have lower social skills than full-time high school students, leading to school maladjustment and psychological problems such as depression (Kira et al., 2017). However, a few practical examples of classroom-based social skills training (SST) for PTHS students exist. In addition, curriculum and ethical issues make it difficult to set up control groups, so effectiveness verification has not been sufficiently conducted. Therefore, we aimed to preliminarily evaluate the effectiveness of classroom-based social skills training for PTHS students.

We conducted the SST program for 32 Japanese PTHS students from grades 10 to 12 (25 males; mean age 16.34 years, SD = 1.13) on a grade-by-grade basis (SST group). The program was conducted over three months, and social skills (Kira et al., 2020), school adjustment (Ishida, 2009), and depression (CES-D; Shima et al., 1985) were measured at the pre-, post-, and follow-up-time (three months later). In addition, as a method to enable the validation of the effect even in Japan, where it is difficult to set up a control group, this study compared the data with those of high school students in general throughout Japan (general group). The survey used a Japanese online service with the same questionnaire at the same time as the SST group's pre- and follow-up-time points. We used 327 high school students (71 males; mean age 16.51 years, SD = 0.96) who participated in the survey at the two-time points in the analysis. The study was conducted with the approval of the ethical review board of the authors' institution.

A hierarchical linear model was used to test whether there were differences in changes in social skills, school adjustment, and depression between the SST and general groups. Results of the analysis, social skills, the prime indicator, were found to be significantly increased in the SST group than in the general group ( $\beta_{11} = 0.91$ ,  $p < .05$ ). Besides, the SST group was also significantly improved the relationship with their school teachers regarding school adjustment than in the general group ( $\beta_{11} = 0.21$ ,  $p < .05$ ). These results indicate that classroom-based SST for PTHS students increases their social skills and improves their relationships with teachers. It is desirable to implement it on a larger scale and measure its effectiveness over a more extended period.

All authors declare that they have no competing interests.

This study was supported by JSPS KAKENHI Grant Number 21K13702.

## **PO-120**

### **Neuropsychological Investigation of Parafoveal Recognition of Japanese Kanji Compound Words in Children with Specific Learning Disabilities Co-morbid Attention Deficit/Hyperactivity Disorder**

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## ABSTRACT

Specific learning disorder (SLD) and attention-deficit/hyperactivity disorder (ADHD) are frequently co-occurred; however, the cognitive characteristics of the visual word recognition of SLD with ADHD are still unclear. The specific activities of SLD with ADHD in the visual cortex during processing Japanese kanji compound words were investigated using with magnetoencephalography (MEG). Fourteen neurotypical children (NTC, 5 males, mean age: 11.8 years) and seven children with SLD comorbid ADHD (SLD+ADHD, 7 males, mean age: 13.1 years) participated. While the MEG data were acquired, the participants watched a video at the fovea on mute with a sequence of serially-presented kanji compound words. Each sequence was composed of a high (80%) frequency standard stimulus and a low (20%) frequency deviant stimulus. There were three conditions for the sequences: in the font-type (FT) condition, the standard and the deviant differed only in the font type for different visual stimulation with the same compound word identity. In the correct-kanji-in-incorrect-kanji (KC-in-KI) condition, the standard and deviant differed in lexical correctness. The pseudo kanji (PK) condition was the same as the KC-in-KI condition except that individual kanji characters in the compound words were replaced with pseudo kanji characters with similar appearance, i.e., with one stroke shifted. In either condition, either standard or deviant stimulus was randomly chosen and was presented for 500 ms followed by a 1000 ms inter-stimulus-interval in each 1500 ms-long trial. The MEG amplitudes at the occipital pole and the posterior transverse region of the collateral sulcus (pCoS) were obtained as the measure of the responses. Neither group showed different amplitudes to different font types in the FT condition. There was no difference between the kanji correct (KC) compound and the kanji incorrect (KI) compound in the KC-in-KI condition. In contrast, the amplitudes of pCoS to the deviant PK stimulus was larger on the NTC than on the SLD+ADHD ( $p < 0.05$ , Wilcoxon rank sum test). The present results suggest atypical processing of parafoveally and pre-attentively presented kanji compound stimuli among SLD+ADHD. The amplitudes to pseudo kanji was less prominent among SLD+ADHD and may be related to filtering out irrelevant stimuli that are not kanji characters at a preliminary stage in word recognition. The results may thus empirically indicate that a part of reading problems in children with ADHD and SLD stems from pre-attentive or non-attentive processing.

Ethical considerations: The studies involving human participants were reviewed and approved by the Ethics Committee of the National Center of Neurology and Psychiatry (A2018-031).

COI: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## **PO-121**

### **Measurement of brain activity by magnetoencephalography during a gaze cognition task in adults with autism spectrum disorder**

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#### **ABSTRACT**

**Introduction:** Previous studies using functional magnetic resonance imaging have suggested that the responses in the superior temporal sulcus, inferior frontal cortex, and medial frontal cortex during gaze cognition tasks are different in autism spectrum disorder (ASD) than in typically developing individuals. However, it is not yet clear what the mechanism is for these brain regions to differ. We examined how these brain regions are synchronized and interlocked using magnetoencephalography (MEG), and aimed to elucidate the neural basis of gaze recognition in ASD.

**Method:** The subjects were 10 individuals in the patient group with ASD and 11 in the typical development (TD) group. Measurements were taken with a 306-channel full-head MEG during a gaze perception response task that was originally developed using visual stimulation software. Image analysis software, Brainstorm, was used for brain image analysis. A non-parametric test was performed by setting the 12 brain regions pointed out in previous studies as ROIs. False Discovery Rate correction was performed for multiple testing, and sites with significant differences between both groups were detected.

**Results:** There was no difference in gender, age, and FIQ between the two groups, and only Autism Spectrum Quotient (AQ) was significantly higher in the ASD group ( $33.5 \pm 4.6$  vs  $10.8 \pm 7.2$ ,  $p < 0.001$ ). There was also no difference in reaction time when eye movement was measured. In the right fusiform gyrus, right lower middle superior temporal gyrus, and left superior temporal gyrus, 340-380 msec after stimulus presentation, the TD group showed significantly stronger responses than the ASD group. Significantly stronger responses to the arrow condition than to the gaze condition were observed in the right fusiform gyrus, bilateral temporal poles, bilateral inferior temporal gyrus, right middle temporal gyrus, and bilateral superior temporal gyrus at 250-290 msec in the ASD group.

**Conclusion:** In the ventral visual pathway from the fusiform gyrus to the temporal pole, the part near the temporal pole performs more advanced visual processing. In addition, the area around the superior temporal sulcus is related to gaze recognition. The TD group may have more advanced processing for gaze perception and response. The gaze of the stimulus image under the arrow condition is looking to the subject, and under the gaze condition, it is looking to the right or left. It was suggested that the ASD group may show a stronger reaction when being looked at.

**Ethical considerations:** The study was conducted in accordance with the standards of the Declaration of Helsinki and was approved by the Niigata University Ethics Review Committee

(approval number 2018-0415), and all the participants gave written consent. Disclosures: Sugimoto A: received research funding or honoraria from the following organizations in the last 5 years; Developmental Science Research and Education Center, Taiju Life and Welfare Foundation, Kawano Pediatric Medical Scholarship Foundation, Shimadzu Corporation, Takeda Pharmaceutical Co., Ltd., Nobel Pharma Co., Ltd., Shionogi Co., Ltd., Mochida Pharmaceutical Co., Ltd. The other authors declare no competing interest; Yoshinaga K: received research funding or honoraria from the following organizations in the last 5 years; Taiju Life and Welfare Foundation; Egawa J: received research funding or honoraria from the following organizations in the last 5 years, Takeda Pharmaceutical Co. Ltd., Shionogi Co. Ltd; Someya T: received research funding or honoraria from the following organizations in the last 5 years, Astellas Pharma Inc., Eli Lilly Japan K.K., Janssen Pharmaceutical K.K., Mitsubishi Tanabe Pharma Co., Mochida Pharmaceutical Co., Ltd., MSD K.K., Novartis Pharma K.K., Otsuka Pharmaceutical Co., Ltd., Shionogi Co., Ltd., Sumitomo Pharma Co., Ltd.; Other speakers have no COI to disclose.

## **PO-122**

### **A study of parent-child relationships in children with 22q11.2 deletion syndrome –Toward parent-child support based on the emotional aspects of mothers and children–**

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#### **ABSTRACT**

**Background:** 22q11.2 deletion syndrome (22DS) is a disorder with a high rate of comorbidities including congenital heart disease, delayed mental development, immunocompromise, cleft palate, closure defects, and psychiatric disorders such as schizophrenia after adolescence. The demand for medical care for a wide variety of physical dysfunctions from early childhood places a heavy burden on families, and empowerment of caregivers is a challenge. In this study, we investigated the characteristics of the mother-child relationship of children with 22DS and examined how to support affected children and their families based on the support needs of the people involved.

**Methods:** Of the 17 children with a confirmed diagnosis of 22DS and consent to participate in the forward-looking observational study, 7 pairs of children (3 boys and 4 girls) and their mothers who underwent psychological testing (WISC-IV, Vineland- II, CBCL/6-18 and FDT) between October 2020 and August 2021 were included. This study was conducted in accordance with the approval requirements of the Bioethics Committee of the Nagoya University School of Medicine and affiliated hospitals.

**Results:**

#### **1. Profile of the subject child**

The mean age of the subjects was 12.4 (9-14) years. All subjects had IQs below 85 and total adaptive behavior scores below 85 (particularly low scores in "communication," "daily living skills," and "social skills"). In addition, 5 patients fell into the borderline/clinical range on the CBCL total score (many problems in "social skills," "thinking," and "attention").

#### **2. Profile of parent-child relationship**

Based on the results of the FDT, the mother-child relationship from the mother's point of view and the mother-child relationship from the child's point of view fell into the "stable" category in all cases. Mothers' child-rearing attitudes tended to be high in "child-rearing anxiety" and "marital discrepancy," and low in "achievement demands," "noninterference," and "strict discipline. The children's perceptions of their mothers' attitudes toward child-rearing tended to

be high for "disagreement between parents," "psychological interference," and "achievement demands. The discrepancy in perception between mother and child in "achievement demands" was 43%.

Conclusions: All of the children in this study had impaired intellectual and adaptive functioning and communication difficulties. Behavioral characteristics included children with problems in attention, thinking, and social skills. The type of parent-child relationship between the affected children and their mothers was generally stable, but there were cases of mothers having parenting anxiety and differences in how they perceived the parent-child relationship.

Conflict of interest: The authors have no financial conflicts of interest disclose concerning the study.

### **PO-123**

#### **Difficulties Emotion Regulation and Perceived Stress among Senior High School in Indonesia**

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#### **ABSTRACT**

**Introduction:** High school students are the population who are in the period of adolescent. In adolescence, there is a regression emotion regulation techniques before reorganizing toward adult adaptive response. Students are a group that is especially susceptible to academic stressor and peer competition, making new relationship, and family issues. Students may encounter a variety of psychological issues related to emotion, including eating disorders, alcohol use disorders, problem gambling, non-suicidal self-injury, post-traumatic stress disorder, depression, and anxiety. This study aimed to evaluate associations between difficulties of emotion regulation and perceived stress among high school students.

**Methods:** A correlational, cross-sectional study with 1526 senior high school students (62.9% female) that completed the Difficulties Emotion Regulation Scale Short Form (DERS-SF) and Perceived Stress Scale (PSS). The data were collected through online survey via SurveyMonkey app and supervised by researcher using Zoom video conference. Pearson correlation and linear regression were used to evaluate association between difficulties of emotion regulation and perceived stress.

**Results:** Analysis showed that difficulties emotion regulation were associated with perceived stress. Strategies, impulse, goals, awareness, and clarity subscales of the DERS-SF were significantly associated with perceived stress. However, nonacceptance subscales were not significant.

**Conclusions:** Developing students' ability to control their emotions may help to lower their stress levels. In order to support students, this might inspire educational institutions to create mental health initiatives that focus on emotion control.

**Ethical Approval Statement:** Ethical approval has been given by the Universitas Padjadjaran

Research Ethics Committee (No.1135/UN6.KEP/EC/2020).  
Conflict of Interest: The authors declare no conflict of interests.

#### **PO-124**

### **Get a hope to see you: A study proposal of process and outcome training for eye contact aversion in youth with social anxiety**

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#### **ABSTRACT**

Avoid making eye contact is a prominent sign of social anxiety. Failing to receive social information conveyed in others' eyes, the gesture is also negatively perceived by others, therefore hampering one's capability in social interactions. An important question concerns how to increase eye contact for individuals refraining from this behavior. Recent training programs for eye contact aversion have focused on alternating individuals' outcome expectation towards this social behavior. Various rewards are offered when individuals perform eye contact or its approximated behaviors. While reward-based training programs may allow individuals to correct the contingency of eye contact and negative consequences, this outcome-focused approach may not help reduce the likelihood of taking the avoidance in action, for the sake of hopelessness.

Hope, a process-focused approach involving one's perception of his or her own ability to produce concrete routes for action (pathways) and the perception that he or she can achieve it (agency), may also play an important role. Imagining the process along for looking into others' eyes could engender hope in individuals with eye contact aversion by allowing them to mentally try out alternatives to prepare for possible obstacles (e.g., intrusive worries for social judgment), therefore establish successive steps for initiating and maintaining eye contact. This contrasts with imagining the positive outcome of eye contacts that elevates one's expectation for these outcomes to occur. Compared with outcome imagination, process imagination showed improved academic performance in test anxiety contexts.

The current proposal presents the design of an intervention for eye contact aversion. We aim to increase hope in individuals with difficulties to make eye contact through imagination training. Additionally, the effectiveness on reducing eye contact aversion for process and outcome imagination will be evaluated. Ninety adolescents with eye contact aversion will be recruited and randomly divided into 1) process imagination training, 2) outcome imagination training, and 3) control. Visualizing themselves in an admission interview with an examiner, individuals in the process imagination will focus on picturing how eye contacts are made and maintained and the outcome imagination will focus on what happens following smooth eye contacts. After the imagination training, they will complete explicit tests for estimating eye contact ability and a behavioral task implicitly measuring eye contact. Hope for making eye contact is expected to elevate after the process imagination training. Compared with other conditions, individuals with process imagination should show better performance for both explicit and implicit eye contact tests.

The study proposal will obtain approval from The Survey and Behavioral Research Ethics Committee of The Chinese University of Hong Kong. All authors declare that they have no conflict of interest.

#### **PO-125**

### **Mental Health Services Using Video Content for Japanese Schools in Southeast Asia: A Pilot Study Protocol**



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#### ABSTRACT

Mental health support is overwhelmingly inadequate in Japanese school abroad. Our studies aim to develop video content program for mental health and examine the safety and feasibility. Our program focuses on neuro developmental disorder and stress care using cognitive behavioral therapy. we will present a study protocol in Southeast Asia: pilot single arm study. Ethics approval will be granted by the Certified clinical Research Review Board Chiba University.

We have no financial conflicts of interest to disclose concerning this poster presentation.

#### **PO-126**

#### **COVID-19 disaster may affect the duration of sleep and internet usage : finding from the continuous survey among junior high school students in Japan**

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#### ABSTRACT

Introduction: Various studies have pointed out several effects of the COVID-19 disaster on growing up, and clarifying the actual situation is an important finding when examining the mental health of children and adolescents in the wake of the COVID-19 disaster. We hypothesized that there were some changes of children's behaviors and mental states by the long spread of the COVID-19 disaster. Thus, the aim of this study was to clarify the effects of the COVID-19 disaster spread on junior high school students.

Methods: The participants were the second and third grade Junior high school students in a small city in Japan. Questionnaires included weekdays and weekends sleep duration and internet usage time and children's behavior and mental states were assessed by The General Health Questionnaire ("GHQ"), Quick Inventory of Depressive Symptomatology ("QIDS"), Strengths and Difficulties Questionnaire ("SDQ"), and Diagnostic Questionnaire ("DQ"). Two years of questionnaires participants completed before (2018 and 2019) and after (2020) the COVID-19 disaster were analyzed, and divided into the two groups: the COVID-19 unaffected group (questionnaires answered consecutively in 2018 and 2019) and the affected group (questionnaires answered consecutively in 2019 and 2020).

Results: One hundred eight students were included in this survey. In GHQ, QIDS, SDQ, and DQ, there were no significant changes in the both groups. The COVID -19 unaffected group showed no significant change of weekdays sleep hours and the significant increase of weekends sleep hours. However, the COVID-19 affected groups showed a significant decrease in weekdays sleep hours, although there were no change in weekends sleep hours. Internet usage time significantly increased on weekdays and weekends both groups except for the weekends internet usage time of the COVID-19 affected group.

Conclusion: The COVID-19 disaster would affect not only sleep duration but also internet usage time, although the influence could be different between the COVID-19 disaster nonaffected and affected groups. Internet usage time might be an aggravating factor for sleep durations.

All data were protected according to the general data protection regulation. This study was approved by the Institutional Review Board of the Ehime University Graduate School of Medicine (IRB No. 2002006).

The authors declare no conflicts of interest associated with this manuscript.

## **PO-127**

### **Self-evaluations of academic performance and eyestrain between paper-based and digital-based learning among undergraduate medical, nursing, and pharmaceutical students during the COVID-19 pandemic in Japan**

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#### **ABSTRACT**

**Background:** Excessive internet use has serious health effect on children and adolescents; however, little is studied about internet use for academic study. Since the emergence of the coronavirus disease 2019, university education has drastically transformed into digital-based learning. We aimed to examine the self-evaluations of academic performance and eyestrain between digital-based and paper-based learning among medical, nursing, and pharmaceutical students in Japan and to explore whether a positive association exists between students' evaluations and their studying time with digital devices.

**Method:** A cross-sectional study using an online questionnaire, prepared using Google Forms, was conducted at the University of Toyama, Japan, in April and May 2022. A link to the online questionnaire was sent to 939 undergraduate medical, nursing, and pharmaceutical students in the pre-clinical grade at this university. It contained questions that assessed the student's general demographics, daily usage of digital devices, and self-evaluations of academic performance and eyestrain between paper- and digital-based learning. In terms of academic performance, comprehension, memory retention, and absorption (concentration) were assessed.

This study was conducted according to the Helsinki declaration. We consulted with a member of the university ethical review board and our study was exempted from the ethical review because participant's anonymity was kept from the beginning and collecting data were mainly subjective evaluations on academic performance, not including personal medical records.

**Results:** A total of 344 (191 medical, 73 nursing, and 80 pharmaceutical, response rate 36.6%) university students completed the questionnaire. An even distribution was observed in the students' evaluation on the devices used for better comprehension: paper, 32.0%; equivalent 32.8%; and digital, 35.2%. Majority of the students (memory retention: 71.2% and absorption: 74.7%) reported that paper-based learning was better than digital-based learning. Approximately 84.6% of the students strongly experienced eyestrain during digital-based learning. No positive association was observed between students' evaluations (memory retention, absorption, and eyestrain) and daily studying time with digital devices.

**Conclusions:** Majority of the students reported that paper-based learning was better than digital-based learning in terms of academic performance and eyestrain. A learning on digital device required more mental effort to memorize and concentrate. Digital devices may only be used as a supplement rather than as a replacement for paper-based learning. A learning environment in which students can study on papers should be continued.

**COI:** We declare no competing interest in this article.

## **PO-128**

### **Differences of Initial Medical Consultations between Japanese Children and Children with Foreign Roots: In the Department of Child Psychiatry, Intervention Center**

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## ABSTRACT

**Objectives:** Toyota has an increasing population of foreign residents. The number of children with foreign roots (hereafter “foreign children”) was 3,209, approximately 4.3% of the total child population of the city in October, 2022.

The “Toyota Early Intervention and Support System for Children with Disabilities” aims for early detection of and early support for children with developmental concerns regardless of their nationality. The system includes various services and institutions as opportunities for early detection, such as infant health checkups, intervention groups, and local kindergartens. When a child with developmental concerns is detected, they are referred to the child psychiatry section of Nozomi Medical Clinic, Toyota Municipal Child Development Center.

In this study, we conducted a retrospective survey on initial consultations at Nozomi Medical Clinic to examine whether foreign children are provided with the same opportunities for appropriate detection and medical consultation as Japanese children.

**Participants:** Participants were 388 children (359 Japanese and 29 foreigners) residing in Toyota, Aichi who had their initial consultation at Nozomi Medical Clinic between January and December, 2022.

**Methods:** Clinical data on the participants were collected from Nozomi Medical Clinic’s medical records and statistically analyzed. The characteristics of initial consultations such as consultation rates and referral pathways were compared between the foreign and Japanese participants.

**Results:**

1. The consultation rates of foreign children (0.9%) was significantly higher than that of Japanese children (0.5%,  $p < .01$ ).
- 2 Referral from intervention groups was significantly less common among the foreign participants (10.3%) than Japanese children (39.3%,  $p < .01$ ). No significant difference between the foreign and Japanese participants was found in referrals from health checkups (24.1% and 16.4% respectively) and kindergartens (6.9% and 8.6% respectively,  $p < .01$ ).

**Conclusions:** Foreign children in Toyota had child psychiatric consultation at higher rate to Japanese children. The early intervention and support system seems to be successfully detecting and referring foreign children with developmental concerns.

However, significantly less foreign children were referred from intervention groups than Japanese children. This may be partially because caregiver participation is required to use the service, but an interpreter is unavailable. Foreign parents with limited command of Japanese may thus decide not to participate. The employment status of parents may also be a factor contributing to the low referral rate from intervention groups. Further study will be needed to more closely examine such factors and promote early support for foreign children.

**Ethical Considerations:** The institutional review approved this survey.

**Conflict of interest:** No Conflict of Interest (COI) in this abstract.

## **PO-129**

### **Feasibility and acceptability of a group family psychoeducation for adolescents with anorexia nervosa**

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#### ABSTRACT

**Objectives:** In recent years, the incidence of anorexia nervosa (AN) in adolescents has increased. Family is an important part of adolescent AN treatment. But caregivers of patients with eating disorders experience a great deal of burden, with high levels of anxiety and depression. However, research on family psychoeducation is scarce, and few studies have focused on family health as outcomes. We aimed to assess the feasibility and acceptability of a group psychoeducation and changes in depression of families. This study was approved by Shinshu University School of Medicine (4524).

**Methods:** We recruited parents and grandparents of adolescents under 19 years of age with a clinical diagnosis of AN according to DSM-5 criteria at Department of Pediatrics, Department of Psychiatry, and Mental Health Clinic for Children of the Shinshu University Hospital from December 2020 to December 2022. The participants received four sessions of group psychoeducation. All sessions were provided weekly, and each session lasted for 60 minutes. Each session consisted of a lecture in the first half and a free conversation in the second half. An occupational therapist participated as a facilitator and a lecturer, and a child psychiatrist, a dietitian, and a clinical psychologist participated as lecturers and co-facilitators. Depression was assessed using the Quick Inventory of Depressive Symptomatology (QIDS-J) before and after group psychoeducation. Feasibility and acceptability were assessed with regard to dropout rate and participants' feedback.

**Results:** We recruited 14 parents and grandparents of adolescents with AN (9 adolescents). Three members dropped out (dropout rate 21.4%). Two dropped out due to being a close contact of COVID-19 and one due to refusal to continue. Eleven participants (8 mothers, 1 father, 1 grandmother, and 1 grandfather) completed the group psychoeducation. Feedback questionnaires showed that 91% of the participants were satisfied and 9% felt neutral with the program. The most common responses were "I was able to understand the disease" and "The free conversation with other families who have adolescents with the same disease was very useful". The mean (standard deviation) QIDS-J score improved slightly from 9.8 (6.1) to 7.9 (5.7).

**Discussion:** The scores of QIDS-J showed that families of adolescents with AN were moderately depressed. Low drop-out rate and high satisfaction rate suggest that the group psychoeducation is a feasible and acceptable treatment.

The authors have no financial conflicts of interest to disclose concerning the study.

#### **PO-130**

#### **The Next Step in Coaching in Asia – Future Directions for Improving Mental Health among ADHD**

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#### ABSTRACT

One of the psychosocial approaches for individuals with ADHD is coaching. Coaches work collaboratively and goal-oriented manner with them who are facing difficulties in a variety of settings, such as school, work, and home. ADHD coaching has traditionally been developed mainly in the United States, but in recent years, the number of coaches has been increasing in Asia.

Comparisons of pre- and post-coach assistance by trained coaches have reported changes in ADHD symptoms (Bloeman et al., 2008), organization (Reaser, 2008), social skills (Kubik, 2010), and so on. A distinctive feature of the support provided is the frequent use of e-mail and phone calls to help clients independently and steadily achieve the goals they set for themselves.

In addition, unlike traditional counseling, the interaction between the coach and the client has a high degree of freedom, such as via a Zoom call or conducting the interaction at various locations.

These characteristics of ADHD coaching may indirectly contribute to the improvement of mental health. Those who fail to manage their time, lose confidence, and have low self-esteem may experience fewer failures and regain motivation to work as a result of improving their time management skills with the assistance of a coach. In fact, improvements in self-esteem and quality of life have been reported after ADHD coaching interventions.

As a future development, it is expected that coaches will indirectly step into the mental health of ADHD individuals. Activities to maintain better mental health include exercise, mindfulness, and good dietary habits. However, it is difficult for them to continue a desirable new lifestyle. For example, regarding exercise for ADHD, evidence is accumulating especially in Asia, however, much of the validation is about short-term effects, and the long-term effects of exercise are still unclear. This is because it may be difficult for them to make exercise into a habit. Therefore, if psychological changes are shown through continuous and sustained exercise with the support of an ADHD coach, this could be the next step in improving the mental health of ADHD.

Since this presentation is a narrative review, it may be exempt from formal ethical approval. The author declares no conflict of interest associated with this presentation.

### **PO-131**

#### **Quantification of proneness of dissociation by magnetic resonance imaging**

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#### **ABSTRACT**

**Background:** Childhood trauma is well known subsequently to cause PTSD and dissociation. PTSD has a growing amount of biological research and evidenced-based treatment whereas dissociative disorder does not. Unlike PTSD, furthermore, the disease is short of its studies using objective non-invasive neuroimaging like magnetic resonance imaging (MRI). Little has been unveiled about neural networks that determine the dissociated state or that underlie pathophysiology. On top of that, MRI studies related to dissociation rarely come from the Asia. Before studying pathological dissociation, thus, we attempted to find if neuroimaging techniques could quantify the proneness of dissociation.

**Method:** We collected T1-weighted images and resting state functional MRI (rs-fMRI) of Japanese healthy university students (23 subjects at this point; still increasing) MR with the following questionnaire scores: ACE (Adverse Childhood Experience), AQ (Autism Quotient), DES (Dissociative Experience Scale), and NEO-FFI (NEO Five Factor Inventory). We adopted VBM method (voxel-based morphometry) and connectivity analysis using SPM12 software (UCL Queen Square Institute of Neurology, London, UK) to calculate correlation of brain morphology and inter-regional functional connectivity with DES scores, respectively. Our study is approved by the ethical committee of Kyoto University. The authors of this report have no COI to be declared.

**Results:** All the 23 subjects showed very small scores in ACE and AQ questionnaires, which were omitted from the later analysis with MRI. Preliminary analyses show that DES score correlates positively with the functional connectivity between left superior temporal gyrus and right parahippocampal gyrus and inversely with that between left cerebellum and left fusiform gyrus without apparent confounding effects from the other questionnaire scores.

**Discussion:** Indeed we cannot jump to a conclusion that the connectivity mentioned above

might be explanatory of neural machinery of dissociation, but if the same phenomenon might perhaps be found also in the patients, there would be a possibility that intervention of these brain regions by, for example, transcranial magnetic stimulation (TMS) might possibly alleviate dissociation. Another limitation of this study obviously lacks subject number so we expect that the data with an adequate sample size will lead to a better understanding of dissociation.

Our study is approved by the ethical committee of Kyoto University. The authors of this report have no COI to be declared.

### **PO-132**

#### **The influence of marital relationships on maladaptive behavior of children with ADHD**

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#### **ABSTRACT**

**Objective:** The purpose of this study was to clarify the relations between marital relationships and children's maladaptive behavior and to suggest ways to how support families of children with Attention Deficit Hyperactivity Disorder (ADHD).

**Methods:** Semi-structured interviews were conducted on 11 mothers of children with ADHD. During interviews, mothers were asked about their parenting, their children's behavior, and their husbands. Data was analyzed by using inductive qualitative methods. All study participants provided informed consent, and the study design was approved by the appropriate ethics review board.

**Results:** The results showed that a poor marital relationship is one factor that influences the expression of maladaptive behavior of children with ADHD. Marital relationships were found to be composed of the following concepts: <Disagreement between mothers and fathers regarding parenting policies >, <Couples talking and deciding how to cope with children >, <Expressing thoughts to fathers without reservation>, <Mothers and fathers struggling to understanding each other>, <Pressure on mothers from fathers >, <Fathers do not help mothers with parenting and housework>, <Irritation with fathers who do not understand children's struggles>. A lack of marital communication was considered to be a factor that had a bad influence on the marital relationship.

**Conclusions:** The results suggested that communication between mothers and fathers is very important and the promotion of the bidirectional communication between couples is necessary.

The authors have no conflicts of interest to declare.

### **PO-133**

#### **Reflexive attention orienting triggered by gaze cues in adults with ADHD**

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#### **ABSTRACT**

Attention-deficit/hyperactivity disorder (ADHD) is characterized by developmentally

inappropriate levels of inattention, hyperactivity, and impulsivity. Children with ADHD exhibit social difficulties that put them at risk for psychotic symptoms such as peer rejection. They also show deficits in theory of mind and facial expression recognition, suggesting they have difficulty processing social information. However, despite the inclusion of attention problems in the diagnostic criteria, there is little evidence for deficits in attentional functions such as joint attention and gaze-following, which play an important role in the development of social cognition. This study examined whether gaze shift triggers reflexive attention orienting in 45 adults with attention deficit/hyperactivity disorder (ADHD) and 45 age-, sex-, and intelligence quotient-matched typically developing (TD) adults. A neutral expression and direct gaze simultaneously changed to an emotional expression and averted gaze, respectively, under the three emotional face conditions; only the gaze direction changed under the neutral face condition. The target appeared in the gazed-at or not-gazed-at location immediately after cue onset. Participants were asked to press a button as rapidly and accurately as possible when they found the target. An analysis of variance for reaction time (RT) revealed a significant main effect of cue-target congruency ( $F[1, 88] = 216.40, p < .001$ ) and an interaction between group and cue-target congruency ( $F[1, 88] = 4.85, p = .03$ ). The gaze-cueing effect (RT difference between the incongruent and congruent conditions) was also present in the ADHD group ( $12.8 \text{ ms} \pm 8.8$ ) but was smaller than in the TD group ( $17.3 \text{ ms} \pm 10.6$ ). In addition, in the ADHD group, the gaze-cueing effects were positively associated with inattention symptoms (Spearman's  $\rho = .34, p = .02$ ). The present study revealed robust gaze-cueing effects in adults with and without ADHD. However, the magnitude of the gaze-cueing effect was smaller in the ADHD group than in the TD group. Moreover, a larger gaze-cueing effect was observed in people with ADHD who exhibited more severe inattention symptoms. The gaze-cueing effect reflects the ability of maintaining attention to the cue stimulus, detecting and processing gaze direction, orienting attention to the cued direction, and suppressing gaze information and detecting the target. ADHD might have difficulties in processing gaze direction, but inattentive symptoms may have caused difficulties in maintaining attention to the cued stimulus and suppressing its information, resulting in a larger gaze cue effect in those with stronger inattentive symptoms.

Ethical considerations: The study protocol was approved by the Ethics Committee of the National Centre of Neurology and Psychiatry, Japan; the study was performed in accordance with the Ethical Guidelines for Medical and Health Research Involving Human Subjects. All participants provided written informed consent before participating in the study.  
COI: The authors declare no conflict of interests.

#### **PO-134**

#### **Health-Related Quality of Life among Mothers of Children with Neurodevelopmental Disorders**

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#### **ABSTRACT**

Background: Caring for a child with a neurodevelopmental disorder can be a significant source of stress for mothers, as indicated by research. Studies have shown that mothers of children with neurodevelopmental disorders tend to experience higher levels of parental stress and lower quality of life. To further understand this issue, this study examined the impact of three common

disorders (autism spectrum disorder, attention deficit hyperactivity/impulsive disorder, and intellectual disability) and the child's functional impairments and competence on maternal health-related quality of life (HRQOL).

Methods: The study recruited a total of 460 children, consisting of 352 typically developing children (mean age:  $10.19 \pm 2.13$  years) from several primary schools in north Taiwan, and 43 children diagnosed with intellectual disability (mean age:  $10.37 \pm 1.83$  years), 65 children with autism spectrum disorder (ASD) (mean age:  $10.19 \pm 2.13$  years), and 48 children with attention deficit hyperactivity/impulsive disorder (ADHD) (mean age:  $9.48 \pm 1.72$  years). The study collected demographic data, information on the children's emotional and behavioral problems, and maternal health-related quality of life. Prior to data collection, the Research Ethics Committee of Chang Gung Memorial Hospital Linkou approved the study.

Results: The HRQOL of mothers of children with ASD and ADHD was worse than that of mothers of typical developmental children, particularly in physical and social domains. Mothers with intellectual disability and ADHD had worse HRQOL in psychological domains. Mothers of children with intellectual disability had worse quality of life in the environment domains than mothers of typical developmental children, while mothers of children with ADHD had even worse HRQOL in this domain. Additionally, mothers of children with ASD also had worse HRQOL in environmental domains compared to typical developmental children. Multiple regressions found that factors consistently related to the HRQOL of mothers of children with neurodevelopmental disorders and those of children with typical developmental groups were maternal depression and perceived family support after controlling for several familial, parental and child variables.

Conclusion: The findings indicate that a comprehensive treatment approach for children with neuropsychological developmental disorders should involve enhancing family functions, providing increased support services, and assisting parents in developing healthy coping skills.

We, the authors of this research, confirm that we have no conflicts of interest that could influence the results or interpretation of our study.

### **PO-135**

#### **Clinical profile of adolescent females with substance use disorder at a tertiary care center in Bangalore- A retrospective chart review**

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#### **ABSTRACT**

Background: In the recent times, increasing number of girls and women are presenting with substance use disorders. The age of onset of using any substance is steadily decreasing over the decades leading to unique concerns related to physical, mental, and spiritual health of the adolescents. Substance use disorders in children can disrupt the normal developmental trajectories and affect healthy transition of adolescents to adulthood. The existing literature on substance use disorders in children and adolescents is limited and the representation of female population in the existing literature is significantly less compared to the male population. There is a need for systematic research in this area to understand the unique risk factors and vulnerabilities particular to girls in this age group, which will help formulate the targeted prevention strategies, specific to girls.

Objectives: To study the clinical profile of adolescent girls presenting with substance use disorders. To study the factors affecting substance use behavior among adolescent girls.

Methodology: Retrospective file review of all the adolescent girls within the age range of 10 to



18 years, clinically diagnosed to have substance use disorder, who have availed either outpatient and/or inpatient services at the departments of child and adolescent psychiatry and addiction medicine at National Institute of Mental Health and Neurosciences from 2016 onwards, till the time of analysis. A semi-structured proforma including details of socio-demographic profile, onset and course of substance use disorders, family history, medical and psychiatric co-morbidities, temperament characteristics and parenting styles will be used to collect data from the files. Descriptive statistics will be used for analyzing the data. NIMHANS Ethics Committee approval has been sought for the study.

Results: Since the study is ongoing, the results will be declared once the study is completed.

Conclusion: This retrospective chart review will be useful in understanding what factors are unique to females and will become an important resource for planning prospective studies to further explore all the factors affecting substance use disorders in adolescent females.

There are no conflicts of interest.

### **PO-136**

#### **Case series of completed suicides in Child and Adolescent Psychiatry department at a tertiary care centre in Bangalore**

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<sup>2</sup>Consultant Child and Adolescent psychiatrist, Bangalore, India

#### **ABSTRACT**

**Background:** Suicide is the result of complex neurochemical interplay affected by individual, familial, social, and cultural factors. Suicide in pre-adolescent age has been considered rare. However, in the recent times, there has been an increasing number of pre-adolescent suicides. Although research focusing on suicidal behaviour exists, literature on completed suicides is limited. There is a need to understand the processes preceding completed suicide in this age group.

**Objective:** To understand the vulnerabilities, various risk factors of suicide and protective factors against suicide in six cases belonging to pre-adolescent and adolescent age groups. To highlight the possible preventive strategies in each of the cases.

**Methodology:** We describe six cases with age range of 9 to 17 years, with onset of illness three months to three years prior to inpatient treatment. They were admitted in view of severe psychopathology and high risk of suicide. Management included antidepressant and mood stabilizing medications as well as intensive psychotherapy. An eclectic approach including components of cognitive behaviour therapy, dialectical behaviour therapy, supportive therapy and age appropriate and sensitive parenting was used. The children showed good response to treatment and were discharged. The children were followed up for a duration ranging from 2 to 18 months post discharge. In each of these cases suicide occurred as an untoward incident and was informed to the treating team by one of the family members. Condolences were conveyed and the families were offered psychological support by the treating team.

Consent was sought from the parents and NIMHANS ethical committee approval was sought considering the sensitivity of the information. The files were retrieved from the medical records section and data was collected.

**Results:** Suicides in all the cases were impulsive in nature in the background of severe depressive symptoms, cognitive distortions of self-blaming and internalized guilt and depressive cognitions of hopelessness. Co-morbid Attention deficit hyperactivity disorder increased the complexity of presentation. Thorough preparation to resume school and face the academic stress and stigma together with extensive support from parents and frequent follow ups with the treating team can be construed as possible preventive measures.

Conclusion: This case series helps us understand the interaction between various risk and protective factors leading to suicide during a sensitive period in development and has implications in formulating prevention strategies.

There are no conflicts of interest.

### **PO-137**

#### **Problematic media use in Indian children during COVID – 19 pandemic: Cross-sectional parental interview study of the impact on behavior and association with parenting style**

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#### **ABSTRACT**

India went into a country wide lockdown in March 2020 for the containment of COVID pandemic causing significant change in life as we knew it. Children being a vulnerable age group, have been reported to develop several psychological and behavioural issues in this period, especially related to screen use. One month into the lockdown, with the institutional ethics committee approval, we conducted an online cross-sectional study with the aim of assessing for problematic media use among children, its impact on behaviour and association with parenting style during the COVID pandemic. Data was recorded using a questionnaire for socio demographic, screen use details and behavioural issues (temper tantrums, disruptive behaviour, sleep issues, etc.), Problematic Media Use Measure Short Form (PMUM - SF) and Parenting Styles & Dimensions Questionnaire – Short Version (PSDQ – SF). Two hundred and eighteen parents completed the questionnaire (Child mean age = 9.29; SD = 3.07). Sixteen percent (N=35) of population showed problematic media use (PMU). PMU was associated with sleep and appetite issues, clingy / attention seeking behaviour and temper tantrums ( $p < 0.05$ ). Authoritarian ( $p=0.001$ ) and permissive ( $p=0.000$ ) style of parenting was found to be significantly higher in those with PMU. The results provide a snapshot of the situation during the initial phases of the pandemic in terms of PMU in children and shows its behavioural impact. It also brings to light the importance of parenting style and possibility of developing parental skills in order to work on the issue of PMU.

Conflict of interest: The author(s) declare(s) that there is no conflict of interest.

### **PO-138**

#### **The Efficacy of Executive Functions Group Training in Children with ADHD**

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#### **ABSTRACT**

Background: Research has shown that ADHD is linked to deficits in executive function (EF), which can lead to poorer academic and occupational functioning. Thus, early intervention targeting EF impairments is crucial in preventing negative long-term outcomes. The study

aimed to investigate the effectiveness of an executive function training in improving targets multiple EF components and reducing the severity of ADHD symptoms in children with ADHD. Methods: A total of 36 school-age children with ADHD, of whom 75% were boys, and their parents were recruited to participate in 8 sessions of executive function training that lasted for 10 weeks. The study examined the effects of the training using neuropsychological tests, including NEPSY-II subsets of inhibition and animal sorting, WISC-IV digital span, and WCST, as well as parental-reported executive function. Additionally, information on demographic data, emotional and behavioral problems of participants was recorded. The Research Ethics Committee (IRB) of Chang Gung Memorial Hospital Linkou approved this study.

Results: The study found that children with ADHD showed significant improvements after the EF group training, including decreased severity of ADHD symptoms (SNAP-IV total score:  $8.41 \pm 11.74$ ,  $t = 2.95$ ,  $P = .009$ ), improved global executive function (EF score:  $-6.03 \pm 11.55$ ,  $t = -2.909$ ,  $P = .007$ ), and decreased anxiety/depressive symptoms (CBCL subscale of anxiety/depression,  $9.69 \pm 16.13$ ,  $t = 2.402$ ,  $P = .03$ ). The neuropsychological tests also demonstrated significant improvements in several components of executive functions, including inhibition (NEPSY inhibition:  $-1.90 \pm 2.41$ ,  $t = -4.32$ ,  $P < .000$ ), short-term memory (WISC-IV digital span:  $-1.00 \pm 1.60$ ,  $t = -3.43$ ,  $P = .019$ ), and cognitive flexibility (WCST:  $-7.00 \pm 15.79$ ,  $t = -2.387$ ,  $P = .024$ ).

Conclusions: The study found that the executive function group training program was feasible and well-received by both children with ADHD. Although further research is needed to replicate the results with a larger sample and an active control group, the study suggests that an executive function group training program that targets multiple EF components and involves parents in real-life activities could be a promising non-pharmacological intervention for improving EF and reducing ADHD symptoms.

We, all authors of this research, hereby declare in a formal manner that we have no conflict of interest in this study.

### **PO-139**

#### **The Impact of Perceived Burdensomeness toward Suicidal Ideation Moderated by Reasons for Living in Indonesian Adolescents**

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#### **ABSTRACT**

Suicide is currently one of the most serious mental illnesses and a worldwide concern. Suicide is the fourth leading cause of death among adolescents and young adults (15–29 years old), according to the World Health Organization (WHO). Suicides occur in four out of every five low- to middle-income countries, including Indonesia. One of the determining factors in the emergence of suicidal ideas in adolescents is perceived burdensomeness (PB), while reasons for living (RFL) is expected to be a protective factor. The objective of this study was to examine at the effect of PB on suicidal ideation as moderated by RFL in adolescents in Indonesia.

A cross-sectional design study of 1,526 adolescent high school students in Bandung, Indonesia, 566 men and 960 women, was used. Data was collected online via Zoom Meeting during the COVID-19 pandemic, and informed consent was obtained. The Suicide Ideation Scale (SIS), the Interpersonal Needs Questionnaire (INQ-15), and the Brief Reason for Living Inventory for Adolescents (BRFL-A) were used as questionnaires. Multiple linear regression statistical tests are used to examine the data. Ethical approval was obtained from the Universitas Padjadjaran Research Ethics Committee (No.1135/UN6.KEP/EC/2020). The findings of this study revealed that PB had an effect on the presence of suicidal thoughts. The data is analyzed using multiple linear regression statistical tests.

The results of this study found that PB had an effect on the presence of suicidal ideas ( $\beta = 1.26$ ;

$p < 0.05$ ), but RFL served as a moderator between PB and suicidal thoughts ( $\beta = -0.01$ ;  $p < 0.05$ ). In this case, RFL weakens the impact of PB on the presence of serious suicidal thoughts. The conclusion of this study is that the impact of perceived burdensomeness on suicide ideation will be protected by the existence of reasons for living in adolescents in Indonesia. The strategic values of this research that can be useful in contributing to improving the mental health of the Indonesian people by developing suicide prevention intervention programs, specifically modules about reason for leaving awareness.

The authors have declared that no competing interests exist.

#### **PO-140**

#### **Traumatic Experiences and beliefs associated with recovery in Sexual Abuse Survivors' Online Postings**

TAO Yingxue

Affiliation: None

#### **ABSTRACT**

Survivors of child sexual abuse post in online communities to discuss difficulties in their lives. Sexual abuse victimization has significant mental health effects such as post-traumatic stress disorder (PTSD) and depression. Survivors who were abused as children are more likely to have been exposed to years of other kinds of traumas, many of whom are unable to access proper treatment and share their experiences and impact of trauma with those around them, making them more likely to isolate themselves mentally and present with complex symptoms. These include low self-esteem, anxiety, depression, anger and aggression, PTSD, dissociation, substance abuse, sexual difficulties, excessive attention to the body, self-harm, and borderline personality disorder. The current study employed an inductive qualitative analysis of over 800 posts made in one Chinese online discussion forum to identify the long-term effects of sexual abuse as well as values, and beliefs of this group. In many cases, individuals have managed to cope in some ways on their own instead of reaching out for treatment and support. Analysis found that survivors' posts were structured around six interrelated themes: the ways perpetrators approach to them were unnatural but rationalized at that time by the education they received and by the norms of society, hence were not easily noticed on the spot or afterwards; feelings of shame surrounding the failure to disclose or resist and feeling different and isolated from others; growing up in an environment where emotional expression was suppressed and criticized, believing that life is all about fighting and defending; suggestions on "how to deal with reality."; recognizing one's own coping style and externalizing responsibility; believing that both the situation and themselves are changeable and being concerned with symptoms and effects of their own trauma.

Ethical approval for this study was obtained from Osaka University Graduate School of Human Sciences Ethics Committee (Number 21035). The author declare no conflicts of interest associated with this study.

#### **PO-141**

#### **How can Harry Potter be an ACE of Hogwarts nonetheless he had huge ACEs?**

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## ABSTRACT

Although neuroscience is developing rapidly, psychiatry still relies on phenomenological description. As the human mind is invisible, there is a limit to the public understanding. The concept of psychiatry is difficult even for psychiatrists to understand, and more difficult for the public. Ignorance breeds prejudice.

Medical educators have developed character analysis in popular literary works as one of the ways to share this mental health and psychopathology with the public. In particular, Harry Potter, written by Joanne Rowling, has been analyzed in various areas. Harry Potter has already become a mental health literature for children and adolescents through numerous papers and books since the first volume was published in 1997. The author has also published several related papers.

One of the state-of-the arts in the field of child development is the impact of adverse childhood experiences (ACEs). Harry also grows up in the abuse-level parenting environment of his aunt Petunia Dursley and her family. In this study, beyond serious ACE factors, the protective factors that Harry, who entered Hogwarts, a boarding school, contributed to becoming an ACE student at Hogwarts were explored.

The first protective factor is early identification and early intervention of problem situations. Principal Dumbledore assumed the worst that could happen to Harry and began protective measures such as the protection enchantment at uncle Dursley's house against Voldemort. The protection exists inside the whole house and members while both Harry and Dursleys live there. This means that protective measures have already begun even before the problems against Harry have occurred.

Second, positive childhood experiences (PCE) are linked to the third factor, safe, stable, nurturing relationships and environments. Though Harry was abused and neglected by The Dursley family, Ms Arabella Figg, a squib who lives next to Dursley's house, also deployed by Dumbledore, was helping and protecting Harry as a neighbor from sight. Fourth, Harry's mother's love, which was able to neutralize Voldemort's magic, is cited as a factor that promotes resilience.

Despite the negative experience of such a clearly poor growth environment, Harry's growth into a healthy teenager who can adapt to Hogwarts School and confront the evil herd may have been due to these protective factors. It will be important to find healthy developmental resources such as PCEs in the evaluation and intervention process of children growing up in a negative childhood environment.

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IRB & COI: Since it was a study for novel books, the IRB was exempted. The authors have no conflicts of interest.

## **PO-142**

### **Effects of types of stressful events on adolescent cognitive processing and posttraumatic growth**

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## ABSTRACT

Adolescents experience a positive transformation, conceptualized as posttraumatic growth, following various stressful events, including bereavement, natural disasters, and disease. However, the effects of event types on the development of posttraumatic growth have not been fully examined. The present study investigated how posttraumatic growth and cognitive processing vary by the categories of events.

The study administered a survey to 413 Japanese university students (Mage = 19.4 years). They were asked to report the most stressful event by type during the period from middle school to high school from a list consisting of six items (Relationship, Self, School, Family, Bereavement, Other) and answer questions assessing cognitive processing (along the two dimensions of deliberate and intrusive rumination) at two points in time (at the time the survey was taken and soon after the events) and posttraumatic growth. The study was approved by the ethical committee at Nagoya University, Japan.

To compare the effect of the types of stressful events on posttraumatic growth as well as intrusive and deliberate rumination, the study conducted a one-way ANOVA, which, along with Tukey's honestly significant difference test for multiple comparisons, revealed the following. First, those who selected "School" as the most stressful event they experienced reported significantly lower intrusive rumination soon after the events compared with those who chose "Relationship" and "Self." Second, those who selected "School" reported significantly lower intrusive rumination than those who selected "Self" at the time the survey was taken. Lastly, those who selected "School" and "Bereavement" reported significantly higher posttraumatic growth than those who selected "Family."

These results indicate that stressful experiences regarding school, such as failure on an examination or significant academic problems, are less likely to cause unconscious and automatic rumination about the event and more likely to cause a sense of growth for Japanese adolescents. One of the presumed reasons for this is that academic-related failures are events that most people experience and thus are characterized by the ease of sharing sadness and pain with family and friends and of gaining sympathy. Further studies are needed to examine posttraumatic growth and the process of developing it with consideration for the characteristics of events.

We have no conflicts of interest to disclose.

## **PO-143**

### **Correlation between parent and self-reports of emotional and behavioral difficulties among adolescents in Singapore: results from the YEAR Study**

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## ABSTRACT

Despite adolescence being a period of particularly unique challenges and transitions, research has found that parents are often not fully aware of problems experienced by their children. This may be attributed in part to a growing need for autonomy and a tendency to spend less time with the family at this stage. Although differences between parent and self-report of problems among adolescents are to be expected, this discrepancy varies widely across countries; with some demonstrating stronger associations than others. The aim of the present research was to examine the correlation between parent and self-report of emotional and behavioral difficulties among a nationally representative sample of adolescents in Singapore. We utilized data from the Youth Epidemiology and Resilience (YEAR) Study, a national investigation into the state of mental health among 10–18-year-olds in Singapore. A total of 2546 parent-child dyads completed the Child Behavioral Checklist (CBCL) and Youth Self Report (YSR) respectively, and we calculated Pearson correlations between the total problem scores from the two questionnaires.

Overall, the CBCL and YSR demonstrated a significant but weak correlation ( $r = 0.34, p < .001$ ). Further comparisons between gender and age, however, found relatively stronger correlation among girls ( $r = 0.34, p < .001$ ) than boys ( $r = 0.29, p < .001$ ) as well as among older ( $r = 0.37, p < .001$ ) than younger adolescents ( $r = 0.28, p < .001$ ). The results demonstrate a need to increase parent's knowledge and understanding of their children's emotional and behavioral difficulties in Singapore, particularly boys and younger adolescents.

**Ethical consideration and Conflict of Interest:** During recruitment, participants were informed of the research purposes and study procedures, before signing their consent to participate in the study. All participants were informed of their rights to withdraw from the study at any stage. The research study collected data through questionnaires and verbal interviews by individuals trained in the instrument administration, minimizing any potential of harm to participants. To ensure participants' privacy and anonymity, all participants are de-identified and the research data was stored in National University of Singapore's institutional online dropbox, where it is only accessible to the research team. All authors declare that they have no conflicts of interest.

#### **PO-144**

#### **Perceived resilience moderates the relationship between stress and emotional and behavioral difficulties in Singaporean adolescents**

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#### **ABSTRACT**

While there has been growing research supporting the role of resilience in the prevention and treatment of psychopathology, there has not been a study examining the moderating effects of perceived resilience on stress and emotional and behavioral difficulties among adolescents in Singapore. Furthermore, because resilience is multifaceted, it remains unclear which aspects of resilience is most useful to target for intervention. The present study aimed to fill these two gaps by utilizing data from the Youth Epidemiology and Resilience (YEAR) Study; an investigation into the state of mental health among a nationally representative sample of adolescents aged 10-18 years in Singapore. A total of 3336 adolescents completed self-reported measures of stress, behavioral and emotional difficulties as well as perceived resilience: Cohen's Perceived Stress Scale (PSS), Achenbach's Youth Self Report (YSR) and Singapore Youth Resilience Scale (SYRESS) respectively. We ran a regression analysis with the total score of the PSS, YSR and SYRESS, and found that perceived resilience significantly moderates the relationship between stress and behavioral and emotional difficulties ( $p < .001$ ). We also ran additional regression analyses to examine the moderating effects of the ten subdomains of resilience within the SYRESS. The analyses revealed that the subdomains of Perseverance/Commitment, Positive Self-Image/Optimism, Relationship/Social Support, Spirituality/Faith and Personal Confidence/Responsibility were significant moderators ( $p < .001$ ). The results reaffirm the importance of building resilience among adolescents and clarify the importance of focusing beyond just personal attributes but also on the aspects of their relationship and spirituality as well.

**Ethical consideration and Conflict of Interest:** During recruitment, participants were informed of the research purposes and study procedures, before signing their consent to participate in the study. All participants were informed of their rights to withdraw from the study at any stage. The research study collected data through questionnaires and verbal interviews by individuals trained in the instrument administration, minimizing any potential of harm to participants. To ensure participants' privacy and anonymity, all participants are de-identified and the research data was stored in National University of Singapore's institutional online dropbox, where it is only accessible to the research team. All authors declare that they have no conflicts of interest.

### **PO-145**

#### **Identity Confusion, Depression, and Resilience in Adolescents: The Moderating Role of Personal control**

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#### **ABSTRACT**

There has been extensive research on the relationship between identity confusion and depression. However, there are still uncertainties about the effects of identity confusion on depression due to mixed findings in the literature, alluding to possible additional pathways between identity confusion and depression. Despite adolescence being the optimal timeframe to investigate this pathological relationship, and the pressing need to protect adolescents from depression, such studies on adolescents remain scarce. Using a Singapore sample of 650 adolescents aged 11 to 18 years old, this study addresses these gaps by examining how personal control, a resilience trait, possibly mitigates the adverse effects of identity confusion on four aspects of depression: depressive symptoms, presentations of Major Depressive Disorder, suicide ideation, and suicide or self-harm attempt. This study's results confirm the positive association between identity confusion and depression. However, personal control only moderated the relationship between identity confusion and depressive symptoms, and not the other depression aspects. These findings warrant greater focus on the complex effects of identity confusion on depression during adolescence. Moreover, the results highlight the benefits in exploring the experience of identity development, as well as developing healthy levels of personal control in clinical interventions for adolescents experiencing symptoms of depression.

Ethical consideration and Conflict of Interest: During recruitment, participants were informed of the research purposes and study procedures, before signing their consent to participate in the study. All participants were informed of their rights to withdraw from the study at any stage. The research study collected data through questionnaires and verbal interviews by individuals trained in the instrument administration, minimizing any potential of harm to participants. To ensure participants' privacy and anonymity, all participants are de-identified and the research data was stored in National University of Singapore's institutional online dropbox, where it is only accessible to the research team. All authors declare that they have no conflicts of interest.

### **PO-146**

#### **Physical Disability and Psychiatric Symptoms— A Case Study**

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#### **ABSTRACT**

Psychiatric symptoms such as delusion or auditory hallucinations in adolescents are sometimes handled as “at-risk mental state”, and careful assessment is important. We have experienced a case in which a physical disability has influenced the appearance of psychiatric symptoms, and we would like to review and discuss the previous literature.

The family and the patient gave their permission for the presentation, and some modifications have been made to prevent identification of the patient.

The case is a high school boy. He can walk on his own, but he has mild paralysis on his left side in the upper and lower extremities. He had been diagnosed with ASD by the pediatrician when he was 5th grade. No intellectual disability was diagnosed. He went to normal classes. However, because of his physical disability symptoms, his school classes and activities are often limited. He has few friends due to the drawbacks of his physical disability.

After he entered high school, he complained that he sometimes heard voices at school telling



him to “Die.” The voices were heard only at school, even if no one is around him. He sometimes kicked a trash can when he was frustrated by hearing them. He was prescribed medication, but his symptom continued.

He fell and sprained his ankle on the way to school, and started to receive a massage at an osteopathic clinic. He couldn't walk to visit us for a few months. However, when he came to the clinic later, he said that he no longer heard voices telling him to die. He was told at the osteopathic clinic that due to his hemiplegia, his body was out of balance and his muscles throughout the body were in a state of intense contraction. He has continued rehabilitation since then, and no auditory hallucinations or other complaints have been observed to this day.

It is widely known that physical symptoms lead to anxiety and depressive symptoms, but this patient's complaints were auditory hallucinations. And the patient's symptoms were alleviated by reducing the tension in the body. Although psychiatrists are not accustomed to examining the body in detail, we felt it necessary to evaluate the growing child with particular care.

There is no conflict of interest.

## **PO-147**

### **Photobiomodulation Therapy on ADHD animal model**

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#### **ABSTRACT**

**Objective:** The pathophysiology of Attention-deficit hyperactivity disorder (ADHD), which characterized by three core symptoms: inattention, hyperactivity, and impulsivity, remains unclear. Previous studies had indicated that neuronal network (prefrontal cortex, caudate nucleus, and cerebellum) involved in the regulation of attention, emotion, and behavior. Furthermore, alterations in the activity of monoamine neurotransmitters such as dopamine or norepinephrine due to the dysfunction of neurons associated with this network further contribute to the pathophysiology of ADHD. But the minority of patients do not respond to standard pharmacotherapy, limited by side effects and concerns of abuse. The effectiveness on ADHD of other noninvasive brain stimulation method, such as Photobiomodulation therapy (PBMT), has not been reported yet.

**Method:** In this study, we used the well accepted ADHD animal model, male SHR/Izm rats, and Wistar-kyoto/Izm as the control animal respectively. PBMT (808nm, continuous mode, 27.79mW/cm<sup>2</sup>) applied on both group of rats and evaluated with different exposure time. The two-tailed two-sample t test was used to observe between-group differences. The statistical tests were corrected by controlling the false discovery rate [FDR]  $q = 0.05$  to avoid errors related to multiple comparisons in these calculations. Pearson's correlation coefficients were computed to reveal the relationships between functional coherence and neuropsychological/behavioral/neuroimage changes.

**Results:** The group which received PBMT for 25 seconds had significantly improvement in ADHD symptoms compared to other groups ( $p < 0.05$ ). Similar to the previous human clinical research, the decreased FA (Fractional anisotropy) value within WM (white matter) area, such as corpus callosum and internal capsule, were also found in SHR group compared with WKY group before laser treatment, suggesting the disturbed WM maturation in SHRs. These significant differences of averaged FA values within brain white matter were diminished at SHR25 group at the 2nd week after laser treatment while the differences between SHR0 group and WKY0 group sustained.

**Conclusion:** Through our study, PBMT could also significantly improves ADHD symptoms in both behaviorally and biologically.

None of the authors has conflicts of interest regarding any of the products or devices mentioned in this manuscript.

The animal use protocol has been reviewed and approved by the institutional Animal Care and Use Committee or Panel (IACUC/IACUP) in Taipei Medical University.

### **PO-148**

#### **Multiple risk-taking behaviors in Korean adolescents and associated factors: 2020 and 2021 Korea Youth Risk Behavior Web-based Survey**

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#### **ABSTRACT**

**Purpose:** Despite the negative health impact of multiple risk-taking behaviors (RTBs), there is a lack of understanding of adolescents who are more prone to multiple RTBs. This study aimed to identify sociodemographic, mental, and physical health variables associated with increased susceptibility to multiple RTBs in each sex.

**Methods:** Cross-sectional data from the 2020 and 2021 Korea Youth Risk Behavior Web-based Survey was used for this study. A total of 106,979 Korean adolescents (55,460 men and 51,519 women) were assessed on five RTBs (alcohol use, smoking, sexual intercourse, illicit substance use, and no seat belt wearing). In comparison to no RTB group, odds ratios of the relevant covariate factors were calculated in one RTB or multiple RTBs groups using multinomial logistic and multivariable logistic regression analyses. The institutional review board approval and consent were waived as the analyses used de-identified, publicly available secondary data.

**Results:** Male and female adolescents engaging in multiple RTBs were 6.4% and 3.8%, respectively. Among sociodemographic variables, increasing age, low subjective socioeconomic status, and living in rural areas were associated with multiple RTBs regardless of sex. All mental health variables except anxiety, which are the experience of depression, suicidal ideation, physical trauma, and high smartphone use, were associated with multiple RTBs in both sexes. Physical inactivity and obesity were associated with decreased odds of multiple RTBs in both sexes.

**Conclusions:** This study identifies diverse factors associated with multiple RTBs of Korean adolescents and demonstrates existing sex differences. Age and mental health condition are the most critical factors that distinguish multiple risk-taking groups from those involved in one or no RTB.

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

### **PO-149**

#### **Is There Any Difference in PCIT Attrition Rates Among Different Cultural Backgrounds? Insights from a Systematic Review**

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## ABSTRACT

**Background:** Parent-child interaction therapy (PCIT) is a behavioral parent-child psychotherapy that reduces a child's disruptive behaviors and improves parents' parenting skills. It was founded in the United States and has been reported to be effective for a broad range of families in many countries. Its treatment protocol has been acknowledged as versatile, even translated into different languages. However, despite its effectiveness, PCIT has a high attrition rate internationally, and not every parent-child dyad benefits from the treatment.

**Objective:** The systematic review aimed to examine the attrition rates of PCIT and the influences of cultural backgrounds on the attrition.

**Method:** A systematic review was conducted using PubMed, PsycINFO, Web of Science, and Embase. Through screening processes, appropriate articles were analyzed.

**Results:**

[Reported Attrition Rates] The 12 studies were conducted in the United States, the Netherlands, and Taiwan. While the attrition rates in the United States ranged from 36% to 82%, the attrition rate in the Netherlands was 40%, and in Taiwan, it was 27%.

[Racial Differences] There were five studies with majority of participants with minority backgrounds (i.e., African American, Latino, Asian) with attrition ranging from 27% to 81%; there were four studies with majority of Caucasian participants with attrition ranging from 36% to 71%. These ranges indicate that the different ethnic groups illustrated similar attrition ranges.

**Discussion:** Although the attrition rates of PCIT are high, its root is not necessarily from the difference in racial or cultural backgrounds. When comparing each study from the scope of different racial and ethnic backgrounds, the studies do not demonstrate large racial and ethnic background differences on attrition, implying the PCIT protocol itself is culture-free. However, previous studies suggested the influence of psychosocial factors on PCIT attrition, which are generally interrelated to cultural backgrounds. Therefore, when therapists conduct PCIT, it is crucial to be aware of such differences and engage in the treatment accordingly.

As this study is a systematic review based on previous publications, ethics committee approval is not required.

The authors disclosed no conflicts of interest.

## **PO-150**

### **Relationship Between Parent's Child-Rearing Experience, Defense Mechanisms, Internal Working Model, and Postpartum Depression and Bonding Difficulties: A Study on Japanese Mothers**

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## ABSTRACT

**Background and Objectives:** A parent's own child-rearing experience has been found to be associated with postpartum depression as well as bonding difficulties with their own child. Previous studies have demonstrated a relationship between bonding difficulties and child abusive behaviors. While many studies illustrate the importance of screening for child abuse prevention, little research has been conducted to explore the process between a parent's rearing experience and postpartum depression and bonding difficulties. Therefore, the current study aimed to examine the relationship between a parent's child-rearing experience and postpartum depression and bonding difficulties by using defense mechanisms (DM) and internal working

model (IWM) as mediators.

**Methods:** Fifty-eight mothers completed questionnaires about their child-rearing experience, DM, IWM, bonding difficulties, and postpartum depression. Principal component analysis (PCA) and multiple regression analysis (MRA) were conducted to examine the relationship between the mother's child-rearing experiences and postpartum depression and bonding difficulties with DM and IWM as the mediators.

**Results:** PCA revealed four components from DM and IWM. MRA illustrated the relationship between a mother's child-rearing experience, each PC, and postpartum depression as well as bonding difficulties. PC1 (maladaptive DM and unstable IWM) was associated with a mother's child-rearing experience, postpartum depression, and bonding difficulties.

**Discussion:** The current study suggested that there are relationships between a mother's child-rearing experience and DM and IWM, and also between DM and IWM and postpartum depression as well as bonding difficulties. Specifically, mothers who had low caring and high overprotective rearing experience were more likely to develop PC1, which was associated with the development of postpartum depression and bonding difficulties.

**Conclusion:** The current study revealed that for some types of mothers, DM and IWM mediate the relationship between a mother's child-rearing experience and the development of postpartum depression and bonding difficulties. By understanding the function of DM and IWM and the process behind the development of these disorders, practitioners can be aware of the tendency of these mothers and provide appropriate support to prevent child abuse.

This study was approved by the Kitasato University School of Allied Health Sciences Review Board for Clinical Research. The authors declare no conflicts of interest.

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