The 15th International Congress of the Asian Society Against Dementia

DATE & VENUE

November 6th Sat.-10th Wed., 2021
SENDAI INTERNATIONAL CENTER

PRESIDENT

Kenichi Meguro
Geriatric Behavioral Neurology Project,
New Industry Creation Hatchery Center (NICHe), Tohoku University

Abstract Book

Co-Hosted by
Tohoku University,
New Industry Creation Hatchery Center (NICHe)

医療法人社団 清明会

PFC HOSPITAL

PATIENT FAMILY CENTERED CARE

医療法人社団清明会PFC HOSPITALは、新庄・最上地域唯一の精神科病院として昭和42年に開設いたしました。山形県認知症疾患医療センターはじめ災害時の拠点病院として、応急入院指定など、精神科医療圏基幹病院として様々な役割を担い、地域に根差し医療提供を行っています。

内 科　神経内科

精神科　人工透析

認知症・うつ病・ADHDなどもご相談ください。

■診療時間

	月	火	水	木	金	土	日
8:30~17:30	●	●	●	●	●	—	—

（受付時間 8:30~11:00）

■休 診 日　土曜、日曜、祝祭日

〒996-0053 山形県新庄市大字福田806

0233-22-2047 FAX 0233-23-5586

https://seimei-kai.or.jp

透析センター直通 0233-22-1889

人工透析（人工透析装置33台）

【外来透析・入院透析あり】

医療法人社団清明会 介護老人保健施設

PFC エーデルワイス

■入所サービス／定員80名（短期入所含）
■一般棟40名、認知症専門棟40名
■短期入所療養介護
■介護予防短期入所療養介護
■通所リハビリテーション／定員20名（予防通所リハビリ含）
■介護予防通所リハビリテーション

居宅介護支援事業所 PFC エーデルワイス

■居宅におけるケアプランの作成
■在宅介護相談窓口

〒996-0112 山形県新庄市大字本合海字福田界1802番地の3

0233-26-2685 FAX 0233-26-2687

https://ew.seimei-kai.or.jp

～心の通う医療の実現を目指し、私たちは日々歩みつづけます～　医療法人社団 清明会　検索

医療法人社団 清靖会

PFC HOSPITAL

PATIENT FAMILY CENTERED CARE

昭和43年5月に、現在の大崎市古川に精神科の病院として医療法人社団清靖会PFCHOSPITALは開業しました。現在では、精神科病院の中に人工透析室を整備し、透析治療を必要とする精神疾患や認知症の患者さんと、そのご家族に寄り添いながら医療を提供しています。地域社会との関わりを大切に、創立当時の「患者さんを中心とした」医療を行うという理念を失うことなく、これからも活動していきます。

大学と連携しチーム医療に取り組んでいます。

■診療科目　内科、神経内科、心療内科、精神科

人工透析（人工透析装置24台）

■診療時間

	月	火	水	木	金	土	日
9:00~12:00	●	●	●	●	●	●	—
14:00~17:00	●	●	●	●	●	—	—

平日の受付時間：8:00~11:00/13:00~16:00
土曜の受付時間：8:00~11:00

■休 診 日　土曜日の午後・日曜日・祝祭日

もの忘れ外来

毎週月曜日（再診）
8：30~15：30

毎週木曜日（新患）
13：30~15：30

予約時間の10分前にはご来院ください

「もの忘れ」が気になる方はお一人で悩まず、お気軽にご相談ください。

ご予約の受付時間／平日9:00~16:00

完全予約制 0229-22-4508

〒989-6142 宮城県大崎市古川中島町1-8

0229-22-1608 FAX 0229-22-2249

https://seisei-kai.or.jp

～患者さんとそのご家族を中心に寄り添い、医療と福祉をご提供します～　医療法人社団 清靖会　検索

医療法人 光仁会

PFC JAPAN CLINIC 福島

PATIENT FAMILY CENTERED CARE

■診療科目　内科、泌尿器科

人工透析（人工透析装置23台）

■診療時間

	月	火	水	木	金	土	日
9:00~12:00	●	●	●	●	●	●	—
14:00~18:00	—	●	—	●	—	●	—

■休 診 日　月・水・金の午後・日曜日・祝祭日

※祝日は人工透析のみ治療

〒960-1245 福島県福島市松川町浅川字上幸道7-1

024-597-8611 FAX 024-597-8610

https://fukushima.kojin-kai.or.jp

医療法人 光仁会

PFC JAPAN CLINIC 山形

PATIENT FAMILY CENTERED CARE

■診療科目　内科、泌尿器科、皮膚科

人工透析（人工透析装置15台）

■診療時間

	月	火	水	木	金	土	日
8:30~12:30	●	●	●	●	●	●	—
14:00~20:00	●	—	●	—	●	—	—

■休 診 日　日曜日・祝祭日

■夜間透析　月・水・金（18:00~22:00）

※人工透析治療は祝祭日が月~土曜日に該当した場合でも行います。

〒990-2444 山形県山形市南四番町3-6

023-625-5515 FAX 023-633-6200

https://yamagata.kojin-kai.or.jp

医療法人 光仁会

PFC JAPAN CLINIC 東根

PATIENT FAMILY CENTERED CARE

■診療科目　内科、泌尿器科、皮膚科

人工透析（人工透析装置29台）

■診療時間

	月	火	水	木	金	土	日
8:30~17:00	—	●	—	●	—	●	—

■休 診 日　月・水・金・日曜日・祝祭日

〒999-3711 山形県東根市中央4-1-29

0237-43-7655 FAX 0237-43-7690

https://higashine.kojin-kai.or.jp

～いつでも身近にあるクリニックとして、わたしたちは誠心誠意、地域の方々に貢献します～　医療法人 光仁会　検索

丹後ホールディングス株式会社

つなぐ、ひろがる、つづく

研精会の取り組み

東京都認知症疾患医療センター

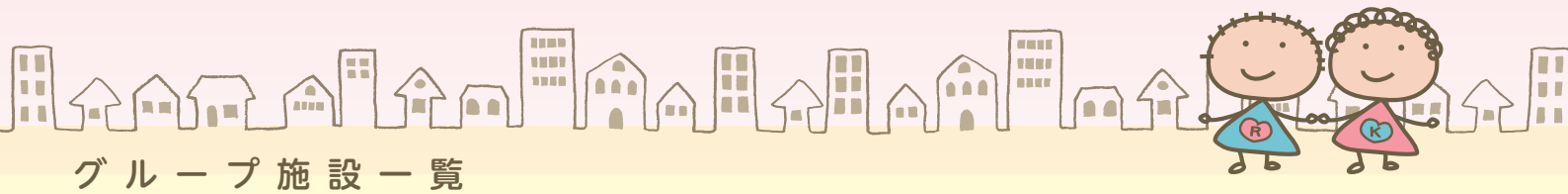
稲城台病院は東京都認知症疾患医療センターとして認定されており、精神・内科合併症患者様、リハビリテーションが必要な認知症高齢者の方の積極的な受け入れを行っております。

もの忘れ外来

当法人では、認知症や高齢者のこころの問題に関するお悩みを地域の皆様にお気軽に相談して頂けます。

認知症リハビリテーション

病院だけではなく、グループの老健や有料老人ホームでも認知症リハビリテーションを積極的に行っております。一人一人の「その人らしさ」を大切にしながら、日常生活の中で「生活そのものがリハビリ」となるようご支援します。



グループ施設一覧

病　院

東京さつきホスピタル
（認知症治療体制有）

稲城台病院
（東京都認知症疾患治療センター）

箱根リハビリテーション病院

はらまちクリニック（新宿）

介護老人保健施設

デンマークイン若葉台
（東京都老健第１号）

デンマークイン新宿

デンマークイン箱根
（神奈川県老健第１号）

介護付き有料老人ホーム

デンマーク INN 調布

デンマーク INN 深大寺

デンマーク INN 府中

デンマーク INN 小田原
（介護保険適用有料老人ホーム国内第１号）

デンマーク INN つつじヶ丘
（2022 年７月１日）オープン予定

訪問看護・介護支援

訪問看護ステーションゆい調布

訪問看護ステーションゆい若葉台

介護支援センターゆい若葉台

介護支援センターゆい箱根

看護専門学校

東京南看護専門学校

福祉施設

創造農園（就労継続支援Ｂ型）

希望ヶ丘（地域生活支援センター）

粋交舎（共同生活援助）

創造生活（生活介護）

特定医療法人
研精会

社会福祉法人
新樹会

〒 182-0005　調布市東つつじヶ丘 2-27-1
特定医療法人社団　研精会
☎ 03-3308-8801
https://www.kenseikai-group.or.jp/

Contents

Organization / Aknowledgements

Organization

Organized by:

Asian Society Against Dementia
The 15th International Congress of the Asian Society Against Dementia

Congress President

Prof. Kenichi Meguro

Organization Committee of Congress

Dr. Tomonari Koto
Dr. Nobuko Kawabata
Dr. Mari Kasai
Dr. Tsutomu Aida
Dr. Keiji Sakuma

Co-Hosted by:

- Tohoku University, New Industry Creation Hatchery Center (NICHe)

Acknowledgments

- Japanese Psychogeriatric Society
- Japan Society for Early Stage of Dementia
- Japanese Society of Safe Driving and Medical Conditions
- Japan Society of Care Management
- The Japanese Association of Rehabilitation Medicine
- The Japan Society of Mechanical Engineers
- Japanese Society for Medical and Biological Engineering
- Miyagi Medical Association

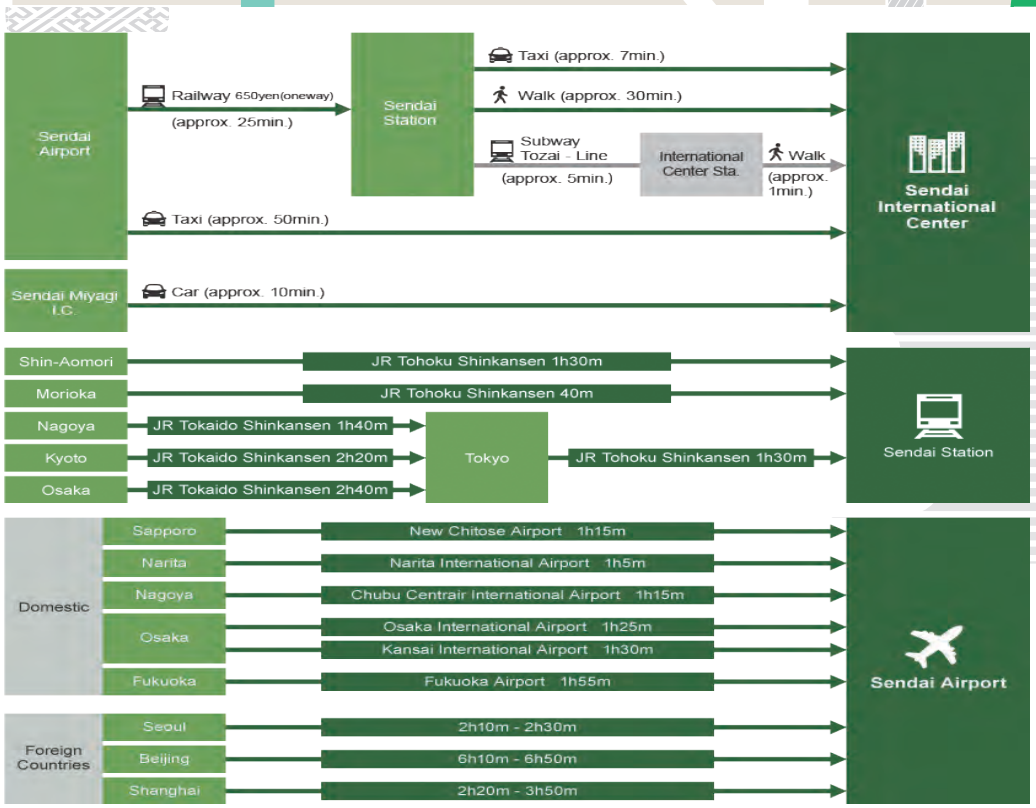
Map and Access

Venue:

Sendai International Center

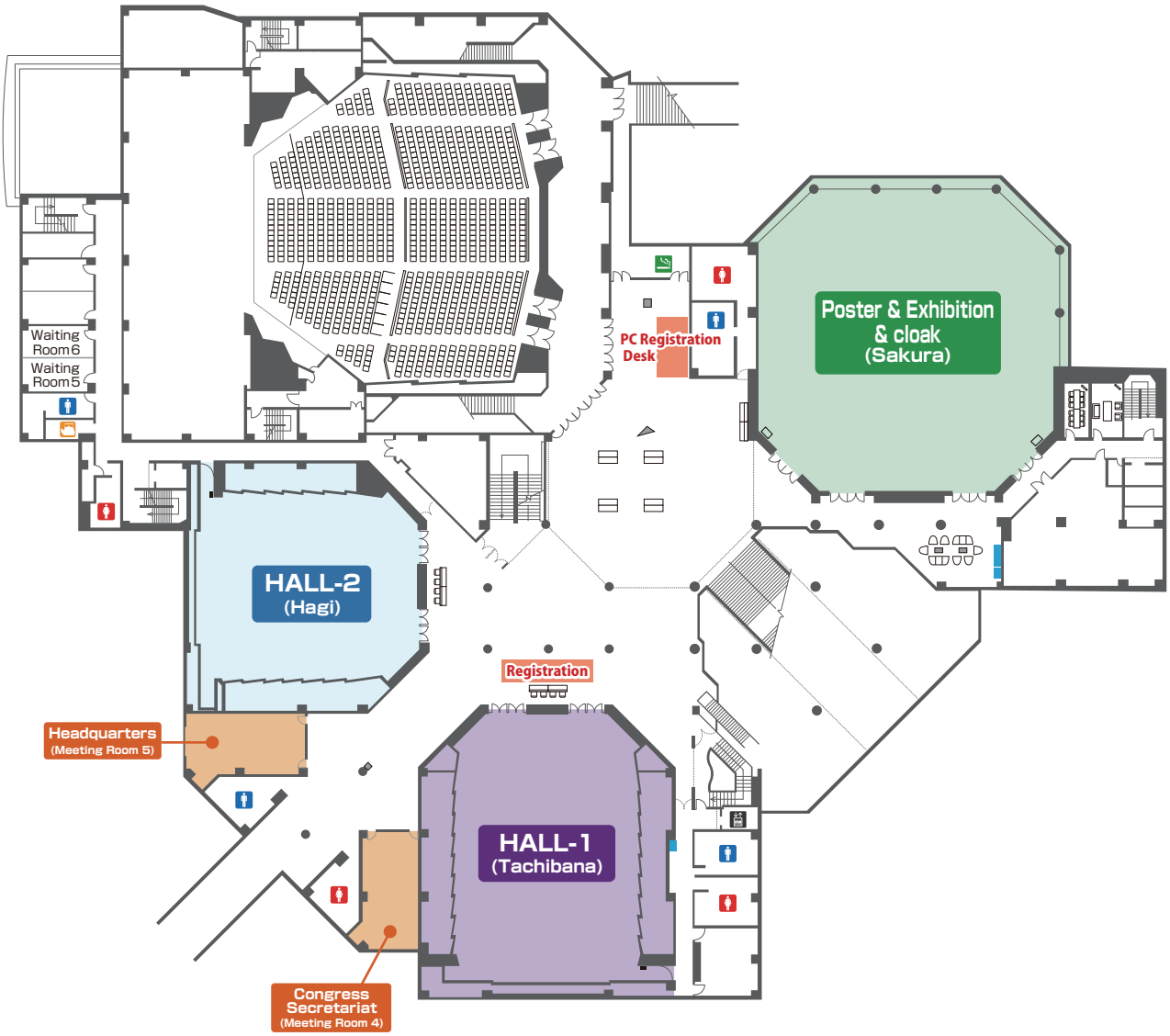
Aobayama Mubanchi, Aoba-ku, Sendai-shi, Miyagi 980-0856 Japan

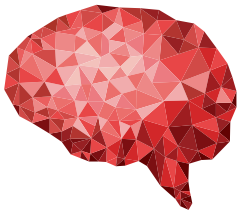
Phone: +81-22-265-2211



Floor Map

Sendai International Center 2nd Floor





General Information

Date:

November 6th (Saturday)- November 10th (Wednesday), 2021

Venue:

Sendai International Center
Aobayama Mubanchi, Aoba-ku, Sendai-shi, Miyagi 980-0856 Japan
HALL-1: 橘 Tachibana
HALL-2: 萩 Hagi
Poster, Exhibition, Cloak: 桜 Sakura
Registration Desk, Information Desk: 2nd floor

Language:

The official language of the meeting is English and Japanese.

Registration:

The registration desk is located on the 2nd floor of the venue and is open at the following hours.

November 6th (Saturday) : 3:30 PM - 6:30 PM
November 7th (Sunday) : 1:00 PM - 6:00 PM
November 8th (Monday) : 8:00 AM - 5:00 PM
November 9th (Tuesday) : 8:00 AM - 3:30 PM
November 10th (Wednesday) : 8:00 AM - 3:30 PM

Registration Fee of Public Seminar (November 6th)	
Part 1 (16:00-17:50)	JPY 2,000
Part 2 (18:00-19:00)	JPY 1,000
Registration Fee (November 7th - 10th)	
Category	**Registration Fee (Full-day attendance)**
Medical Doctor, Dentist	JPY 70,000
Medical personnel except for Medical Doctor or Dentist, Corporate related personnel, Government officials	JPY 40,000
General public participants	JPY 20,000
Undergraduate student Graduate student	JPY 5,000 *Students registered to the Health Resilience in Aging Society course in Graduate School Tohoku University are able to participate in the first conference day on November 8th free of charge.

General Information Desk:

General information, including lost and found, will be provided at this desk, which will be open near the registration desk and during the same hours.

Cloak:

The cloak will be open in 桜 (Sakura) on the 2nd floor of the venue and is open at the following times.

November 8th (Monday) : 8:00 AM - 7:30 PM
November 9th (Tuesday) : 8:00 AM - 5:30 PM
November 10th (Wednesday) : 8:00 AM - 5:30 PM

Information Board:

Information for all participants will be posted on this board which is located close to the registration desk. Participants are requested to check this board.

Social Programs

Reception

Date:
November 7th (Sunday)

Venue:
Hotel Metropolitan Sendai
1-1-1　Chuo Aoba-ku Sendai-shi 980-8477, Japan
TEL +81-22-268-2525

Japanese Traditional Special Performance

Performer:
Shonosuke Okura (Living national treasure)

Date:
November 8th (Monday) 7:30 PM

Venue:
Sendai Castle Site

Meeting place:
In front of the Sendai International Center's front door

Meeting time:
By 7:10 PM

Schedule at a Glance

Public Seminar - November 6th Sat., 2021

Sendai International Center

Conference Bldg 2F Sakura

9:00

10:00

11:00

12:00

13:00

14:00

15:00

16:00

16:00-17:50 **PUBLIC LECTURE PART 1**
Chairperson: Satoshi Yamaguchi
Speaker: Aya Takahashi, Tomonari Koto

17:00

18:00

18:00-19:00 **PUBLIC LECTURE PART 2**
Chairperson: Satoshi Yamaguchi
Speaker: Satoshi Yamaguchi, Keiichi Kumai

19:00

20:00

Day 0 - November 7th Sun., 2021

Sendai International Center

HALL-1
Conference Bldg 2F Tachibana

9:00

10:00

11:00

12:00

13:00

14:00

13:30-14:30 **SPECIAL LECTURE 00**
What is the purpose to produce medical evidence for?
Speaker: Kenichi Meguro

15:00

14:30-15:35 **SPONSORED SEMINAR 0**
The potential of natural foods to activate cognitive functions
Chairperson: Huali Wang
Speaker: Teruo Miyazawa, Tohru Yamakuni, Tomonari Koto
Sponsored by KOTARO Pharmaceutical Co.,Ltd.

16:00

15:50-16:10 **SPECIAL LECTURE 0**
Current state of new orange plan
Chairperson: Kei Nakamura Speaker: Koji Miura

16:10-16:30 **SPECIAL LECTURE 1**
Dementia friendly care - Comprehensive approach
Chairperson: Guk-Hee Suh, Masahiro Nakatsuka Speaker: Heii Arai

17:00

16:55-17:40 **SPECIAL LECTURE 2**
Dementia care and education
Chairperson: Guk-Hee Suh, Masahiro Nakatsuka Commentator: Kei Nakamura Speaker: Shinji Kato, Tetsuya Abe

18:00

17:40-18:45 **SYMPOSIUM 0**
Japanese style nursing care and foreign care workers
Chairperson: Guk-Hee Suh, Masahiro Nakatsuka
Commentator: Tomohiro Sugawara, Shinichiro Ishizaka
Speaker: Fumiko Nakashima, F. K., Godlive Ramesh Gimantha Nissanka Appuhamilage

19:00

20:00

Day 1 - November 8th Mon., 2021

Sendai International Center

HALL-1
Conference Bldg 2F Tachibana

8:30-9:20 **OPENING CEREMONY**

9:20-10:50 **KEY NOTE LECTURE**
The evolution of the Clinical Dementia Rating™ in the 21st century
Chairperson: Kenichi Meguro, Christopher Chen
Speaker: John Carl Morris

11:20-12:30 **LECTURE BY CONGRESS CHAIR**
Fusion of the East and the West, harmony of human and technology
Chairperson: Kei Nakamura, Yuan Han Yang
Speaker: Kenichi Meguro

12:30-13:30 **SPONSORED SEMINAR 1**
Pre-dementia state: New classification of SCI and MCI
Chairperson: Vincent Mok Commentator: Mari Kasai
Speaker: Miwako Shoji, Tomonari Koto
Sponsored by KENSEIKAI Medical & Welfare Group

13:30-15:30 **SYMPOSIUM A**
10-year anniversary of Great East Japan Earthquake
Chairperson: Shinichi Egawa, Jacqueline C. Dominguez
Commentator: Manabu Ikeda
Speaker: Shinichi Egawa, Yasuto Kunii, Anawat Suppasri, Kenichi Meguro

16:00-17:00 **SPECIAL LECTURE 3**
Civil military collaboration at national defense medical college
Chairperson: Shunichi Sato
Speaker: Koki Kaku

18:05-19:05 **EVENING SEMINAR**
Characteristics of patients with dementia after the Great East Japan Earthquake and Fukushima Daiichi Nuclear Power Plant accident: The report from Hibarigaoka Hospital in Fukushima prefecture and literature review.
Chairperson: Suraya Yusoff, Shinobu Kawakatsu
Speaker: Akemi Miyagawa
Sponsored by Eisai Co., Ltd. Integrated Dementia Strategy Department

HALL-2
Conference Bldg 2F Hagi

13:30-15:40 **SPECIAL LECTURE & SELECTED POSTER 1**
Importance of observational methods [Theme 1]
SPECIAL LECTURE
Speaker: Ennapadam Srinivas Krishnamoorthy, Takaki Shimura, Ching-Kuan Liu, Masao Kanamori
SELECTED POSTER
Judge: Ennapadam Srinivas Krishnamoorthy, Takaki Shimura, Ching-Kuan Liu
Speaker: Yung-Shuan Lin, Yuan Cai, Yohei Kudoh

16:00-17:10 **SPECIAL LECTURE & SELECTED POSTER 6**
Behavioral neurology and disaster medicine [Theme 6]
SPECIAL LECTURE
Speaker: Vincent Mok
SELECTED POSTER
Judge: Vincent Mok Speaker: Takuya Kanamori, Toshihiko Sato, Hui-Tzu Lin

9:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00

Day 2 - November 9th Tue., 2021

Sendai International Center

HALL-1
Conference Bldg 2F Tachibana

9:00-10:15 SYMPOSIUM B
Vascular factor and dementia
Chairperson: Koji Abe, Ken Nagata
Commentator: Yohei Kudoh
Speaker: Koji Abe, Ryuichi Morishita, Yoshio Ikeda

10:45-12:15 SPECIAL LECTURE 4
The philosophy of extended mind and its application to education and welfare
Chairperson: Kenichi Meguro
Speaker: Tetsuya Kono

12:15-13:15 SPONSORED SEMINAR 2
Latest findings on early dignosis of AD based on ATN system
Chairperson: Kenji Ishii
Speaker: Hitoshi Shimada
Sponsored by Eisai Co., Ltd. Medical HQs

13:15-14:30 SYMPOSIUM C-1
Older adults and modern technology : New technology for older adults
Chairperson: Shinichi Izumi, Christopher Chen
Commentator: Kei Nakamura, Tetsuya Kono
Speaker: Kazuha Ogasawara, Hiroshi Kobayashi, Sayuri Suwa

15:00-16:45 SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults
Chairperson: Masaru Mimura, Ming-Chyi Pai
Commentator: Tetsuya Kono, Nagaendran Kandiah
Speaker: Keiichi Kumai, Motoki Shino, Shigeyuki Yamabe, Toshiya Arakawa, Kimihiko Nakano

HALL-2
Conference Bldg 2F Hagi

9:00-10:30 SPECIAL LECTURE & SELECTED POSTER 5
Matching of modern technology with older adults [Theme 5]
SPECIAL LECTURE
Speaker: SangYun Kim, Rikako Suzuki
SELECTED POSTER
Judge: Tetsuya Kono, Suraya Yusoff, SangYun Kim, Rikako Suzuki
Speaker: Kuninori Suzuki, Mayumi Suzuki, Kenichi Meguro

12:20-13:00 SPECIAL LECTURE 5
Neuroscience of eating behavior
Chairperson: Kei Nakamura Speaker: Hirohisa Koide, Nobuko Kawabata

13:00-14:30 SPECIAL LECTURE & SELECTED POSTER VASCOG
Vascular Cognitive Impairment [VasCog]
SPECIAL LECTURE
Speaker: Ken Nagata, Paulus Anam Ong
SELECTED POSTER
Judge: Koji Abe, Ken Nagata, Paulus Anam Ong
Speaker: Li-Hua Lee, Amelia N Vidyanti, Tomohiro Sugawara

15:00-16:15 SPONSORED SYMPOSIUM
Comprehensive approach by pharmacological treatment and psychosocial intervention for dementia
Chairperson: Paulus Anam Ong, Toyoko Nomura, Mari Kasai
Commentator: Miwako Shoji
Speaker: Satoshi Yamaguchi, Mari Kasai, Toyoko Nomura
Sponsored by Eisai Co., Ltd. Integrated Dementia Strategy Department

16:15-16:35 SPECIAL LECTURE
Non-pharmacological intervention [Theme 3]
Speaker: Hirohisa Koide

Day 3 - November 10th Wed., 2021

Sendai International Center

HALL-1
Conference Bldg 2F Tachibana

8:30-8:45 **EDUCATIONAL LECTURE** The importance of an integrated perspective Speaker: Kenichi Meguro

9:00

8:45-10:00 **SYMPOSIUM D**
Multilingualism and dementia
Chairperson: Manabu Ikeda, Yi-Chien Liu
Commentator Ming-Chyi Pai
Speaker: Yi-Chien Liu, Rikako Suzuki, Jong-Ling Fuh

10:00

10:15-11:35 **SPECIAL LECTURE**
Neuro-ethics and dementia care [Theme 4]
Speaker: Guk-Hee Suh, Yuan-Han Yang, Mei Zhao, Nagaendran Kandiah

11:00

11:35-13:05 **SYMPOSIUM E**
Re-evaluation of psycho-social intervention
Chairperson: Ennapadam Srinivas Krishnamoorthy, Linda CW Lam
Commentator: Jong-Ling Fuh, Jacqueline C. Dominguez, Nobuko Kawabata
Speaker: Jacqueline C. Dominguez, Vorapun Senanarong, Linda CW Lam

12:00

Sponsored by TANGO HOLDINGS Co.,Ltd.

13:00

13:05-14:20 **SPECIAL LECTURE & SELECTED POSTER 2**
Behavioral neurology for language and memory [Theme 2]
SPECIAL LECTURE
Speaker: Saima Hilal, Ming-Chyi Pai
SELECTED POSTER
Judge: Yi-Chien Liu, Manabu Ikeda, Jong-Ling Fuh, Saima Hilal, Ming-Chyi Pai Speaker: Su-Wei Lee, Mikiko Taku

14:00

14:20-14:55 **SELECTED POSTER 4**
Neuro-ethics and dementia care [Theme 4]
Judge: Shuichi Awata, Guk-Hee Suh, Yuan Han Yang, Mei Zhao, Nagaendran Kandiah
Speaker: Mao-Hsuan Huang, Mizue Suzuki

15:00

15:10-16:40 **SYMPOSIUM F**
Aging society and ageism
Chairperson: Shuichi Awata, Ching-Kuan Liu
Commentator: Kei Nakamura, Suraya Yusoff, Vorapun Senanarong
Speaker: Keiichi Kumai, Hiroki Inagaki, Takeshi Nakagawa

16:00

16:40-17:15 **SELECTED POSTER 3**
Non-pharmacological intervention [Theme 3]
Judge: Linda CW Lam, Hirohisa Koide Speaker: Allen T. C. Lee, Chiaki Oshiyama

17:00

17:15-17:45 **AWARDS AND CLOSING CEREMONY**

18:00

19:00

20:00

November 6th Sat., 2021 - Public Seminar

16:00-17:50 Sendai International Center 2F Sakura

PUBLIC LECTURE PART 1

Chairperson Satoshi Yamaguchi (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Disphasia and eating behaviour

Aya Takahashi (Tohoku Seikatsu Bunka University)

Nobiletin-rich Chinpi and the sense of forgetfulness in healthy older adults

Tomonari Koto (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

18:00-19:00 Sendai International Center 2F Sakura

PUBLIC LECTURE PART 2

Chairperson Satoshi Yamaguchi (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Driving and older adults

Satoshi Yamaguchi (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Keiichi Kumai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Day 0 - November 7th Sun., 2021

13:30-14:30 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 00
(Co-hosted by the Miyagi Community-based Health Care Society for Dementia)
What is the purpose to produce medical evidence for?

Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

14:30-15:35 HALL-1 (Sendai International Center 2F Tachibana)

SPONSORED SEMINAR 0 (KOTARO Pharmaceutical Co.,Ltd.)
The potential of natural foods to activate cognitive functions

Chairperson Huali Wang (Peking University Institute of Mental Health)

Plasmalogen of ascidian (sea squirt)

Teruo Miyazawa (Food Biotechnology Platform Promoting Project, New Industry Creation Hatchery Center, Tohoku University)

Nobiletin-rich *Citrus reticulata* peel extract has good potential to prevent age-related hippocampal SST-NEP system's functional decline and memory loss

Tohru Yamakuni (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

The effect of Nobiletin-rich Chinpi extract formulation on the sense of forgetfulness in healthy older adults - A randomized controlled trial protocol

Tomonari Koto (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

15:50-16:10 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 0
Current state of new orange plan

Chairperson Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Koji Miura (Keio University, School of Medicine)

16:10-16:30 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 1
Dementia friendly care - Comprehensive approach

Chairperson Guk-Hee Suh (Department of Psychiatry, Hallym University Medical Center)
Masahiro Nakatsuka (Gifu Shotoku Gakuen University Faculty of Nursing)

Heii Arai (Alzclinic Tokyo)

16:55-17:40 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 2
Dementia care and education

Chairperson Guk-Hee Suh (Department of Psychiatry, Hallym University Medical Center)
Masahiro Nakatsuka (Gifu Shotoku Gakuen University Faculty of Nursing)
Commentator Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Dementia care education in Japan
Shinji Kato (Sendai Centers for Dementia Care Research and Practice)

Current status and challenges of e-learning dementia care education for beginning caregivers in Japan
Tetsuya Abe (Sendai Center for Dementia Care Research and Training)

17:40-18:45 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM 0
Japanese style nursing care and foreign care workers

Chairperson Guk-Hee Suh (Department of Psychiatry, Hallym University Medical Center)
Masahiro Nakatsuka (Gifu Shotoku Gakuen University Faculty of Nursing)
Commentator Tomohiro Sugawara (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Shinichiro Ishizaka (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

The impact of foreign care workers on Japanese long-term care facilities
Fumiko Nakashima (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Muslim culture and Japanese style nursing care
F. K. (Suisensou)

Catholic culture and Japanese style nursing care
Godlive Ramesh Gimantha Nissanka Appuhamilage (Suisensou)

Day 1 - November 8th Mon., 2021

9:20-10:50 HALL-1 (Sendai International Center 2F Tachibana)

KEY NOTE LECTURE
The evolution of the Clinical Dementia Rating™ in the 21st century

Chairperson Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Christopher Chen (Department of Pharmacology, National University of Singapore)

John Carl Morris (Director, Knight Alzheimer Disease Research Center, Washington University in St. Louis, USA)

11:20-12:30 HALL-1 (Sendai International Center 2F Tachibana)

LECTURE BY CONGRESS CHAIR
Fusion of the East and the West, harmony of human and technology

Chairperson Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Yuan-Han Yang (Kaohsiung Medical University)

Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

12:30-13:30 HALL-1 (Sendai International Center 2F Tachibana)

SPONSORED SEMINAR 1 (KENSEIKAI Medical & Welfare Group)
Pre-dementia state: New classification of SCI and MCI

Chairperson Vincent Mok (The Chinese University of Hong Kong)
Commentator Mari Kasai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Anxiety in the elderly with mild cognitive impairment: The importance of clinical psychological typology

Miwako Shoji (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Cross-sectional characteristics and neural basis of subjective cognitive impairment (SCI)

Tomonari Koto (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

13:30-15:30 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM A
10-year anniverasary of Great East Japan Earthquake

Chairperson Shinichi Egawa (International Cooperation for Disaster Medicine Lab, International Research Institute of Disaster Science (IRIDeS), Tohoku University, Sendai, Japan)
Jacqueline C. Dominguez (St. Luke's Medical Center, Quezon City)
Commentator Manabu Ikeda (Department of Psychiatry, Osaka University Graduate School of Medicine)

Disaster medicine for older adults

Shinichi Egawa (International Cooperation for Disaster Medicine Lab, International Research Institute of Disaster Science (IRIDeS), Tohoku University, Sendai, Japan)

Effects of disaster stress on the elderly people and patients with dementia

Yasuto Kunii (Department of Disaster Psychiatry, International Research Institute of Disaster Science, Tohoku University)

Casualty analysis of the 2011 Japan tsunami: Tsunami engineering perspective

Anawat Suppasri (International Research Institute of Disaster Science, Tohoku University)

Activity report from our research team following the Great East Japan Earthquake 2011

Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

16:00-17:00 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 3
Civil military collaboration at national defense medical college

Chairperson Shunichi Sato (National Defense Medical College Research Institute)

Koki Kaku (National Defense Medical College Research Institute)

18:05-19:05 HALL-1 (Sendai International Center 2F Tachibana)

EVENING SEMINAR
(Eisai Co., Ltd. Integrated Dementia Strategy Department) Characteristics of patients with dementia after the Great East Japan Earthquake and Fukushima Daiichi Nuclear Power Plant accident: The report from Hibarigaoka Hospital in Fukushima prefecture and literature review.

Chairperson Suraya Yusoff (Newcastle University Medicine Malaysia)
Shinobu Kawakatsu (Department of Neuropsychiatry, Aizu Medical Center (AMC), Fukushima Medical University (FMU))

Akemi Miyagawa (General Medical Department, Futaba Medical Center affiliated Hospital)

13:30-15:40 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE & SELECTED POSTER 1
Importance of observational methods [Theme 1]

Judge Ennapadam Srinivas Krishnamoorthy (Neurosciences India Group)
Takaki Shimura (Sosei Ltd. BME research Lab)
Ching-Kuan Liu (Department of Neurology, School of Medicine, College of Medicine, Kaohsiung Medical University)

SPECIAL LECTURE

On why multidisciplinary and multicomponent services are the future of dementia care

Ennapadam Srinivas Krishnamoorthy (Neurosciences India Group)

The latest neuropsychological test effective for screening the preclinical stage of dementia

Takaki Shimura (Sosei Ltd. BME Research Lab.)

Early symptoms of Alzheimer disease in Asia- Importance of observational methods

Ching-Kuan Liu (Department of Neurology, School of Medicine, College of Medicine, Kaohsiung Medical University)

Possibility of dementia prevention in Japan based on Population-Attributable Fraction estimates

Masao Kanamori (Sport and Health, Ritsumeikan Univ., Shiga, Japan)

SELECTED POSTER

Identifying cognitive trajectories and predicting rapid decline of cognitive function in early Alzheimer disease

Yung-Shuan Lin (Department of Neurology, Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan)

Biomarkers for the detection of progressive early Alzheimer's disease

Yuan Cai (Division of Neurology, Department of Medicine and Therapeutics, Therese Pei Fong Chow Research Centre for Prevention of Dementia, The Chinese University of Hong Kong, Hong Kong SAR, China.)

Preliminary study of whether inadequate lifestyle management of dementia patients can be a factor in increasing the chances of emergency outpatient visits

Yohei Kudoh (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

16:00-17:10 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE & SELECTED POSTER 6
Behavioral neurology and disaster medicine [Theme 6]

Judge Vincent Mok (The Chinese University of Hong Kong)

SPECIAL LECTURE

Care of Alzheimer's disease and other dementias amid the COVID-19 pandemic

Vincent Mok (The Chinese University of Hong Kong, China)

SELECTED POSTER

Communication difficulty and application of communication skills for persons with dementia using Personal Protective Equipment

Takuya Kanamori (Hamamatsu University School of Medicine)

Improving nighttime sleep problems after a large-scale natural disaster: A one-month follow-up study of participants who attended sleep hygiene education and relaxation training lectures

Toshihiko Sato (Nagano University)

Mental health of nursing staff during pandemic of COVID-19

Hui-Tzu Lin (Department of Teaching and Research Center, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung, Taiwan)

Day 2 - November 9th Tue., 2021

9:00-10:15 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM B
Vascular factor and dementia

Chairperson Koji Abe (National Center Hospital National Center of Neurology and Psychiatry (NCNP) Japan)
Ken Nagata (Department of Neurology, Yokohama General Hospital, Yokohama, Japan)
Commentator Yohei Kudoh (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Vascular factors of Alzheimer's disease and current pathophysiology of vascular cognitive impairment
Koji Abe (National Center Hospital, National Center of Neurology and Psychiatry (NCNP) Japan)

Vascular endothelial damage and dementia
Ryuichi Morishita (Department of Clinical Gene Therapy, Graduate School of Medicine, Osaka University)

Brain amyloid PET imaging and dementia
Yoshio Ikeda (Department of Neurology, Gunma University Graduate School of Medicine)

10:45-12:15 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE 4
The philosophy of extended mind and its application to education and welfare

Chairperson Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Tetsuya Kono (Rikkyo University, College of Arts)

12:15-13:15 HALL-1 (Sendai International Center 2F Tachibana)

SPONSORED SEMINAR 2 (Eisai Co., Ltd. Medical HQs)
Latest findings on early dignosis of AD based on ATN system

Chairperson Kenji Ishii (Tokyo Metropolitan Institute of Gerontology)

Hitoshi Shimada (Department of Functional Neurology & Neurosurgery, Center for Integrated Human Brain Science, Brain Research Institute, Niigata University)

13:15-14:30 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM C-1
Older adults and modern technology : New technology for older adluts

Chairperson Shinichi Izumi (Department of Physical Medicine and Rehabilitation,Tohoku University)
Christopher Chen (Department of Pharmacology, National University of Singapore)
Commentator Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Tetsuya Kono (Rikkyo University, College of Arts)

Use of "Mado" for communication with older people
Kazuha Ogasawara (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Application of muscle suit to nursing care and functional training
Hiroshi Kobayashi (Dept. of Mechanical Eng., Tokyo Univ. of Science)

Exploring perceptions toward home-care robots for older people in Finland, Ireland, and Japan : A comparative questionnaire study
Sayuri Suwa (Graduate School of Nursing, Chiba University)

15:00-16:45 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

Chairperson Masaru Mimura (Department of Neuropsychiatry, Keio University School of Medicine)
Ming-Chyi Pai (Division of Behavioral Neurology, Department of Neurology, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan)
Commentator Tetsuya Kono (Rikkyo University, College of Arts)
Nagaendran Kandiah (National Neuroscience Institute, Singapore)

Relationship between driving and Quality of Life in "memory clinic outpatients"
Keiichi Kumai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Simulated driving experience using first-person videos for perception of unsafe driving in healthy older people
Motoki Shino (The University of Tokyo)

The decisive difference in driving behavior between dementia and normal person's in driving scenes with risk prediction
Shigeyuki Yamabe (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Possibility and consideration of dementia person's over-dependency and over-reliance on autonomous driving
Toshiya Arakawa (Nippon Institute of Technology)

An example of the method to evaluate driving ability of an elderly driver
Kimihiko Nakano (Institute of Industrial Science, The University of Tokyo)

9:00-10:30 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE & SELECTED POSTER 5
Matching of modern technology with older adults [Theme 5]

Judge Tetsuya Kono (Rikkyo University, College of Arts)
Suraya Yusoff (Newcastle University Medicine Malaysia)
SangYun Kim (Seoul National University Bundang Hospital)
Rikako Suzuki (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

SPECIAL LECTURE

Digital neuropsychology, digital biomonitoring and digital human

SangYun Kim (Seoul National University Bundang Hospital)

Driving accidents among the elderly may be predicted by family members' suspicion of cognitive decline and the individual's near-misses

Rikako Suzuki (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

SELECTED POSTER

Feelings (confidence, like, role) toward the driving and QOL of memory clinic outpatients

Kuninori Suzuki (Advanced Human Vehicle Research Field, Technical Research Center, Mazda Motor Corporation, Hiroshima, Japan)

Misuse of cooking appliances and learning effects in elderly people with mild cognitive impairment -For the continuation of life at home-

Mayumi Suzuki (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Default mode network activated as a basic function for executive network (visual processing and manipulation) during actual driving: Reanalysis of pooled FDG-PET database.

Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

12:20-13:00 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE 5
Neuroscience of eating behavior

Chairperson Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Treatment for diabetes and the patient's emotions and brain

Hirohisa Koide (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Mindfulness for people with diabetes (Research protocol)

Nobuko Kawabata (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

13:00-14:30 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE & SELECTED POSTER VASCOG
Vascular Cognitive Impairment [VasCog]

Judge Koji Abe (National Center Hospital National Center of Neurology and Psychiatry (NCNP), Japan)
Ken Nagata (Department of Neurology, Yokohama General Hospital, Yokohama, Japan)
Paulus Anam Ong (Department of Neurology, Hasan Sadikin Hospital Universitas Padjadjaran Bandung)

SPECIAL LECTURE

Cerebrovascular lesions in elderly AD patients

Ken Nagata (Department of Neurology, Yokohama General Hospital, Yokohama, Japan)

The use of Abe's BPSD Score in patients with post-stroke cognitive impairment

Paulus Anam Ong (Department of Neurology, Hasan Sadikin Hospital Universitas Padjadjaran Bandung)

SELECTED POSTER

White matter hyperintensities (WMH) on cholinergic pathways may relate with poorer responsiveness of donepezil in Alzheimer's disease

Li-Hua Lee (Department of Neurology, Cardinal Tien Hospital, Taipei, Taiwan)

Higher level of acute serum VEGF and larger infarct volume are more frequently associated with post-stroke cognitive impairment

Amelia N Vidyanti (Department of Neurology, Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia)

White matter hyperintensities in cholinergic pathways are associated with family-related fear of falling in elderly people with mild cognitive impairment – A retrospective study of the Kurihara Project –

Tomohiro Sugawara (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

15:00-16:15 HALL-2 (Sendai International Center 2F Hagi)

SPONSORED SYMPOSIUM
(Eisai Co., Ltd. Integrated Dementia Strategy Department) Comprehensive approach by pharmacological treatment and psychosocial intervention for dementia

Chairperson Paulus Anam Ong (Department of Neurology, Hasan Sadikin Hospital Universitas Padjadjaran Bandung)
Toyoko Nomura (Nihon Fukushi University)
Mari Kasai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Commentator Miwako Shoji (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

The healthy life expectancy and QOL of dementia patients
Satoshi Yamaguchi (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Comprehensive psychosocial intervention for vascular dementia; quality of life and lifetime expectancy
Mari Kasai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Reminiscence and life review ~The foundation of psycho-social approach~
Toyoko Nomura (Nihon Fukushi University)

16:15-16:35 HALL-2 (Sendai International Center 2F Hagi)

SPECIAL LECTURE
Non-pharmacological intervention [Theme 3]

A small island prone to diabetes on the Mekong River
Hirohisa Koide (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Day 3 - November 10th Wed., 2021

8:30-8:45 HALL-1 (Sendai International Center 2F Tachibana)

EDUCATIONAL LECTURE
The importance of an integrated perspective

Rhinal cortices connecting the Papez and Yakovlev circuits: An integrated viewpoint through MRI epidemiology to animal experiment for better understanding clinical features of Alzheimer disease and vascular dementia.

Kenichi Meguro (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

8:45-10:00 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM D
Multilingualism and dementia

Chairperson Manabu Ikeda (Department of Psychiatry, Osaka University Graduate School of Medicine)
Yi-Chien Liu (Department of neurology, Cardinal Tien Hospital, New Taipei, Taiwan)

Commentator Ming-Chyi Pai (Division of Behavioral Neurology, Department of Neurology, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan)

The impact of language on dementia manifestation

Yi-Chien Liu (Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan)

Multilingualism and dementia: From studies in Brazil and Taiwan

Rikako Suzuki (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Does bilingualism/multilingualism protect against dementia?

Jong-Ling Fuh (Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan)

10:15-11:35 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE
Neuro-ethics and dementia care [Theme 4]

Delirium and care for older people in Asia

Guk-Hee Suh (Department of Psychiatry, Hallym University College of Medicine)

Caregiver characteristics and behavior and psychological symptoms of dementia

Yuan-Han Yang (Neuroscience Research Center, Kaohsiung Medical University)

Dementia knowledge and associated factors among older Chinese adults: A cross-national comparison between Melbourne and Beijing

Mei Zhao (Academic Unit for Psychiatry of Old Age, Department of Psychiatry, The University of Melbourne, Melbourne, VIC, Australia)

Health related quality of life in Asian caregivers of patients with dementia

Nagaendran Kandiah (National Neuroscience Institute, Singapore)

11:35-13:05 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM E (TANGO HOLDINGS Co.,Ltd.)
Re-evaluation of psycho-social intervention

Chairperson Ennapadam Srinivas Krishnamoorthy (Neurosciences India Group)
Linda CW Lam (Department of Psychiatry, the Chinese University of Hong Kong)

Commentator Jong-Ling Fuh (Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan)
Jacqueline C. Dominguez (St. Luke's Medical Center, Quezon City)
Nobuko Kawabata (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Improving cognition through dance in older filipinos with MCI

Jacqueline C. Dominguez (St. Luke's Medical Center, Quezon City, Philippines)

Gait training and cognition in elderly with mild cognitive impairment

Vorapun Senanarong (Mahidol University, Thailand)

Mind body exercise interventions

Linda CW Lam (Department of Psychiatry, the Chinese University of Hong Kong)

13:05-14:20 HALL-1 (Sendai International Center 2F Tachibana)

SPECIAL LECTURE & SELECTED POSTER 2
Behavioral neurology for language and memory [Theme 2]

Judge Yi-Chien Liu (Department of neurology, Cardinal Tien Hospital, New Taipei, Taiwan)
Manabu Ikeda (Department of Psychiatry, Osaka University Graduate School of Medicine)
Jong-Ling Fuh (Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan)
Saima Hilal (Saw Swee Hock School of Public Health, National University of Singapore and National University Health System, Singapore)
Ming-Chyi Pai (Division of Behavioral Neurology, Department of Neurology, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan)

SPECIAL LECTURE

Neuroimaging and cognitive impairment in multiethnic Asians

Saima Hilal (Saw Swee Hock School of Public Health, National University of Singapore, and National University Health System, Singapore)

Neuropsychological measure of memory and language in older adults with dementia

Ming-Chyi Pai (Division of Behavioral Neurology, Department of Neurology, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan)

SELECTED POSTER

Less verbal output in connected speech may serve as an early marker of very early Alzheimer's disease

Su-Wei Lee (Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan)

Clinical applicability of autobiographical memory triggered by olfactory and visual stimuli for diabetes treatment

Mikiko Taku (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

14:20-14:55 HALL-1 (Sendai International Center 2F Tachibana)

SELECTED POSTER 4
Neuro-ethics and dementia care [Theme 4]

Judge Shuichi Awata (Tokyo Metropolitan Institute of Gerontology)
Guk-Hee Suh (Department of Psychiatry, Hallym University College of Medicine)
Yuan Han Yang (Neuroscience Research Center, Kaohsiung Medical University)
Mei Zhao (Academic Unit for Psychiatry of Old Age, Department of Psychiatry, The University of Melbourne, Melbourne, VIC, Australia)
Nagaendran Kandiah (National Neuroscience Institute, Singapore)

Migrant care workers and dementia care in Taiwan: Results from a national registry study
Mao-Hsuan Huang (Department of Psychiatry, YuanShan and Suao Branches of Taipei Veterans General Hospital, Ilan, Taiwan)

Factor analysis of the Daily Living Decision-Making Support Scale for people with dementia and its relationship to person-centred care
Mizue Suzuki (Hamamatsu University School of Medicine, Hamamatsu, Japan)

15:10-16:40 HALL-1 (Sendai International Center 2F Tachibana)

SYMPOSIUM F
Aging society and ageism

Chairperson Shuichi Awata (Tokyo Metropolitan Institute of Gerontology)
Ching-Kuan Liu (Department of Neurology, School of Medicine, College of Medicine, Kaohsiung Medical University)
Commentator Kei Nakamura (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)
Suraya Yusoff (Newcastle University Medicine Malaysia)
Vorapun Senanarong (Mahidol University, Thailand)

"Frailty in the Elderly" and Ageism: The confusing general term "Frailty" should sort out the relationship between Fried's criteria frailty, locomotive syndrome, Musculoskeletal Ambulation Disability Symptom (MADS) Complex, and sarcopenia so as not to fall into wordplay.
Keiichi Kumai (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

The joint survey preliminary report
Hiroki Inagaki (Tokyo Metropolitan Institute of Gerontology)

Prejudice and discrimination against people with dementia
Takeshi Nakagawa (National Center for Geriatrics and Gerontology)

16:40-17:15 HALL-1 (Sendai International Center 2F Tachibana)

SELECTED POSTER 3
Non-pharmacological intervention [Theme 3]

Judge Linda CW Lam (Department of Psychiatry, the Chinese University of Hong Kong)
Hirohisa Koide (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

Structured frontal lobe based computerized cognitive stimulation to older adults with subjective cognitive complaints and comorbid depressive symptoms

Allen T. C. Lee (Department of Psychiatry, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China)

A case of behavior control by musical activities-Reasonable intervention for behaviors that don't sit still.

Chiaki Oshiyama (Human Augmentation Research Center, National Institute of Advanced Industrial Science and Technology (AIST))

POSTER

Sendai International Center 2F Sakura

PP-01 **The role of donepezil therapy in cognitive impairment patient with MMSE and CDT for periodic evaluation**
Adecya Amaryllis Risa Putri (Neurology Residency Program, Neurology Department, Faculty of Medicine, Brawijaya University, Malang, Indonesia)

PP-02 **Comparison neuropsychological test between early-onset and late-onset Alzheimer's disease patients**
Trang -Mai Tong (University Medical Centre, Ho Chi Minh city, Viet Nam)

PP-03 **Nobiletin-rich Citrus reticulata peel extract has potential to prevent human brain aging-related decline of hippocampal SST-NEP system function and memory ability**
Tohru Yamakuni (Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University)

PP-04 **Intervention effects of the "Exercise Habit Check Sheet" for dementia prevention**
Kenji Kamijo (Faculty of Wakayama Health Care Sciences, Takarazuka University of Medical and Health Care)

PP-05 **A logic model to evaluate nursing home care services and a culture of excellence**
Tatsuji Uchida (Faculty of Health Science, University of Tokyo Health Sciences)

PP-06 **A comparison of the operational status of dementia cafes according to the degree of achievement of subjective goals**
Emi Kaneda (Yame General Hospital)

PP-07 **Deep medicine of Alzheimer's dementia: Applying Kinect depth sensors to clinical outcomes**
Ying-Han Lee (Post Baccalaureate Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan)

PP-08 **Cognitive impairment in post COVID-19 infection: The eemrgence of long term complication after the pandemic**
Rocksy FV Situmeang (Siloam Hospitals Lippo Village.,Nuerology Department.,Universitas Pelita Harapan.,Indonesia)

PP-09 **The association between cluster of differentiation 4 and cognitive function in human immunodeficiency virus patients with cerebral toxoplasmosis**
EKO YANDRA (NEUROLOGY DEPARTMENT, MEDICAL FACULTY UNIVERSITAS SUMATERA UTARA)

PP-10 **Plasma tau and beta-amyloid in two generations of Alzheimer's disease**
Ming-Hui Chen (Medicine, Kaohsiung Medical Univ., Kaohsiung, Taiwan)

PP-11 **White matter hyperintensities on cholinergic pathways is associated with dementia severity in e4 carrier, not non-carrier**
Ming-Chun Yu (Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan)

PP-12 **Association between cerebral small vessel disease and Alzheimer's disease pathology biomarkers.**
Yuan Cai (Division of Neurology, Department of Medicine and Therapeutics, Therese Pei Fong Chow Research Centre for Prevention of Dementia, The Chinese University of Hong Kong, Hong Kong SAR, China.)

PP-13 **Association between atherogenic index of plasma (AIP) with cognitive function in elderly patients with heart failure**
Fasihah_I Fitri (Department of Neurology, School of Medicine, Universitas Sumatera Utara, Indonesia)

SPECIAL LECTURE 00
(Co-hosted by the Miyagi Community-based Health Care Society for Dementia)
What is the purpose to produce medical evidence for?

Prof. Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

The pathophysiology of dementia has been medically elucidated considerably during the recent decades, and treatment methods have been established for this disease. Most of this medical evidence has been reported in English-language original articles. It is good that enlightenment of dementia has been promoted by guidelines published by related societies, based on image diagnosis and drug selection by specialists. However, drug selection is not the only important factor in dementia treatment. It is ideal that the differential diagnosis and drug selection are performed only after enlightenment of the families of dementia patients and the development of psychosocial intervention appropriate for the individual patients. However, most care workers do not read English-language reports in their workplace, and they have no time for such reading. Furthermore, it is not easy to establish the evidence supporting such psychosocial interventions.

Our investigation suggested that most care workers selected a certain method of psychosocial intervention because they knew of some reports indicating the effect of such intervention, rather than the fact that their patients looked happy. Japanese care workers with high education levels selected an intervention method based on "evidence." However, the origin of the evidence remains a real problem. Such evidence cannot be believed in many cases, because it may be based on a TV program or false advertisement based on no real evidence. The major motivation and purpose of this statement was to enable care workers who make great efforts in providing care for dementia patients and make time to learn the "evidence" to easily understand correct evidence.

When I was a novice physician, I had an experience when taking clinical information from a family member of a patient who visited a memory clinic, which was not popular in those days. The family member said, "My husband reads aloud a newspaper every morning because a lecturer said such reading would prevent dementia, but he was diagnosed with Alzheimer disease after undergoing MRI in a hospital he visited for frequent forgetfulness. Doctor, which newspaper could be good for him?"

This is not even funny. I learned for the first time that such false information spread when I saw the folded-up newspaper with the article that she kept in her wallet. There are still some people who sell something with promotional statements, for example, "This is good for prevention of dementia." Dementia is a serious problem for the patients and their families, although families with no experience with such patients may not understand the severity. Sales promoted by taking advantage of the weakness of others is nothing less than "fraudulent business." "Genuine business is enlightenment of correct knowledge" (by Meguro). As seen in the medical system of second opinion, we hope not only to confirm the academic value of popular products, but also to widely enlighten the currently available evidence. This is the second motivation and purpose of this statement.

As time has passed, dementia is no longer considered to be hopeless due to improvements in the diagnosis of the underlying disease, treatment, local enlightenment, and the popularization of the nursing-care insurance system. Furthermore, technologies that are necessary for daily life have been drastically improving. Unfortunately, I feel I cannot go along with such technologies, or rather I believe that these technologies advance in the wrong direction, leaving people behind. Sendai Municipal Government recommends changing the cooking stove to an IH cooking device when a dementia patient causes an accidental fire due to carelessness with the stove. However, the results of our investigation revealed that even among healthy older adults, less than 10% could fully operate an IH cooking device, and none of the participants with dementia were able to use an IH cooking device. It is difficult for them to use the touch panels of digital devices. Another example is an automobile. To drive a car, the driver must select a pedal, the accelerator or brake, which have opposite functions, using the right foot; although the driver cannot visually confirm these pedals. The length covered by the nerves from the brain to foot is longest in a body, and it is said that aging begins from lower extremities. As seen in a recent terrible traffic accident, driving a car is highly risky and is not easy for older adults.

Why has research that is useful for daily life progressed so little, while studies using microscopes, the latest diagnostic imaging, and genetic research have constantly advanced? This is because "daily life" is not interesting to many medical researchers and may not be the theme of an English-language original medical article. The "(New) Orange Plan" aims to prolong the daily life of dementia patients at home. To maintain daily life at home, the brain function of older adults should be used at full capacity. Promotion of "brain science that is useful for daily life" is the third motivation and purpose of this statement.

Fortunately, Tohoku University has the New Industry Creation Hatchery Center, where cooperative research useful for the society among government, industry and academia is recommended to be promoted with "social implementation" as a keyword. As part of this, it is hoped to establish venture businesses, but this idea is not popular in team activities in the medial and welfare fields. It is therefore much more meaningful to establish the laboratory as an incorporated association for cooperative activities with Tohoku University. At the end of this charter, I would like to express my deep appreciation for all personnel involved.

SPONSORED SEMINAR 0 (KOTARO Pharmaceutical Co.,Ltd.)
The potential of natural foods to activate cognitive functions

Plasmalogen of ascidian (sea squirt)

Research Professor Teruo Miyazawa
Food Biotechnology Platform Promoting Project, New Industry Creation Hatchery Center, Tohoku University
Japan

The ethanolamine plasmalogen (Pls) is known to decrease in the brains of patients suffering from Alzheimer's disease (AD). Neuronal apoptosis induced by serum starvation is suppressed by ascidian Pls in a concentration dependent manner. Ascidian Pls with 22:6 (DHA, docosahexaenoic acid) shows the strongest antiapoptotic affect. When compared to controls, plasma from patients with AD shows lower concentrations of Pls especially bearing DHA. The potential of ascidian Pls is deduced for the dietary intervention of AD.

SPONSORED SEMINAR 0 (KOTARO Pharmaceutical Co.,Ltd.)
The potential of natural foods to activate cognitive functions

Nobiletin-rich *Citrus reticulata* peel extract has good potential to prevent age-related hippocampal SST-NEP system's functional decline and memory loss

Prof. Tohru Yamakuni[1,2], Tomonari Koto[1], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Research Center of Supercritical Fluid Technology, Graduate School of Engineering, Tohoku University
Japan

Dried peels of *Citrus reticulata* Blanco and *C. unshiu* Markovich, have been employed for Chinese cooking. A Japanese seasoning called seven flavor spices and curry sauce mix also include the peels. We have originally found nobiletin as a citrus peel flavonoid that can facilitate PKA/ERK/CREB signaling coupled with CRE-mediated transcription pivotal in long-term memory formation, in cultured hippocampal neurons. Nobiletin prevents memory disability in an APP transgenic mouse, as given intraperitoneally. However, our separate animal studies have revealed that when given orally, it shows little ability to prevent memory defects due to its low brain bioavailability. To address this issue, we set out screening of the extracts of citrus peels to discover nobiletin-rich *Citrus reticulata* peel as a beneficial natural product that potently facilitates CRE-mediated transcription in cultured hippocampal neurons, and can also prevent memory defects, when given orally. Here we evaluated impacts of the peel extract on age-related decline in hippocampal somatostatin (SST)-neprilysin (NEP) system that serves as a defense system against sporadic Alzheimer's disease onset (*Nat Med*, 2005), and memory impairment, in aged mice, where the midbrain dopamine level declines.

The extract was orally given to 17-month-old C57BL/6 mice at 0.5 g/kg/day for 14 consecutive days to evaluate impacts of the extract on hippocampal SST and NEP genes expression, and memory function.

As reported in our previous study, SST gene has a functional CRE located at the promoter region in an SST neuronal subset of GABAergic neurons, while in another NEP neuronal subset, NEP mRNA level is upregulated in a SST receptor-dependent fashion. We therefore conducted real-time RT-qPCR assay. The assay showed that the extract did elevate hippocampal mRNA levels for SST and NEP, when given orally. Consistent with the results, IHC uncovered that the extract coordinately increased SST and NEP levels. In the aged mice where fear memory function was observed to be compromised as compared with in adult mice, the extract restored the memory disability; and intriguingly it recovered age-related reduction in the midbrain dopamine level, by mechanistically facilitating a novel V-1/CP complex-driven MAL/SRF signaling important for genetic control of adult nigra dopamine neurons.

These findings thus suggest the potential of the nobiletin-rich citrus peel to serve as a functional food to prevent age-related decline in brain functions, including the SST-NEP neuronal system function and memory encoding.

SPONSORED SEMINAR 0 (KOTARO Pharmaceutical Co.,Ltd.)
The potential of natural foods to activate cognitive functions

The effect of Nobiletin-rich Chinpi extract formulation on the sense of forgetfulness in healthy older adults - A randomized controlled trial protocol

Dr. Tomonari Koto[1], Keiichi Kumai[1], Miwako Shoji[1], Ayumi Horikoshi[1], Shigeo Kinomura[2], Tohru Yamakuni[1], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Clinic of Imaging Medicine and Brain Health
Japan

Background: Subjective cognitive impairment (SCI) or mild cognitive impairment (MCI) is the term used for healthy older adults who complain of forgetfulness but are not demented. Conventional intervention studies for SCI/MCI (exercise, diet, cognitive training, etc.) have focused on cognitive function as an objective outcome. But much less work has been done on the sense of forgetfulness as a subjective one. Our retrospective analysis of large data showed that the sense of forgetfulness can influence medical behavior, accompanied by anxiety (Shoji, to be presented at this conference). By reducing the sense of forgetfulness and the anxiety in SCI/MCI and increasing self-efficacy, we can expect a positive impact on overall quality of life (QOL) through increasing the range of activities, interpersonal communications, and improving life functions.

Although Nobiletin-rich Chinpi (N Chinpi) is a candidate for gastrointestinal disorders, it has also been used to treat symptoms of forgetfulness and anxiety caused by aging in middle and older adults. Nobiletin, an ingredient of N Chinpi, has been shown in animal experiments to improve memory impairment, suppress degeneration of cholinergic nerves, inhibit accumulation of Aβ and reduce neurotoxicity of that (Yamakuni, 2008).

Purpose: The purpose is to investigate the usefulness of N Chinpi extract for the sense of forgetfulness in SCI/MCI in an interventional study. We will conduct this research as a food study (Chinpi) with the approval of the Ethics Committee of Tohoku University School of Medicine (UMIN000041041). As a secondary analysis, we will also examine the relationship between N Chinpi and Alzheimer's disease.

Methods: We will conduct a double-blind randomized controlled trial, with the real formulation group using N Chinpi extract and the control group using regular Chinpi. The duration of treatment will be 24 weeks. And changes in the sense of forgetfulness (self-reported AD8 and Everyday Memory Checklist) will be examined before and after treatment. Secondary endpoints will include psychiatric symptoms (GDS, STAI) and quality of life (WHO-QOL26). Neuropsychological tests (CASI, MoCA-J, etc.) will be conducted concurrently to examine the relationship between the sense of forgetfulness (subjective) and actual cognitive function (objective). After completion of treatment, participants will be followed up until 48 weeks.

SPECIAL LECTURE 0
Current state of new orange plan

Prof. Koji Miura
Keio University, School of Medicine
Japan

For Japan, one of the countries with the most aging population, dementia is the most imminent issue.
Looking back on the history of support for the elderly, Act on Social Welfare for the Elderly was enacted in 1963 after an era in which support for low-income people was focused, although the use of the service was ordered by the local government rather than being user-oriented, and the recipients of the service were mainly bedridden elderly people under the Act.
Health and Medical Service Law for the Elderly, which came into effect in 1982, developed new health and welfare measures for the elderly, and "10-year strategy for promoting health and welfare for the elderly" which was called Gold Plan was enacted as a national policy in 1989. In "New Gold Plan" established in 1995, comprehensive implementation of measures for the elderly with dementia was positioned for the first time as one of the pillars of the measures.
In the public long-term care insurance system, which was established in 2000 through fundamental review of the previous system related to elderly care, the concept of independence support and prevention was clearly shown as the basic idea of the new system in which dementia countermeasures were clearly highlighted.
"Five-Year Plan for Promotion of Dementia Measures (Orange Plan)" formulated in 2012 was the first policy set out by the national government specializing in dementia countermeasures, but it was the sole policy of the Ministry of Health, Labor and Welfare and not intended for the entire government.
"Comprehensive Strategy for Promotion of Dementia Measures; Toward Community Development Friendly to the Elderly with Dementia (New Orange Plan)" was formulated in 2015. The new orange plan was compiled by the Ministry of Health, Labor and Welfare, but it was formulated in collaboration with 11 ministries, and was epoch-making in the sense that it showed the determination and direction to tackle dementia as a whole country. It consisted of seven pillars, such as emphasizing the perspectives of not only people living with dementia but also their families.
After that, "Dementia Policy Promotion Outline" was formulated in 2019. It aims delaying the onset of dementia and establishing a society that people live their daily lives with hope even if they have dementia, while recognizing the perspectives of people and families living with dementia.

SPECIAL LECTURE 1
Dementia friendly care - Comprehensive approach

Prof. Heii Arai
Alzclinic Tokyo
Japan

Dementia is receiving world-wide social attention along with the aging society, but recently, dealing with younger patients with dementia, which has a great impact on the working generation, has become an important issue. In the case of dementia that develops in old age, it often occurs at the stage of retirement from social activities, but in the case of presenile age, the economic and psychological effects on the patient's home are immeasurable. It's not just a matter of taking donepezil. Therefore, I would like to take up various problems in so-called younger patients with Alzheimer's disease as a model of dementia care to think about what kind of support can be provided even at present.

1. Differences in clinical features from the senile-onset type
The characteristics of core symptoms, the appearance of BPSD, and the differences between men and women
2. Brain Imaging Findings of younger patients with Alzheimer's Disease
Brain imaging findings different from those of the senile-onset type.
3. Impact on family and home
Great economic damage and mental damage to the generation of children and parents
4. Utilization of social resources
Even though you will not be able to get a sufficient response at government office, you should make the most of the systems that are currently available.
5. Relationship with depression, apathy, and polydipsia
Differentiation from depression / depressed state
6. Ingenuity in drug therapy
Drug therapy for core symptoms and BPSD to keep patient's quality on life (QOL)
7. Ensuring QOL for patients and their families
Even if he/she has dementia, if he/she and family can deal with various problems to some extent and secure QOL, their active life will start again with passion and zeal.

SPECIAL LECTURE 2
Dementia care and education

Dementia care education in Japan

Prof. Shinji Kato[1,2]
[1]Sendai Centers for Dementia Care Research and Practice, [2]Tohoku Fukushi University
Japan

The centers for dementia care research and practice are located in Miyagi, Tokyo, and Aichi prefectures. This center is playing an important role in dementia care education in Japan.
Until now in Japan, dementia care has continued to be a matter of passing on knowledge and skills acquired through experience through on-the-job training. In 2001, all local governments in Japan began to provide training in a unified program for staff providing dementia care. This training is designed for practitioners of dementia care and for those who will be leaders of dementia care teams.
The first stage, "Dementia Care Practitioner Training," is for people who have a nursing license and about two years of experience in caring for the elderly. The next stage, dementia care practical leader training, is available to those who have received dementia care practitioner training and are scheduled to become leaders of dementia care teams.
And an important role of the center is to create the respective training programs and to train instructors for the unified program training conducted by the local government.
This training is called Dementia Care Instructor Training and is available to those who have completed the previous two trainings. In order to take this training, you must be recommended by the local government. The training period is nine weeks, including practical training, and all prefectures are covered by the three centers.
Furthermore, in 2015, the Basic Dementia Care Training Program was launched for those who do not have dementia care qualifications. This training has been mandated from 2021 that all unqualified people must attend. The basic dementia care training is 3 hours long and can be taken through e-learning.
In Japan, 20 years have passed since the start of the nation-wide unified training program. And in the past 20 years, the number of people who have completed dementia care practitioner training, dementia care leader training, and basic dementia care training conducted by local governments has reached approximately 400,000. However, only 20% of care workers who provide dementia care have received these trainings. In the future, it is important to provide this education to all dementia care staff nationwide.
We are convinced that the quality of life of people with dementia and their families will be improved by enhancing these dementia care education programs.

SPECIAL LECTURE 2
Dementia care and education

Current status and challenges of e-learning dementia care education for beginning caregivers in Japan

Dr. Tetsuya Abe[1,2], Shinji Kato[1,2], Tomoyuki Yabuki[1,2], Yuki Yoshikawa[1,2]

[1]Sendai Center for Dementia Care Research and Training, [2]Tohoku Fukushi University
Japan

In recent years, Japan has seen a marked increase in the number of people starting careers in dementia care, including new graduates and people changing careers from different industries, against the backdrop of a rapid increase in the number of elderly people with dementia and a shortage of care workers. In order to quickly improve dementia care for beginning caregivers nationwide, the government launched the Basic Dementia Care Training Project in 2016, focusing on e-learning, with the goal of having all caregivers take Basic Dementia Care Training starting in 2021. This training has been revised so that it can be taken only through e-learning, and all caregivers engaged in elderly care services are required to take this course by the National Dementia Policy Promotion Outline.

The basic dementia care training consists of "Overview of Dementia Policy Promotion," "Philosophy of Dementia Care," "Understanding Dementia," and "Methods of Dementia Care," and aims to teach the basic knowledge, concepts, and practices of dementia care. The e-learning system consists of five chapters, from the introduction to chapter 4, in accordance with the training content, and students can proceed to the next chapter by passing the confirmation test at the end of the chapter.

The features of e-learning in dementia care education include personality understanding using narrated videos of people with dementia as teaching materials, case studies with extensive use of animation, micro-learning that provides frequent learning opportunities, and improved technical education through viewing videos of care methods. These features are very effective in terms of facilitating the acquisition of practical knowledge.

On the other hand, the acquisition of practical skills, which are most needed in dementia care education, is more effective when acquired through practice, and education through e-learning has its limitations. This fiscal year, we also started to develop an e-learning system that can be used by foreign caregivers. However, educational content on dementia care is often expressed in abstract terms, and there is a limit to how much can be converted into simple Japanese.

In this report, I would like to report on the implementation status of e-learning education on dementia care and the current issues and countermeasures.

SYMPOSIUM 0
Japanese style nursing care and foreign care workers

The impact of foreign care workers on Japanese long-term care facilities

Ms. Fumiko Nakashima[1,2], Yasuko Shiikawa[2], Megumi Nakao[3], Takeshi Imai[4], Kenichi Meguro[1]
[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Nenoshiroishi Community General Support Center, [3]Day Service Center Suisenso, Social Welfare Corporation Koseikai, [4]Special Elderly Nursing Home Suisenso, Social Welfare Corporation Koseikai
Japan

Background:
Japanese long-term care insurance has reached its 21st anniversary, but there remains a shortage of domestic care workers. In fiscal 2020, the number of foreign care workers rose to 43,000.
Purpose:
Focusing on communication between foreign care workers and Japanese care users and staff, we investigated the impact of differences in language and culture on conventional care settings.
Method:
We interviewed foreign care workers, users and staff of special elderly nursing home A and day service center B. We conducted a semi-structured interview with foreign workers (one from Sri Lanka and one from Indonesia) covering the following: (1) Reasons for coming to Japan, (2) Elderly care in their home country, (3) Impressions of Japanese nursing care settings, and (4) Future plans. We also interviewed users and staff about the strengths and weaknesses of care by foreigners.
Results:
Foreign workers thought highly of Japanese long-term care based on the user's viewpoint, but saw the estrangement between the elderly and their families as a problem. Their future goal was to establish a long-term care insurance system and facilities in their home countries, tailored to the social conventions and circumstances rooted in family care. In communication with care users, they felt it difficult to change their speaking style depending on each position and to read the mood of the place. Especially, they had difficulty in talking with users with language disorders and dialects, but they used facial expressions and eye contact as clues. At first, Japanese users and staff were confused by the frank speech and personal distance of foreigners. However, they evaluated the positive attitude of foreign workers toward learning Japanese culture. Moreover, the staff felt that this attitude stimulated the vitality of the whole facility.
Discussion:
Each person mentioned language and cultural barriers, but regarded nonverbal communication as a factor for promoting mutual understanding. Everyone, regardless of whether care user or provider, felt more satisfaction than before in the whole service setting. As a countermeasure for the shortage of human resources, the provision of care by humans has great significance compared to language-focused AI and robots. Education for foreign care workers is not limited only to language, knowledge and information; nonverbal communication through care itself is also important.

SYMPOSIUM 0
Japanese style nursing care and foreign care workers

Muslim culture and Japanese style nursing care

Ms F. K.
Suisensou
Japan

Based on website in 2019, the population aged 65 years and above in Japan accounted for approximately 28% of the total Japanese population. Meanwhile, Japan has different type of nursing home with provide a variety of service to elderly citizen such as feeding assistance, bathing assistance, moving and transferring assistance, rehabilitation and etc. Japan also has long term care insurance that provides benefit for elderly citizen. In addition Japan has great nursing home technology such as automatically controlled bed. The bed help the user sit up by balancing movements of the upper and lower parts of the body so that pressure on the chest and belly can be reduced. And there also high tech bathing aids that will help elderly bath or shower safely and comfortably. Furthermore there's also nursing care procedure manual which is help us to learn how to caring the elderly without causing problem for the elderly or for ourselves. And if we accidentally doing mistake or there's a problem we know how to manage it from the nursing care procedure manual. In that manual there's also how to communicate with the elderly since communication is important to build trust relationship. With good communication it will be easy to care the elderly.

So I really impressed and respect with Japan nursing home.

I feel great that I can work in one of Japan nursing home. Since I can learn how to care the elderly so later I can care of my parent with great method. Moreover, as in my country most of the elderly cared for by their family. The elderly who are in nursing home is only a small amount. I would say it will be great if my country have day service facilities. Since day service is outpatient care. While living at home, the elderly can go to the facility on a day trip and receive service such as rehabilitation, meals, and bathing. It's not a facility to move to like a nursing home. It's facility for the elderly who aims to improve their QOL (Quality of Life) while attending, with the aim of making it possible to live at home as much as possible. Of course with cheap price even free for the elderly so that those who don't have much money, they can still enjoy that. Furthermore, it will be great if my country also have long term care insurance like japan has.

SYMPOSIUM 0
Japanese style nursing care and foreign care workers

Catholic culture and Japanese style nursing care

Mr Godlive Ramesh Gimantha Nissanka Appuhamilage
Suisensou
Japan

Traveling abroad and exploring a new culture, life style and a country has always been my dream. One of my friends suggested this beautiful country named Japan. After I came to Japan, I studied 1 & half year at my language school. Working while studying is an amazing option that I use to support to myself and I've been lucky enough to have met some amazing teachers and friends through my studies. After finishing my studies at language school, one of my friends suggested me a technical college about medical welfare. I always wanted to do something in my career that is challenging, interesting and makes a difference in people is lives daily.

There is huge difference between Japan and Sri Lanka nursing home society. If there is a proper education and training in Sri Lanka, I think it's possible to improve the nursing sector in Sri Lanka as well. A nursing home is a wonderful opportunity especially for those that love to take care of people. After that education, my future dream changed completely.

In my country, their parents take care of their children until they die. The people of my country accept it as a noble quality of Sri Lanka culture. However, there are places in Sri Lanka that provide accommodation for the elderly. Though not in abundance but children are reluctant to direct their parents to those places. Because due to the lack of good care in those places and marginalization of children who are referred by their parents to that place by the society.

There are also cases of adults dying prematurely due to lack of proper food, medicine and proper love: due the busy life of the children. They don't have the opportunity to exercise. So, there are time when they fall in to the room after old age due to various diseases and die on the bed, and also the facilities in nursing homes in Sri Lanka are very limited. For example, recreation, medicine, nutritious food, systematic medical, examinations, exercise and medical health are simply not available in that places. I wanted to create places with proper care that would impress the present society and this is my dream for the future. I hope that one day take this advantage of full of experience and set up an elderly home in Sri Lanka.

KEY NOTE LECTURE
The evolution of the Clinical Dementia Rating™ in the 21st century

FD Prof. John Carl Morris

Director, Knight Alzheimer Disease Research Center, Washington University in St. Louis, USA
USA

The Clinical Dementia Rating® (CDR®) was developed in the 1970s by investigators at Washington University, St. Louis, MO, USA to determine the presence or absence of dementia in older adults and, when present, to stage its severity. Cognitive and functional performance are rated in six categories: Memory, Orientation, Judgment and Problem Solving, Community Affairs, Home and Hobbies, and Personal Care. Descriptors for each domain identify the degree of impairment, ranging from none (0) to very mild (0.5), mild (1), moderate (2), and severe (3). Only impairment due to cognitive loss is rated. Each category is rated independently. The scores for each category, or "box", yield the global CDR score in accordance with a scoring algorithm where CDR 0 indicates no impairment and CDR 0.5, 1, 2, and 3 indicates very mild, mild, moderate, and severe dementia. Totaling the individual scores for each of the six boxes yields the CDR-SumBox (CDR-SB), with a range from 0 (each of the six domains is scored 0, no impairment) to 18 (each of the six domains is scored 3, maximal impairment).

Interrater reliability for the global CDR has been established. The CDR has been validated for the detection of Alzheimer disease (AD). Standardized training and certification for the CDR is available at https://knightadrc.wustl.edu; to date, nearly 12,000 investigators from 113 countries have been certified. The CDR is free of practice effects that can complicate cognitive tests and also avoids educational, linguistic, and sociocultural influences as it focuses on intra-individual decline. The CDR is sensitive to even very mild (prodromal AD) cognitive impairment. It and its derivative, the CDR-SB, are incorporated into many research protocols worldwide (the CDR has been translated into 84 languages) and are established as the global assessment measures for AD. The limitations of the CDR include its dependence on the availability of an observant study partner, the time required for the interviews, and the relatively minimal experience with the instrument in non-AD dementias.

In the 21st century, the CDR-SB increasingly is used as the primary outcome measure for clinical trials of anti-AD investigational drugs. For example, the CDR-SB was the primary outcome measure in the Biogen-sponsored Phase 3 trials of aducanumab, a drug which in the United States is now the first approved disease-modifying therapy for AD. To improve the accessibility of the CDR, an electronic version has been developed and validation studies are underway.

LECTURE BY CONGRESS CHAIR
Fusion of the East and the West, harmony of human and technology

Prof. Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

Neurological background

As most neuro-researchers know, the human brain has three layers. Namely, the inner layer as the visceral brain, the intermediate layer as the emotional brain, and the outer layer as the intelligent brain. Each of these layers corresponds to body, mind, and intelligence, respectively. The latter is also separated into the left hemisphere, which is responsible for language function, and the right hemisphere, which is responsible for non-language function.

The critical problem is that these three layers are not integrated in humans. Namely, the thing that the body needs, the thing that the mind wants, and the thing that the intelligence understands, are not in accordance. We do bad things despite knowing this is bad. As the intra-individual disintegration, we do not understand the situation of our own bodies. Smokers cannot stop smoking although they understand that it is bad for their health. As the inter-individual disintegration, we are not able to stop wars. Four great saints of humanity said the same things: you should not do whatever you do not want to be done by others ("the second person" QOL as described below). Finally, with respect to humans vs. the environment. We cannot stop destroying the beautiful planet although we understand that this destruction is bad for humans.

Therefore, it has been proposed that Artificial Intelligence (AI) should manage and rule humans; to reduce the troublesome nature of their existence. Is this true? The AI is like the most intelligent part of the human brain, the left hemisphere, and the question is whether the left hemisphere is better able to manage and rule the remaining parts of the brain?

Simple feeling something strange and out of place

Today, COVID19 has become one of the worldwide infectious diseases. However, I can see several misunderstandings that a new world has come. Namely, the digital society has arrived without actual human interactions in the real world. I agree that social distance is needed to prevent infection, but is it true that the digital society is a new world?

As a recent example, we have discussed with a certain technician living at a distance using the on-line system, about the interactions between human and technology, which is one of the important topics of ASAD 2021. To my big surprise, an AI was chairing a reminiscence group work of older adults in her presentation video. For one woman who was talking too much, the AI ordered her to speak less, and for another woman who was not talking as much, the AI ordered her to do the opposite. The reminiscence approach includes life review and integrates meaning in their own lives. This process cannot be performed by an AI, I believe.

Recently, in Japan, we have been able to see the AI of a famous singer, who has already passed away, singing on TV, or the AI of a famous anime artist, who also has passed away, is writing a story similar to his predecessor. Does not everybody feel strange? Another example is an AI that can analyze the medical data so precisely and plan a treatment, so that physicians might not be necessary in the future.

We are not machines.

Do you feel really happy, if you live in a world where AIs control and manage everything your life?

The AI never requires food, goes to toilet, or sleeps, as a matter of course. This is a fundamental difference between an AI and humans and cannot possibly replaced with on-line activities. We can conduct meetings on-line, but we cannot eat food on-line. I am afraid that some persons who advocate and promote a digital society as a wonderful future society forget that we are mammals, as well as primates. Actually, in our previous reminiscence group work, which was chaired by a real psychiatrist of my research team, some of the participants, who were farmers, came together along with their vegetables that had been made by their all mental and physical energy. They could never do this with an AI.

Therefore, should humans, as a troublesome existence on earth, be managed and controlled by an AI? No. We should cooperate and help each other by mutual understanding that we are an imperfect existence, by overcoming individualism and developing a "communityism".

Individualism vs communityism

In Japan, the most common reason people do not want to suffer from dementia, is they do "not want to make trouble and become a nuisance to family." In Western countries, older people are never supposed to live together with their children, and the common reason against dementia is that it represents an individual matter, such as disability in their own financial management or in joining a political movement.

We previously reported that the degree of delusion of theft, as shown by patients with Alzheimer disease, correlated clinically with that of the delusion of abandonment, although the neurological background of both delusions, as shown by regional cerebral blood flow ("the first person" issue), were different. This offensive defense ("the second person" negative issue) shown by dementia patients suggests that analyses focusing only on individual brains are not sufficient for understanding human behaviors, but we should consider the relations with family and/or community in order to better understand humans.

Problem presentation

To state my conclusion, humans can only be cared for by humans.

One of the outcomes of this congress is the QOL for the second person. As an original concept, the QOL is for "the first person" (I am…). However, parents perceive happiness as an issue of themselves ("the first person"), if they observe their children's success or feel sad when their children face unhappy things. These feelings are not based on the left hemisphere of the intelligent brain (analogous to the AI), but rather the emotional brain.

Can this natural feeling be applied to the medical treatment and welfare of patients? Some patients with vascular dementia often insist on "the first person" QOL, not considering the family's concerns, as such, and thus do not agree to undergo medical examinations, even if the need is explained logically by a dementia specialist. By contrast, patients with Alzheimer disease are often involved in "the second person" QOL, thus being concerned with becoming a nuisance and trouble to the family ("the second person" positive QOL).

However, we have found new data that patients with vascular dementia who were able to develop a reliable relationship with their rehabilitation therapists (considering "the second person" positive QOL), do exhibit longevity adjusted by QOL. For teachers, to teach is to learn from the students. For care staff, to care is to be cared for. I expect that the new concept developing from QOL, sometimes focusing only on "the first person" issue, will be discussed at this congress.

SPONSORED SEMINAR 1 (KENSEIKAI Medical & Welfare Group)
Pre-dementia state: New classification of SCI and MCI

Anxiety in the elderly with mild cognitive impairment: The importance of clinical psychological typology

Ms. Miwako Shoji[1], Rikako Suzuki[1], Nobuko Kawabata[1], Hideo Ambo[2], Satoshi Yamaguchi[1], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Tohoku University, Graduate School of Education, Educational Psychology
Japan

Background: The first author was engaged in a dementia risk study of community-dwelling older adults in 2019, and experienced the diversity of responses of subjects determined to have mild cognitive impairment (MCI) and situations in which they complained of being too anxious to do anything. Previous studies have reported that anxiety is an early marker of Alzheimer's disease, but the MCI diagnostic classification focuses on memory impairment and does not analyze anxiety.

Method: (1) Subjects: In 1991, a comprehensive survey was conducted in Town A on the elderly at home aged 65 years or older. A total of 1,904 persons, excluding missing data from 2,280 persons, were analyzed retrospectively with the permission of the General Branch Office of Town A.

(2) Analysis method: The subjects were classified into three groups: normal, MCI, and dementia, based on the results of general cognitive function tests. They were divided into two groups: normal + autonomic dysreflexia type (few psychiatric symptoms) and neurotic + psychosomatic type (many psychiatric symptoms), and the χ^2 test was conducted with three cognitive function classification groups. The Self-rating Depression Scale (SDS) was analyzed as a depression scale.

Result: In the three cognitive function classification groups, the proportion of the neurotic + psychosomatic type was higher than that of the normal + autonomic dysreflexia type, and significantly higher as cognitive function declined. The MCI group had significantly higher levels of depression and anger in the six categories of psychological symptoms than the healthy group, and more items in the "Sometimes I feel like crying" category and fewer in the "I always have hope for my life" and "I have friends I can trust" categories. The SDS was less than 10% moderate and severe depression in both groups.

Discussion: The results suggest that even in cases of MCI, there is a possibility of vague anxiety that is not depression. Dementia used to be called "chihou," but this was changed in 2004 as it was considered derogatory. The significant differences in the three items cannot be denied, as well as the influence of old attitudes and the historical background. Even today, the stigma of dementia remains, and there are still situations where it is a barrier to appropriate medical treatment. In order to prevent and live with dementia and the resulting anxiety, subjective assessment and psychosocial interventions are also important.

SPONSORED SEMINAR 1 (KENSEIKAI Medical & Welfare Group) Pre-dementia state: New classification of SCI and MCI

Cross-sectional characteristics and neural basis of subjective cognitive impairment (SCI)

Dr. Tomonari Koto[1], Kenichi Meguro[1], Jiro Onuma[1], Mari Kasai[1], Masatoshi Ito[2]
[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Kibo-no-mori Clinic Japan

Background: Longitudinally, SCI is a risk factor for cognitive decline (Parfenov, 2020). But it is being discussed whether SCI is cross-sectionally an independent group from healthy older adults and MCIs, although executive function decline has been reported in SCIs (Burmester, 2016).

Objective: The purpose of this study was to examine the cross-sectional characteristics of SCI from three perspectives; (1) executive function, (2) psychological symptom, and (3) self-awareness. And we discussed the results from the viewpoint of (4) functional brain imaging.

Subjects: 72 participants (64±10 years old, 50% female) with MMSE scores of 24 or higher, who had a brain checkup with neuropsychological tests and FDG-PET at Clinic A.

Methods: The subjects were operationally classified into four groups (18 healthy adults, 16 SCIs, 26 aMCIs, and 12 naMCIs), according to the presence or absence of general cognitive impairment (MoCA: cut-off 25/26) and the sense of forgetfulness ("Do you feel you have more problems with memory than most?"). The results of (1) executive function tests, (2) Geriatric Depression Scale (GDS), and (3) Everyday Memory Checklist (EMC) were statistically compared between the four groups. In (4) FDG-PET analysis with SPM12, two-sample t-tests were performed between normal group as a control and other three groups.

Results: (1) TMT-A/B time was significantly increased in MCI compared to normal, but there was no significant difference between SCI and the other three groups. (2) In the analysis of GDS sub-items, aMCI group had a lower sense of well-being and was not in good mood. However, there were no findings specific to SCI. (3) SCI had a tendency to be higher than normal in the self-version of the EMC. But the four groups had no difference in the family version. (4) SCI showed decreased glucose metabolism in right superior temporal gyrus and temporal pole compared with healthy subjects. In addition to this, aMCI had decreased metabolism in left superior temporal gyrus and bilateral medial temporal lobes, too. Hypometabolism of anterior cingulate gyrus and insula, previously reported in SCI, was observed in aMCI.

Discussion: There was no difference in executive function and psychological symptoms between normal and SCI. In addition, SCI showed decreased glucose metabolism in the anterior part of the right temporal association area, which is related to situational awareness. While SCI patients have non-verbal deficits difficult to evaluate by conventional neuropsychiatric tests, they may be aware of the sense of wrongness because their language areas are preserved.

SYMPOSIUM A
10-year anniverasary of Great East Japan Earthquake

Disaster medicine for older adults

Prof. Shinichi Egawa
International Cooperation for Disaster Medicine Lab, International Research Institute of Disaster Science (IRIDeS), Tohoku University, Sendai, Japan

Disaster is a consequence of hazard and its exposure to a community with various vulnerability and coping capacity. The United Nations Third World Conference in 2015 in Sendai, adopted the Sendai Framework for Disaster Risk Reduction 2015-2030. Sendai Framework recommends four priorities for action i.e., understanding the risk, risk governance, investment for disaster risk reduction (DRR) and preparedness for effective response and "Build Back Better (BBB)" in recovery, rehabilitation and reconstruction.

Japan is one of the most disaster prone, but one of the most resilient countries with the highest life expectancy. There is a strong negative correlation between life expectancy and the INFORM disaster risk index. Japan had established the national disaster medical system after the 1995 Great Hanshin Awaji Earthquake. DRR and BBB after number of past disasters, the anti-seismic structure saved tens of thousands of people in 2011 Great East Japan Earthquake. A different spectrum of medical needs, however, appeared including non-communicable disease (NCD) and mental health issues. The disaster medical records of patients treated in the evacuation centers of Minamisanriku Town that lost all medical facilities by tsunami, were cross-sectionally analyzed. NCD was the most frequent medical needs followed by infectious disease, mental health issues, injuries and mother and child health issues. Sleep disturbance was the most frequent mental health issues. Aging, female, comorbidities and staying in evacuation center were independent risk factors for sleep disturbance that will further exacerbate the health conditions. Aging is global common phenomenon, but aging does not directly mean the vulnerability. Making a healthy community with high life expectancy is a good strategy for DRR.

SYMPOSIUM A
10-year anniverasary of Great East Japan Earthquake

Effects of disaster stress on the elderly people and patients with dementia

Dr. Yasuto Kunii[1], Toshihiro Terui[2], Akemi Miyagawa[3], Shinobu kawakatsu[3]

[1]Department of Disaster Psychiatry, International Research Institute of Disaster Science, Tohoku University, [2]Department of Neuropsychiatry, Fukushima Medical University School of Medicine, [3]Department of Neuropsychiatry, Aizu Medical Center, Fukushima Medical University
Japan

Now that we have experienced the global spread of the COVID-19 pandemic, we need to keep in mind the possibility of a complex disaster, which is the occurrence of a natural disaster under a pandemic. Now that 10 years have passed since the Great East Japan Earthquake(GEJE), we believe that summarizing the experience of this complex disaster will lead to various lessons for future disaster psychiatry. We have been working on mental health issues after the GEJE and participated in the Fukushima prefectural health survey of more than 210,000 evacuees after the and the Fukushima Daiichi Nuclear Power Plant (FDNPP) accident. Based on the results of a survey conducted in the first year of the disaster, we showed that the mental health of evacuees was extremely poor compared to normal times, and that there was a significant positive correlation between the environmental radiation levels detected in the area where they originally lived and the degree of their psychological distress. We also reported on the possibility that various factors, such as anxiety about radiation exposure, harmful rumors, and the impact on living environment and economic conditions, may have affected the mental status of evacuees. Meanwhile, due to the evacuation order following the FDNPP accident, five psychiatric hospitals were closed in the Soso area of Fukushima Prefecture, and 783 psychiatric inpatients were forced to be transferred to hospitals in and outside the prefecture. We also have been conducting the research to clarify the actual situation of the return of psychiatric inpatients in the evacuation zone after the FDNPP accident, and to analyze the factors that prevent the return of patients who are still hospitalized in the hospitals to which they were transferred. The elderly people, along with the patients with mental disease, are one of the most vulnerable population in disasters. In this symposium, we will present an outline of the findings of these studies, focusing on the effects of disaster stress on the elderly people. In addition, we will present a case study of an elderly person who experienced severe trauma in Minamisoma City, where the GEJE and the FDNPP accident caused tremendous damage to the community, as well as the results of the study of the impact on behavioral and psychological symptoms of patients with dementia in the only psychiatric hospital in this area.

SYMPOSIUM A
10-year anniverasary of Great East Japan Earthquake

Casualty analysis of the 2011 Japan tsunami: Tsunami engineering perspective

Dr. Anawat Suppasri[1], Hirokazu Kamata[2], Seto Shuji[1], Fumihiko Imamura[1]

[1]International Research Institute of Disaster Science, Tohoku University, [2]Graduate School of Engineering, Tohoku University Japan

The 2011 tsunami caused large human casualty with remaining lessons on survival science as well as large numbers of quantitative scientific data available. This abstract summarizes general information related human casualty caused by the 2011 tsunami and present findings of relationship between tsunami characteristics and human casualty in case of the 2011 Japan tsunami in engineering tsunami engineering perspective. Tsunami characteristics (i.e. height and arrival time) from numerical simulation of the 2011 tsunami is used as explanatory parameter of fatality ratio (of each coastal town) for different human vulnerable factors (i.e. age and gender). It is found that people older than 65 years old and female are more vulnerable to tsunami based on fatality ratio analysis in macro scale. For micro scale, the 2011 tsunami victim's data provided by the Miyagi Prefectural Police Headquarters was used to examine the cause-of-death tendency based on the location of the body in Miyagi Prefecture's municipalities. Cause of death (i.e. drowning, fire, hypothermia and unknown) was investigated against other factors such as distance from the sea, amount of debris, population density as well as age. It is found that average age of hypothermia is the highest among all cause of death. Such findings are important for countermeasures against future tsunamis.

SYMPOSIUM A
10-year anniverasary of Great East Japan Earthquake

Activity report from our research team following the Great East Japan Earthquake 2011

Prof. Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

Here, I would like to express my deepest sympathy to those suffering from the earthquake and to offer my sincerest condolences to the relatives of the victims.

Activity in Osaki City, Miyagi Prefecture

Our aim is to study the neuroscience of dementia and contribute to the welfare of the elderly. However, we never expected to experience such an extreme challenge as that of the March 2011 earthquake.

I was seeing outpatients in Kurihara City when the earthquake struck. We immediately ensured the safety of the patients by evacuating the building. The staff all knew how to act, because of their experience of the Iwate-Miyagi Inland Earthquake in 2008. Then I went to the Tajiri Clinic. A large number of refugees had gathered there. However, an otolaryngologist, the only available doctor, had suffered a bone fracture. While he was transported to an emergency hospital, I took on the duties of the clinic. This led me to confront a series of challenges caused by the disaster. I was pleased to find that most of the 80 refugees had carried their own medications, which enabled us to make up a list of their doctors and medications. There were no patients without their antipsychotic or antiparkinsonian drugs, the absence of which might have been troublesome.

Ten days after the earthquake, the primary emergency stage, in which the activities of rescue teams play the most critical role, was followed by the secondary support stage. Refugees from the most damaged areas began to arrive in less damaged areas, including our research areas of Kurihara, Tome and Osaki. Our policies were: 1) Ensure the safety of the destination area 2) Identify the demands on the destination area so that preparations could be made before people arrive 3) Understand the goals of volunteers and try to match the request. Following these policies, Osaki City requested our help for confirming the safety of community residents and for supporting the shelters.

Our team visited 790 houses and discovered 54 people who needed help. Our visits accounted for 10.4% of the 7,604 houses that were visited in Osaki. We discovered various cases of "weakness due to the disaster." Most of such people were elderly, including some who had become sick. Unfortunately, some elderly people who lived alone were found deceased in their homes. Our contributions may help in the planning of future health policies.

Activity in Kesen-numa City, Miyagi Prefecture

Group homes for dementia (GH)-A and B, run by a private company, were located in the coastal area of Kesen-numa city and damaged by the disaster. Fourteen of the 17 elderly residents living prior to the disaster in GH-A and B were evacuated to another GH-C run by the same company. The number of residents prior to the disaster in GH-C was nine, but almost tripled to 23 after the disaster, and several residents started to live together in one room. Compatibility of residents living in the same room was examined. Worsening of behavioral abnormalities caused by overcrowding was anticipated, but surprisingly behavior was improved. Twenty-three residents were studied. Memories of the disaster, including the earthquake, subsequent tsunami, and the evacuation, were obtained in interviews. Two observers independently evaluated the changes in the amount of care in daily life required by the patients while eating, participating in recreation events, bathing, etc., and relationships with other residents in terms of consideration of others' feelings etc. Behaviors were defined as "improved" if both evaluators indicated the finding as "unchanged," and the evaluations were inconsistent and "aggravated" if both indicated this according to direct observation.

Of the 23 residents, behavior "improved" in 12, remained "unchanged" in eight, and "aggravated" in three patients. Living in a small group and dining in a large group might have reminded the residents of their family and school life. Residents with severe dementia seem to have been particularly able to adjust to the new environment, probably due to the stimulation of their remote memories. Actually, most improved residents (11/13) had lived in households with three generations prior to their admission to the group home, and also went to school; however, two of the three residents with aggravated behavior were the oldest sisters from large families, and the caring for their younger brothers prevented them from going to school. All the residents with mild to moderate dementia, but only half of the residents with severe dementia retained the memory of the earthquake.

Also, careful consideration of the compatibility of the residents in the same room through trial and error produced good effects on behavior. Our findings suggest that care for residents in a small group might have good effect on older residents with dementia.

SPECIAL LECTURE 3
Civil military collaboration at national defense medical college

Prof. Koki Kaku
National Defense Medical College Research Institute
Japan

The mission of National Defense Medical College (NDMC) is to train doctors and nurses to work for the Ministry of Defense, contribute to community healthcare and conduct research on military medicine. The NDMC Research institute, to which I belong, has 6 divisions, and engages on pathological analysis of trauma and burns, development of diagnosis and therapeutic methods, health promotion and maintenance under special environments, behavioral science, and infectious disease epidemiology and control.

Specially I am working on risk assessment of infectious diseases in the Self Defense Forces and countermeasures against arthropod-born infections such as mosquitoes and ticks. For this purpose, we are exchange information with the national government, local government, universities. And we focus on emerging and re-emerging infectious diseases, imported diseases at mass gathering events, infectious diseases at evacuation center during large scale disaster, bioterrorism, food poisoning.

In this special lecture, I would like to introduce some specific examples of Civil Military Collaboration activities, such as the liaison activity between the Ground Self Defense Force and local government at large scale of flood disaster at Kumamoto prefecture and the strengthening public health center function related to COVID-19.

EVENING SEMINAR (Eisai Co., Ltd. Integrated Dementia Strategy Department)
Characteristics of patients with dementia after the Great East Japan Earthquake and Fukushima Daiichi Nuclear Power Plant accident: The report from Hibarigaoka Hospital in Fukushima prefecture and literature review.

Dr. Akemi Miyagawa[1,2]
[1]General Medical Department, Futaba Medical Center affiliated Hospital, [2]Department of Disaster and Comprehensive Medicine, Fukushima Medical University School of Medicine
Japan

Ten years have passed since the Great East Japan Earthquake (GEJE) and the subsequent Fukushima Daiichi Nuclear Power Plant (FDNPP) accident. At the time of the earthquake, most of the residents of the Pacific coast area of Fukushima Prefecture evacuated to avoid radioactive effect on their health. Since 2014, evacuation orders have been gradually lifted, but the return of residents has not progressed, and the population is aging.

Hibarigaoka Hospital, located in Minamisoma city, one of the municipalities on the Pacific coast, is located about 25 km north of FDNPP. The hospital was closed and evacuated due to the nuclear accident, but resumed in June of the same year. From before the earthquake to the present, it is the only psychiatric medical institution with inpatient wards. We investigated whether there was any change in the management of dementia patients at Hibarigaoka Hospital before and after the disaster.
As a result, the proportion of dementia patients in the newly patients increased significantly. In addition, while the number of patients visited due to core symptoms of dementia decreased, the number of patients visited due to behavioral and psychological symptoms of dementia (BPSD) increased. In BPSD, the hyperactivity-impulsivity-stimulation-disinhibition-aggression-excitement (HIDA) group increased in the early post-complex disaster phase (2012-2013), whereas in the late post-complex disaster phase (2014-2015), psychosis (hallucination and delusion) group increased significantly.

We will discuss the impact of the GEJE and FDNPP accident on the management of dementia, along with the literature.

SPECIAL LECTURE
Importance of observational methods [Theme 1]

On why multidisciplinary and multicomponent services are the future of dementia care

Prof. Ennapadam Srinivas Krishnamoorthy
Neurosciences India Group
India

Dementia is progressive neurodegenerative disorder that predominantly affects the elderly. Age has rendered the elder more vulnerable to multi-morbidity, a host of health and lifestyle conditions: hypertension, diabetes, obesity, cardiac, respiratory, renal, pulmonary, bone & joint, being common in this population. While many of these conditions influence the onset and course of dementia, they also add to the difficulties in activities of daily life (ADL) that people with dementia struggle with, and indeed their health related quality of life (HRQoL). Not just in dementia care, across medical care for the elderly, the role of non-pharmacological interventions is becoming increasingly evident. In dementia care there is growing evidence that non-pharmacological interventions have a significant role in preventing progression and improving outcomes for patients and their caregivers. Buddhi Clinic has pioneered in India, a multidisciplinary-multicomponent model of care that addresses the health needs of people with a range of neuropsychiatric conditions including dementia. This approach that blends modern science (psychopharmacology, neuromodulation & multidisciplinary therapy- physical, occupational, speech and psychological) with the wisdom of ancient healthcare traditions- Ayurveda, Naturopathy, Yoga is presented in this lecture and the outcomes, physical & psychosocial, are reviewed. By presenting the science and practice of this non-pharmacological approach, we attempt to make a case for multidisciplinary & multicomponent services as the emerging gold standard of dementia care.

SPECIAL LECTURE
Importance of observational methods [Theme 1]

The latest neuropsychological test effective for screening the preclinical stage of dementia

Prof. Takaki Shimura[1], Eriko Okuyama[2], Hironori Ohsugi[3], Atsuko Suzuki[1]

[1]Sosei Ltd. BME Research Lab., [2]Hamamatsu Human Research Lab. Ltd., [3]Josai International University
Japan

[Background] In recent years, the development of therapeutic agents after the onset of Alzheimer's disease has all failed, and the paradigm shift has been made to the research and development of preventive agents at the stage of MCI (Mild Cognitive Impairment) and PCSD(Preclinical Stage of Dementia). Aβ imaging using PET is used to evaluate the results of this research, but it is not suitable for mass examination due to its high cost, which hinders the progress of the research.

[Purpose] CWPT (Color Words Pick-out Test) was developed to detect minute shadows of cognitive function at the stage of MCI and PCSD. This test was devised as a neuropsychological test that can be performed in groups and can be applied to determine the effect of new drugs.

[Method] CKPT (Color Kanji Pick-out Test: Japanese version of CWPT) uses an index that is a product of both the color words judgment result and the episode memory ability result.

[Results] As evidences, activation of the prefrontal cortex, criterion-related validity with other neuropsychology, sensitivity and specificity are shown, and as a result, the effectiveness of CWPT is guaranteed. Furthermore, diagnostic criteria using this index are shown.

[Summary] CWPT can be easily translated into various languages. The English version is already ready[1)], so if you are interested in conducting an implementation experiment, please contact us. We are also looking for people who want to translate into a native language other than English.

1) Takaki Shimura etal.: English Version of CWPT (Color Words Pick-out Test), Archives in Neurology & Neuroscience, DOI:10.33552/ANN.2020.08.000692.

SPECIAL LECTURE
Importance of observational methods [Theme 1]

Early symptoms of Alzheimer disease in Asia- Importance of observational methods

Prof. Ching-Kuan Liu[1,2], Mei-Chuan Chou[3], Ping-Song Chou[3], Chun-Yi Tsai[3]

[1]Department of Neurology, School of Medicine, College of Medicine, Kaohsiung Medical University, [2]Department of Neurology, Graduate Institute of Medicine, College of Medicine, Kaohsiung Medical University, [3]Department of Neurology, Kaohsiung Medical University Hospital

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Early symptoms of disease are certainly important clinical information because symptoms are always the initiator for the people to seek for medical attention. Owing to lacking of valid biomarkers for Alzheimer's disease, early symptoms of Alzheimer's disease are even more important but are also more difficulty to be ascertained.

Cognitive function and behavior are the most widely various among the functions of human being, therefore the decline and change of function from the previous level is the most sensitive and reliable evaluation. Besides, the cognition and behavior of human being are so vast so the comprehensive neuropsychological package is very time-consuming. Presenting symptoms can help in choosing suitable tests to confirm the complaints and sometimes replace objective assessments through more detailed inquiry and observation when no suitable tests available.

Through longitudinal cohort studies for the elderly, we recently learned a lot on the early symptoms of AD, both in prodromal and early stage, which improved the early diagnosis and treatment of AD. In this presentation, we will present the updated information and our own recent data from 371 early AD, CDR=0.5.

*The behavioral and psychological symptoms are significantly severe in late onset subtype compared to the early onset subtype of AD in the Kashmiri population.
*Depressive symptoms differ according to EOAD severity and progression, "hopelessness and ominousness" in very mild EOAD and "unhappiness and dissatisfaction" in mild EOAD.
*There were gender's effects to the Early Symptoms of Alzheimer's Disease in Asian
countries, i.e. difficulties in using small trouble appliance and in handling complicated financial affairs were frequently reported in Japan female with AD.
* ADNI showed that MCI subjects with amyloid pathology tended to have greater frequency x severity of anxiety, hallucinations, delusions, apathy, disinhibition, irritability, aberrant motor behavior. Agitation, irritability and apathy are significant predictors for conversion from MCI to dementia.
*A study of early symptoms of AD with AD-8 revealed that Japanese participants had a higher reported frequency of forgetting the correct month or year (82.7%) ($P<0.001$). ; Taiwanese participants higher in problems with judgment (20.3%); repeats questions, stories or statements (67.5%), difficulty handling complicated financial affairs (32.5%); difficulty remembering appointments (53.8%); and with thinking and/or memory (89.3%).

In the era of biomarkers, symptomatology, is still playing an important role in the clinical work especially in dementia and neurobehavioral field.

SPECIAL LECTURE
Importance of observational methods [Theme 1]

Possibility of dementia prevention in Japan based on Population-Attributable Fraction estimates

Prof. Masao Kanamori[1], Mizue Suzuki[2], Takuya Kanamori[2], Tomoyoshi Naito[2]
[1]Sport and Health, Ritsumeikan Univ., Shiga, Japan, [2]Medicine, Hamamatsu University
Japan

Background:
In order to pursue the possibility of dementia prevention in Japan, Population Attributable Fraction (PAF) was calculated for risk factors for dementia. In addition, the prevalence of dementia was estimated when the frequency of risk factors was reduced.
Methods:
The Lancet Commissions published potentially risk factors for dementia and obtained their PAF (2020). We estimated the prevalence of the risk factors for dementia in Japan from the published papers. The PAF was calculated using the estimates. The PAF calculation is as follows.
PAF=Pe*(RRe-1)/(1+Pe*(RPe-1)) Pe=prevalence of exposure,
RPe=relative risk of diseases due to that exposure.
Results and Discussion:
PAFs of risk factors during midlife(age45-65) are as follows: hearing loss 0.08(0.04,0.14), hypertension 0.20(0.08,0.33), alcohol(>21 units/week) 0.02(0.01,0.03), obesity(BMI>=30) 0.03(0.02,0.05),
PAFs during later life(age>65); smoking 0.07(0.02,0.12), social isolation 0.03(0.02,0.05), physical inactivity 0.21(0.12,0.31), diabetes 0.10(0.07,0.15), fall 0.01(0.01,0.02).
Physical inactivity, hypertension, and diabetes are considered to be at high risk for the development of dementia in Japan, and it was estimated that if their incidence could be reduced by 10 percent, the incidence of dementia could be reduced by 5 percent. For fall, PAF of Traumatic Brain Injury could not be calculated because the incidence of TBI is unknown, so we estimated fall PAF to be lower.
Repeated falls can lead to decreased autonomy, depression, and social isolation, so the prognosis for future falls needs to be estimated.
Conclusions:
Our estimates of PAF in Japan accounted for the largest proportion in the order of physical inactivity, hypertension, and diabetes. Management of these risk factors is important to reduce the severity and incidence of dementia in Japan.
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I have no financial relationships to disclose.

SELECTED POSTER 1
Importance of observational methods [Theme 1]

Identifying cognitive trajectories and predicting rapid decline of cognitive function in early Alzheimer disease

Prof. Yung-Shuan Lin[1,2], Yao-Hwei Fang[3], Jong-Ling Fuh[1,2], Chao A. Hsiung[1]

[1]Department of Neurology, Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan, [2]Faculty of Medicine, National Yang-Ming Chiao Tung University Schools of Medicine, Taipei, Taiwan, [3]Institute of Population Health Sciences, National Health Research Institutes, Zhunan, Taiwan
Taiwan

Background: The progression of cognitive function varies between patients with Alzheimer disease (AD) and mild cognitive impairment (MCI). Predicting disease course is important because most patients experience irreversibly progressive cognitive decline despite variations. This study identified groups of patients following a similar trajectory of cognitive decline, and developed a prediction model to identify patients at higher risk for a speedy cognitive decline.

Method: This study was conducted on a clinic-based cohort of 253 early AD and MCI patients who converted to AD within 2 years in Taiwan. First, a group-based trajectory modeling technique characterized the trajectory groups of Mini-Mental State Examination (MMSE) scores over time. Then, feature-selection strategy was used to investigate predictors of the trajectory of rapid cognitive decline. Finally, multivariable logistic regression (LR) was applied to predict the trajectory groups from the predictors.

Results: The best-fitting model includes two meaningful trajectories: Group 1 shows a rapid decline in the MMSE scores over time (decrease of 5.8±5.1 points within 2 years); Group 2 shows a slow progression (decrease of 1.4±2.6 points within 2 years). The baseline MMSE score, instrumental activities daily living (IADL) total score, and *APOE* $\varepsilon 4$ status are significant predictors in the prediction model for classifying the trajectory of cognitive decline. After bootstrapping validation, the performance of the LR model using these predictors to predict trajectory groups shows 84.1% of area under curve (AUC), 76.9% of sensitivity, 72.8% of specificity, and 74.3% of predictive accuracy.

Conclusions: Among various biomarkers and neuropsychological battles for patients with AD or MCI, baseline MMSE score, IADL total score and *APOE* $\varepsilon 4$ status are the ones important and unchallenging to obtain in dementia clinics. Our prediction model gives clinicians and patients a glimpse of future cognitive progression and aids further healthcare planning.

SELECTED POSTER 1
Importance of observational methods [Theme 1]

Biomarkers for the detection of progressive early Alzheimer's disease

Dr. Yuan Cai[1], Wanting Liu[1], Fan Xiang[1], Vicent CT Mok[1,2]

[1]Division of Neurology, Department of Medicine and Therapeutics, Therese Pei Fong Chow Research Centre for Prevention of Dementia, The Chinese University of Hong Kong, Hong Kong SAR, China., [2]Gerald Choa Neuroscience Centre, Lui Che Woo Institute of Innovative Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China.
Hong Kong

Objective: We investigated the ability of MRI, plasma and cognitive biomarkers in detecting preclinical or prodromal Alzheimer's Disease (AD) who will progress to the next syndromal stage of the cognitive continuum.

Methods: 589 subjects with longitudinal cognitive data were recruited from the Alzheimer's Disease Neuroimaging Initiative (ADNI), which included 227 cognitive unimpaired (CU) and 362 mild cognitive impairment (MCI) subjects. Preclinical or prodromal AD was defined by a low amyloid beta $(A\beta)_{42}$ (A+) and high phosphorylated -tau (p-tau) (T+) on cerebrospinal fluid (CSF) assessment at baseline. The following baseline MRI biomarkers were derived by an automatic segmentation tool (AccuBrain®): AD-resemblance atrophy index (AD-RAI), quantitative medial temporal lobe atrophy (QMTA) and hippocampus volume (HV). Plasma biomarkers included p-tau 181, neurofilament (NFL) and APOE $\varepsilon 4$. Montreal Cognitive Assessment (MoCA) score was collected for all subjects at baseline. Conversion (C+) was defined as subjects progressed from CU to MCI and from MCI to dementia within 4 years.

Results: Of the 589 subjects (mean [SD] age, 72.2 [6.9] years; 314 men [53.3%]), 96 (16.3%) were A+T+C+ and 180 (30.6%) were A+T+C-. In the ROC analysis, AD-RAI achieved the best detection ability than other individual biomarker with a sensitivity of 84.4%, a specificity of 68.4% and an AUC of 81.7%. A combination of AD-RAI, plasma p-tau 181, APOE $\varepsilon 4$ and MoCA score achieved the best detection ability with AUC of 88.9%, sensitivity of 85.4% and specificity of 79.4%. In the subgroup analysis, the combination of AD-RAI, plasma p-tau 181, APOE $\varepsilon 4$ and MoCA score also showed great accuracy in identifying A+T+C+ subjects (AUC=89.2% in CU group, AUC=86.3% in MCI group).

Conclusion: A panel of MRI, plasma and cognitive biomarkers might help to detect progressive early AD subjects.

SELECTED POSTER 1
Importance of observational methods [Theme 1]

Preliminary study of whether inadequate lifestyle management of dementia patients can be a factor in increasing the chances of emergency outpatient visits

Dr. Yohei Kudoh[1,2], Moriyuki Nishina[2], Kenichi Meguro[1]
[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Sanyudo Hospital
Japan

Purpose: It is not rare that dementia is detected after another diagnosis, such as bone fracture, in the emergency outpatient department. In our preoperative survey of patients with hip fractures, two-thirds had dementia (Kasai et al.: Fear of Falling and Cognitive Impairments in Elderly People with Hip Fractures. Dement Geriatr Cogn Disord Extra 2017; 7:386–394). It has been reported that the frequency of emergency outpatient visits of dementia patients has been increasing in recent years. However, there is no report on the evaluation of dementia using evidence-based methods in emergency outpatient departments (2021/8/11). We examined the relationship between dementia and emergency outpatient visits using the dementia screening test, AD8 (Informant version), for the emergency outpatient department at our hospital.
Method: Patients were divided into two groups based on AD8 score: those with two points or more (the dementia group) and those with less than two points (the normal group). We prospectively confirmed the dementia rate, transport rate, and hospitalization rate for 31 emergency outpatients who were treated consecutively by the same facility and by the same doctor.
Results: Of the 31 patients, 7 patients were in the dementia group, excluding one patient who could not undergo AD8, and all patients were examined for non-traumatic diseases. On considering only those aged 60 years and above, the dementia rate was even higher (6/15). Both the hospitalization rate (dementia group: 4/7, normal group: 8/23) and the ambulance transport rate (dementia group: 4/7, normal group: 8/23) were higher in the dementia group.
Case presentation: An 84-year-old woman was being treated for diabetes in the internal medicine department. She developed cerebral infarction and was admitted to the neurosurgery department. She had no focal neurological deficits, but she sometimes forgot to self-inject insulin during hospitalization. She was diagnosed with mild cognitive impairment with HDS-R = 23/30 and MMSE = 26/30, and the multiple self-injections were changed to simple once-daily injections. On the 24th day after she was discharged, she was brought into our hospital's emergency department due to altered consciousness. She was diagnosed with hyperglycemic coma and died on the same day, despite receiving intensive care.
Discussion and conclusions: It is suggested that dementia may be a factor in increasing the chances of emergency outpatient visits not only for trauma but also for illness as a result of poor self-awareness and inadequate life management.

SPECIAL LECTURE
Behavioral neurology and disaster medicine [Theme 6]

Care of Alzheimer's disease and other dementias amid the COVID-19 pandemic

Prof. Vincent Mok
The Chinese University of Hong Kong, China

Since old age and history of dementia are important risk factors of death associated with COVID-19, physical distancing and staying-at-home are very important measures that can protect older people and those with dementia from getting COVID-19. However, such measures also bring along negative impacts to dementia patients (e.g., reduced cognitive, physical or leisure activities and/or increased behavioral problems). Many healthcare workers around the globe have tried to reach dementia patients and their informal caregivers via various on-line platforms (i.e. telehealth) so as to mitigate such negative impacts. (1) In this lecture, the speaker will discuss on the challenges faced by dementia patients and their caregivers and will propose strategies that may mitigate the negative impacts associated with COVID-19 pandemic.

Reference

(1) Vincent Mok, Sarah Pendlebury, Adrian Wong, et al. Tackling challenges in care of Alzheimer's diseaseand other dementias amid the COVID-19 pandemic, now and in the future. Alzheimer's and Dementia 2020 Nov;16(11):1571-1581.

SELECTED POSTER 6
Behavioral neurology and disaster medicine [Theme 6]

Communication difficulty and application of communication skills for persons with dementia using Personal Protective Equipment

Dr. Takuya Kanamori, Keigo Inagaki
Hamamatsu University School of Medicine
Japan

Objective:
Due to the COVID-19 pandemic, care staff who worked at hospital and nursing home has been requested to wear Personal Protective Equipment (PPE) when caring for people with dementia. This study aims to investigate the difficulties that care staff wearing PPE encounter when interacting with persons with cognitive impairment, as well as the application of communication skills used by care staff while wearing PPE.
Method:
In March 2021, a web-based questionnaire was conducted among 500 registered nurses and 500 care workers of a digital researching company in Japan. Free descriptive answers were collected regarding participants' difficulties communicating with persons with dementia while using PPE, and the application of communication skills under these conditions. Word frequencies and visualization of co-occurring networks were generated using KH Coder software.
Results:
The study participants' mean age, mean length of work experience, and proportion of women were 42.1±9.9, 12.6±9.7, and 67.1%, respectively. Regarding communication difficulty, 6,449 words were extracted, and words used most frequently were "facial mask," "facial expression," and "speech," respectively. Regarding the application of communication skills, 4,360 words were extracted, and the words used most frequently were "gesture," "facial expression," and "close to ears," respectively. From the visualization of the co-occurrence networks, 5 categories referred to communication difficulty (such as "difficult to convey my speech and expression" and "worsening of anxiety and confusion in person with dementia"). Example communication difficulty of care staffs are: "older people who have hearing impairment could not hear my speech because my voice sounds muffled due to wearing facial mask," "people with dementia have confused because they could not recognize my face due to wearing PPE". Further, 4 categories referred to application of communication skills (such as "close the distance while talking with person with dementia" and "using body and hand gesture or written conversation"). Example application of communication skills of care staffs are: "I try to speech close to the ear of person with dementia," "I consciously talk with person with dementia in a loud and low voice," "To attract attention of person with dementia, I touch their while talking even if I wear gloves," "my gesture is more exaggerated than before".
Conclusion:
Care staff found it difficult to communicate with persons with dementia because their speech and expression was unclear due to wearing PPE. Therefore, they consciously applied modified communication skills to communicate more effectively.

SELECTED POSTER 6
Behavioral neurology and disaster medicine [Theme 6]

Improving nighttime sleep problems after a large-scale natural disaster: A one-month follow-up study of participants who attended sleep hygiene education and relaxation training lectures

Prof. Toshihiko Sato[1], Hideo Ambo[2], Kazuhiko Fukuda[3]
[1]Nagano University, [2]Tohoku University, [3]Edogawa University
Japan

Survivors of natural disasters, including large-scale earthquakes and tsunamis, often develop psychological problems. The most well-known is post-traumatic stress disorder, although changes in cognitive and sleep/arousal functions, such as insomnia, have also been identified. The Great East Japan Earthquake, a large-scale natural disaster, occurred on March 11, 2011. The undersea earthquake resulted in a major tsunami along the eastern Pacific coast of the main Japanese island, including the coastal areas of Miyagi Prefecture. As part of the efforts to address mental health problems following the earthquake, we planned a health education program consisting of lectures on sleep hygiene education and relaxation training exercises. Then we designed a questionnaire to determine whether our program improved participants' nighttime sleep. The relation of the effects of sleep improvement to age and gender was also examined. From early October 2012 to early September 2013, we conducted nine health education sessions for the residents in five cities in the coastal area of Miyagi Prefecture. On the day of the program, we presented lectures on 1) sleep hygiene education and 2) guidance to and practice of one or more relaxation training techniques, including progressive muscle relaxation, autogenic training, mindfulness meditation, or other body exercises. On that same day, we asked participants to take part in our mail survey a month later, including answering questions about nighttime sleep before and one month after participation in our program. The questionnaires contained two sets of items from the Japanese version of the Pittsburgh Sleep Quality Index (PSQI-J) and were sent to the participants who consented a month after the day of the session. We received 29 responses. We divided the participants into two gender groups and three age groups: young (25 to 40 years old), middle-aged (41 to 64 years old), and older adults (65 years old and above). A statistical test indicated that the rate of sleep improvement was significantly higher in the older adults and younger groups than in the middle-aged group. We found age differences in the sleep improvement effect of our health education program; that is, sleep hygiene education and the practice of relaxation techniques more likely alleviate the sleep difficulties of both the younger and older adult groups. This finding suggests that the educational program and daily exercise of its contents lead to better treatment for sleep difficulties in older adults.
This study was supported by JKA (KEIRIN).

SELECTED POSTER 6
Behavioral neurology and disaster medicine [Theme 6]

Mental health of nursing staff during pandemic of COVID-19

Dr. Hui-Tzu Lin[1], Sun-Wung Hsieh[2,3,4], Yuan-Han Yang[3,4,5,6,7]

[1]Department of Teaching and Research Center, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung, Taiwan, [2]Department of Neurology, Kaohsiung Municipal Hsiao-Kang Hospital,Kaohsiung Medical University, [3]Department of Neurology, Kaohsiung Medical University Hospital, Kaohsiung Medical University, [4]Neuroscience Research Center, Kaohsiung Medical University, [5]Department of Neurology,Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung Medical University Hospital, [6]Department of and Master's Program in Neurology, Faculty of Medicine,Kaohsiung Medical University, Kaohsiung, [7]Chinese Mentality Protection Association, Taiwan.

Background

The outbreak of the new coronavirus epidemic in the world since 2019 has been becoming a disaster for people including medical staffs. Many medical staffs suffering from the pandemic not only in physical disability, but also from mental illness. Holistic health care is emphasized on these sufferings, and we are going to evaluate the mental health status of medical staffs, focused on nurse, to understand their mental status during pandemic.

Methods

The cross-section online questionnaires survey was approved by the ethic committee to recruit the demographic characteristics and stress accompanied with the pandemic among our nurses in hospitals of Kaohsiung Medical University, Kaohsiung city, Taiwan from 2020-07-01 to 2021-04-30.

Convenience sampling was used and a total 321 practicing nursing staffs in this study. The collection data is from July 2020 to April 2021.

Results

In total, 321 nurses have consented to complete the survey. The results show that nursing staffs were confident to the policies of control pandemic of government (87.9% of 321 nurses) and hospitals (82.9%). They are willing to subject to the prevention policies of government (98.4%) and hospital (98.4%). However, they were still worried about being infected themselves (75.1%) or their family (75.1%).

During the epidemic, 66.4% of 321 nurses frequently reported insomnia and felt exhausted physical (72.9%)and mentally (73.5%), but they still had the motivation to work (67.9%), would not be hesitated (60.1%), and was confident to their coming medical work (83.5%). They would not quit from their current position or from medical related job (66.4%), and would not to be switched to other department (83.5%).

Conclusion

Although COVID-19 outbreak made our nursing staffs exhausted in mental and physical status. The potential beliefs of being a medical staff and well-designed policy of government will guide these staff to overcome their mental challenges.

SYMPOSIUM B
Vascular factor and dementia

Vascular factors of Alzheimer's disease and current pathophysiology of vascular cognitive impairment

Prof. Koji Abe

National Center Hospital, National Center of Neurology and Psychiatry (NCNP) Japan

Aging societies show an increasingly strong relationship between Alzheimer's disease (AD) and chronic cerebral hypoperfusion (HP), which is very common in elder people. Our previous study revealed that more than 80% of AD patients carry vascular pathology in the white matter on MRI. We created a new mouse model for AD plus HP, and investigated its clinical and pathological characteristics with AD transgenic mice (APP23). In contrast to simple APP23 mice, cerebral HP exacerbated motor and cognitive dysfunctions with white matter lesions and meningo-parenchymal amyloid-β (Aβ) burdens. Strong cerebrovascular inflammation and severe amyloid angiopathy with cerebrovascular remodeling were also observed in APP23 + HP mouse brains. The present study demonstrates that chronic cerebral HP enhanced cognitive/motor dysfunctions with parenchymal/cerebrovascular Aβ accumulation and cerebrovascular remodeling.

SYMPOSIUM B
Vascular factor and dementia

Vascular endothelial damage and dementia

Prof. Ryuichi Morishita[1], Shuko Takeda[1,2]
[1]Department of Clinical Gene Therapy, Graduate School of Medicine, Osaka University, [2]Osaka Psychiatric Medical Center, Osaka Psychiatric Research Center
Japan

The rise in the incidence of dementia has become a major public health concern worldwide. Recent epidemiological studies have provided direct evidence linking Alzheimer's disease (AD) and vascular risk factors (**Morishita** et al. ***Frontiers in Aging Neuroscience*** 2014), suggesting roles of vascular components and endothelial function in the pathogenesis of AD. However, the exact mechanistic link between vascular endothelial damage and dementia remains enigmatic.

It is well documented that diabetic individuals have a higher risk of developing AD. This might be partly explained by vascular complications in patients with diabetes, which lead to neurodegeneration. Recent studies indicate that diabetes directly affects the pathogenesis of AD via multiple mechanisms. We established novel mouse models having manifestations of both diseases (**Morishita** et al. ***PNAS*** 2010, **Morishita** et al. ***Molecular BioSystems*** 2011), which allowed us to reveal some of the underlying molecular mechanisms linking diabetes and AD. Diabetic AD mice showed increased expression of inflammatory cytokines in the brain vascular endothelial cells that was associated with accumulation of beta-amyloid protein on the cerebrovasculature.

Hypertension has been also recognized as a non-genetic risk factor for AD and the use of antihypertensive drugs has been shown to reduce the incidence of dementia. Evidence from animal experiments and clinical studies suggests that blocking the renin–angiotensin system has favorable effects on cognitive function. We demonstrated that an angiotensin receptor blocker attenuated cerebrovascular dysfunction and improved learning and memory function in AD mouse model (**Morishita** et al. ***Hypertension*** 2009).

The Blood-brain barrier (BBB) is composed of cerebrovascular endothelial cells and selectively prevents substances in the blood from entering the central nervous system. Changes to the BBB due to endothelial damage may also play an important role in AD (**Morishita** et al. ***Vas-Cog Journal*** 2021). We reported that the BBB becomes more permeable in APP-Tg AD mice during peripherally evoked systemic inflammation, suggesting the increased vulnerability of the BBB to inflammation in AD brain. Peripheral inflammation could be more likely to spread into the brain due to increased vulnerability of the BBB, resulting in exacerbation of cognitive impairment and non-cognitive symptom such as delirium (**Morishita** et al. ***Neurobiology of Aging*** 2013).

In this talk, we will discuss the current knowledge on the roles of vascular components and impact of endothelial damage on the pathogenesis of AD which could provide new therapeutic targets for the disease.

SYMPOSIUM B
Vascular factor and dementia

Brain amyloid PET imaging and dementia

Prof. Yoshio Ikeda, Hiroo Kasahara

Department of Neurology, Gunma University Graduate School of Medicine

Japan

In Japan, the percentage of people elder than 65 years old is about 28%, and rapidly increasing at the fastest speed in the world. The number of people suffering from dementia is also rapidly increasing year by year. Social concerns and demands on medical issues of dementia are growing all over the world.

Alzheimer's disease (AD) is the most frequent cause of dementia, and the occupancy of AD among diseases showing dementia is increasing in Japan. For developing a treatment against AD, based on the amyloid β (Aβ) cascade hypothesis, investigators mainly targeted to remove the amyloid depositions by Aβ vaccination or anti-Aβ antibodies, and to prevent the production of Aβ fibrils by β- or γ-secretase inhibitors. However, clinical trials for AD using these drugs did not show satisfactory outcomes. It is now clarified that Aβ accumulation in the brain will start at an age more than 20 years earlier from the onset of cognitive impairment. Current clinical trials are focused on establishing the surrogate markers such as amyloid-imaging or CSF-proteins which can assess the extent and the degree of Aβ accumulation, and introducing the therapies to AD patients at an earlier stage of the disease.

Many epidemiological studies on AD have shown that the vascular risk factors of atherosclerosis such as diabetes mellitus, hypertension, and hyperlipidemia are associated with an occurrence of AD. In this presentation, results of the neuroimaging studies to reveal the association of amyloid PET and cerebral vascular MRI findings in AD dementia will be discussed.

SPECIAL LECTURE 4
The philosophy of extended mind and its application to education and welfare

Prof. Tetsuya Kono
Rikkyo University, College of Arts
Japan

The concept of "extended mind" has been gaining prominence in recent years. The extended mind renews the traditional concepts surrounding the mind and forces fundamental changes in the sciences of the mind. Applying the extended mind theory to various fields is still a work in progress. In this presentation, I will discuss how the concept of extended mind can be applied to the fields of education and welfare and how this creates novel views of ability and development.

The concept of extended mind was developed in the field of philosophy of the mind after the turn of the century. Since then, it has become a prevailing view in that field. According to the extended mind theory (EM), the mind is not simply ensconced inside the head but the mind, in fact, extends to the whole system of brain-body-environment. In EM, our psychological functions are based on larger systems that extend outside of the skull and skin. Using this thought process, a brain alone cannot have a mind. Therefore, we can outsource some aspects of our minds.

An important source for EM theory is the ecological psychology of James Jerome Gibson. I would like to point out that EM can be regarded as a specialized version of the ecology of the mind. The ecological approach views psychology as a study on a network of actors, including animals, non-living things, and artifacts. EM is a network that a human agent can control alone. The most important aspect of Gibson's psychology is the principle of reciprocity. This principle affirms that any psychological function consists of the circular process between the animal and the environment. Gibson's concept of "affordances" should be understood as environmental dispositions that, when expressed, enable an animal's actions. What the EM theory and the ecological approach suggest is that human capabilities always assume the existence of a certain niche. Not only that, but many of our mental functions assume the existence of an artificial environment or a niche created by humans. From this point of view, education and welfare that try to only develop one's personal abilities without changing the surrounding environment are neither effective nor ethically fair. Through the lens of the ecological approach, education and well-being are about arranging a person's relationship with the environment to develop one's capabilities and enhance one's quality of life.

SPONSORED SEMINAR 2 (Eisai Co., Ltd. Medical HQs)
Latest findings on early dignosis of AD based on ATN system

Prof. Hitoshi Shimada[1,2]

[1]Department of Functional Neurology & Neurosurgery, Center for Integrated Human Brain Science, Brain Research Institute, Niigata University, [2]Department of Functional Brain Imaging, Institute for Quantum Medical Science, Quantum Life and Medical Science Directorate National Institutes for Quantum and Radiological Science and Technology
Japan

One of the difficulties in drug discovery for dementia, such as Alzheimer's disease, has been the discrepancy between clinical and pathological diagnosis due to the inability to evaluate pathology *in vivo*. In recent years, a variety of biomarkers have been developed. For example, amyloid-β and tau pathology observed in Alzheimer's disease can be tracked by positron emission tomography (PET) imaging. Fluid biomarkers, such as cerebrospinal fluid (CSF) and blood biomarkers, have also been developed to assess the presence of amyloid-β and tau pathologies. These biomarkers allow us to assess the pathological background of dementia patients in detail before they passed away. Indeed, drug discovery for Alzheimer's disease have been accelerated by biomarkers, leading to the U.S. Food and Drug Administration's (FDA) approval of the first disease-modifying drug (DMT) targeting amyloid-β for Alzheimer's disease. Nowadays, biomarkers become indispensable to make accurate clinical diagnosis and to evaluate the efficacy of treatment in clinical trials. In addition, biomarkers are an essential technology to assess brain pathology and make accurate clinical diagnoses, especially in dementia patients who will be treated with DMT.

The ATN system, which characterizes the latest research framework for Alzheimer's disease, has become a common language for classifying miscellaneous dementias. In this framework, in addition to neurodegeneration (T), the presence or absence of amyloid-β (A) and tau (T) pathologies is qualitatively assessed using imaging and fluid biomarkers. Understanding of the pathological bases of dementia have been deepened and researchers can easily communicate each other using this unbiased classification method. The ATN system has been proposed as a framework for research; however, accumulating evidence demonstrated that the ATN system can be useful in clinical setting as an indicator for differential diagnosis and judging prognosis.

In this talk, I will first explain the pathological cascade of neurodegenerative dementia and its relation to biomarkers. Next, an overview of the ATN system and its historical background will be provided. Finally, we will discuss the usefulness of the ATN system in clinical practice by introducing past findings. Possible limitations and pitfalls will also be mentioned.

SYMPOSIUM C-1
Older adults and modern technology : New technology for older adluts

Use of "Mado" for communication with older people

Ms. Kazuha Ogasawara[1], Tomonari Koto[1], Nobuko Kawabata[1], Takanobu Nitta[2], Ken Onogi[2], Yusuke Sakai[3], Takefumi Endo[4], Natsuki Yonemura[4], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]General Incorporated Association Onokuri, [3]SRE AI Partners Corporation (Sony Group), [4]Social Welfare Corporation Zenkoukai
Japan

<Background>
According to Bailenson et al. (2020), over-exposure to close-up images of one's own face as a result of the recent spread of digital communications, is causing brain exhaustion or "zoom fatigue." As a measure to protect older people against the risk of COVID-19 infection, many nursing homes and care facilities have changed the way of visiting residents from in-person to online visits, but there are hardly any reports on the effect of digital communications on the QOL of older people, which warrants analysis.
<Objective>
We investigated the use of digital technology from the viewpoint of "humans and technology" targeting older people living in nursing homes and care facilities to recommend a human-friendly communication tool.
<Method>
The "Mado" telepresence system is used for visits with older people living in special nursing homes in the Tokyo metropolitan area. We targeted this device, which has a large vertical screen, employs low latency transmission, and was developed by Sony on the theme of natural communication, in this study. It had already been in use for approximately 6 months since the previous fiscal year at 4 nursing home facilities in the Tokyo metropolitan area to connect a resident's room with a visitors' room in the facility as an alternative to in-person visits. Its use was subsequently continued after users and their family members reported feeling more "connected" and "natural" than with other digital communication devices. The meaningfulness of an observational study of the use of "Mado" was recognized by the Ethics Committee of Tohoku University, which approved the present study.
We performed a questionnaire and interview survey using the 5-point Likert scale on whether it was possible to achieve verbal communication with the visitor for the items of "first person (self)," "second person (visitor)" and "third person (other people or happenings)," as well as whether it was possible to have non-verbal communication including gestures and eye-contact. Responses collected from groups comprising family members and professional caregivers representing users were analyzed to identify specific tendencies and for intergroup comparison.

SYMPOSIUM C-1
Older adults and modern technology : New technology for older adluts

Application of muscle suit to nursing care and functional training

Prof. Hiroshi Kobayashi[1,2]
[1]Dept. of Mechanical Eng., Tokyo Univ. of Science, [2]INNOPHYS Co. Ltd.
Japan

We have been developing the wearable muscle suit for direct and physical motion supports as an exoskeleton. The use of the McKibben artificial muscle has opened the way to the introduction of "muscle suit" compact, lightweight, reliable, wearable "assist-bots" enabling manual worker to lift and carry weights. Muscle suits are used in factories, construction sites, agriculture, nursing care facilities, logistics industries, etc. As of April 2021, the cumulative number of units shipped has exceeded 20,000.

In the field of long-term / nursing care, muscle suit is used for transfer between bed and wheelchair, excretion assistance, bathing assistance, and sheet change. In this way, the muscle suit is a product developed for lower back support for manual workers thought, it is also used for functional training. For functional training, squats and flexion / extension are performed by wearing a muscle suit. As a result, it seems that the position of the hip joint is reset and the inclination of the pelvis is corrected. As a result, there are many cases in which people who could not walk became able to do it and their back pain was cured. In addition, if a healthy person performs the same functional training, it has the effect of improving posture.

SYMPOSIUM C-1
Older adults and modern technology : New technology for older adluts

Exploring perceptions toward home-care robots for older people in Finland, Ireland, and Japan : A comparative questionnaire study

Prof. Sayuri Suwa[1], Mayuko Tsujimura[2], Naonori Kodate[3], Sarah Donnelly[3], Helli Kitinoja[4], Jaakko Hallila[4], Hiroo Ide[5], Erika Takahashi[6], Mina Ishimaru[1], Atsuko Shimamura[7], Wenwei Yu[8]

[1]Graduate School of Nursing, Chiba University, [2]School of Nursing, Shiga University of Medical Science, [3]School of Social Policy, Social Work and Social Justice, University College Dublin, Ireland, [4]Seinäjoki University of Applied Sciences, Finland, [5]Institute for Future Initiatives, The University of Tokyo, [6]Graduate School of Humanities, Chiba University, [7]Department of Nursing, Faculty of Health Science, Toho University, [8]Center for Frontier Medical Engineering, Chiba University
Japan

In an ageing society with shortage of care staff, the development and societal implementation of home-care robots for older people living at home are pressing issues. Alongside high expectations, ethical issues have to be given sufficient considerations for users and research participants, including those with reduced decision-making capabilities due to reasons such as dementia. However, such research ethics have not yet been established internationally.

Against this background, in order to understand potential users' perceptions towards ethical issues regarding research/development and societal implementation of home-care robots, the study was conducted in three selected countries, Japan, Ireland and Finland. These three countries differ greatly in their social security systems, the current demographic demographics, and national cultures, all three have dementia countermeasures in place.

Unsigned, self-administered questionnaires were distributed to adults aged 65 or older, family caregivers, and home-care/health and social care professionals. A total of 1,004 responses were collected.

As results, in Japan, many people were already familiar with robots in their daily lives. The most notable finding about their perspectives on home-care robots was related to safety. Moreover, 93.7% of the Japanese respondents said, "If the user cannot decide whether to use a home-care robot, family members who know the user well should decide," followed by 76.4% in Ireland and 83.1% in Finland ($p < .001$). In Ireland, 81.8% of the respondents said, "I want to help other people and society by participating in the research and development of home-care robots" (Japan: 69.9%; Finland: 67.5%) ($p = .006$). In Finland, many people had a negative impression of robots compared to the other two countries. Finland had the highest percentage (75.4%) of respondents who said, "Health care professionals should be allowed to use secondary information collected by a home-care robot" (Japan and Ireland: 64%) ($p=.024$). Moreover, Ireland and Finland emphasized the need to guarantee the entitlement to receive human care.

Devising optimal strategies for the development and social implementation of home-care robots by incorporating various perspectives while valuing human dignity will require examination of each country's characteristics with respect to history, culture, policies, and values related to robots.

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

Relationship between driving and Quality of Life in "memory clinic outpatients"

Mr. Keiichi Kumai[1], Yoshitaka Fujihara[2], Rikako Suzuki[1], Miwako Syoji[1], Mari Kasai[1], Kei Nakamura[1], Satoshi Yamaguchi[1], Tomonari Koto[1], Yasunori Yamamoto[2], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Advanced Human Vehicle Research Field, Technical Research Center, Mazda Motor Corporation
Japan

[Background] Mr. A, who was playing the guitar at a dementia cafe, not only used the car as a means of transportation before the onset of dementia, but also used the inside of the car as a place for practice. In areas where public transportation is inadequate, driving may also affect quality of life (QOL). WHOQOL26, an international QOL scale, is composed of four areas, "physical area", "psychological area", "social area", "environment", and "whole". Since there are surprisingly few previous studies on driving and QOL in the elderly (medical journal / PUBMED search August 2021), we investigated the relationship between driving and QOL in "memory clinic outpatients" first-visit patients.

Relationship between driving and Quality of Life in "memory clinic outpatients"

[Method] The subjects were 225 patients (average age 81.7 years) who visited the T Clinic "Memory Clinic Outpatient Department" from June 2017 to February 2020. It was used from the database that the driving status for the past year (54 in the driving group, 171 in the non-driving group) and the WHOQOL26 score. The analysis method used the t-test to compare the QOL scores between the two groups. Ethical considerations were approved by the Institutional Review Board of Tohoku University School of Medicine (2018-1-055). All patients diagnosed with dementia were informed by their doctors that they would return their licenses to themselves and their families.

[Results] As a result of the analysis, the score of the driving group was significantly higher in the "psychological region" ($p = 0.001$) than that of the non-driving group. The tendency was also shown in "Environment" ($p = 0.038$). In other areas, there was no significant difference between the driving group and the non-driving group.

[Discussion] Although the possibility of artifacts cannot be ruled out, it is interesting that significant differences remained in the psychological domain even after multivariate correction. Some of the driving groups complained that they did not want to bother their families and were driving as a role. It is possible that the pride of not causing any inconvenience and the sense of accomplishment of the role contributed to the psychological QOL. In the future, we think that psychosocial intervention and further infrastructure development will be necessary so that QOL can be maintained even if driving is stopped. Furthermore, like Mr. A, it is necessary to further consider the relationship with leisure activities.

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

Simulated driving experience using first-person videos for perception of unsafe driving in healthy older people

Dr. Motoki Shino, Hiroshi Yoshitake
The University of Tokyo
Japan

Traffic accidents involving older people are major problems in Japan, and investigation of means to prevent unsafe driving, which leads to these accidents, is essential. One of the factors leading to unsafe driving among older drivers is their inability to understand safe driving and their own driving. In order to help them perceive and understand such driving objectively, perception and recognition of the driving situation from a first-person perspective, just as they do in actual daily driving, is assumed to be important for them. Therefore, this study examined a method to simulate a safe driving experience using first-person videos to make older drivers perceive their unsafe driving and change it to safe driving. In this study, passing through an unsignalized intersection, a common accident scenario among older people, was set as the target scenario.

A driving simulator (DS) that uses real-world videos to present a first-person view of the driving situation close to reality was developed. Two items were devised as simulated driving experiences using this DS. The first one was to present the driving videos of the older person and a driving instructor, whose driving is normative, to make one perceive the difference between his/her driving and safe driving. Second, for the older person to experience safe driving on his/her own, the older driver practices the driving of the same scenario repeatedly while being presented with the information that helps him/her drive safer. Specifically, the degree of difference from the vehicle speed of the driving instructor was fed back to the older driver visually.

An experiment was conducted to evaluate the effect of the devised simulated driving experience. Ten healthy older people participated, and they all experienced the simulated safe driving. The driving behaviors of the participants when passing through an unsignalized intersection were measured with the DS and a real experimental vehicle before and after the simulated driving experience. The results showed that after the simulated driving experience, the average speed while passing through an intersection decreased significantly in both the DS and the real vehicle showing a tendency to change to safe driving after the simulated experience. Therefore, the simulated safe driving experience using the first-person videos is suggested to be effective for healthy older people to perceive unsafe driving and safe driving.

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

The decisive difference in driving behavior between dementia and normal person's in driving scenes with risk prediction

Dr. Shigeyuki Yamabe, Jiro Oonuma, Keiichi Kumai, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

With the increase in the elderly population, serious traffic accidents such as drive in the wrong direction are increasing. Although not medically diagnosed with dementia, we assume that there is a dementia preliminary group that is different from healthy individuals. However, it is very difficult to find a dementia preliminary group. The purpose of this paper is to obtain a means to find out the driving tendency of the dementia preliminary group from the difference between the driving of a person who is medically diagnosed with dementia and the driving of a healthy person.

Some of the dangers hidden in traffic were reproduced in virtual space, and a demented person and a healthy person drove the same course using a driving simulator. One of the reproductions of the dangerous scene is a scene of driving while avoiding the preceding bicycle on a one-lane road. In this experiment, it was assumed that the bicycle would be overtaken while maintaining a safe distance, so the distance between the vehicles was used as the output. In this scene, obstacles such as signboards are also placed on the road before catching up with the bicycle. If there is variability among healthy people, it will be difficult to check the difference when compared with people with dementia. Therefore, we designed the scene so that healthy people can drive in almost the same way, such as driving to avoid obstacles. Demented drivers are screened to determine whether they have Alzheimer's or mild demented or et al..

We had hypothesized that the difference between a healthy person and a person with dementia lies in the distance at the moment of overtaking the bicycle. However, the hypothesis was incorrect and there was no difference in the inter-vehicle distance. The notable difference was in driving before overtaking the bicycle. As we intended, healthy people overtook obstacles and bicycles with almost the same driving route, but people with mild dementia had a similar driving route to healthy people, but other people with dementia had a completely different driving route.

It is suggested that people with dementia cannot make a driving behavior plan (prediction) on how to avoid the object and are driving only by responding to the moment in front of them. So, since dementia can only be dealt with on the spot, it is understandable that the avoidance distance of the bicycle was the same as that of healthy people.

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

Possibility and consideration of dementia person's over-dependency and over-reliance on autonomous driving

Prof. Toshiya Arakawa
Nippon Institute of Technology
Japan

We verify about over-dependency and over-reliance of autonomous vehicle based on the range of biometric data. The participants in this study experienced three scenarios in a driving simulator: manual-driving, autonomous-driving, and system-failure scenarios, which forced the participants to resume manual control. As a result of the experiment, the systolic blood pressures of all the drivers increased with time. However, in the autonomous-driving scenario, the average relative systolic blood pressure is, on the whole, higher than that in the manual-driving scenario. It is suggested that the drivers had never previously used an autonomous-driving system and that he/she may be uncomfortable or uneasy to autonomously control the brake, accelerator, and steering wheel. Additionally, after a system failure during the manual-driving scenario, the behavior is observed to be similar to that in the initial manual-driving scenario, and the totally average relative systolic blood pressure is higher than that during the initial manual-driving scenario. This indicates that the drivers' mental workload is relatively low during the autonomous-driving scenario because they do not experience any stress from driving. However, the drivers' systolic blood pressure increased because of the transition from autonomous driving to manual control and because of the mental workload to control the vehicle on their own just after using an autonomous-driving system. From the viewpoint of the brain activity in the left frontal lobe, the data indicates that the drivers' cognition level during autonomous driving is lower than that during manual driving and that the declining tendency of the average relative hemoglobin concentration is remarkable during the manual-driving scenario after encountering a system failure. This is because the driver feels that he/she may commit mistakes during manual driving. Additionally, if he/she is driving an autonomous vehicle and if the autonomous-driving system failed, he/she does not need to pay attention to the surrounding subjects and control the vehicle. Our results indicate that drivers who depend on autonomous control systems experience stress upon switching to manual control after a system failure. Based on these results, this presentation will also address the possibility of over-reliance and over-dependence of people with dementia on automated driving.

SYMPOSIUM C-2
Older adults and modern technology : Driving and older adults

An example of the method to evaluate driving ability of an elderly driver

Prof. Kimihiko Nakano[1], Kaechang Park[2]

[1]Institute of Industrial Science, The University of Tokyo, [2]Cooperation Research Center, Local Cooperation Organization, Kochi University of Technology
Japan

Number of traffic accidents caused by elderly drivers is increasing in Japan. This is considered to be due to a decline in driving ability of old aged drivers, however it is often unknown what kind of decline in ability caused an accident. Therefore, it is important to evaluate the driving ability of elderly drivers.

The method to evaluate driving skills of the aged drivers who suffered Leukoaraiosisa, a sigh of aging brain, in terms of vulnerability to the subtask is introduced.

Participants took a driving test on the course of the actual Driver's License Examination Center and were evaluated for their driving ability according to the criteria of the actual test. During the driving, calculation subtask given by voice, which is a paced auditory serial addition test, was imposed on the participants, while rotating angle of the steering wheel was measured. The rating of the driving ability and smoothness of the steering maneuver when the subtask was applied was compared with the one without the subtask. The results showed that patients with Leukoaraiosis were more susceptible to the subtask than those of the same generation without white matter lesions as well as young people.

SPECIAL LECTURE
Matching of modern technology with older adults [Theme 5]

Digital neuropsychology, digital biomonitoring and digital human

Prof. SangYun Kim[1,2]
[1]Seoul National University Bundang Hospital, [2]Seoul National University College of Medicine
Korea

Digital technology is developing very quickly and this is recently accelerated by pandemic situation. Digital transformation and awareness of the importance of information and communication technologies are rapidly progressing. More than ever, older people must be able to use digital technologies effectively. Not only for their personal health and welfare, but also to keep in touch with others and keep up to date with the latest information and news.

This digital technology is also very important to cognitively impaired persons to help their life independent as long as possible and also this can be used for the detection, diagnosis, monitoring of cognitive function and cognitive training.

I will discuss several points with audience in this presentation, digital neuropsychology, digital biomonitoring and digital human.

I hope that my presentation will enable the audience to create new ideas for using digital technology to cure, care and aware patients with cognitive impairment.

SPECIAL LECTURE
Matching of modern technology with older adults [Theme 5]

Driving accidents among the elderly may be predicted by family members' suspicion of cognitive decline and the individual's near-misses

Ms. Rikako Suzuki, Kenichi Kumai, Megumi Kano, Miwako Shoji, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

Introduction

Cognitive function tests and evaluations using actual vehicles and simulators have been devised to detect the risk groups of driving accidents among the elderly (Mimura, 2018). This article discusses the possibility of detecting the risk of driving accidents based on the person's awareness.

Our study

1) Subjects: We conducted a survey in Region A. The subjects were outpatients who visited a memory clinic and general internal medicine of the clinic , who were residents in the area and who were continuing to drive at that time (n = 175, mean age 69 (SD 13.8)).

2) Method: We asked whether there had been any driving accidents or near-misses (NM) in the past year based on their personal information. NM included 38 items related to driving maneuvers, cognition, and judgment, and accidents including minor ones such as scrapes. Participants were classified into the group of memory clinic patients (MCG), and others as the healthy group (HG), and were divided into the accident group (AG) and no-accident group (NAG), respectively. The number of NM was defined as the number of responses to the NM items. MCG consisted of patients whose families were concerned about their forgetfulness or cognitive decline but who had not yet been diagnosed with dementia.

Results: The number of NM in MCG was significantly higher than that in AG, and the number of NM was higher in those who were aware of their physical and mental changes. In the analysis of those aged 60 years and older (n = 135, mean age 74.6 (SD 7.3)), only in MCG the presence and number of NM inferred accidents. The number of NM in MCG was significantly higher than that in AG. In MCG, there were five items with significantly more NM in AG compared to NAG; the five items required judgment of the environment and prediction of danger. There was only one item in the HG: steering wheel errors. There was a difference in NM items that were significantly different between MCG and HG.

Discussion: It is suggested that the number and content of NM based on family information about "suspicion of dementia" and interviews with the elderly person predicted the risk of driving accidents.

Application to safe driving support for the elderly

Awareness of cognitive impairment is reduced in people with dementia due to memory loss, but emotional recognition is maintained and awareness and fear of falling are increased (Kumai, 2021). It is suggested that not only objective indicators, but also "subjective indicators" of NM (emotional recognition) perceived by the elderly themselves who are suspected of having dementia in daily driving can be used to infer driving accidents.

NM has the potential to be used in the community as a simple screening tool for driving accidents among the elderly.

SELECTED POSTER 5
Matching of modern technology with older adults [Theme 5]

Feelings (confidence, like, role) toward the driving and QOL of memory clinic outpatients

Dr. Kuninori Suzuki[1], Keiichi Kumai[2], Yoshitaka Fujihara[3], Rikako Suzuki[2], Miwako Shoji[2], Tomonari Koto[2], Yasunori Yamamoto[3], Toshihiro Hara[1], Kazuo Sakamoto[1], Kenichi Meguro[2]

[1]Advanced Human Vehicle Research Field, Technical Research Center, Mazda Motor Corporation, Hiroshima, Japan, [2]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, Sendai, Japan, [3]Integrated Control System Development Division, Mazda Motor Corporation, Hiroshima, Japan
Japan

Background: For older adults living in an area with little public transportation, automobile driving (driving) is an indispensable part of their lives. Based on the cases where Quality-of-life (QOL) declined due to driving cessation, we hypothesized that feelings toward driving could be involved in QOL. As there are few previous studies focusing on the correlation between driving and QOL, we investigated the correlation between feelings toward driving and QOL.

Methods: This study targeted a total of 57 outpatients (42 males/19 females) whose QOL was evaluated with WHOQOL26, an international Quality of Life scale, among 70 outpatients (49 males/ 21 females) of T-town memory clinic who visited the clinic during the period from September 2017 through February 2020 and had driven cars. The control group is composed of a total of 45 (26 males/19 females) out of 105 facility staffs (60 males/45 females) and community-dwelling older adults, who provided consent and whose QOL was evaluated with WHOQOL26 around the same period. The driving questionnaire intends to survey the feelings toward driving and consists of three items: "I have confidence in driving" (confidence), "I like driving" (like), and "Driving is my role" (role). For each item, the respondents rated their feelings on a five-point scale ("strongly agree", "agree", "undecided", "disagree" and "strongly disagree"). The Ethics Committee of Tohoku University School of Medicine approved the study protocol (2018-1-055), and verbal and written informed consent was obtained from all participants to comply with the ethical considerations. After the patients were diagnosed with dementia, their attending doctors explained the inevitability of driving cessation to them and their families.

Results: For whole group and memory-clinic-outpatient-male group, the higher the scale of "like" was, the higher the scores of several QOL domains (score, physical, psychological, environmental) were. On the other hand, we found that the items "confidence" and "role" do not have a correlation with QOL. For memory-clinic-outpatient-female group, healthy male group, and healthy female group, it was found that there were no correlation between all questionnaire items and QOL.

Conclusion: The results of this analysis might include some artifacts. And careful discussions are also necessary for male-female differences. However, some mentioned that they will be very dissatisfied with the life without driving due to their strong passion and feelings for vehicles. Dementia patients have difficulty in adapting to new environments. Therefore, we believe that a comprehensive approach should be taken to maintain QOL.

SELECTED POSTER 5
Matching of modern technology with older adults [Theme 5]

Misuse of cooking appliances and learning effects in elderly people with mild cognitive impairment -For the continuation of life at home-

Ms. Mayumi Suzuki, Miwako Shoji, Yuriko Kato, Megumi Kano, Keiichi Kumai, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

Background: We previously reported on the decline in the ability of elderly people with mild cognitive impairment (CDR 0.5 on the Clinical Dementia Scale; CDR) to operate cooking appliances (Suzuki et al., Dementia Care Society of Japan, 2020). The purpose of this study was to examine in detail the cooking appliance operations of elderly people with CDR 0.5, and to analyze the causes of their difficulty in performing them.
Methods: For the present study (2020 survey), among the 41 patients at the time of the 2019 survey, 14 people with CDR 0.5 were selected for each of the three patterns of ability to operate appliances: (1) can operate, (2) improved with visual information restriction, and (3) cannot operate; two people in each pattern were selected, and one person in each was surveyed after giving consent. As in the previous survey, the participants were asked to operate a microwave oven to heat up their lunch, a rice cooker to cook white rice quickly, and an IH cooker to boil water. We operated the standard cooking appliance "new style," the "ingenious style" which hid all but the necessary buttons recommended by the Occupational Therapy Association, and the simple cooking appliance "old style."
Ethical considerations: Consent was obtained after giving verbal and written explanations to the subjects. Approval of the University Ethics Committee was obtained.
Results:
(1) A woman in her 80s was able to operate all old and new styles and maintained her abilities.
(2) A man in his 70s was able to operate all old styles. In the previous survey, he could not use the new microwave oven and the new rice cooker, but he could use the ingenious IH. In this survey, the new microwave oven, the ingenious rice cooker and the new IH were available. His manipulation ability improved, and he was able to learn with the ingenious style.
(3) A woman in her 80s was able to perform the neuropsychological test and improved, but refused to perform the cooking appliance operation test. In the previous survey, she did not refuse to take the test even when she could not operate the appliances.
Discussion: Even the elderly persons with CDR 0.5 were able to learn to operate cooking appliances with some effort. The reason why the woman in case (3) refused to operate them even though her psychological test was good was thought to be because she knew she could not operate them.

SELECTED POSTER 5
Matching of modern technology with older adults [Theme 5]

Default mode network activated as a basic function for executive network (visual processing and manipulation) during actual driving: Reanalysis of pooled FDG-PET database.

Prof. Kenichi Meguro[1,2,3], Myeonggi Jeon[1], Manabu Tashiro[1], Yasuo Takahash[4], Masatoshi Ito[1]

[1]Division of Nuclear Medicine, Cyclotron Radioisotope Center, Tohoku University, [2]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [3]Tohoku University Graduate School of Medicine, [4]Tohoku Gakuin University
Japan

We retrospectively analyzed the pooled database for the regional cerebral metabolic rate for glucose (rCMRglc) during actual driving a car, which were measured [18F] fluorodeoxyglucose (FDG)-positron emission tomography (PET) with the use of statistical parametric mapping 2 (SPM2, Friston et al. 2003).

The participants were 50 healthy adult men of age 20-56 years who were divided into groups (each n=10) #1) actually driving on a normal road, #2) sitting in a passenger seat with eyes open, #3) driving on an expressway, and #4) sitting blindfold in a passenger seat, and #5) a control group examined at rest in a laboratory. Actual driving field was a Tohoku university campus and highway one section.

FDG (40.7 MBq, 1.1 mCi) was iv. administered and PET was performed using a SET-2400W (Shimadzu Co.) at Tohoku University Cyclotron RI Center after driving, about 45 min after FDG administration. In PET, emission scanning was performed in a supine position for 5 min, followed by transmission scanning for about 8 min. The protocol was approved by the clinical study committee at Tohoku University, and a signed informed consent was obtained from all participants.

Activation was observed in the visual area, somatosensory area, motor area, cingulate, and cerebellum during driving, suggesting activation of sensory information processing and the motor system. rCMRglc for each condition compared to the control was already reported (Joen et al. 2006).

We herein hypothesized that there may be a common brain region for activating executive network and focused on the metabolic differences between #1 and #2 (manipulation), #1 and #3 (speed control), #2 and #4 (visual processing) eyes condition. We found that rCMRglc in the posterior cingulate and precuneus were remained to be significant through all analyses for the differences, which are major components for the default mode network.

We considered that the default mode network was activated as a basic function for the executive network (i.e., visual processing, speed control, and manipulation during actual driving). Previously, Horikawa et al. (2005) reported that the posterior cingulate blood flow was positively correlated with the number of crashes on a driving simulator task. This suggests that an overactivation of the executive network may be associated with traffic accidents.

SPECIAL LECTURE 5
Neuroscience of eating behavior

Treatment for diabetes and the patient's emotions and brain

Dr. Hirohisa Koide, Nobuko Kawabata, Kei Nakamura, Mari Kasai, Tomonari Koto, Mikiko Taku, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

1. Introduction: As the physician responsible for a diabetic patient association

Individual hospitals in Japan run diabetic patient associations that organize walking, eating, travel and other group activities attended by diabetic patients and staff members. As the physician responsible for this association in my hospital for approximately 25 years, I have observed diabetic patients in various life situations, and it is my impression that diabetic patients experience a "fight" condition, which includes physical and mental dissatisfaction, expressed in such ways as eating too quickly, talking too much, being short-tempered, restlessness when confronted with food signs, and an inability to just stare at scenery with inner peace.

2. The main present treatments for diabetes and related problems

1) Main treatments for diabetes

It has been demonstrated that the metabolic abnormality responsible for the physical entity of diabetes is the relation between α and β cells in the pancreas. The detailed mechanism has been elucidated to specific abnormalities in mitochondrial metabolism, and various medications acting on blood sugar control and the prevention of complications have been developed (American Diabetes Association, 2020). One of the effective drugs that appeared within the past 10 years is one that suppresses the secretion of glucagon (Unger, 2012). It is considered that before insulin secretion by β cells becomes deficient in patients with type 2 diabetes, glucagon is excessively produced by α cells (Jamison, 2011). When the brain's message to the sympathetic nervous system to "fight" takes priority, glucagon secretion is not suppressed (Lkhagvasuren, 2021). Normally glucagon secretion is suppressed when a person starts eating, but in diabetic patients this does not occur (Ichikawa, 2019). Such over-secretion of glucagon can be inhibited to some extent with drugs.

2) Problems with the present treatment for diabetes

Diabetic patients usually only receive drugs to treat their physical condition while their emotional and behavioral stress is not widely addressed. It is for example considered that in case of situations of social or domestic discord, such as war and hunger, being unable to experience peaceful meals may cause emotional and behavioral stress, and that treatment is necessary to alleviate the influence of such stress.

3. Conclusion

In recent years, mindfulness, a cognitive behavioral treatment, has reportedly successfully been used to improve depression, QOL, and HbA1c in diabetic patients (Ni, 2020). Mindfulness treatment could namely free patients from the "fight" condition, set their minds at peace, and change the messages from their brain to the body, and this treatment shows potential as an effective general treatment for diabetes.

SPECIAL LECTURE 5
Neuroscience of eating behavior

Mindfulness for people with diabetes (Research protocol)

Ms. Nobuko Kawabata, Hirohisa Koide, Kei Nakamura, Mari Kasai, Tomonari Koto, Ayumi Horikoshi, Mikiko Taku, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

[Background] Diabetes control is an essential part of reducing the risk of developing dementia (Profenno et al., 2010). However, people with diabetes have difficulty in self-managing their lifestyle. As a factor, the connectivity of the default mode network (DMN) has been reported (Liu, et al., 2019). Recently, Mindfulness has shown promise as a non-pharmacological intervention to regulate DMN connectivity (Shaurya Prakash, 2013). Mindfulness is a concept derived from Buddhist teachings and is defined as "intentional awareness of the present moment without judgment." Standard programs include Mindfulness Based Stress Reduction (MBSR), Mindfulness Based Cognitive Therapy (MBCT), and Acceptance and Commitment Therapy (ACT). Their primary interventions are composed of breathing meditation, sitting meditation, walking meditation, eating meditation, yoga, and exercise. However, their standard programs usually require 2-3 hours per session for eight weeks, as well as half-day to full-day retreats and daily homework assignments so, it is assumed that diabetic patients have difficulty engaging in these programs handy in an outpatient rehabilitation or outpatient clinic, it is necessary to develop a more convenient program. Therefore, we develop a simplified version of the mindfulness intervention, focusing on mindful eating, examining diabetic patients' eating behavior changes, and elucidating its neurological basis.

[Objective] This study aims to examine the changes in eating behavior of diabetic patients after a simplified mindfulness intervention and elucidate the neurological basis of the changes.

[Method] We divide 128 community-dwelling people aged 65 years or older into four groups: healthy people, people with diabetes, people with dementia, and people with both dementia and diabetes. The change in eating behavior before and after the program is evaluated as the primary endpoint. The blood glucose (HbA1C, etc.), neuropsychological tests (MAAS, MMSE, etc.), and autonomic nerve balance (sleep polygraphy, etc.) are evaluated as secondary endpoints. In addition, the FDG-PET examination is performed on 10 subjects selected from each group (40 subjects in total) to elucidate the neurological basis.

SPECIAL LECTURE
Vascular Cognitive Impairment [VasCog]

Cerebrovascular lesions in elderly AD patients

Prof. Ken Nagata, Daiki Takano, Bunta Kato, Takashi Yamazaki
Department of Neurology, Yokohama General Hospital, Yokohama, Japan

The interaction between Alzheimer's disease (AD) and cerebrovascular disease (CVD) has been drawing attention not only from the view point of understanding the pathophysiological mechanisms underlying cognitive decline in elderly, but also from the therapeutic and preventive view point of dementia. The prevalence of coexistent AD pathology and cerebrovascular lesions is known to increase with age, and both pathologies are the leading causes of dementia in late life. Epidemiological studies revealed that AD and CVD share common risk factors such as hypertension, hypercholesterolemia and obesity in midlife, diabetes mellitus, hyperhomocysteinemia, congestive heart failure, atrial fibrillation, smoking, and ApoE $\varepsilon 4$ isoforms. In our previous report based on 120 elderly AD patients (mean age; 75.6 years old) who never experienced stroke events, 81.6% of those AD patients had more than 2 vascular risk factors, and small-vessel lesions such as lacunar infarcts, old microbleeds and white matter hyperintensities were observed in more than 90% of those AD patients with AD: 50.8% showed old lacunar infarcts, 16.7% showed old microbleeds, and 38.8% showed marked white matter hyperintensity on MRI. Old lacunar infarcts were observed 66.2% of those who were older than 75 years, whereas those lesions were seen in only 32.7% of those who were younger than 75 years. It was suggested that cerebrovascular lesions were associated with increasing age, and the concomitant cerebrovascular lesions may modify the clinical manifestations in elderly AD patients. Furthermore, cerebrovascular lesions were also more frequently seen in those who had more vascular risk factors than in those had less vascular risk factors. This may indicate a close relationship between the vascular risk factors and cerebrovascular lesions in the elderly AD patients. Although the exact mechanisms concerning the role of small vessel lesions in clinical manifestation of dementia were not yet fully explained, the disconnection of the subcortical network can be a candidate for the possible cause of cognitive deterioration in elderly AD patients. Age-related changes in the cerebral small vessels may impair the drainage of soluble Aβ out of the brain, which in turn accelerates Aβ accumulation in vessel walls and brain parenchyma. Cerebrovascular lesions were associated with worse cognitive performance and lower threshold for dementia in elderly AD patients. Cerebrovascular lesions have been suggested to contribute to AD neuropathological changes including selective brain atrophy and accumulation of abnormal proteins such as Aβ.

SPECIAL LECTURE
Vascular Cognitive Impairment [VasCog]

The use of Abe's BPSD Score in patients with post-stroke cognitive impairment

Prof. Paulus Anam Ong[1], Febby Rosa Annisafitri[1,2], Sri Budhi Rinawaty[3], Fasihah Irfani[4], Sofie Kaniawati[5], Ketut Widyastuti[6], Sari Wahyuningrum[7], Sylvia Tanumihardja[8]

[1]Department of Neurology, Hasan Sadikin Hospital Universitas Padjadjaran Bandung, [2]Bandung Adventist Hospital, [3]Syaiful Anwar Hospital, Brawijaya University, Malang, [4]H. Adam Malik Hospital, North Sumatra University, Medan, [5]RSUD Bandung Hospital, [6]Sanglah Hospital, Udayana University, Bali, [7]RSUD Sukardjo, Tasik Malaya, [8]RS Immanuel, Maranatha Christian University Bandung
Indonesia

Stroke is a major cause of long-term disability in adults worldwide. Post-stroke neuropsychiatric symptoms are common and are associated with worsened functional outcomes, lower quality of life, and increased burden of caregiving. Abe's BPSD Score (ABS), a recently validated brief neuropsychiatric screening tool, consumes only half of the time of Neuropsychiatric Inventory scoring.

This study aimed to investigate the performance of ABS in post-stroke cognitive impairment patients.

We recruited 650 post-stroke patients from 8 hospitals, which consisted of post-stroke no cognitive impairment (PSNCI) in 9,8%, post-stroke cognitive impairment no dementia (PSNCI) in 60.6%, and post-stroke dementia (PSD) in 29.5%.

The prevalence of having one or more symptoms of ABS in total stroke patients, PSNCI, PSCIND, and PSD was 55.4, 16.4%, 46%, 88%, respectively. PSD patients had the highest prevalence of all subtests of ABS, with the four most common were apathy & indifference in 44%, day-night reversal 38.3%, excitation & agitation 37.7%, and eating or toilet problem in 36%. ABS correlates with cognitive screening tests of MoCA-Ina, AD8, and IQCODE. ABS also showed a good correlation with the NPI score (r=0.83, p<001). ABS correlated with verbal fluency, word-list task, constructional praxis, logical memory, digit symbol and Trail Making Test-B. The time needed to complete ABS testing ranged from 5to 8 minutes.

In conclusion, the prevalence of post-stroke neuropsychiatric symptoms is common. ABS is a brief screening test that can detect neuropsychiatric symptoms across all post-stroke cognitive impairment's clinical severity. ABS showed a good correlation with the NPI test. It has significant concurrent validity across cognitive screening tests and individual neuropsychological tests.

SELECTED POSTER VASCOG
Vascular Cognitive Impairment [VasCog]

White matter hyperintensities (WMH) on cholinergic pathways may relate with poorer responsiveness of donepezil in Alzheimer's disease

Dr. Li-Hua Lee[1], Shu-Ching Wu[1], Yi-Chien Liu[1,2,3]

[1]Department of Neurology, Cardinal Tien Hospital, Taipei, Taiwan, [2]Medical school of Fu-Jen University, Taipei, Taiwan, [3]Geriatric Behavioral Neurology Project, Tohoku University New Industry Hatchery Center (NICHe), Sendai, Japan

Background

Currently, acetylcholinesterase inhibitor (AChEI) remained mainstream pharmacological treatment of AD. However, the responsiveness of AChEI is still very difficult to predict. Since medial temporal lobe atrophy and WMH are two major neuroimage findings in AD. We would like to compare the difference of these neuroimaging findings between AChEI responders and non-responders.

Method

From 2020 to 2021, we retrospectively studied 97 participants with clinical diagnosis of probable Alzheimer's disease. Their clinical severity is from mild to moderate (CDR less than 2). They were recruited if they were taking AChEI regularly for at least 12 months in our memory clinic. We excluded participants with clinical diagnosis of mixed type dementia, vascular dementia, parkinsonism and other neurodegenerative disease. In this study, every participant received complete neuropsychological tests and 3T brain MRI examination. The responsiveness of donepezil is determined by less than 2 points of regression in MMSE score (compared with MMSE on baseline). Visual rating scale of CHIPS (Cholinergic Pathways Hyper Intensity Scale) and MTA (medial temporal atrophy) scales were used to evaluate their brain MRI images.

Results

In our study, 51 patients (52 %) were classified as responders. Both age, gender, and educational level were not significantly different between responder and non-responder groups. Baseline MMSE and CDR-SB scores were (19.2 ±5.0 V.S. 18.9 ± 5.4, P= 0.78) and (4.8 ± 3.5 V.S. 4.1 ± 2.5, p= 0.24) in non-responder and responder groups respectively. There were significant higher CHIPS scores in non-responder groups (21.7 ± 13.2 V.S. 15.9 ± 9.9, p= 0.02). On the other hand, mean MTA (medial temporal atrophy) scores were not significantly different in either both right and left side and not associated with AChEI responsiveness.

Conclusion

Our findings indicate that WMH on cholinergic pathway may correlate with poorer donepezil responsiveness in Alzheimer disease. WMH in AD may relate to extensive amyloid angiopathy or small vessel disease due to metabolic diseases. In either condition, they may reduce the pharmacological response in AD.

SELECTED POSTER VASCOG
Vascular Cognitive Impairment [VasCog]

Higher level of acute serum VEGF and larger infarct volume are more frequently associated with post-stroke cognitive impairment

Dr. Amelia N Vidyanti[1], Astuti Prodjohardjono[1], Noor A Susianti[1], Sudarmanta[2], Sri Sutarni[1], Ismail Setyopranoto[1]

[1]Department of Neurology, Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia, [2]Department of Radiology, Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia

Background: Serum vascular endothelial growth factor (VEGF) and infarct volume detected by brain imaging have been associated with stroke outcome. However, the relationship of these two variables with post-stroke cognitive impairment (PSCI) remains unclear. We aimed to investigate the association between acute serum VEGF levels and infarct volume with PSCI in ischemic stroke patients.

Methods: Fifty-six first-ever ischemic stroke patients who were hospitalized in Dr. Sardjito General Hospital Yogyakarta, Indonesia were prospectively recruited. Serum VEGF level was taken on day 5 of stroke onset and measured by ELISA. Infarct volume was calculated manually from head CT scan by expert radiologist. PSCI was assessed after 3 months follow up by using Montreal Cognitive Assessment-Indonesian version (MoCA-INA). We performed a ROC curve analysis to determine the cut-off point of VEGF level and infarct volume. Multivariate logistic regression analysis was performed to measure the contribution of VEGF level and infarct volume to PSCI after controlling covariates (demographic and clinical data).

Results: The mean age of PSCI and non-PSCI patients was 61.63% ± 8.47 years and 58.67% ± 9.01 years, respectively (p = 0.221). No differences observed for vascular risk factors, infarct location, and NIHSS in both groups. Multivariate logistic regression showed that patients with increased serum VEGF (≥519.8 pg/ml) were 4.99 times more likely to have PSCI than those with lower VEGF level (OR = 4.99, 95% CI = 1.01 - 24.7, p = 0.048). In addition, patients with increased infarct volume (≥0.054 ml) were also more frequently associated with PSCI (OR = 7.71, 95% CI = 1.39 – 42.91, p = 0.019).

Conclusions: Acute ischemic stroke patients with increased serum VEGF (>519.8 pg/ml) and infarct volume (>0.054 ml) were more likely to have PSCI 3 months after stroke. These findings may contribute to predict PSCI earlier and thus better prevention strategy could be made.

SELECTED POSTER VASCOG
Vascular Cognitive Impairment [VasCog]

White matter hyperintensities in cholinergic pathways are associated with family-related fear of falling in elderly people with mild cognitive impairment – A retrospective study of the Kurihara Project –

Mr. Tomohiro Sugawara[1], Keiichi Kumai[1], Mari Kasai[1], Tomonari Kotoh[1], Yohei Kudoh[1,2], Kei Nakamura[1], Kenichi Meguro[1]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Sanyudo Hospital
Japan

Background: Fear of falling is reported to be a predictor of falls in the elderly. Previous studies have shown that there is no difference between an individual's awareness and the family's observation of fear of falling in cases with dementia, so an objective assessment is also important. Among the white matter hyperintensities (WMH), changes in cholinergic pathways are reported to impair attention, but the relationship with fear of falling has not been reported. In this study, we hypothesized that WMH in cholinergic pathways would trigger situations in which the participant is at risk of falling and would increase the family-rated fear of falling.

Method: A total of 590 community residents aged 75 years or older living in Kurihara, Northern Japan agreed to participate in this study. Of these participants, 555 were assessed using the Clinical Dementia Rating (CDR), magnetic resonance imaging (MRI), and family-rated fear of falling. WMH in cholinergic pathways was assessed visually by physicians using the Cholinergic Pathways Hyperintensities Scale (CHIPS) on MRI images, and family-rated fear of falling was assessed using the Short Fall Efficacy Scale - International (Short FES-I). The analysis was done on the correlation between CHIPS score and Short FES-I score by CDR (0, 0.5, 1+). This study was approved by the Ethics Committee of Tohoku University School of Medicine.

Results: There was a significant correlation of increasing Short FES-I with increasing CHIPS in the CDR 0.5 (mild cognitive impairment, MCI) group ($r_s = 0.14$, $p = 0.02$), and no significant correlation in the CDR 0 and 1+ groups.

Discussion: In the MCI group, in addition to the gradual decline in general cognitive and physical abilities, the impairment of cholinergic pathways caused a decrease in attention and consideration of the environment, resulting in an increase of situations in which families were concerned about falls. We have previously found MCI cases of falls in their home with a bad on-floor environment. Since the quality of Instrumental Activities of Daily Living is reported to decline in MCI, it is possible that the study included participants who had decreased attention and desire for a safe environment. The healthy group had less family-rated fear of falling because their cognitive and physical reserves could compensate for the impairment of cholinergic pathways, while the dementia group was more affected by other network and cognitive and physical decline, which may have caused the family-rated fear of falling.

SPONSORED SYMPOSIUM (Eisai Co., Ltd. Integrated Dementia Strategy Department)
Comprehensive approach by pharmacological treatment and psychosocial intervention for dementia

The healthy life expectancy and QOL of dementia patients

Dr. Satoshi Yamaguchi, Mari Kasai, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

1. Introduction

At present there are no therapies that can cure dementia. Treatment of dementia is focused on oral drugs to treat the causal disease and symptoms, to slow down progression of the disease, to suppress behavioral and psychological symptoms of dementia (BPSD), and to prevent the recurrence of cerebrovascular accidents. We have formerly performed a long-term follow-up study of patients visiting our specialist dementia outpatient clinic to investigate the effect of a comprehensive therapeutic approach, including drug treatment and psychosocial intervention, on the life expectancy of patients.

2. Earlier research (from our group's reports)

1) Alzheimer's disease (AD)

Drug treatment (drug: donepezil) and psychosocial intervention (admission to a special nursing home) showed a life expectancy-extending effect in 100 AD patients.

2) Alzheimer's disease with cerebrovascular disorder (AD+CVD)

Drug treatment (drug: donepezil) and psychosocial intervention (admission to a special nursing home) did not show a life expectancy-extending effect in 35 AD+CVD patients.

3) Dementia with Lewy bodies (DLB)

Psychosocial intervention (admission to a special nursing home) was ineffective but drug treatment (drug: donepezil) showed a marked effect in 51 DLB patients.

In case of the above-mentioned diseases, the use of donepezil is basically effective, showing a greater effect in DLB than AD, and the most important point is to continue taking donepezil.

3. Towards future studies: Vascular dementia (VaD)

In case of VaD, it is important to primarily perform internal medicine management of complications and stabilize patients' systemic condition. A female VaD patient, who had been admitted to a special nursing home, developed severe right-sided hemiplegia and total aphasia as a result of a large brain infarct in the left middle cerebral artery territory, but as a result of appropriate internal medicine treatment and continued long-term music therapy, her life followed a course of 20 years after the initial brain infarction before she passed away at 90s. It is considered that psychosocial intervention also contributed to improve the patient's QOL and extend her life.

4. Conclusion

The treatment of dementia is not straightforward. Not only the use of drugs, but their combination with various other factors like the patient's daily life rhythm and psychosocial intervention can provide a more meaningful effect.

SPONSORED SYMPOSIUM (Eisai Co., Ltd. Integrated Dementia Strategy Department)
Comprehensive approach by pharmacological treatment and psychosocial intervention for dementia

Comprehensive psychosocial intervention for vascular dementia; quality of life and lifetime expectancy

Prof. Mari Kasai, Satoshi Yamaguchi, Yuriko Kato, Megumi Kano, Keiichi Kumai, Miwako Shoji, Kenichi Meguro

Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

[Background]

We previously reported that comprehensive approach by pharmacological treatment (taking donepezil) and psychosocial intervention (nursing home residency) positively impacted life expectancy after Alzheimer's disease onset (Meguro, et al., 2014). As a specific psychosocial approach, we found that the improvements of social interaction and anterior cingulate metabolism after group reminiscence approach with reality orientation (GRA-RO) for vascular dementia (VaD) (Akanuma, et al., 2011). The purpose of this study is to examine the effect of the specific rehabilitation approach (including GRA-RO, etc.) and nursing home residency for vascular dementia retrospectively.

[Methods]

1. Subjects. 144 patients with VaD. All patients were outpatients at the memory clinic at the Osaki-Tajiri SKIP Center, or residents at nursing home received medical services at the memory clinic. All patients received adequate pharmacological treatment of controlling of vascular risk factors.

2. Comprehensive psychosocial intervention

1) Specific rehabilitation approach including GRA-RO, physical therapy, occupational therapy, speech therapy, or music therapy.

2) Nursing home residency of Japanese long-term care insurance facility

[Results]

There was a significant effect of the specific rehabilitation approach and a significant effect of nursing home residency, without interaction on lifetime expectancy (number of months) in between the day of initial visit and the date of death (two-way analysis of variance, $p<0.05$). The group of specific rehabilitation approach with nursing home residency significantly increased lifetime expectancy rather than the group of no specific rehabilitation approach and nursing home residency in between the day of initial visit and the date of death (Kruskal Wallis test ($p<0.05$) with post hoc tests ($p<0.05/6$)).

[Conclusion]

It was suggested that their "motivation in life", a core of quality of life, enriched by the specific rehabilitation approach including GRA-RO might be necessary for improvement of lifetime expectancy in patients with VaD.

SPONSORED SYMPOSIUM (Eisai Co., Ltd. Integrated Dementia Strategy Department)
Comprehensive approach by pharmacological treatment and psychosocial intervention for dementia

Reminiscence and life review ~The foundation of psycho-social approach~

Prof. Toyoko Nomura
Nihon Fukushi University
Japan

The history of reminiscence and life review approach originated from Robert Butler's work (1963). In Japan, applications of reminiscence and life review include care for persons with dementia, programs for preventing needs of nursing care, community programs for healthy elderly persons, and cross-generational approaches. Today, many of the applications to persons with dementia employ group approach with a limited number of individual approach. In the area of practice, the 6W1H (what, when, who, whom, where, why, how) of reminiscence and life review needs to be reframed with clarification and updated conceptualization. As for research, there is a growing need for rigorous examination of the effectiveness, using both qualitative and quantitative data.

The first study presented here is structured life review with persons with dementia in community. Structured life review developed by B.Haight (1985) suggests life review as a process enhancing a sense of identity and self-worth. In our collaborative study with Haight, we visited a couple, the husband diagnosed with early-stage Alzheimer's and his wife. The session was held once every week, with a total of five sessions and each session was an hour-long. The themes of each session were chronological from early years of his life to the present.

The second study involves group reminiscence for elderly persons living in community using cross-generational approach. F.Gibson (1998) was one of the first to use Reminiscence group work for persons with dementia. Gibson views reminiscence as making connections between a person's past and future while encouraging sociability. Our study was within the framework of Reminiscence Partnership Program encompassing intervention of reminiscence group, training of university students and professionals of health and social division, and evaluation. A total of sixteen elderly persons, in two groups of eight, attended an hour-long group session once every two weeks over three months. The themes of the group were chronological and non-chronological, with the use of props of the local community. Evaluation of the program included pre- and post-test of MMSE, the activity scale of TMIG and Baum Test as well as focus group interview.

The studies suggest that greater emphasis be placed on the quality of training opportunities for advancement in professional educational training. Active participation of volunteers and young people in local community is also highlighted. Further discussions and thoughtful examinations into ethical issues of practice and research are called for.

SPECIAL LECTURE
Non-pharmacological intervention [Theme 3]

A small island prone to diabetes on the Mekong River

Dr. Hirohisa Koide[1,2]

[1]General Hospital Isshin Hospital, [2]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

1. Introduction

From 2010 to 2019, I participated in providing medical services in rural areas of Cambodia (Kaoh Chreng Island, Kratie Province, Mekong River). Every year, 300 to 500 local residents were physically measured in terms of blood pressure, blood glucose, and urine. For some of them, we performed thyroid echo examinations, urinary iodine measurement, and estimation of protein intake by urine testing. We also visited the homes of diabetic patients and tried to grasp the local food environment. I would like to report on the serious situation.

2. Experience in Cambodia

1) Shortage of iodine

Iodine supply was still a serious problem for all residents. About 5% of the participants had goiter, which was not seen in urban areas. According to urine tests, 17 of 29 patients lacked , 9 of whom did not have goiter; this fact suggested that iodine deficiency was widespread. No women could take enough iodine for pregnancy and childbirth.

2) Protein insufficiency

One third of local residents had a lower leg circumference of less than 30 cm, suggesting they were not taking enough protein. Seven participants on the island took only 16–35 g protein, which was insufficient. The other five residents in Phnom Penh took 52–95 g, which was sufficient.

3) Energy drinks and blood sugar level

Every year there were about five diabetic patients, whose blood sugar levels were around 500 or more. In some of these patients it was thought that their insulin secretion had not decreased extremely, and the cause of their hyperglycemia was unknown. When I visited a middle-aged diabetic woman's home, I learned that she drank imported energy drinks every day. The retail store beside her home sold more than five kinds of foreign energy drinks.

3. Conclusion

Local residents are self-sufficient, and buy food only in small stores. Iodized salts are poor quality and no other source is sold. Protein sources are also poor. The government's involvement was insufficient and UNCEF cut off aid. Due to the lack of minerals and proteins, people never feel satiated. Companies supply things that provide momentary satisfaction, such as cold, sweet, aromatic energy drinks at reasonable prices. The island is a producer of diabetes.

EDUCATIONAL LECTURE
The importance of an integrated perspective

Rhinal cortices connecting the Papez and Yakovlev circuits: An integrated viewpoint through MRI epidemiology to animal experiment for better understanding clinical features of Alzheimer disease and vascular dementia.

Prof. Kenichi Meguro[1,2,3]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Cyclotron Radioisotope Center, Tohoku University, [3]Tohoku University Graduate School of Medicine
Japan

I herein present a statement, not focusing on the specific area but present an integrated viewpoint through MRI epidemiology to animal experiment. The aim is to provide a perspective for better understanding clinical features of Alzheimer disease (AD) and vascular dementia (VaD). It is well known that AD and VaD are two major dementing diseases **[1,2]**, and the clinical features are different; grossly, AD shows disintegrated emotion and cognitive function, and VaD shows apathy.
First, I will present two typical VaD cases.

Case reports of VaD with thalamic infarctions
Case #1, a 71-year-old right-handed woman **[3]**.
She was originally scrupulous in her performance of domestic chores. She suddenly developed difficulty finding words and used many pronouns in her communication. She exhibited apathy and did her house work in a careless manner. Although her MMSE score was 23, she could not recall episodic memory of her daily life. Neurologically, she exhibited very slight right hemiparesis. MRI showed infarction in the left thalamic anteroventral nucleus (AN), and SPECT revealed decreased bilateral frontal and anterior cingulate blood flow. The precuneus and parietotemporal areas, characteristic of AD, were intact. Thus the diagnosis is VaD, and her amnesia was explained by the disturbed Papez circuit involving AN.

Case #2, an 82-year-old right-handed man **[3]**.
He had been active and enjoyed his hobbies every day. He suddenly developed difficulty finding words, gradually exhibited amnesia and apathy. His MMSE score was 22. He could poorly remember episodic memory of his daily life. Neurologically, he exhibited slight right hemiparesis. MRI showed infarction in the left thalamic dorsomedial nucleus (MD), and SPECT revealed decreased bilateral frontal and anterior cingulate blood flow. The precuneus and parietotemporal areas were intact. Thus the diagnosis is VaD; however, one of the fronto-subcortical circuits involving MD cannot explain amnesia, since clinically we know that the limited frontal lesions cannot manifest amnesia. The MD is involved in the Yakovlev circuit responsible for emotion. Then how we can consider his amnesia? To get straight to the point, preserved rhinal cortices can connect the Papez and Yakovlev circuits, and explain amnesia as a remote effect.
Then I will present MRI epidemiology on the entorhinal cortex.

MRI epidemiology disclosed an importance of entorhinal cortex
To investigate MRI findings of questionable dementia, 485 participants were selected in a community including 113 Clinical Dementia Rating (CDR) 0.5 people in my early study **[4]**.We found that each part of the brain showed atrophy compared with healthy adults. An amygdala atrophy was the only finding indicating CDR effect but no age effect. The amygdala or anterior entorhinal atrophy was found to be important for discriminating very mild AD from healthy elderly. Using more sophisticated methodology **[5]**, we computed cerebral cortical thickness, correlating with memory performance in questionable dementia people. We found that poor episodic memory was associated with thinner cortices in the left entorhinal region.
Then the entorhinal cortex can affect remote cortical areas through neuronal network?

Functional neuroimaging and an animal experiment
Hippocampal area (including entorhinal cortex) atrophy and hypometabolism in the posterior association neocortex are two well-known neuroimaging features of AD. The latter was already revealed in the CDR 0.5 stage further decline to AD **[6]**.

Analyzing the data of MRI based atrophy and PET based glucose metabolism, we found a positive neurobiologically expected correlation between hippocampal width and angular gyrus metabolism. Hippocampal-neocortical disconnection due to medial temporal pathology may at least partly explain the posterior association cortex hypometabolism found in AD **[7,8]**.
To exclude an indirect dementia severity effect and directly prove the effect of neuronal network, we performed an animal experiment of Baboons **[9,10]**. Namely, the remote metabolic effects of bilateral neurotoxic lesions of rhinal cortices was assessed. Using PET, glucose metabolism was measured before surgery and a couple months afterward. Compared with sham-operated baboons, the lesioned animals showed a long-lasting metabolic decline in the parietal and temporal cortices, and posterior hippocampal region, all specific to AD. This shows the temporoparietal and hippocampal hypometabolism found in AD may partly result from neuroanatomical disconnection with the rhinal cortex. Neuronal damage and dysfunction in the rhinal cortices is suggested to play a major role in the expression of AD.

Functional neuronal networks for better understanding of AD and VaD
Clinically AD patients frequently shows behavioral and psychological symptoms of dementia (BPSD), despite relatively preserved cognitive function in the mild stage. This imbalance between emotion and cognition may be based on the disconnection between the Yakovlev and Papez circuits, which are responsible for emotional and cognitive functions, respectively.
On the contrary, VaD patients show mainly apathy and less frequently such unbalanced, disintegrated emotional changes disproportionally to cognitive level unlikely to AD patients. This is probably due to spared rhinal cortices.

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SYMPOSIUM D
Multilingualism and dementia

The impact of language on dementia manifestation

Dr. Yi-Chien Liu[1,2], Kenichi Meguro[3]

[1]Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan, [2]Medical school of Fu-Jen University, New Taipei, Taiwan, [3]Geriatric Behavioral Neurology Project, Tohoku University New Industry Hatchery Center (NICHe), Sendai, Japan

Most people in the world speak two or more languages. Speaking one more language sound like reasonable for dementia protection. However, current studies about this topic are still controversial. In the first part of this study, we performed a community-based, cross-sectional study in Taiwan. Participants who can speak Japanese were compared with those who cannot. We found dementia prevalence showed no difference in two groups. Participants who can speak Japanese had higher MMSE scores. And this effect was more significant in low educational group. In the second part, we further studied if these extraordinary early life language experience might relate to more neuropsychiatric symptoms in dementia patients. We found participants with Japanese education may relate to more delusion, depression and anxiety after dementia. Overall, we concluded being bilingualism could provide minor protective effects before dementia. However, it also related to more confusion after dementia.

SYMPOSIUM D
Multilingualism and dementia

Multilingualism and dementia: From studies in Brazil and Taiwan

Ms. Rikako Suzuki, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

1. Introduction

Several previous studies have reported that multilingual use can prevent dementia. Multilingual use may increase cognitive reserve (Stern, 2009) by controlling multiple language use at all times. People with higher cognitive reserve have been shown to have better brain functioning after brain injury. Both studies on the protective effect of multilingual use on cognitive decline and studies on the effect of delaying the onset of dementia have shown 50-50 positive and negative results (Van den Noort, 2019).

2. Our study

We had conducted studies on multilingualism and dementia in Brazil in the 1990s and in Taiwan in the 2000s. The Japanese Immigrant Study in Brazil showed that dementia prevalence was independent of language, environment, and cultural factors, but that language decline associated with dementia was related to frequency of language use and environment, and that both languages deteriorate but asymmetrically. The Taiwanese study examined the effects of multilingual use on cognitive reserve and delay in the onset of dementia, and the relationship between language decline and psychiatric symptoms. The study showed that language decline in multilingual users was related to psychiatric symptoms of dementia, delusions and depression, and that providing a safe language environment reduced psychiatric symptoms (Liu, 2015).

We additionally analyzed language function and the Clinical Dementia Rating Scale (CDR) and the Geriatric Depression Rating Scale (GDS) using data from the Brazil study. The GDS scores increased with CDR severity, but when the healthy group (CDR 0) was divided into a good language group and a poor language group, compared to the good language group, the poor language group showed higher GDS scores and a depressive tendency.

3. Conclusion

While a number of studies have reported the benefits of multilingualism, they have also shown that unbalanced language decline associated with dementia in multilingual people may lead to psychiatric symptoms, especially delusions and depression. It is a new perspective to consider the mental symptoms of dementia from the perspective of language functions.

When considering dementia care, understanding the life, experiences, familiar language, customs, and culture of the person with dementia, and specific psychosocial care tailored to the language cognitive functions and symptoms, may reduce the mental symptoms of dementia.

SYMPOSIUM D
Multilingualism and dementia

Does bilingualism/multilingualism protect against dementia?

Prof. Jong-Ling Fuh[1,2]

[1]Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan, [2]Faculty of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan

It is controversial if bilingualism/multilingualism may contribute to neuroplasticity and cognitive reserve, allowing individuals to resist cognitive decline associated with Alzheimer's disease (AD) progression. One recent meta-analysis showed a moderate effect size for the protective effect of bilingualism on age of onset of symptoms of AD (Cohen's d = 0.32), and weaker evidence that bilingualism prevents the occurrence of disease incidence itself (Cohen's d = 0.10). Nevertheless, some studies showed bilingualism might be a burden. Our prior study revealed that the Taiwanese patients with AD who had received Japanese education in childhood might have more neuropsychiatric symptoms (NPS) than do those who did not receive Japanese education. It might be attributed to the effects of "language mixing" which also revealed by other studies. The issue of bilingualism/multilingualism and dementia is complicated and the outcome measure should include both cognitive and NPS.

SPECIAL LECTURE
Neuro-ethics and dementia care [Theme 4]

Delirium and care for older people in Asia

Prof. Guk-Hee Suh
Department of Psychiatry, Hallym University College of Medicine
Korea

Both delirium and dementia are characterized by cognitive decline through disintegration of brain functions, i.e. a "brain failure". Delirium has been described as an acute brain failure, in contrast to dementia being a chronic brain failure. Delirium superimposed on dementia resembles acute renal exacerbation superimposed on chronic renal failure. The timely recognition and treatment of acute renal failure can reverse its damaging effects, whereas chronic renal failure necessitates long-term and invasive or costly interventions (i.e. dialysis, kidney transplantation). Similarly, recognizing delirium and providing timely interventions can improve its symptoms to recover brain functions, delay cognitive decline, and alleviate distress and disability. Four patterns of delirium trajectory have been observed; *Improvement, Worsening, Fluctuating*, and *Steady*. Institutionalization to an LTC setting itself makes older people, especially those with dementia, vulnerable to delirium; in turn, delirium accelerates cognitive decline in existing dementia. Once institutionalized, life for older people can become isolated, limited and regulated by rules. New residents may struggle to adapt to the new environment when trying to use their vulnerable brain to cope. They become easily confused in this unfamiliar place. Once they fail to adapt and the integrity in their brain functions is severely compromised, symptoms of delirium or behavioral and psychological symptoms of dementia (BPSD) may become more prominent. These symptoms prompt medication use, often prolonged, to control them. Notwithstanding poorer baseline cognitive and physical function, a critical predictor of the differences in patterns of delirium trajectory between AC and LTC patients appears to be the care environment itself.

SPECIAL LECTURE
Neuro-ethics and dementia care [Theme 4]

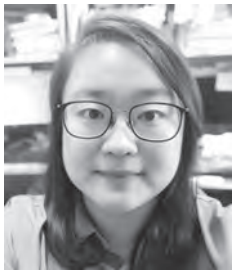
Caregiver characteristics and behavior and psychological symptoms of dementia

Prof. Yuan-Han Yang
Neuroscience Research Center, Kaohsiung Medical University
Taiwan

Behavior and psychological syndrome of dementia (BPSD) is frequently met during the clinical course of Alzheimer's disease (AD) with many causes and complicated pathogenesis. BPSD is not only a critical syndrome of dementia, but an issue bothering caregivers most and will lead to be institutionalized for a demented patient. Preliminary studies have reported the caregiver burden was correlated to caregiver demographic characteristics and BPSD and the response of BPSD of caregivers were varied with their cultural background and demographic characteristics.

We have completed the community-based survey of BPSD in patients stayed at institution over Taiwan and have the updated prevalence and causes of BPSD for these residentials. We also have conducted a study to examine the association of angiotensin converting enzyme (ACE) gene and BPSD and have found the ACE insertion/ insertion (II) and insertion/ deletion (ID) genotype were significantly related to having BPSD independently to apolipoprotein E genotypes. Meanwhile in the clinical survey for the caregiver characteristic and BPSD of AD, we have found that in Taiwan, caregiver education was positively correlated to severity of hallucinations, agitation/ aggression, and apathy/indifference, distress of agitation/aggression, child primary caregiver was positively related to severity and distress of disinhibition but negatively related to severity of anxiety, and spouse primary caregiver was positively related to severity and distress of anxiety and appetite/eating and distress of nighttime behaviors. For the comprehensive understanding of BPSD from basic study to clinical status, I am going to report and share the updated information in this talk.

SPECIAL LECTURE
Neuro-ethics and dementia care [Theme 4]



Dementia knowledge and associated factors among older Chinese adults: A cross-national comparison between Melbourne and Beijing

Dr. Mei Zhao[1], Xiaozhen Lv[2,3], Xiaoping Lin[4], Emily You[1], Haifeng Zhang[2,3], Kathryn A. Ellis[1,5,6], Xin Yu[2,3], Huali Wang[2,3], Nicola T. Lautenschlager[1,7]

[1]Academic Unit for Psychiatry of Old Age, Department of Psychiatry, The University of Melbourne, Melbourne, VIC, Australia, [2]Dementia Care & Research Center, Peking University Institute of Mental Health (Sixth Hospital), Beijing Dementia Key Lab, Beijing, China, [3]Beijing Dementia Key Lab, National Clinical Research Center for Mental Disorders, NHC Key Laboratory of Mental Health, Beijing, China., [4]Monash University, Melbourne, Melbourne, VIC, Australia, [5]Melbourne School of Psychological Sciences, The University of Melbourne, Melbourne, VIC, Australia, [6]The Florey Institute of Neuroscience and Mental Health, The University of Melbourne, VIC, Australia, [7]NorthWestern Health, Royal Melbourne Hospital, Melbourne, VIC, Australia
Australia

Objectives: This study compared dementia knowledge between older Chinese adults in Melbourne, Australia, and Beijing, China, and explored factors associated with dementia knowledge between these two groups. Ultimately, this study aimed to inform the development of tailored dementia education programs for older Chinese adults.
Design: A cross-sectional design was employed in this study.
Setting: Participants were recruited from five Chinese community senior groups in Melbourne and ten community health centers in Beijing from March to May 2019.
Participants: A total of 379 older Chinese adults aged 50 years and over completed the questionnaire, including 153 from Melbourne and 226 from Beijing.
Measurements: Dementia knowledge was assessed using the Alzheimer's Disease Knowledge Scale (ADKS). Demographic characteristics, dementia-related experience, and the mental health status of participants were collected. Stepwise linear regression was used to analyze the factors associated with dementia knowledge.
Results: In general, older Chinese adults in Melbourne and Beijing reported similar levels of dementia knowledge for both the overall ADKS scale (mean ± SD: 17.2 ± 2.9 in Melbourne versus 17.5 ± 2.9 in Beijing, $p > 0.05$) and the seven subdomains. Of the subdomains, the highest correct response rates were observed in the life impact of the dementia subdomain, and the lowest rates were observed in the caregiving subdomain. Stepwise linear regression analysis revealed that younger age and self-reported dementia worry were significantly associated with higher levels of dementia knowledge in the Melbourne group, whereas a positive family history of dementia was significantly associated with higher levels of dementia knowledge in the Beijing group.
Conclusions: Older Chinese adults living in Melbourne and Beijing share similar levels of dementia knowledge, but factors associated with their knowledge are different. These findings will inform the development of culturally and socially appropriate dementia education programs for older Chinese populations in different countries.
Keywords: older adults, dementia, knowledge, cross-national comparison.

SPECIAL LECTURE
Neuro-ethics and dementia care [Theme 4]

Health related quality of life in Asian caregivers of patients with dementia

Prof. Nagaendran Kandiah[1,3], Lim Levinia[1], Lim Linda[1], Silva Eveline[1], Zhang Angeline[1], Ng Kok Pin[1,2]
[1]National Neuroscience Institute, Singapore, [2]Lee Kong Chian School of Medicine, Singapore, [3]Duke-NUS Singapore

Caregivers of patients with dementia experience significant distress related to care of their loved one as well as related to changes to their own lifestyle. While caregivers of all types of dementia experience significant distress, caregivers of young onset dementia may experience increased caregiver burden related to behavioural changes, cognitive changes as well as the rapid decline in cognition and function among those with young onset dementia. In this lecture, the differences in caregiver burden between carers of young and late onset dementia as well as factors that contribute to caregiver burden will be presented. Effect of cost of care on caregiver burden will also be shared.

The role of cognitive and behavioural evaluations and the use of Zarit caregiver burden for the quantification of burden of care in an Asian cohort will be described. Existing and future support for caregivers will be discussed.

SYMPOSIUM E (TANGO HOLDINGS Co.,Ltd.)
Re-evaluation of psycho-social intervention

Improving cognition through dance in older filipinos with MCI

Prof. Jacqueline C. Dominguez[1], del Moral Maria Clarissa[2], Chio Jeshya Obeso[1], De Guzman Ma Fe[2], Natividad Boots[2], Decena Jay-Pee[2], Montalvo Maryanne Janelle[2], Reandelar Macario Jr.[1], Phung Keiu[3]

[1]St. Luke's Medical Center, Quezon City, Philippines, [2]Institute for Dementia Care Asia, Quezon City, [3]Danish Dementia Research Center, Righospitalet, University of Copenhagen, Denmark

Cognitive impairment in the elderly is public health problem and more than half of people with dementia live in low-middle income countries. Mild Cognitive Impairment (MCI) is a risk for dementia. In the Philippines, the prevalence of MCI and cardiovascular risk factors among older persons are high, making this population at high risk for developing dementia Therefore, brain health promotion and prevention strategies are badly needed, preferably community-based, non-pharmacological, and culturally accepted so that it is sustainable and widely implementable.

Studies have shown that ballroom dancing supports enriched stimulation of neural circuitry that consequently provides benefits on cognition and provided socio-emotional benefits. We developed a structured dance program called INDAK (Filipino for rhythm) based on ballroom dances (Reggae, Cha-cha, Samba, Merengue, Bachata, Swing, Tango and Salsa) which we organized into eight (8) modules with increasing complexity. The dances are learned in modules from a professional dance teacher, one hour each session, 2 x a week for 6 weeks for each module. The whole program is 48 weeks. In a single-blind study, we investigated the benefits of INDAK among two hundred seven (207) elderly Filipinos with MCI. Comparing the mean difference from baseline between the groups, the dance group had significantly lower scores on Alzheimer's Disease Assessment Scale – Cognition (ADAS-Cog), higher scores on Montreal Cognitive Assessment -Philippines (MoCA-P) and Boston Naming Test (BNT), and decreased scores on the Geriatric Depression Scale (GDS). These change in scored after intervention indicate improved cognition and mood. Compliance was high (88%), and adverse events (muscle pain) were mild and transient. We concluded that INDAK is an ecological and acceptable non-pharmacological intervention that can improve cognition among older Filipinos with MCI.

Learning from the lessons of the study and to further develop this dance intervention, a protocol for a cluster randomized trial called Filipino Multicomponent Intervention to Maintain Cognitive Performance in High-risk Population (FINOMAIN) to study a multicomponent intervention composed of dance plus vascular risk management was made and will be introduced in the presentation.

SYMPOSIUM E (TANGO HOLDINGS Co.,Ltd.)
Re-evaluation of psycho-social intervention

Gait training and cognition in elderly with mild cognitive impairment

Prof. Vorapun Senanarong
Mahidol University, Thailand

Mild cognitive impairment (MCI) has a substantial impact on specific gait variables. Early identification of subtle MCI-related changes in gait and balance might be relevant for targeting specific interventions aiming to prevent further decline. Gait velocity, stride length and stride time are reduced in MCI compared to normal ageing individuals. Balance parameters which are discriminators between MCI and normal elders were anterior-posterior and mediolateral sway position in the eyes-open condition. The dual-task gait assessment increases the sensitivity of gait analysis for discriminating between MCI and healthy elders. The combination of slow gait and cognitive complaints (the Motoric Cognitive Risk syndrome) is a challenging clinical tool to identify individuals with high risk of developing dementia.

The higher-level gait disturbances concerning neuronal circuits of patients with early dementia which were related to the loss of function in gait control. Neurodegenerative cognitive decline was found to be linked to the integrity of the mirror neuron system (MNS). The MNS is the neural circuit that plays a role in intentional understanding, empathy, self-recognition, action imitation and the evolution of language. The MNS is activated when individuals perform motor imagery (MI), action observation (AO), and real execution. AO refers to an observational practice used for the goal of motor programming and enhances motor learning and performance. MI allows learners to simulate motor actions mentally, without actual execution. Currently, AO and MI have become emerging rehabilitation strategies to enhance motor and cognitive functions in different neurological conditions including those with MCI. Moreover, aerobic exercise has been shown to preserve mental speed and attention in early Alzheimer Disease(AD); and transcranial stimulation has shown to improve cognition and gait in Parkinson disease with cognitive impairment.

SYMPOSIUM E (TANGO HOLDINGS Co.,Ltd.)
Re-evaluation of psycho-social intervention

Mind body exercise interventions

Prof. Linda CW Lam
Department of Psychiatry, the Chinese University of Hong Kong
China

Physical exercise has always been an important determinant for physical and cognitive health. Aerobic exercise has been well recognized for its benefits in cardiovascular and brain health. While being a cherished tradition in Asian countries, mindfulness practice has only received attention in recent years. Regular practice of mindfulness appeared to be associated with better mental health and physical well-being.

Mind body (MB) exercise are groups of physical exercise with close links to the core elements of mindfulness practice. It refers to sets of relatively structured movements in coordination with attention to breathing and body sensations. Yoga and Tai Chi, as examples of MB exercise, have been demonstrated to be beneficial to mental well being in different psychiatric and neurological conditions. The potential of MB exercise in promoting brain health and delaying onset of dementia, as well as the scientific basis, should be systematically evaluated.

SPECIAL LECTURE
Behavioral neurology for language and memory [Theme 2]

Neuroimaging and cognitive impairment in multiethnic Asians

Dr. Saima Hilal[1,2]

[1]Saw Swee Hock School of Public Health, National University of Singapore, and National University Health System, Singapore, [2]Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Background and purpose: Interethnic differences in the prevalence of cognitive impairment and dementia are well documented in the literature. However, whether such differences might be due to underlying brain changes has not been explored previously. We, therefore, examined interethnic differences in the prevalence of neuroimaging markers of cerebrovascular and neurodegenerative disease in 3 major Asian ethnicities (Chinese, Malays, and Indians), as well as their role in cognitive impairment.

Methods: We included 792 subjects (mean age:70.0±6.5years, 52.1% women) from the multi-ethnic Epidemiology of Dementia In Singapore study where all participants underwent 3T brain MRI. Markers of cerebrovascular disease included cortical infarcts, lacunes, white matter hyperintensities, cerebral microbleeds, cortical microinfarcts, and intracranial stenosis. Neurodegeneration was assessed by cortical thickness and subcortical structure volumes. Cognitive performance was measured by Mini Mental State Examination (MMSE), Montreal Cognitive Assessment (MoCA), and global cognition.

Results: Compared to Chinese, Malays had a higher burden of intracranial stenosis and cortical atrophy, while Indians had a higher burden of subcortical atrophy. Moreover, Malay and Indian ethnicities were likely to be cognitively impaired (OR for Malays: 3.79. 95% CI: 2.29-6.26; OR for Indians: 2.87. 95% CI: 1.74-4.74) and showed worse performance in MMSE, MoCA and global cognition. These associations remained significant after adjustments for cerebrovascular and neurodegenerative markers.

Conclusions: A higher burden of cerebrovascular and neurodegenerative markers were found in Malays and Indians when compared to Chinese, independent of known demographic and vascular risk factors as well as MRI markers. Further research is required to fully elucidate the factors and pathways that contribute to these observed differences.

SPECIAL LECTURE
Behavioral neurology for language and memory [Theme 2]

Neuropsychological measure of memory and language in older adults with dementia

Prof. Ming-Chyi Pai[1,2,3]

[1]Division of Behavioral Neurology, Department of Neurology, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan, [2]Institute of Gerontology, Medical College, National Cheng Kung University, Tainan, Taiwan, [3]Alzheimer's Disease Research Center, Medical College and Hospital, National Cheng Kung University, Tainan, Taiwan

Memory impairment is frequently seen in persons with degenerative cognitive disorders (DCD). For example, episodic memory impairment is a characteristic feature for Alzheimer 's disease, while a breakdown of semantic memory is a hallmark for semantic variant of primary progressive aphasia, a subtype of frontotemporal dementia. Difficulty in memory retrieval, a subcortical type of memory impairment, is common in persons with Parkinson disease.

Language dysfunction can also occur in the early stages of some DCD. Perhaps the most prominent ones are those fall into the category of primary progressive aphasia, including nfv, sv or lv of PPA. It deserves attention that about 40% of people presenting with features of progressive aphasia cannot be classified to any of the three major subtypes of PPA. Another example is that impaired verbal comprehension or transcortical sensory aphasia can be a manifestation in early AD.

In Taiwan and many Asian countries, Cognitive Abilities Screening Instrument (CASI) is a common tool used in clinical practice. The subitem of long-term memory (perhaps a misused term from the viewpoint of cognitive psychology) is of great help.

Language is a culture-bound cognitive function, and each country may have to develop assessments for language function for their fellow people. Traditional bedside assessment for language function, including conventional conversation or spontaneous speech, comprehension, repetition, reading, writing and word finding (naming), are simple and useful for PPA classification. Picture description tests, such as cookie theft test, are also useful to depict the deficit in language function.

SELECTED POSTER 2
Behavioral neurology for language and memory [Theme 2]

Less verbal output in connected speech may serve as an early marker of very early Alzheimer's disease

Dr. Su-Wei Lee[1], Chia-Ying Lee[4], Chih-Ting Chang[5], Chia-Ju Chou[8], Yi-Fang Chung[6,7], Shu-Ching Wu[1], Yan-Ru Yang[3], Yi-Chien Liu[1,2,3]

[1]Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan, [2]Medical school of Fu-Jen University, New Taipei, Taiwan, [3]Geriatric Behavioral Neurology Project, Tohoku University New Industry Hatchery Center (NICHe), Sendai, Japan, [4]Institute of Linguistics, Academia Sinica, [5]Department of speech language pathology and audiology, National Taipei University of Nursing and Health Sciences, Taipei, Taiwan, [6]Institute of public health, School of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan, [7]Department of Psychiatry, Far Eastern Memorial Hospital, New Taipei, Taiwan, [8]National Chengchi University, Taipei, Taiwan

Objective:

Early detection is one of the most important issues in preventing Alzheimer's Disease. In this study, we would like to explore the difference of connected speech between very early Alzheimer's disease and normal control.

Methods:

From 2020 to 2021, we recruited 39 participants (22 MCI, 17 normal control) from the memory clinic of Cardinal Tian Hospital in Taiwan. In this study, we recruited amnesic MCI (aMCI) participants only. The clinical diagnosis of aMCI is based on clinical history (with memory impairment of more than 6 months), complete laboratory studies, brain MRI, amyloid PET, and neuropsychological tests. All of our participants were also evaluated by Picture Description Test (PDT). In that test, we asked our participants to describe three Taiwanese-culture-based pictures to evaluate their performance of connected speech. Their responses were recorded, transcribed, and subsequently analyzed by the Chinese tokenize system. Linguistic variables such as content word ratio, total word counts, number of pronouns, number of nouns, number of adjectives, and type-token ratio (TTR) were recorded and analyzed.

Results:

In our study, the age and gender were not different between both groups. The educational level is lower in aMCI group (11± 3.6 V.S. 14.4 ± 2.9, p=0.04). Besides, their baseline MMSE scores are also lower (25.1 ± 2.7 V.S. 29.0 ± 1.0, p<0.001). The amyloid positive rate is significantly higher in aMCI group (65% V.S. 26.7%, p=0.025). In results of PDT, the average total words (86.2 ± 46.5 V.S. 128.2 ± 51.2, p=0.01), total nouns (26.9 ± 13.6 V.S. 39.1 ± 15.0, p=0.01) and content words (61.3 ± 30.9 V.S. 92.6 ± 32.9, p=0.04) were all significantly lower in aMCI group. The content words ratio (72% V.S. 72%, p=0.8) and nouns ratio (31% V.S. 30%, p=0.3) were almost the same between both groups.

Conclusion:

aMCI patients produced significantly fewer words in connected speech, especially total nouns and content words. However, there was no difference in content word or nouns ratio between the two groups. This suggested that the difference of connected speech between MCI patients and normal subjects is mainly in amount, not in content. In the future, we could use this finding to detect pathological aging such as AD in earlier stages.

SELECTED POSTER 2
Behavioral neurology for language and memory [Theme 2]

Clinical applicability of autobiographical memory triggered by olfactory and visual stimuli for diabetes treatment

Ms. Mikiko Taku[1], Hirohisa Koide[1,2], Mari Kasai[1], Yutaka Kamikawatoko[2], Kenichi Meguro[1]
[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]General Hospital Isshin Hospital
Japan

Background and aims

The prevalence of diabetes continues to increase (Ogurtsova et al., 2017). Although pharmacotherapy is the mainstream treatment, a multifaceted approach is important for long-term treatment. Autobiographical memories that are associated with food environment have been suggested to contribute to the difficulty in controlling the behaviors of diabetics (Vancampfort et al., 2016). Compared to other sensory stimuli, olfactory stimuli may elicit more autobiographical memories (Larsson et al., 2014). This study reports a case study that utilized olfactory and visual stimuli to elicit memories and discusses the clinical applicability of autobiographical memories.

Method

A research team interviewed a patient about her autobiographical memories that were recalled by olfactory stimuli and visual stimuli (i.e., scent and photographs of Japanese cypress and miso soup) in addition to medical examinations, tests, and treatment. General cognitive function tests and diabetes-related psychological tests were also conducted.

A case study

The case was a 72-year-old woman (height 156.0 cm, weight 47.8 kg, body mass index 19.6). She was diagnosed with diabetes when she was 55, but has not shown any of the three major complications to date. Mini Mental State Examination was 26/30 points, Problem Area In Diabetes Survey was 26 points, and Barthel Index was 100/100. She worked part-time at a convenience store. During the interview, she recalled "summer cold orange juice" from the olfactory stimulus of cypress, "freshly baked bread" from miso soup, "fun childhood dining table" from the visual stimulus of cypress, and "miso soup that her husband cooked" from miso soup. While accessing these memories, she recalled the scenes and feelings associated with the memories. She made narratives such as "I became diabetic because I couldn't handle the intense feelings of stress, distrust and loneliness, so I needed to overeat," suggesting she was aware of her own illness.

Discussion and conclusion

It is plausible that her disordered eating habits were caused by gaps between her experiences during adulthood (i.e., overwhelming sense of loneliness and stress) and childhood (i.e., happy food environment). Sharing and reviewing information from autobiographical memories with medical staff could lead to understanding and acceptance of the patient's illness. In future studies we will examine the relationship among brain functions, autobiographical memories, and glycemic control, and will investigate the clinical usefulness of autobiographical memories for the treatment of diabetes. Recalling autobiographical memories may lead to treatment involving cooperation between medical staff and patients.

SELECTED POSTER 4
Neuro-ethics and dementia care [Theme 4]

Migrant care workers and dementia care in Taiwan: Results from a national registry study

Dr. Mao-Hsuan Huang[1], Chia-Fen Tsai[2,3], Chih-Ming Cheng[2,3], Chih-Cheng Hsu[4], Jong-Ling Fuh[2,5]

[1]Department of Psychiatry, YuanShan and Suao Branches of Taipei Veterans General Hospital, Ilan, Taiwan, [2]Faculty of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan, [3]Department of Psychiatry, Division of Geriatric Psychiatry, Taipei Veterans General Hospital, [4]Institute of Population Health Sciences, National Health Research Institutes,Zhunan, Taiwan, [5]Division of General Neurology, Neurological Institute, Taipei Veterans General Hospital, Taipei, Taiwan

Background: In Asian societies, informal caregivers are expected to take care of their relatives with dementia at home. The government has enacted policies that people with dementia (PWD) and their family could hire migrant domestic care workers for assistance in caregiving in Taiwan. We aimed to identify characteristics of PWD and their family that might predict migrant caregiver employment.

Methods: A total of 945 PWD–caregiver dyads were enrolled for analysis from the National Dementia Registry Study in Taiwan (T-NDRS). The information of migrant caregiver employment was collected in the 2nd year of follow-up. Andersen's Behavioral Model of Health Services Use was used to investigate the correlation between migrant caregiver employment and factors, namely the demographic data of PWD and their caregivers, types of dementia, physical comorbidities, household monthly income, Mini-Mental State Examination (MMSE), Clinical Dementia Rating (CDR) scores, Zarit Burden Interview (ZBI) for caregiver burden, neuropsychiatric inventory (NPI) for behavioral and psychological symptoms of dementia, and patients' activities of daily living (ADL).

Results: The results of multivariable logistic analysis revealed that patients' age (odd ratio [OR] = 1.09, 95% confidence interval [CI] = 1.06–1.12), dysfunction in ADLs (OR = 1.16, 95% CI = 1.12–1.22), higher CDR scores (OR = 1.89, 95% CI = 1.34–2.67), co-residence with family members (OR = 0.38, 95% CI = 0.25–0.58), family monthly income (OR = 2.99, 95% CI = 1.62–5.53), long-term care resource use (OR = 0.19, 95% CI = 0.11–0.34), and NPI score (OR = 1.05, 95% CI = 1.02–1.08) were the factors most significantly associated with migrant care worker employment (all p <0.01).

Conclusion: The factors such as whether PWD live alone, certain neuropsychiatric symptoms, and impaired function should be included in the indication of hiring migrant care workers. Future policy amendments are needed to alleviate burden of PWD and their family.

SELECTED POSTER 4
Neuro-ethics and dementia care [Theme 4]

Factor analysis of the Daily Living Decision-Making Support Scale for people with dementia and its relationship to person-centred care

Prof. Mizue Suzuki[1], Yatami Asai[2], Masako Sato[3], Shouko Tsujimura[4], Yukio Koide[4], Asao Ogawa[5], Takuya Kanamori[1], Tomoyoshi Naito[1], Keigo Inagaki[1], Masao Kanamori[6]

[1]Hamamatsu University School of Medicine, Hamamatsu, Japan, [2]Geriatric health services facility Mikatahara Bethel Home, Hamamatsu, Japan, [3]Seirei Mikatahara General Hospital, Hamamatsu, Japan, [4]Nishiyama Hospital Group, Hamamatsu, Japan, [5]Division of Psycho-Oncology, Exploratory Oncology Research and Clinical Trial Center, National Cancer Center, Chiba, Japan, [6]Ritsumeikan University, Kusatsu-city, Japan

Background: There is an increasing number of people with dementia (PwD) in Japan. With the progression of the condition, PwD are prone to developing problems in communication. Therefore, decision-making support is necessary for PwD, especially regarding medical choices. This study aimed to conduct a factor analysis of the Daily Living Decision-Making Support Scale for PwD (DDMS-D) and explore the relationship between the DDMS-D and the Approaches to Dementia Questionnaire (ADQ) as an evaluation of the awareness of person-centred care.

Methods: A scale to assess everyday life decision-making support was developed from focus group interviews with care staff and was reviewed by discussions with several experts on dementia care. A questionnaire survey was conducted among care staff in geriatric facilities from February to March 2021 to assess the reliability and validity of the scale.

Results: The participants included care staff working as caregivers and nurses in geriatric facilities. The total number of participants was 138 [110 women (79.7%) and 28 men (20.3%)], with a mean age of 41.46 ± 2.3. Of the 138 participants, 91 (65.9%) were caregivers and 36 (26.1%) were nurses. The DDMS-D was developed using factor analysis and covariance structure analysis. The factor analysis resulted in 12 items and three factors: (1) support for the formation and expression of intentions in daily life based on the life background and values of PwD, (2) attitudes and devising ways to communicate regarding the formation and expression of intentions in the daily lives of PwD, and (3) devising ways to support PwD in realizing their intentions in daily life. The factor loadings ranged from 0.385 to 0.827, and the accumulation contribution ratio was 61.03%. The reliability analysis yielded a Cronbach's α of 0.87. In the covariance structures, the goodness-of-fit indices were found to be satisfactory in the final model. The first and second factors of the DDMS-D were significantly correlated with the ADQ Personhood subscale.

Conclusion: The DDMS-D demonstrated reliability and validity as a potential scale to assess support for PwD in daily life decision-making. The findings suggest a relationship between the DDMS-D and person-centred care for PwD. The DDMS-D provides useful information about the daily decision-making of PwD, facilitating an understanding of the relationship between decision-making involvement and the well-being of PwD and care staff. Decision-making support should be based on person-centred care and enable PwD to live well and make daily life decisions. It also involves providing support for PwD when making medical choices, especially during their last stages.

SYMPOSIUM F
Aging society and ageism

"Frailty in the Elderly" and Ageism: The confusing general term "Frailty" should sort out the relationship between Fried's criteria frailty, locomotive syndrome, Musculoskeletal Ambulation Disability Symptom (MADS) Complex, and sarcopenia so as not to fall into wordplay.

Mr. Keiichi Kumai, Kenichi Meguro
Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University
Japan

[Background] This symposium will summarize the concepts of frailty in the elderly: frail, Locomotive Syndrome, Musculoskeletal Ambulation Disability Symptom (MADS) Complex, and sarcopenia.
[Arrangement of terms]
1) Frail (=Frailty) in Japan is based on a statement from the Japan Geriatrics Society. The statement is as follows: Weakness gives the impression of irreversible aging and decline with age, but this Frail includes the possibility of returning to a healthy state with appropriate intervention. Frail consists of three areas: physical, cognitive, and social, but there is no set standard.
2) Locomotive Syndrome is advocated by The Japanese Orthopaedic Association Corporation. The definition is as follows: "A state in which there is a high risk of requiring nursing care due to a disorder of the locomotorium" or "A state in which the mobility function is deteriorated due to a disorder of the locomotorium".
3) MADS was presented by The Japanese Orthopedic Association Corporation, the Japanese Society for Musculoskeletal Rehabilitation, and The Japanese Clinical Orthopedic Association. The definition of MADS is an person of advanced years with lower leveled balance and walking ability, high risk for fall, and who is keeping to the house.
4) Sarcopenia is a syndrome characterised by progressive and generalised loss of skeletal muscle mass and strength with a risk of adverse outcomes such as physical disability, poor quality of life and death. The European Working Group on Sarcopenia in Older People recommends using the presence of both low muscle mass and low muscle function (strength or performance) for the diagnosis of sarcopenia.
[Conclusion] We considered that sarcopenia is sufficient for screening the motor function of the elderly among these syndromes. This is because only sarcopenia can objectively measure muscle mass. The concept of Clinical Dementia Rating may be useful for understanding mixed situations. Clinical conditions differ during the process of lesion development in the brain among patients with Alzheimer disease, and that the idea of biaxial thinking for "disease" and "condition" is required. Regarding frailty, a mix of "disease" and "condition" in criteria may be a cause of confusion, and this may be an important idea in daily clinical practice.

SYMPOSIUM F
Aging society and ageism

The joint survey preliminary report

Dr. Hiroki Inagaki
Tokyo Metropolitan Institute of Gerontology
Japan

Ageism is a widespread "age stereotype" in society; it affects the health, life, function and quality of life of the older people to a greater or lesser extent, and in the worst case, leads to the devaluation of the weak and the selection of life. The WHO has recently published a Global Report on Ageism (WHO, 2021), which outlines the nature and scale of ageism, the determinants and impact, and a framework for recommendations and actions to reduce ageism.

In recent years, Japan has been transitioning to a super-aging society; that is, the population of the oldest-old, including centenarians, has increased (Cabinet Office, 2020), and the number of older persons with frailty or dementia (Otsuka et al., 2019; Ninomiya et al., 2015) is expected to increase accordingly. There is a risk that prejudice and discrimination will become more severe due to older age or diseases and dementia. For example, refusal of medical treatment, end-of-life care, adult guardianship, debate about restrictions on driving licenses, and so on. Although there have been some previous studies on ageism in the past, it is necessary to reexamine the actual situation of ageism in Japan now that we are entering a super-aged society.

One of the tasks of ageism research is to develop an assessment scale that can be compared internationally; In the WHO Global Report, it is pointed out that there are few reliable and valid ageism scales, and that there may be a lack of accurate understanding and international comparison. In order to understand ageism and to find a way to eliminate it, it is essential to develop a reliable and valid assessment method and to understand the actual situation using this method.

In this presentation, I would like to review previous studies, including WHO's recommendations to eliminate ageism, and to contribute to the discussion of a framework for a survey to understand the actual situation.

SYMPOSIUM F
Aging society and ageism

Prejudice and discrimination against people with dementia

Dr. Takeshi Nakagawa, Taiji Noguchi, Tami Saito
National Center for Geriatrics and Gerontology
Japan

In daily life, older adults, including those with dementia, are likely to experience negative societal beliefs about older adults and their cognitive and neurological conditions. To understand such attitudes, Butler coined the concept of ageism in 1969. Although it was initially defined as prejudice and discrimination by one age group toward other age groups, most researchers refer to prejudice and discrimination against older adults. Recently, scholars adapt the concept of stigma to understand prejudice and discrimination against people with dementia. Originally introduced in 1963 by Goffman, the concept has been extended to the broad context of health and illness. Ageism and dementia stigma are conceptual frameworks that can approach stereotypes, prejudice, and discrimination. Nevertheless, empirical evidence on dementia stigma remains lacking.

In this presentation, we aim to (1) review the theory and empirical evidence on ageism, especially in terms of health consequences and interventions; (2) demonstrate the preliminary results on dementia stigma; and (3) discuss the potential mechanisms underlying the adverse effects of prejudice and discrimination on cognitive aging.

Specifically, according to stereotype embodiment theory proposed by Levy, individuals internalize socially constructed ageism (i.e., beliefs about older adults in general) during their youth. In turn, these internalized perceptions of aging influence their health when they become old and self-relevant. To date, a bulk of research has provided evidence supporting the theory. In addition, effective interventions, such as education and intergenerational contact, have been developed to reduce ageism. Next, according to the framework proposed by Corrigan and Watson, dementia stigma can be categorized into public-stigma and self-stigma. The current study provides preliminary results on the measurement that distinguishes between the two types of stigmas. Lastly, drawing on sociogenomic perspectives, we discuss how the social environment shapes cognitive aging and future directions for dementia resear.

SELECTED POSTER 3
Non-pharmacological intervention [Theme 3]

Structured frontal lobe based computerized cognitive stimulation to older adults with subjective cognitive complaints and comorbid depressive symptoms

Dr. Allen T. C. Lee, Lisa D. Y. Ma, Linda C. W. Lam

Department of Psychiatry, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China

Background:

We conducted a pilot study of randomized controlled trial to test if structured frontal lobe based computerized cognitive training could help improve cognitive and mood symptoms in community-living older adults with subjective cognitive complaints (but without mild cognitive impairment [MCI]or dementia) and comorbid depressive symptoms during the COVID-19 pandemic.

Methods:

Community-living older adults aged 55 to 75 years old who were screened positive for subjective cognitive complaints and comorbid depressive symptoms (scoring 5 or above in the Patient Health Questionnaire-9, PHQ-9) but negative for MCI or dementia (scoring 24 or less in the Hong Kong Chinese version of the Montreal Cognitive Assessment, MoCA) were recruited from the local neighbourhood elderly centers and randomized to either the intervention (structured frontal lobe based computerized cognitive stimulation, involving training on complex attention, executive functioning, and working memory) or control group. Participants in the intervention group attended 1-hour session twice weekly for 6 weeks. The study outcomes included changes in cognitive function (assessed by the MoCA and Memory Inventory for Chinese [MIC]) and changes in severity of depressive symptoms (assessed by the PHQ-9 and the Hong Kong Chinese version of Hamilton Depressive Rating Scale [HAM-D]) by Week 6.

Results:

A total of 20 participants were recruited in this pilot study. Of them, 18 completed the intervention. At baseline, their mean MoCA score was 27.3 (SD=1.5), MIC score was 7.1 (SD=4.1), PHQ-9 was 18.0 (SD=6.3), and HAM-D was 19.4 (SD=7.5). No significant difference was observed in baseline characteristics between the intervention and control groups. The mean change in total HAM-D score from baseline to Week 6 was significantly greater in the intervention group than in the control group (-8.4 vs -2.9; $p=0.01$). The intervention group also had better cognition, while the control group showed a decreasing trend in the total MoCA score (+1.3 vs -0.9; $p<0.05$). The overall attendance rate was 87%.

Conclusion:

Our preliminary findings suggested that structured computerized cognitive training which targets multiple specific frontal lobe functions might be beneficial to community-living older adults in maintaining cognition and improving mood symptoms. Our pilot data also suggested that this intervention appears to be well accepted by older adults. A larger, longer and more in-depth study would help ascertain the effectiveness of the proposed cognitive stimulation.

SELECTED POSTER 3
Non-pharmacological intervention [Theme 3]

A case of behavior control by musical activities-Reasonable intervention for behaviors that don't sit still.

Dr. Chiaki Oshiyama[1,2,3,4]

[1]Human Augmentation Research Center, National Institute of Advanced Industrial Science and Technology (AIST), [2]Faculty of Education and Integrated Arts and Sciences, Waseda University, [3]Aizu Medical Center, Fukushima Medical University, [4]Group home ASAGAYA for Dementia elderly person
Japan

Background Behavioral control disorders due to dementia cause the event of being unable to sit still when urinating. The caregiver tries to suppress the behavior by giving words of caution, but sometimes it becomes a hurtful word or violent behavior for the subject and it cause BPSD. Therefore, the purpose of this presentation is to propose a care method that the caregiver does not have to forcibly suppress by alternative behavior with adaptive behavior.

Method The subject is an 89-year-old woman with Alzheimer's disease who is using communal living care for dementia. When she started urinating in the bathroom, always she began to standing up. So it was hard caring for her. We planned to prevent her from standing up by having her do something fun for her when she sat on the toilet seat. Specifically, ①in the music therapy (that is held every week and she has taken participates in the fun), make her sit down and shake Naruko for a certain period of time (while singing the song of "Aoi Sanmyaku". ②in the music therapy, have them shake Naruko with the staff who assists her excretion care. ③have them shake Naruko together for a certain period of time in a non-music therapy situation. ④ prepare two Naruko in the bathroom and as soon as she sit in the toilet seat and start urinating at the same time the caregiver handed Naruko to her and proposed to have shake Naruko together and sing "Aoi Sanmyaku".

Result As soon as she started urinating, the caregiver handed Naruko and have her to shake it and sung "Aoi Sanmyaku" so that she could sit comfortably while urinating. We have also received reports from caregivers that the psychological burden of forcibly restraining behavior and the work burden such as cleaning up caused by standing up have disappeared.

Consideration She also believes she was able to reasonably form alternative behaviors, as she loved music activities.

POSTER

PP-01 The role of donepezil therapy in cognitive impairment patient with MMSE and CDT for periodic evaluation

Adecya Amaryllis Risa Putri[1], Sri Budhi Rianawati[2]

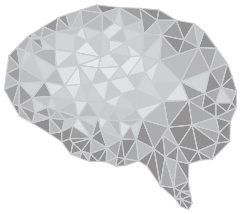
[1]Neurology Residency Program, Neurology Department, Faculty of Medicine, Brawijaya University, Malang, Indonesia, [2]Neurobehavior Consultant and Lecturers of Neurology Department, Faculty of Medicine, Brawijaya University, Malang, Indonesia

Introduction : Cognitive impairment in the long term, if not treated optimally, it can interfere with daily activities. Evaluation of cognitive function is needed to determine the level of functional ability that is useful for diagnosis, treatment and future prognosis.
In conducting screeningto assist in establishing a diagnosis, among others Mini Mental State Examination (MMSE) and Clock Drawing Test (CDT) can be performed. Both of these tests are easy to perform and have good reliability and validity and can be used to evaluate therapeutic outcomes. The recommended therapy of cognition boosters that are most used in the cholinesterase inhibitor group are Donepezil.
We evaluated patients with cognitive impairment who received Donepezil therapy with MMSE and CDT examinations, at the Memory Clinic, Saiful Anwar Regional General Hospital, Malang.
The Method : A retrospective study
The Results: From the results of a retrospective study on 101 cognitively impaired patients receiving donepezil therapy at Memory Clinic the Saiful Anwar Regional General Hospital Malang for the period November 2016-December 2020, it was found that the MMSE results increased by 83.4% in the initial 3 months and 62% in the first 3 months. next 6 months. While the CDT showed an increase of 29.7% in the last 3 months and 56.1% in the following 6 months.
Conclusion: Donepezil therapy for cognitive impairment evaluated by MMSE was the biggest increased after 3 months of initial therapy. While evaluation with CDT after 6 months of initial therapy.

PP-02 Comparison neuropsychological test between early-onset and late-onset Alzheimer's disease patients

Trang -Mai Tong, Thang Tran Cong
University Medical Centre, Ho Chi Minh city, Viet Nam

Background:
Early-onset Alzheimer's disease (EOAD) has been overshadowed by the more common late-onset AD (LOAD) due to differ diverse clinical features and frequency of non-amnestic presentation.
Method: Case-series. Cases selected among the patient diagnosed Alzheimer's disease (probable- DSM 5) with MMSE scores ≥ 15.
Result:
21 EOAD and 27 LOAD were analyzed neuropsychological test: MMSE, clock-drawing test, modified Boston naming, verb fluency, trail-making A, immediate recall, delayed recall, delayed recognition, digit span forward, digit span backward. EOAD group have a worse result at modified Boston naming test and clock-drawing test ($p < 0.05$), represented language and visual impairment than LOAD.
Conclusion: EOAD have differed neuropsychological test from LOAD.



POSTER

PP-03 Nobiletin-rich Citrus reticulata peel extract has potential to prevent human brain aging-related decline of hippocampal SST-NEP system function and memory ability

Tohru Yamakuni[1,2,3], Wanying Han[3], Wen Sun[3], Huinan Xu[3], Hidehiro Ando[4], Masaaki Yoshida[4], Toshihiko Sato[5]

[1]Geriatric Behavioral Neurology Project, New Industry Creation Hatchery Center, Tohoku University, [2]Research Center of Supercritical Fluid Tech, Grad Sch of Engineer, Tohoku Univ, Sendai, Japan, [3]Grad Sch of Pharmaceut Sci, Tohoku Univ, Sendai, Japan, [4]Kotaro Pharmaceutical Co., Ltd., Hukusan, Japan, [5]Social Welfare, Nagano Univ, Ueda, Japan

Background

Dried peels of *Citrus reticulata* Blanco and *C. unshiu* Markovich, have been employed for Chinese cooking; and a Japanese seasoning called seven flavor spices and curry sauce mix comprise the peels. We have originally found nobiletin, a citrus polymethoxylated flavone, as a substance that can facilitate PKA/ERK/CREB signaling pathway coupled with CRE-mediated transcription associated with long-term memory, in cultured hippocampal neurons. The natural compound prevents memory impairment in an APP transgenic mouse, as given intraperitoneally. Yet, our separate animal studies have revealed that when given orally, it has little ability to prevent memory defects due to its low brain bioavailability. To address this problem, we set out screening of the extracts of citrus peels, and discovered that nobiletin-rich *Citrus reticulata* peel extract potently facilitates CRE-mediated transcription in cultured hippocampal neurons, and can prevent memory defects, as given orally. We here evaluated impacts of the natural product on aging-related sharp decline of hippocampal somatostatin (SST)-neprilysin (NEP) system that serves as a defense system against sporadic Alzheimer's disease onset (*Nat Med*, 2005), and memory ability, observed in aged mice, where the midbrain dopamine content is concomitantly reduced.

Methods

The extract was orally given to 17-month-old C57BL/6 mice at 0.5 g/kg/day for 14 consecutive days to evaluate impacts of the extract on hippocampal SST and NEP genes expression, by real-time RT-qPCR and IHC, as reported previously (*J Funct Foods*, 2018). Contextual fear conditioning and dopamine assay were conducted.

Results

SST gene has a functional CRE present at the promoter region in an SST neuronal subset of GABAergic neurons, while in another NEP neuronal subset, the levels for NEP mRNA is upregulated in a SST receptor-dependent mode. Real-time RT-qPCR showed that the nobiletin-rich *Citrus reticulata* peel extract did elevate hippocampal mRNA levels for SST and NEP, when given orally. In line with these observations, IHC uncovered that the nobiletin-rich citrus peel extract coordinately elevated SST and NEP levels. In the aged mice where fear memory function was observed to be compromised than in adult mice, the extract restored the memory impairment; and it recovered age-related reduction of the midbrain dopamine level, via facilitation of a novel V-1/CP complex-driven MAL/SRF signaling important for genetic control of adult nigra dopamine neurons.

Conclusion

The present study provides evidence for potential of the nobiletin-rich citrus peel to serve as a functional food to prevent brain aging-related reduction in neuronal functions.

PP-04 Intervention effects of the "Exercise Habit Check Sheet" for dementia prevention

Kenji Kamijo[1], Emi Kaneda[2], Hiroko Mikata[3], Hideki Kubo[4], Ippei Suganuma[5]

[1]Faculty of Wakayama Health Care Sciences, Takarazuka University of Medical and Health Care, [2]Yame General Hospital, [3]Nokami Kousei Sogo Hospital, [4]Nakakyushu Junior College, [5]Yamato University

Japan

Objective:

The purpose of this study was to examine the intervention effect of the "Exercise Habit Check Sheet" for the prevention of dementia in elderly people living in the community.

Method:

The subjects were elderly people living in the community who participated in the dementia prevention promotion project and who gave their consent to cooperate in this study.Conducted a monthly dementia prevention promotion project at a community center for 6 months.The exercise habit checklist is a calendar-type table in which the content and time of daily exercise are described.This sheet was checked once a month, and if there were any gaps, they were encouraged to go out as much as possible and increase their exercise time.Daily life functions were assessed as follows: (1) grip strength, (2) balance function, (3) walking (normal, double task, and obstacle), (4) motor function (locomotive syndrome questionnaire), (5) exercise time, (6) cognitive function (MMSE), (7) attention function (TMT), (8) depression (GDS), and (9) IADL (the Laiken-type activity capacity index). Evaluations were conducted twice in total, before and 6 months after the intervention.Comparisons of each measure before and after the intervention were analyzed using a corresponding t-test.The purpose, methods, and ethical considerations of this study were explained to the subjects in writing, and their consent was obtained. This study was approved by the Ethical Review Committee of Nishi-Kyushu University (Approval No.: 19QHK21).

Result:

The final analysis included 71 subjects (53 women and 18 men) with a mean age of 76.5±7.9 years.A comparison of the pre- and post-intervention exercise habit checklist revealed significant differences in exercise time (p=.002), MMSE (p=.004), and the RERF formula (p=.021).

Discussion:

In this study, we conducted a dementia prevention intervention using an exercise habit checklist, and found significant improvements in exercise time, cognitive function, and IADL.This study suggests that increasing the level of activity and participation in the community may contribute to the improvement of cognitive function, and that it is important for professionals to manage exercise habits.

POSTER

PP-05 A logic model to evaluate nursing home care services and a culture of excellence

Tatsuji Uchida[1,2], Yasuko Murata[2], Yusuke Yamaguchi[3], Yuko Nakamura[3]

[1]Faculty of Health Science, University of Tokyo Health Sciences, [2]Japanese Society for Person-Centred Dementia Care NPO, [3]Obu Center for Dementia Care Research and Practices
Japan

Background: Ensuring quality of care is important in care institutions for older people. The standard of service and its effects should be logically assessed to improve the quality of care. The law sets the standard for services offered in care institutions; however, residents' care experiences vary from one facility to another. The organizational culture of nursing homes is increasingly recognized as influential in the quality of care provided. This research explicitly examines practical procedures for creating and fostering a culture of excellence using a logic model.
Method: Eight professionals from four nursing homes in Japan were included in a qualitative study using individual and group semi-structured interviews. The responses provided by the professionals were examined individually by a researcher using content analysis. In an online researchers' meeting, we discussed the formulation of a logic model to explore how organizational culture is created and fostered through the participant's practice. This study developed a comprehensive logic model to represent elements of a culture of excellence. The research ethics committee of the university approved the study before it was conducted.
Result: The participants mentioned that sharing the core values of the facility, staff education, leadership, and interactive communication with residents are important for maintaining a culture of excellence. The participant's answers were categorized into three basic structures of the logic model as follows: "inputs" consisting of eight core categories such as "organizational philosophy" and "training and development"; "activities" consisting of five core categories such as "collaboration of care" and "providing care from resident's perspectives"; and "outputs and outcomes" comprising six core categories such as "change in residents/staff."
Conclusion: Nineteen core category elements were identified as key to a culture of excellence. Applying the logic model, we examined the relationship between these elements to show how organizational culture is produced and maintained. However, we cannot maintain the organizational culture in a nursing home just by setting up these elements. The staff responsible for the organizational culture would inevitably change, leading to a slight regression in the continuity of the culture. Therefore, it is necessary to try different ways of overcoming day-to-day problems in the best interest of the residents; this will help maintain the culture of excellence and its associated results.

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PP-06 A comparison of the operational status of dementia cafes according to the degree of achievement of subjective goals

Emi Kaneda[1], Shinya Matori[2], Tatsuhiko Nakashima[1], Kenji Kamijo[3]

[1]Yame General Hospital, [2]higuchi hospital, [3]Faculty of Wakayama Health Care Sciences, Takarazuka University of Medical and Health Care
Japan

Purpose
The purpose of this study was to investigate the actual conditions of dementia café businesses, and to clarify the characteristics of the low achievement group by comparing their actual operations according to the level of subjective goal achievement.
method
Target: Operators of dementia café projects that have been carrying out in A prefecture in 2020 were targeted.Survey method: We conducted the survey by creating our own "Survey on the Actual Conditions of Dementia Cafes" with reference to the FY2016 Report on the Survey and Research Project on the Actual Conditions of Dementia Cafes in the Health Promotion Project for the Elderly.
Analysis method: In order to compare the subjective goal achievement of the dementia cafe with each measurement, we categorized its achievement into two groups:6 points or more is classified as the high achievement group and 5 or less is classified as the low achievement group, and an uncorrelated t-test was used. Comparisons between the two groups were analyzed by using an unpaired t-test. Comparisons of collaboration, budget, frequency of meetings, effects on people with dementia, effects on family caregivers, and effects on local residents were analyzed using Fisher's exact probability test.
Ethical considerations: The purpose, methods, and ethical considerations of this study were explained to the subjects in writing, and their consent was obtained. This study was conducted with the approval of the Nishi-Kyushu University Ethical Review Committee (approval number: 20GWG10).
Result: In terms of operational status, the low achievement group (n=14) was more likely than the high achievement group (n=17) in the following items: duration of operation (p=.016), number of participants overall (p=.002), number of family caregivers participating (p=.043), number of local residents participating (p=.009), degree of response to needs (p=.023), and operational issues (p=.001). In addition and the following sub-items on operational issues: difficulty in attracting participants with dementia (p=.002), concerns about management methods (p=.010), problems with programs and content (p=.008), effects on people with dementia (p=.012), and effects on local residents (p=.033).
Consideration: The low-achievement group of the dementia café in this study was characterized by operational issues such as "unable to attract participants" and "having trouble with the program," as well as a low level of needs response. In the future, it is necessary to control the purpose of the dementia café and to deepen the research on the support effect of the dementia café project by type.

PP-07 Deep medicine of Alzheimer's dementia: Applying Kinect depth sensors to clinical outcomes

Ying-Han Lee[1], Chen-Wen Yen[2], Yuan-Han Yang[3]

[1]Post Baccalaureate Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan, [2]Department of Mechanical and Electro-Mechanical Engineering, National Sun Yat-Sen University, Kaohsiung, Taiwan, [3]Department of Neurology, Kaohsiung Medical University Chung-Ho Memorial Hospital, Kaohsiung, Taiwan

Background

Alzheimer's disease (AD) is the most common form of dementia with heterogeneous clinical presentations. Current parameters evaluating its clinical course will focus mainly on cognitive function, activities of daily livings, and behavior problems. Other evaluations for motor or coordination systems are less addressed possibly due to lacking precise tools to quantify those issues. Recent study has reported the decreased joint motion, less than 50% of original range, was found in AD patients, which will be associated with its advanced stage. These findings made us to consider whether the motor and coordination system to the joint motions could be parameters in relation to AD clinical course. For these purposes, we use Kinect depth sensors to assess joints coordination patterns in AD.

Material & Methods

88 clinical diagnosed AD patients treating with acetylcholinesterase inhibitors have recruited in the study. Mini-Mental State Exam (MMSE) and clinical dementia rating (CDR) were conducted annually together with the Kinect depth sensors evaluation for 15 joints (from neck, shoulder, elbow, wrist, hip , and knee) to get the joint motion. Patients with changes between 2 MMSE scores were recognized as improved (36 patients) or worsen (52 patients), who will be accessed their changes of joint motions by K-nearest neighbors (KNN), a machine learning algorithm.

Results

The Kinect depth sensors were using the 3D camera with its signals 30 Hz. We have collected these signals from these 15 joints for 40 seconds for every AD subject so that we have 1200 assessments for each joint in every patient. 36 of 88 having mean MMSE (mean ± SD) from 16.1± 5.3 to 17.8 ± 5.0. The other 52 patients were from 18.1 ± 5.0 to 14.9 ± 5.5. By machine learning algorithm, we have found motions of joint 4 and 5 (both shoulder joints) were most likely to be associated with clinical course of AD. This approach yielded weighted averages of 72.7% accuracy with 76.9% specificity, 66.7% sensitivity and 0.72 area under the curve (AUC), through receiver operating characteristic curve.

Conclusion

Changes of the motion of both shoulder joints are significantly associated with the clinical outcome of AD. Using Kinect depth sensors evaluation can be considering as an adequately screening tool to reflect the clinical courses of AD.

PP-08 Cognitive impairment in post COVID-19 infection: The eemrgence of long term complication after the pandemic

Rocksy FV Situmeang, Aristo Pangestu, Gerald Djuanda, Anyeliria Sutanto, David Rustandi, Vivien Puspitasari

Siloam Hospitals Lippo Village.,Nuerology Department.,Universitas Pelita Harapan.,Indonesia

Introduction: The increasing number of COVID-19 survivors has sparked interest in research on the long-term consequences of COVID-19, one of which is the declined cognitive function. This study was conducted to assess cognitive function in post COVID-19 young patients with asymptomatic or mild symptoms.

Methods: This study was a cross-sectional study conducted at Siloam Hospital Lippo Village, Banten, Indonesia. Random 250 phone calls were done to potential participants from the hospital database. The study sample was productive age outpatients (20-64 years) with a history of COVID-19 who had been declared negative for 30-45 days with mild or no symptoms. The final sample we gathered were 60 patients. TICS-M was used to assess cognitive function of participant via telephone calls. Maximum points was 50 and further classified into normal cognitive status (TICS-M score> 31) and cognitive impairment (TICS-M score 28-31 for mild cognitive impairment and <28 for dementia).Additional data retrieved were education and reported neuropsychiatric symptoms.

Results: Cognitive impairment was found in 6 patients (10%), 4 of them were MCI and 2 were dementia. Mean age was 38.3 years (SD ± 11.6), the majority of patients were 20-49 years (68%). The number of male and female participants each was 30 patients. Education level was associated with decreased cognitive function (p = 0.03). The most reported neuropsychiatric complaints were short-term memory problems and fatigue (35% each), concentration problems (23.3%), and sleeping problems (8.3%). No complaints about mood and eating disorders were reported. Memory is the most affected domain for post-COVID-19 cognitive impairment.

Conclusion: Cognitive impairment, especially memory, can occur in younger post-COVID-19 patients with mild or no symptom, and is independent of age and gender. Cognitive examination via telemedicine can detect cognitive decline in post COVID-19 patients.

Keywords: cognitive decline, COVID-19, dementia, mild cognitive impairment, post COVID-19SARS-CoV-2

POSTER

PP-09 The association between cluster of differentiation 4 and cognitive function in human immunodeficiency virus patients with cerebral toxoplasmosis

EKO YANDRA, FASIHAH IRFANI FITRI, KIKING RITARWAN
NEUROLOGY DEPARTMENT, MEDICAL FACULTY UNIVERSITAS SUMATERA UTARA
Republic of Indonesia

Background: The prevalence of Human Immunodeficiency Virus (HIV) is still high throughout the world. Cognitive disorders are often found in patients with HIV. Cerebral toxoplasmosis includes opportunistic infections due to HIV that might be related to cognitive function. Many factors affecting cognitive function, one of which is the Cluster of Differentiation 4 (CD 4).
Methods: The design of this study was cross-sectional and samples were selected using a consecutive sampling technique, where patients with cerebral toxoplasmosis who were HIV positive at the special service center (pusyansus) of the Haji Adam Malik General Hospital (RSUP HAM) Medan, indonesia who met the exclusion and inclusion criteria were taken blood samples in the clinical pathology laboratory of RSUP H Adam Malik as much as 5 ml to check CD 4 levels. Then, the Visual Cognitive Assessment Test (VCAT), Trail Making Test (TMT A) and Trail Making Test (TMT B) were carried out at the pusyansus polyclinic. The research started from March to July 2021.
Results: This study was conducted on 30 samples consisting of 27 men and 3 women with a mean age of 35.90 ± 6.66 years. There were 19 respondents (63.3%) who had CD 4 levels 200 cells/µL. The mean VCAT score was 21.93 ± 2.64. The VCAT score of respondents who experienced Mild Cognitive Impairment (MCI) was more with CD 4 levels 200 cells/µL, namely 18 people (94.7%) and there was a relationship between CD 4 levels and VCAT scores ($r = 0.755$, $p < 0.001$). In the examination of TMT A and TMT B, more respondents who experienced cognitive impairment with CD 4 levels 200 cells/µL were 19 people (100%) each and there was a relationship between CD 4 levels and TMT A with a value of $r = -0.736$ and TMT B with r value = -0.691 and p value < 0.001.
Conclusions: There was a relationship between CD 4 levels and cognitive function in patients with cerebral toxoplasmosis who were HIV positive.

PP-10 Plasma tau and beta-amyloid in two generations of Alzheimer's disease

Ming-Hui Chen, Tzyh-Chyuan Hour, Yuan-Han Yang
Medicine, Kaohsiung Medical Univ., Kaohsiung, Taiwan

Background
Alzheimer's disease (AD) is the leading cause of dementia. The family history of parents having AD will be associated with having AD in their children in our previous study. Children of AD patients are at the risk of having AD in the future. The pathological process of AD included the accumulation of β amyloid and tau protein in the brain tissues and has been examined extensively. Blood samples, compared to cerebral spinal fluid, are more practicable in routine practice. It is crucial to compare the correlation of these plasma biomarkers between these two generations to know the possible common pathways for developing AD.
Materials &Methods
Adult children of AD patients with age from 50 to 74 years old and having subjectively reported cognitive decline from a previous level of performance in one or more cognitive domains (complex attention, executive function, learning and memory, language, perceptual-motor, or social cognition including memory, orientation, executive function, language) and having at least a biological parent diagnosed as probable AD was recruited at Kaohsiung Municipal Ta-Tung Hospital, Taiwan.
Annual psychometrics and plasma biomarkers, amyloid beta $_{1\text{-}40}$, amyloid beta $_{1\text{-}42}$, total-tau, and P-tau181 were measured by ELISA in these two generations, children and parents.
Results
Ten AD patients with their corresponding 16 adult children (AC) have recruited into statistical analysis. There is no significant difference for amyloid beta $_{1\text{-}40}$ (AD: 187.7±222.6 (Mean±SD) pg/ml; AC: 131.4±118.7, p=0.407), amyloid beta $_{1\text{-}42}$ (AD: 49.0±23.8; AC: 47.7±20.6, p=0.890), total-tau (AD: 1068.7±667.5; AC: 1196.3±417.1, p=0.552), and P-tau181 (AD: 40.4±14.8; AC: 43.9±8.4. p=0.455) in two generations. Not amyloid beta $_{1\text{-}40}$ and amyloid beta $_{1\text{-}42}$, total-tau and P-tau181 have shown a significant correlation in these two generations (Pearson's correlation coefficient = 0.59, $p < 0.05$).

Conclusion
Plasma total-tau and P-tau181 might be considered as biomarkers to the possible development of AD in their children. To confirm the association, more samples with longitudinal examinations are necessary.

POSTER

PP-11 White matter hyperintensities on cholinergic pathways is associated with dementia severity in e4 carrier, not non-carrier

Ming-Chun Yu[1], Shu-Ching Wu[1], Yi-Chien Liu[1,2,3]

[1]Department of Neurology, Cardinal Tien Hospital, New Taipei, Taiwan, [2]Medical school of Fu-Jen University, New Taipei, Taiwan, [3]Geriatric Behavioral Neurology Project, Tohoku University New Industry Hatchery Center (NICHe), Sendai, Japan

Objective:
White matter hyperintensities (WMH) is one of the major risks of dementia progression. However, the relationship between WMH and dementia is not always linear. In previous studies, WMH on cholinergic pathways is proved to have more impacts on dementia severity. In this study, we further investigated their relationship in participants with or without APOE e4 genotype.
Methods:
From 2018 to 2021, we recruited participants from memory clinic of Cardinal Tien Hospital in Taiwan. Participants were recruited and underwent brain MRI, complete neuropsychological tests and APOE genotyping. Any participant with possible reversible causes of dementia would be excluded, such as brain tumor, metabolic diseases, and chronic psychiatric history. In this study, we specifically investigates WMH on cholinergic pathway, using Cholinergic Pathways HyperIntensity Scale (CHIPS) – a visual rating scale developed based on published immunohistochemical tracings of the cholinergic pathways in humans. Severity of dementia was graded based on standardized Mini-Mental State Examination (MMSE), Clinical Dementia Rating (CDR), and Clinical Dementia Rating – Sum of Boxes (CDR-SB) score. The total CHIPS score and dementia severity were evaluated between e4 carriers and non-carriers.
Results:
A total of 135 participants (37 carrier, 98 non-carrier) were recruited. The age, gender, education, MMSE, CDR, CHIPS score were not statistically different between carriers and non-carriers. There were 52 male and 83 female in our study. The educational level is 9.3 versus 9.7 (years) in carriers and non-carriers (p=0.67). Baseline MMSE average score is 19.9 versus 22.9 (p=0.49). CDR distribution in 0, 0.5, 1, 2 were independent between two groups using Chi Square Independent Test (p=0.06). The average CHIPS score is 15.0 versus 14.7 (p=0.45). The most significant finding of this study is the correlation of CHIPS and CDR-SB in carrier group (r=0.29, p=0.042), whereas similar correlation is not established in non-carrier group (r=0.06, p=0.279).
Conclusions:
The significance of WMH may be different in participants with different types of dementia or genetic background. Among APOE e4 carriers, even though total CHIPS score does not differ from non-carrier group, more white matter hyperintensities on cholinergic pathway is associated with greater dementia severity.

PP-12 Association between cerebral small vessel disease and Alzheimer's disease pathology biomarkers.

Yuan Cai[1], Wanting Liu[1], Kuan-Jung Wu[1,2], Xiang Fan[1], Junzhe Huang[1,2], Lin Shi[4], Lisa WC Au[1], Bonnie YK Lam[1], Jill Abrigo[4], Vincent CT Mok[1,3], Ho Ko[1,2,3]

[1]Division of Neurology, Department of Medicine and Therapeutics, Therese Pei Fong Chow Research Centre for Prevention of Dementia, The Chinese University of Hong Kong, Hong Kong SAR, China., [2]Li Ka Shing Institute of Health Sciences, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China., [3]Gerald Choa Neuroscience Centre, Lui Che Woo Institute of Innovative Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China., [4]Department of Imaging and Interventional Radiology, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong SAR, China.

Background: Controversy exists with respect to the etiological role of cerebral small vessel disease (CSVD) in Alzheimer's disease (AD). We thus evaluated the association between white matter hyperintensity (WMH), an MRI marker of CSVD, with brain amyloid β (Aβ) and tau burden and their plasma markers among subjects with varying severity levels of cognitive impairment.
Methods: We recruited 84 subjects from the CU-SEEDS (The **C**hinese **U**niversity of Hong Kong-**S**creening for **E**arly Alzh**E**imer's **D**isea**S**e) study who were stroke-free and had varying severity levels of cognitive impairment: 10 healthy controls [HC], 32 with subjective cognitive decline [SCD], 26 with mild cognitive impairment [MCI] and 16 with dementia. All subjects underwent structural MRI, ^{11}C- PIB, and ^{18}F-T807 positron emission tomography (PET), to measure WMH volume, and pathological Aβ deposition (A+) and tau burden (T+), respectively. WMH volume was quantified by automatic segmentation using AccuBrain® IV 1.1. Plasma levels of Aβ40, Aβ42, total tau (t-tau), phosphorylated tau at 181 (p-tau181) and neurofilament light chain (NfL) were measured by Single Molecule Array (SiMoA) assays among 71 subjects.
Results: The mean age of the subjects was 67.5. 34 (40.8 %) were male. No significant associations were found between WMH volume and global ^{11}C-PIB or ^{18}F-T807 standardized uptake value ratio (SUVR) on PET. Interestingly, we found that increasing WMH volume significantly correlated with higher plasma p-tau181 level (β = 0.10; 95% C.I.: 0.012 – 0.188; P = 0.03). There were no associations between WMH volume and plasma Aβ40, Aβ42, t-tau or NfL levels.
Conclusion: Brain WMH volume was associated with plasma p-tau181 level but not with PET tau positivity in the brain. Our results suggest that CSVD burden may contribute to elevated plasma phosphorylated tau in AD, and such change may precede PET-detectable elevated tau burden in the brain.

POSTER

PP-13 Association between atherogenic index of plasma (AIP) with cognitive function in elderly patients with heart failure

Fasihah_I Fitri[1,2], Irina_K Nasution[1,2], Hasanul Arifin[1,2]

[1]Department of Neurology, School of Medicine, Universitas Sumatera Utara, Indonesia, [2]Adam Malik General Hospital Medan Indonesia Republic of Indonesia

Background: Atherogenic index of plasma (AIP) is the logarithmically transformed ratio of molar concentrations of triglycerides to HDL-cholesterol and has been reported to be associated with increased risk of cardiovascular disease. However, its association with cognitive function remains unclear. We aimed to study the association between AIP with cognitive function in elderly patients with heart failure.

Methods: This was a cross- sectional study involving elderly patients with heart failure. Patients with history of brain injury, brain tumor, stroke, depression, chronic kidney disease, and aphasia were excluded. We performed cognitive evaluation using Montreal Cognitive Assessment Indonesian Version (MoCA-INA), Trails Making Test A and B, and Grooved Pegoard Test (GPT). We measured cholesterol level and calculated the AIP value for each patient, and divided them into 3 categories which were high (IAP>0.21); intermediate (IAP>0.11and ≤0.21) and low (≤0.11). Data were analyzed using Kruskal Wallis test, with p value <0.05 was considered to be statistically sginificant.

Results: There were 42 subjects consisted of 34 males and 8 females, with median age of 63 years. Most of the subjects had hypertension, hypertrophic heart disease, coronary artery disease and hypercholesterolemia. Most of the subjects (50%) belonged to New York Heart Association (NYHA) II classification, followed by NYHA I(45.2%) and NYHA III (4.8%).The median duration of heart failure was 12 months. The mean MoCA-INA score was 20±3.47, with most of the subjects (95.2%) had abnormal MoCA-INA score (less than 26).Most of the subjects had normal TMT-A result (83.3%) but abnormal TMT-B result (78.6%). The median value of GPT composite was 221.5 seconds. The average IAP value was 0.90±0.19. There were 69.0% subjects with low IAP, 26.2% with high IAP and 4.8% with intermediate IAP value. We found only signifcant association between IAP and MoCA-INA score (p=0.029), but no significant association was found between IAP and TMT-A, TMT-B and GPT, with p value of 0.478, 0.147 and 0.323 respectively.

Conclusion: IAP was associated with global cognitive function impairment in elderly patients with heart failure. This finding might suggest that every patient with heart failure needs to undergo a cognitive screening test and IAP measurement as one of the potential modifiable risk factor for cognitive impairment in this population.

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内科　神経内科　精神科　人工透析

認知症・うつ病・ADHDなどもご相談ください。

■診療時間

	月	火	水	木	金	土	日
8:30~17:30	●	●	●	●	●	ー	ー

（受付時間 8:30~11:00）

■休 診 日　土曜、日曜、祝祭日

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■通所リハビリテーション／定員20名（予防通所リハビリ含）
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～心の通う医療の実現を目指し、私たちは日々歩みつづけます～　医療法人社団 清明会　検索

医療法人社団 清靖会 PFC HOSPITAL
PATIENT FAMILY CENTERED CARE

昭和43年5月に、現在の大崎市古川に精神科の病院として医療法人社団清靖会PFCHOSPITALは開業しました。現在では、精神科病院の中に人工透析室を整備し、透析治療を必要とする精神疾患や認知症の患者さんと、そのご家族に寄り添いながら医療を提供しています。地域社会との関わりを大切に、創立当時の「患者さんを中心とした」医療を行うという理念を失うことなく、これからも活動していきます。

大学と連携しチーム医療に取り組んでいます。

■診療科目　内科、神経内科、心療内科、精神科
人工透析（人工透析装置24台）

■診療時間

	月	火	水	木	金	土	日
9:00~12:00	●	●	●	●	●	●	ー
14:00~17:00	●	●	●	●	●	ー	ー

平日の受付時間：8:00~11:00/13:00~16:00
土曜の受付時間：8:00~11:00

■休 診 日　土曜日の午後・日曜日・祝祭日

もの忘れ外来

毎週月曜日（再診）
8：30~15：30

毎週木曜日（新患）
13：30~15：30

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～患者さんとそのご家族を中心に寄り添い、医療と福祉をご提供します～　医療法人社団 清靖会　検索

医療法人 光仁会 PFC JAPAN CLINIC 福島
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■診療科目　内科、泌尿器科
人工透析（人工透析装置23台）

■診療時間

	月	火	水	木	金	土	日
9:00~12:00	●	●	●	●	●	●	ー
14:00~18:00	ー	●	ー	●	ー	●	ー

■休 診 日　月・水・金の午後・日曜日・祝祭日
※祝日は人工透析のみ治療

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PATIENT FAMILY CENTERED CARE

■診療科目　内科、泌尿器科、皮膚科
人工透析（人工透析装置15台）

■診療時間

	月	火	水	木	金	土	日
8:30~12:30	●	●	●	●	●	●	ー
14:00~20:00	●	ー	●	ー	●	ー	ー

■休 診 日　日曜日・祝祭日
■夜間透析　月・水・金（18:00~22:00）
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医療法人 光仁会 PFC JAPAN CLINIC 東根
PATIENT FAMILY CENTERED CARE

■診療科目　内科、泌尿器科、皮膚科
人工透析（人工透析装置29台）

■診療時間

	月	火	水	木	金	土	日
8:30~17:00	ー	●	ー	●	ー	●	ー

■休 診 日　月・水・金・日曜日・祝祭日

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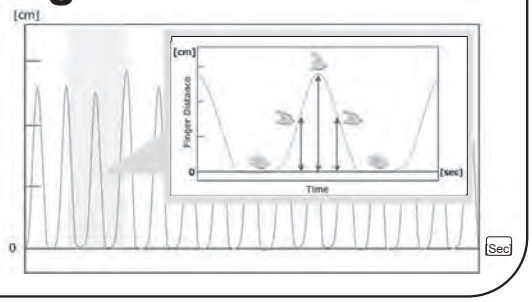

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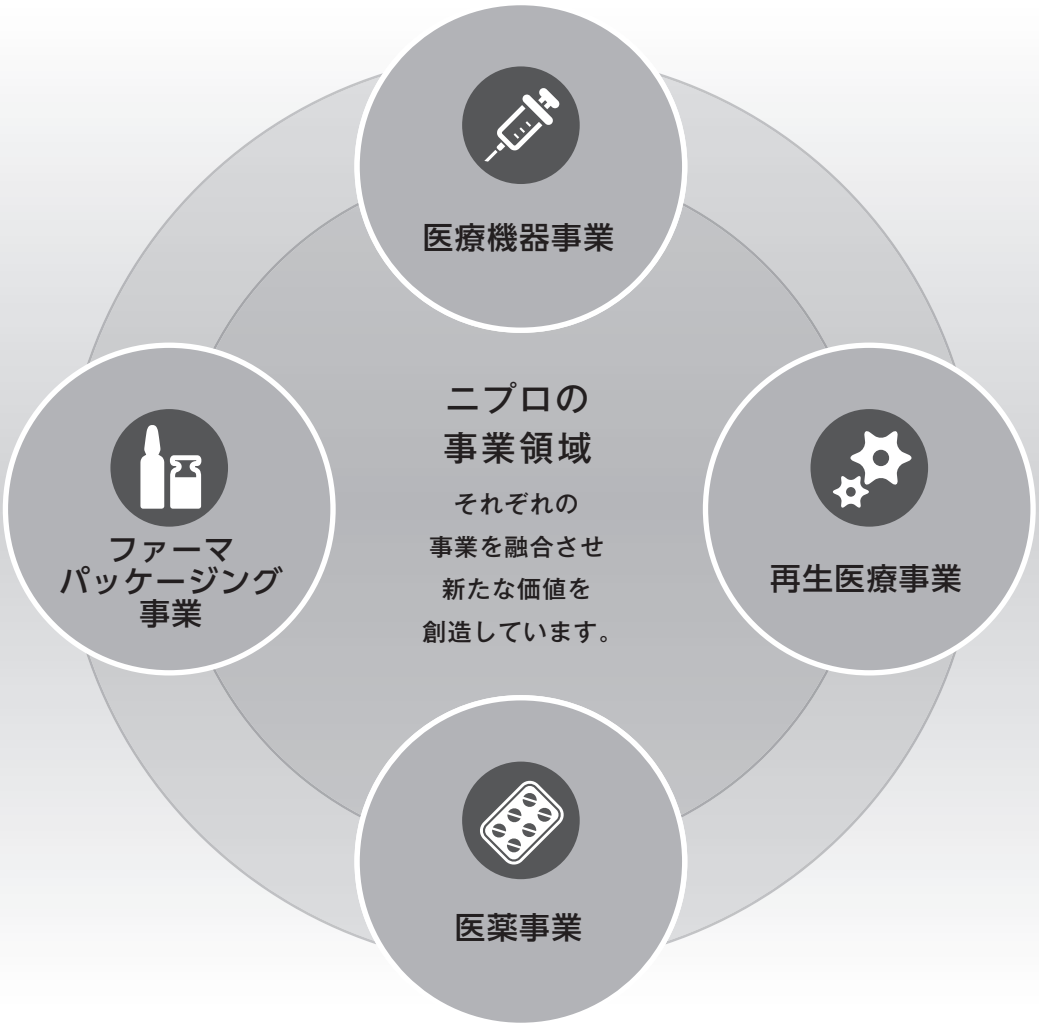

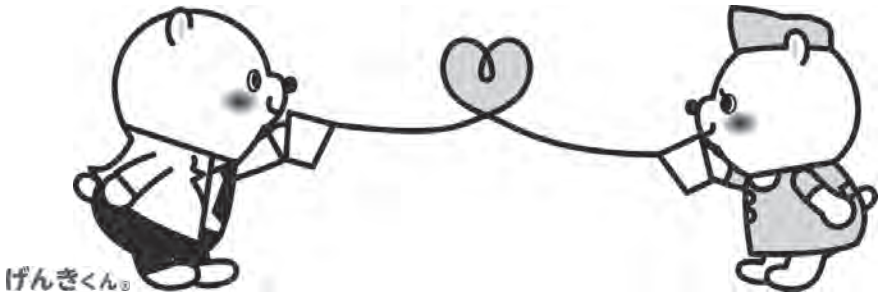

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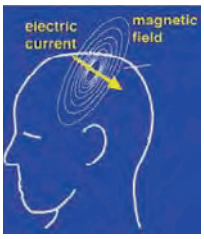

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