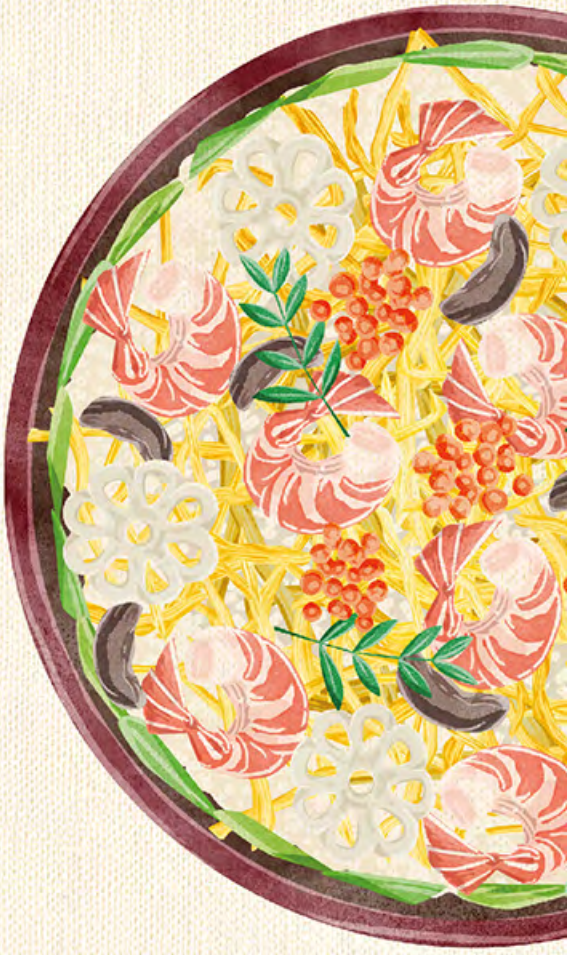
Dysphagia and Excretory Disorder of Older Adults

18th ISGG

The 18th International Symposium on Geriatrics and Gerontology



テーマ

高齢者の嚥下と排泄の障害

ABSTRACTS

June 13th, 2023
9:50-17:45
PACIFICO Yokohama North

日 時｜2023年6月13日(火)
9:50~17:45

第 18 回長寿医療研究センター国際シンポジウム開催報告

長寿医療研究センター国際シンポジウム

長寿医療研究センター国際シンポジウム（International Symposium on Geriatrics and Gerontology, ISGG）は、2004 年に我が国における 6 番目のナショナルセンターとしてあらたな活動を開始した国立長寿医療研究センター(National Center for Geriatrics and Gerontology, NCGG)において、長寿医療の発展と普及を促進し、老化のメカニズムならびに老化関係疾患の病態解明と治療薬開発に関する新しい情報を発信することを目的に開催されている。毎年 NCGG が主催し、公益財団法人長寿科学振興財団（The Japan Foundation for Aging and Health）が共催、多くの企業、団体のご後援を得て、センター内からの発表に加え、当該領域を代表する国内外の著名な研究者ならびに医療関係者を招聘し、広く参加者を求め、定例開催を継続している。2023 年 6 月 13 日に開催した今回のシンポジウムで、開催は 18 回を重ね、その評価も定着しつつあるが、今後ますます国際的にも関心の高まる超高齢社会における健康長寿の延伸に向けたさらなる発展をめざすものである。

第18回開催のねらい

第 18 回国際シンポジウムでは、国立長寿医療研究センターが高齢者の生活上喫緊の課題である食事・栄養・排泄の問題を扱うべく、2022 年度に摂食嚥下・排泄センター設立したことを受け、この領域の世界の英知を結集して、その最新情報を国内外に広く発信することを目的として企画した（タイトル：Dysphagia and Excretory Disorder of Older Adults）。

75 歳以上の高齢者人口の 20～30％がフレイルであると言われており、年齢が上がるにつれてその割合は増加する。フレイルは、高齢者特有の病気のリスクの増加、他者への依存、長期入院、死亡率の増加など、一般に高齢者の生活に影響を及ぼす深刻な結果につながる。フレイルを引き起こす要因は完全には解明されていないが、最も可能性が高いのはサルコペニアと栄養障害であるとされている。高齢者の嚥下障害の観点から見ると、これら 2 つの要因は原因と結果の両方である可能性があり、オーラルフレイルはこの集団における嚥下障害の性質を理解する上で最も重要な側面となるため、セッションⅠでは、オーラルフレイルに関わる 5 名の研究者、セッションⅡでは、栄養障害と食思不振に関する 3 名の研究者に登壇して頂いた。

一方で、人間は社会的動物であり、周囲から喜びをもたらす活動、家庭内での役割の確保、社会への参加がサルコペニア予防の前提となるが、ICF における環

境的要因と個人的要因のポジティブな方向性による活動の量と多様性の増加が必須であり、WHO が提唱する intrinsic factor の向上により、それが期待される。WHO は、さらに高齢者の intrinsic factor の 6 つの側面の低下を管理することを推奨しているが、尿失禁などの排泄障害もその一つであり、社会活動に重大な影響を及ぼすと考えられる。このためセッションⅢでは、主に排尿障害について、4 題の発表がなされた。全体で女性 5 名を含む 12 人の演者（海外からは 5 名）に発表をお願いした。

第 18 回国際シンポジウムは International Association of Gerontology and Geriatrics , Asia Oceania Regional Congress (IAGG-AOR)と併催させていただいた。COVID-19 の蔓延により、多くの国際学会が web 開催になっていたが、今回はオンサイトでの参加となったため、face to face での情報交換が可能となり、また IAGG-AOR との併催により、多数の海外からの聴衆があったため、真の意味での国際的なシンポジウムとった。

以上のように、第 18 回国際シンポジウムでは、世界の最先端の摂食嚥下、栄養および排泄に関わる研究者との交流が可能となり、国立長寿医療研究センターの研究・臨床活動の活性化に貢献した。

第18回シンポジウムの概要

今回のシンポジウムの開催に当たって、主催者である国立長寿医療研究センターの荒井 秀典 理事長、共催者である公益財団法人長寿科学振興財団の大島 伸一 理事長、第 18 回国際シンポジウム実行委員会・委員長である近藤 和泉 病院長から、次の挨拶が寄せられた。

※国立長寿医療研究センター　荒井 秀典 理事長の挨拶

Welcome, everyone!
We are very pleased to have you all at the 18th International Symposium on Geriatrics and Gerontology (ISGG) hosted by the National Center for Geriatrics and Gerontology (NCGG). We are honored to hold the Symposium during the International Association of Gerontology and Geriatrics (IAGG) Asia/ Oceania Regional Congress 2023 in Yokohama. The theme of the 18th symposium is “Dysphagia and Excretory Disorders of Older Adults”. Actually, NCGG established the Center for Swallowing and Continence in July 2022. In this center, we provide a multidisciplinary approach to improve eating and swallowing functions and the QOL related to the excretion of urine and feces because many old people have trouble with eating, urinary continence, and fecal excreting. These impairments greatly affect their activities of daily living (ADL), and vice versa. Stroke, spinal cord injury, dementia, frailty, and sarcopenia are the major causes of dysphagia, urinary incontinence, and defecation disorders, which need to be addressed by multidisciplinary and innovative approaches. It is a great pleasure for us to be able to hold this symposium in conjunction with the opening of the new center. In this symposium, we will share wisdom to improve the QOL of older people by focusing on eating and excretion. I do hope all the participants will enjoy this exciting symposium.

Hidenori Arai

President
National Center for Geriatrics and Gerontology

※公益財団法人長寿科学振興財団　大島 伸一 理事長の挨拶

Dear Researchers,

It is a great pleasure for me to have this opportunity to address the 18th International Symposium on Geriatrics and Gerontology on behalf of the Japan Foundation for Aging and Health.

Japan has now become what is referred to as a super-aging society, ranking among the top countries in the world in terms of average life expectancy. Accordingly, living a long and healthy life, not only physically but also mentally, is one of the greatest concerns of most people in the country.

What kind of society is a “longevity society where people are happy to live a long life,” where more and more people can say, as they near the end of their lives, “I’m glad that I lived long,” including all the ups and downs? At the Japan Foundation for Aging and Health, we have been pursuing our vision of a “longevity society where people are happy to live a long life” through our projects.

The theme of the 18th International Symposium is "Dysphagia and Excretory Disorders of Older Adults," an issue that we must tackle together.
I hope your knowledge exchange and new ideas obtained through the discussion in the symposium will greatly contribute to solving the issue.

The Japan Foundation for Aging and Health is very happy to support the International Symposium on Geriatrics and Gerontology. And thank you very much for all participated in the symposium.　Now let's create a society that enjoy longevity together!

Yours sincerely,

Shinichi Ohshima
President
The Japan Foundation for Aging and Health

※第 18 回長寿医療研究センター国際シンポジウム　実行委員会委員長
近藤 和泉 病院長の挨拶

Greetings

On June 13, 2023, the 18th International Symposium on Geriatrics and Gerontology will be held together with the IAGG Asia/Oceania Regional Congress 2023, at Pacifico Yokohama North. The title of symposium is "Dysphagia and Excretory Disorder of Older Adults".

It is said that 20-30% of the elderly population aged 75 years and over have frailty, and that proportion increases with age. Frailty leads to serious consequences affecting the lives of older people in general, such as an increased risk of diseases specific to the older age, dependence on others, long-term hospitalization, and increased mortality. The factors that cause frailty are not fully understood, but the two most likely ones are sarcopenia and malnutrition. From the viewpoint of older adults' dysphagia, these two factors could be both cause and effect and oral frailty would be the most important aspect to understand the nature of dysphagia in this population.

On the other hand, human beings are social animals, and must be premised on activities that bring joy from surroundings, securing roles in the home, and participation in society. The basis for this is the increase in the amount and diversity of activities due to the positive direction of environmental and personal factors in ICF. Improvement of intrinsic capacity advocated by WHO is expected to raise the level of individual factors. WHO recommends managing the declines in six aspects of intrinsic capacity in older people. Urinary incontinence and other excretory disorder are one of them and are considered to have a serious impact on social activities. In response to this movement in frailty prevention, in April 2022, our center established the Eating, Swallowing, and Excretion Center.

We hope that this symposium will contribute to a deeper understanding of dysphagia and excretory disorder of older adults. Thank you very much for your kind attention.

Sincerely

Izumi Kondo, MD, PhD
Director of Hospital
National Center for Geriatrics and Gerontology

シンポジウムの開催風景

今回のシンポジウムの開催概要ならびにプログラムは表 1 及び表 2 に示すとおりである。

（表 1）
開催概要

催 事 名：第 18 回長寿医療研究センター国際シンポジウム
The 18th International Symposium on Geriatrics and Gerontology

テ ー マ：Dysphagia and Excretory Disorder of Older Adults

開催日時：2023 年 6 月 13 日（火） 9:50～17:45

開催場所：パシフィコ横浜 ノース
（神奈川県横浜市西区みなとみらい 1-1-1）

主 催：国立研究開発法人国立長寿医療研究センター

共 催：公益財団法人長寿科学振興財団

協 賛：日本老年学会

後 援：一般社団法人日本認知症学会、一般社団法人日本神経学会、一般社団法人日本神経科学学会、一般社団法人日本サルコペニア・フレイル学会、一般社団法人日本摂食嚥下リハビリテーション学会、一般社団法人日本排尿機能学会、日本老年泌尿器科学会、国立大学法人東海国立大学機構 名古屋大学、名古屋市立大学、藤田医科大学病院、愛知医科大学、三重大学、国立大学法人浜松医科大学、国立大学法人東海国立大学機構 岐阜大学、厚生労働省、愛知県、名古屋市、大府市、東浦町、神奈川県、横浜市健康福祉局、朝日新聞社、株式会社毎日新聞社 中部本社、読売新聞社、東海テレビ放送株式会社、中京テレビ放送株式会社、株式会社ＣＢＣテレビ、テレビ愛知株式会社、中日新聞社

使用言語：英語

座長・講演者：海外 6 名、国内は NCGG の 4 名を含めた 10 名、合計 16 名

参加人数：220 名（会場における対面式）

（表 2）
プログラム

9:50～9:55 開会の辞
国立長寿医療研究センター　理事長　荒井　秀典 先生

Session I：Dysphagia and Oral Frailty

座長：Kaohsiung Medical University　Hsiao-Ling Huang 先生（台湾）
国立長寿医療研究センター　近藤　和泉 先生

1. Rehabilitation nutrition for sarcopenic dysphagia in older people
   東京女子医科大学病院　若林　秀隆 先生

2. Electrical or magnetic stimulation to strengthen suprahyoid muscles
   国立長寿医療研究センター　加賀谷　斉 先生

3. Oral Frailty Impact Health Outcomes for Older People
   Kaohsiung Medical University　Hsiao-Ling Huang 先生（台湾）

4. Oral Frail and its Prevention in the Community
   国立国際医療研究センター　藤谷　順子 先生

5. A Scoping Review on the Missing Pieces of Geriatric Dysphagia
   Seoul National University　Byung-Mo Oh 先生（韓国）

Session II：Management of malnutrition and anorexia

座長：名鉄病院　葛谷　雅文 先生
National Taiwan University Hospital　Derrick Chan 先生（台湾）

1. Clinical practice for malnutrition and anorexia in older adults
   国立長寿医療研究センター　前田　圭介 先生

2. Overview: Nutritional problems characteristic of older people and their causes and consequences
   名鉄病院　葛谷　雅文 先生

3. Malnutrition: Sarcopenia and Obesity among elderly in Taiwan
China Medical University Hospital　Wen-Yuan Lin 先生（台湾）

Session III：Incontinence management: Evidence update

座長：国立長寿医療研究センター　吉田正貴 先生
JCHO 中京病院　後藤　百万 先生

1. Optimising continence for people living with dementia
National Ageing Research Institute　Joan Ostaszkiewicz 先生（オーストラリア）

2. Evidence up date for the effectiveness of “Prompted Voiding“
-To promote EBP in toileting assistance for frailty elderly-
山形大学　佐藤　和佳子 先生

3. The interdisciplinary continence self-management program for stroke patients
金沢大学　正源寺　美穂 先生

4. Pharmacological treatment of urinary incontinence in the elderly, including patients with frailty and dementia
Sungkyunkwan University　Kyu-Sung Lee 先生（韓国）

17:40～17:45　閉会の挨拶
国立長寿医療研究センター　近藤　和泉　先生

講演抄録

Rehabilitation nutrition for sarcopenic dysphagia in older people

Hidetaka Wakabayashi

Department of Rehabilitation Medicine, Tokyo Women's Medical University

Summary

Sarcopenic dysphagia is defined as difficulty of swallowing due to sarcopenia of the swallowing and generalized skeletal muscles. The presence of dysphagia and whole-body sarcopenia are necessary to diagnose sarcopenic dysphagia. Diagnostic algorithm for sarcopenic dysphagia was the most widely used and should be used, because it is the only reliable and validated diagnostic method. The prevalence of sarcopenic dysphagia in acute care hospital required dysphagia rehabilitation, and

pneumonia inpatients with dysphagia was 32% and 81%, respectively. Therefore, sarcopenic dysphagia is quite common in older people.

In 2019, the Japanese Society of Dysphagia Rehabilitation, the Japanese Association of Rehabilitation Nutrition, the Japanese Association on Sarcopenia and Frailty, and the Society of Swallowing and Dysphagia of Japan published a position paper about sarcopenia and dysphagia. Dysphagia rehabilitation along with nutritional support consisting of approximately 35 kcal/kg/day determined using their ideal bodyweight is recommended in the position paper. Our study showed that managing ≥ 30 kcal/kg/day energy based on ideal body weight (IBW) improved swallowing function more compared with managing < 30 kcal/kg/day energy in patients with sarcopenic dysphagia.

Rehabilitation nutrition is a combination of both rehabilitation and nutrition care management. High quality rehabilitation nutrition is provided by a rehabilitation nutrition care process. Rehabilitation nutrition care process includes assessment and diagnostic reasoning, diagnosis, goal setting, intervention, and monitoring. It is important to turn this cycle several times. Goal should be set SMART (specific, measurable, achievable, relevant, and time-bound). Increase 1kg body weight in 1 month is a SMART goal. Aggressive nutrition therapy is important to treat sarcopenic dysphagia.

Energy requirement in people with sarcopenic dysphagia is energy expenditure plus energy accumulation. If the goal is to gain 1 kg in 1 month, the daily energy accumulation is hypothetically calculated to be 250 kcal.

Education

2013 – 2016 Jikei University Graduate School of Medicine, Doctor of Medical Science

1989 – 1995 Yokohama City University School of Medicine, Bachelor of Medicine, Medical Doctor

Professional Experiences

2020 – present Tokyo Women's Medical University Hospital, department of rehabilitation medicine, Professor

2008 – 2020 Yokohama City University Medical Center, department of rehabilitation medicine

2003 – 2008 Saiseikai Yokohama City South Hospital, department of rehabilitation medicine

2000 – 2003 Yokohama Stroke and Brain Center, department of rehabilitation medicine

1998 – 200 Yokohama Rehabilitation Center, department of rehabilitation medicine

1997 – 1998 Yokohama City University Hospital, department of rehabilitation medicine

1995 – 1997 Japanese Red Cross Medical Center, junior resident of internal medicine

Honors and Awards

2018: The 4th Asian Conference on Frailty and Sarcopenia (ACFS). First Prize.

2015: The 16th congress of the Parenteral and Enteral Nutrition Society of Asia (PENSA). Best Free Paper Award Oral Presentation.

Major Research Interest

- ❏ Rehabilitation nutrition
- ❏ Sarcopenic dysphagia
- ❏ Sarcopenia
- ❏ Cachexia

Recent Publications (Selected)

1. Sato S, Miyazaki S, Tamaki A, Yoshimura Y, Arai H, Fujiwara D, Katsura H, Kawagoshi A, Kozu R, Maeda K, Ogawa S, Ueki J, Wakabayashi H. Respiratory sarcopenia: A position paper by four professional organizations. Geriatr Gerontol Int. 2023;23(1):5-15.
2. Nishioka S, Nakahara S, Takasaki M, Shiohama N, Kokura Y, Suzuki T, Yokoi-Yoshimura Y, Nii M, Maeda K, Wakabayashi H. The concept of aggressive nutrition therapy and clinical indication: A position paper. Clin Nutr ESPEN. 2022;52:322-330.
3. Wakabayashi H. Positive psychology and rehabilitation nutrition. J Gen Fam Med. 2022;23(5):293-294.
4. Nagai T, Wakabayashi H, Nishioka S, Momosaki R. Functional prognosis in

patients with sarcopenic dysphagia: An observational cohort study from the Japanese sarcopenic dysphagia database. Geriatr Gerontol Int. 2022;22(10):839-845.

5. Nishioka S, Wakabayashi H. Interaction between malnutrition and physical disability in older adults: is there a malnutrition-disability cycle? Nutr Rev. 2023;81(2):191-205.
6. Wakabayashi H, Maeda K, Momosaki R, Kokura Y, Yoshimura Y, Fujiwara D, Kosaka S, Suzuki N. Diagnostic reasoning in rehabilitation nutrition: Position paper by the Japanese Association of Rehabilitation Nutrition (secondary publication). J Gen Fam Med. 2022;23(4):205-216.
7. Inoue T, Iida Y, Takahashi K, Shirado K, Nagano F, Miyazaki S, Takeuchi I, Yoshimura Y, Momosaki R, Maeda K, Wakabayashi H. Nutrition and Physical Therapy: A Position Paper by the Physical Therapist Section of the Japanese Association of Rehabilitation Nutrition (Secondary Publication). JMA J. 2022;5(2):243-251.
8. Taguchi K, Wakabayashi H, Fujimoto M, Obayashi S, Yamamoto M, Nishioka S, Momosaki R. Association between Malnutrition Severity and Swallowing Function in Convalescent Rehabilitation Wards: A Multi-Center Cohort Study in Malnourished Patients with Sarcopenic Dysphagia. J Nutr Health Aging. 2022;26(5):469-476.
9. Mori T, Wakabayashi H, Kishima M, Itoda M, Fujishima I, Kunieda K, Ohno T, Shigematsu T, Oshima F, Ogawa N, Nishioka S, Momosaki R, Shimizu A, Saito Y, Yamada M, Ogawa S. Association between Inflammation and Functional Outcome in Patients with Sarcopenic Dysphagia. J Nutr Health Aging. 2022;26(4):400-406.
10. Wakabayashi H, Kishima M, Itoda M, Fujishima I, Kunieda K, Ohno T, Shigematsu T, Oshima F, Mori T, Ogawa N, Nishioka S, Momosaki R, Yamada M, Ogawa S. Prevalence of Hoarseness and Its Association with Severity of Dysphagia in Patients with Sarcopenic Dysphagia. J Nutr Health Aging. 2022;26(3):266-271.

Contact Information

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Electrical or magnetic stimulation to strengthen suprahyoid muscles

Hitoshi Kagaya, MD, DMSc

Director, Department of Rehabilitation Medicine, National Center for Geriatrics and Gerontology

Summary

Recently, neuromuscular electrical stimulation (NMES) has been applied to patients with dysphagia. It is one of the most frequently recommended procedures by clinicians in the USA. A meta-analysis showed that NMES for adult patients with dysphagia was more effective than traditional therapy for various etiologies except for stroke, while another report revealed that NMES was more effective than that without NMES for post-stroke dysphagia in the short term. Although the precise mechanism by which NMES improves dysphagia is not well understood, NMES has been performed to strengthen the swallowing-related muscles as well as to facilitate neuroplasticity, thereby showing clinical improvement. Many studies have reported stimulation of the suprahyoid muscles to treat patients with reduced laryngeal elevation. However, attaining sufficient hyoid bone elevation using surface electrodes seems difficult because stimulating skin nociceptors causes pain and discomfort. Moreover, everyday shaving is needed for some patients to attach surface electrodes to the submental area. One solution is to use magnetic stimulation. Magnetic stimulation activates the nerve and the muscles without stimulating the skin nociceptors by using time-varying electromagnetic fields to induce eddy currents in the adjacent volume without passing the skin. The advantage of magnetic stimulation over electrical stimulation is that it can be applied at high levels of intensity, which permits the activation of deep anatomical structures without local discomfort. However, the magnetic stimulation hardware is bulkier and does not provide a controlled focal stimulus, suggesting that it cannot replace NMES for smaller muscles. We have developed a peripheral magnetic stimulation (PMS) system for suprahyoid muscles. Here, I present electrical or magnetic stimulation to strengthen suprahyoid muscles.

Education

- School of Medicine, Tohoku University, Japan, 1988
- Graduate School, Akita University, Japan, 1994

Professional Experiences

Instructor (1995-1997)
Akita University Hospital, Akita, Japan.
Director (1997-2006)
Dept. of Rehabilitation, Akita City Hospital, Akita, Japan.

Associate Professor (2006-2015)
Dept. of Rehabilitation Medicine I, School of Medicine, Fujita Health University, Aichi, Japan.

Professor (2016-2022)
Dept. of Rehabilitation Medicine I, School of Medicine, Fujita Health University, Aichi, Japan.

Director (2022-present)
Department of Rehabilitation Medicine, National Center for Geriatrics and Gerontology (NCGG), Aichi, Japan.

Honors and Awards

2010-present, Editor-in-chief, Japanese Journal of Comprehensive Rehabilitation Science (JJCRS)

Major Research Interest

- ❏ Swallowing rehabilitation
- ❏ Peripheral magnetic stimulation
- ❏ Motion analysis
- ❏ Robotic rehabilitation

Recent Publications (Selected)

1. Kagaya H, Inamoto Y. Possible rehabilitation procedures to treat sarcopenic dysphagia. Nutrients 2022;14:778.
2. Aoyagi Y, Mori E, Ishii H, Kono Y, Sato A, Okochi Y, Funahashi R, Kagaya H. Poor walking ability outcome and activities of daily living improvement in patients undergoing cardiac rehabilitation during COVID-19 pandemic. Eur J Phys Rehabil Med 2022;58:606-611.
3. Benjapornlert P, Kagaya H, Inamoto Y, Mizokoshi E, Shibata S, Saitoh E. The effect of reclining position on swallowing function in stroke patients with dysphagia. J Oral Rehabil 2020;47:1120-1128.
4. Kagaya H. Differences between drinking and eating from the viewpoint of dysphagia rehabilitation. Jpn J Compr Rehabil Sci 2020; 11: 49-51.
5. Kagaya H, Masakado Y, Saitoh E, Fujiwara T, Abo M, Izumi SI, Nodera H, Dekundy A, Hiersemenzel R, Nalaskowski CM, Hanschmann A, Kaji R. IncobotulinumtoxinA for upper- and lower-limb spasticity in Japanese patients. Curr Med Res Opin 2020;36:827-34.

6. Ogawa M, Kagaya H, Nagashima Y, Mori S, Shibata S, Inamoto Y, Aoyagi Y, Toda F, Ozeki M, Saitoh E. Repetitive peripheral magnetic stimulation for strengthening of the suprahyoid muscles: A randomized controlled trial. Neuromodulation 2020;23:778-83.
7. Mori H, Kagaya H, Inamoto Y, Izumi SI, Yashima K, Takagi T. Numerical analysis of eddy current distribution in submental region induced by magnetic stimulation for treating dysphagia. IEEE Trans Neural Syst Rehabil Eng 2020;28:1178-1186.
8. Fujimura K, Kagaya H, Endou C, Ishihara A, Nishigaya K, Muroguchi K, Tanikawa H, Yamada M, Kanada Y, Saitoh E. Effects of repetitive peripheral magnetic stimulation on shoulder subluxations caused by stroke: A preliminary study. Neuromodulation 2020;23:847-851.
9. Kagaya H, Ogawa M, Mori S, Aoyagi Y, Shibata, Inamoto Y, Mori H, Saitoh E. Hyoid bone movement at rest by peripheral magnetic stimulation of suprahyoid muscles in normal individuals. Neuromodulation 2019; 22: 593-596.
10. Fujishima I, Fujiu-Kurachi M, Arai H, Hyodo M, Kagaya H, Maeda K, Mori T, Nishioka S, Oshima F, Ogawa S, Ueda K, Umezaki T, Wakabayashi H, Yamawaki M, Yoshimura Y. Sarcopenia and dysphagia: Position paper by four professional organizations. Geriatr Gerontol Int 2019;19:91-97.
11. Tanikawa H, Kagaya H, Inagaki K, Kotsuji Y, Suzuki K, Fujimura K, Mukaino M, Hirano S, Saitoh E, Kanada Y. Quantitative assessment for flexed-elbow deformity during gait following botulinum toxin A treatment. Gait Posture 2018; 62: 409-414.
12. Kagaya H, Saitoh E, Shibata S, Onogi K, Aoyagi Y, Inamoto Y, Ozeki M, Ota K. Delayed pharyngeal response in chew–swallow does not increase risk of aspiration in individuals with stroke. J Am Geriatr Soc 2015; 63: 1698-1699.

Contact Information

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Oral Frailty Impact Health Outcomes for Older People

Hsiao-Ling Huang, MPH, DrPH

Department of Oral Hygiene, College of Dental Medicine, Kaohsiung Medical University

Summary

Decreased oral function (oral dysfunction) is common among older adults, and its prevalence increases with age and physical frailty. Oral dysfunction is defined as the presentation of seven oral signs or symptoms: oral uncleanness, oral dryness, decline in occlusal force, motor function of the tongue and lips, tongue pressure, chewing function, and swallowing function. Oral frailty and dysphagia can lead to poor health outcomes (i.e. physical frailty, sarcopenia and aspiration pneumonia) for older people. The present topic introduces the oral frailty associated with physical frailty, oral health-related quality of life (OHRQoL), and late-life depression in older population. A large-scale cross-sectional survey was conducted to recruit 1100 representative adults aged ≥65 years old in southern Taiwan. Dysphagia and masticatory performance were found to exert significant mediating effects on the association between xerostomia and OHRQoL (βs = 0.21 and- 0.12, respectively; both $p < .001$; βs = 0.06 and −0.09, respectively; both $p < .05$). More than 80% of the participants with two or more posterior occlusal support areas (those in groups A1–B2) could easily eat various foods. Compared with those in groups A1–B2, those in groups in B3, B4, C1, C2, and C3 exhibited a significantly different masticatory performance (all $p < .001$) and significantly higher difficulty in eating meats, fruits and vegetables. The older adults with dysphagia and xerostomia were more likely to have late-life depression. Combined effects of physical and oral frailty status on late-life depression were also observed in older adults in a dose-response manner. In summary, providing early oral function intervention may be a valuable and actionable target for older adults to maintain their quality of life.

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Education

- DrPH, Department of Global Community Health and Behavior Science, School of Public, Health and Tropical Medicine, Tulane University, Louisiana, U.S.A., 2003-2007
- MPH. Department of Epidemiology, School of Public Health and Tropical Medicine, Tulane University, Louisiana, U.S.A., 1997-1998
- BS Department of Public Health, Kaohsiung Medical University, Kaohsiung City, Taiwan, 1993-1996
- BS Nursing Department, Chang Gang Institute of Technology, Taoyuan County, Taiwan, 1991-1992

Professional Experiences

- 2023 – present: President, Taiwan Academy for Dental Hygiene, Taiwan
- 2014 – present: Professor, Department of Oral Hygiene, College of Dental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan
- 2011 – 2014: Associate Professor, Department of Oral Hygiene, College of Dental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan
- 2007 –2011: Assistant Professor, Department of Oral Hygiene, College of Dental Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan
- 2006 – present Director, Division of

Honors and Awards

- Research Excellence Award, Kaohsiung Medical University, 2022
- Research Excellence Award, Kaohsiung Medical University, 2021
- Research Excellence Award, Kaohsiung Medical University, 2020
- Research Excellence Award, Kaohsiung Medical University, 2019.
- Research Excellence Award, Kaohsiung Medical University, 2018.
- Research Excellence Award, Kaohsiung Medical University, 2017
- Research Excellence Award, Kaohsiung Medical University, 2016.
- Research Excellence Award, Kaohsiung Medical University, 2015.
- Research Excellence Award, Kaohsiung Medical University, 2014.
- Research Excellence Award, Kaohsiung Medical University, 2013.
- JUNIOR LEADER IN GLOBAL HEALTH AWARD: Tulane SPHTM Centennial 2012, USA 2012/11/11
- Colleges and Universities Annual Grants for Special Talents Award: National Science Council, Taiwan 2012
- Colleges and Universities Annual Grants for Special Talents Award: National Science Council, Taiwan 2011
- Distinguished Teaching Award: Kaohsiung Medical University, Kaohsiung, Taiwan 2011. For teaching on Kaohsiung Medical University.
- Teaching Excellence Award: Kaohsiung Medical University, Kaohsiung, Taiwan 2011. For Council, Taiwan 2010.
- Outstanding Teacher Award: Department of Nursing, Shu-Zen College of Medicine and Management, Kaohsiung County, Taiwan 2002. For teaching, student consulting and service, research on Department of Nursing.

Recent Publications (Selected)

1. Chen MA, Liu CK, Yang YH, Huang ST, Yen CW, Kabasawa Yuji, Huang HL*. Clinical-based Oral Rehabilitation Programme Improved the Oral Diadochokinesis

and Swallowing Function of Older Patients with Dementia: A Randomized Controlled Trial. Journal of Oral Rehabilitation 2022 Dec;49(12):1163-1172

2. Shen KL#, Huang CL#, Lin YC, Du JK, Chen FL, Kabasawa Yuji, Chen CC, Huang HL*. Effects of Artificial Intelligence-assisted Dental Monitoring Intervention in Patients with Periodontitis: A Randomized Controlled Trial. J Clin Periodontol. 2022. Oct;49(10):988-998.
3. Lin YC#, Lin YC#, Chen JH, Lin PL, Chen T, Huang HL*. Long-term Effects of a Lay Health Advisor Intervention on Immigrant Children's Caries: A Randomized Controlled Trial. Community Dent Oral Epidemiol 2022 Aug; 50(4):280-291.
4. Lin YC, Huang SS, Yen CW, Kabasawa Yuji, Lee CH, Huang HL*. Physical Frailty and Oral Frailty Associated with Late-life Depression in Community-dwelling Older Adults. J. Pers. Med. 2022 March 14, 12(3), 459.
5. Chang AH, Lin PC, Lin PC, Lin YC, Kabasawa Yuji, Lin CY of Virtual Reality-Based Training on Oral Healthcare for Disabled Elderly: A Randomized Controlled Trial. J. Pers. Med. 2022 Feb 4, 12(2), 218.
6. Wei CT, Lo KY, Lin YC, Chen FL, Hu CY, Huang HL*. Effects of Health-Promoting School Strategy on Dental Plaque Control and Preventive Behaviors in Schoolchildren in High-Caries, Rural Areas of Taiwan: A Quasi-Experimental Design. BMC Oral Health 2021 November 8, 21(1):573
7. Hsu YJ, Chen YH, Lin KD, Lee MY, Lee YL, Yu CK, Kabasawa Y, Huang HL*. Clinical Outcomes and Oral Health-Related Quality of Life after Periodontal Treatment with Community Health Worker Strategy in Patients with Type 2 Diabetes: A Randomized Controlled Study. Int J Environ Res Public Health 2021 Aug 7, 18(16), 8371
8. Lin YC, Du JK, Lin PC, Kabasawa Yuji, Lin PL, Hsiao SY*, Huang HL*. Association between the dental occlusion and perceived ability to eat foods of Taiwanese older adults. Journal of Oral Rehabilitation 2021 Jul;48(7):817-826.
9. Wu PW, Tsai S, Lee CY, Lin WT, Chin YT, Huang HL, Seal WD, Chen T, Lee CH* Contribution of insulin resistance to the relationship between sugar-sweetened beverage intake and a constellation of cardiometabolic abnormalities in adolescents. International Journal of Obesity (Lond). 2021 Apr;45(4):828-839.
10. Lu TY, Chen JH, Du JK, Lin YC, Ho PS, Lee CH, Hu CY, Huang HL*. Dysphagia and Masticatory Performance as a Mediator of the Xerostomia to Quality of Life Relation in the Older Population. BMC Geriatrics 2020 Dec 2; 20(1): 521

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Oral Frail and its Prevention in the Community

Junko Fujitani

Director, Department of Rehabilitation.
National Center for Global Health and Medicine

Summary

The decline of swallowing function in the elderly differs from swallowing impairment caused by diseases as it gradually manifests over time. In the general elderly population, diminished swallowing function often goes unnoticed, initially presenting as reduced chewing ability and limited variety in food textures without the individual's awareness. Consequently, changes in eating habits occur, accompanied by complications such as aspiration and overall physical decline, leading to the development of aspiration pneumonia and malnutrition. Therefore, it is crucial to detect even subtle declines in swallowing function and take preventive measures.

In Shinjuku Ward, maintaining swallowing disorders has been identified as one of the challenges in the district's healthcare administration. As part of this initiative, activities focused on raising awareness about swallowing function and aspiration have been undertaken, including oral health promotion through senior dental check-ups. Additionally, recent efforts have also involved disseminating knowledge about the concept of "Oral Frailty."

The speaker collaborates with other healthcare professionals and works in coordination with government agencies to support their initiatives. These activities will be further discussed during the symposium, highlighting the importance of preventive measures and the significance of collaborative efforts in addressing oral frailty and its impact on the community.

Education

1987 University of Tsukuba. Bachelor in Medical
1999 The University of Tokyo. Doctoral in Physiotherapy

Professional Experiences

1999-2002: Department of Physiotherapy; Tokyo Metropolitan Rehabilitation Hospital
1996-1999: Department of Rehabilitation, The University of Tokyo Hospital

Honors and Awards

1. **The Best Paper Award 2019 of The Japanese Association of Rehabilitation Medicine.** "Association Between Early Rehabilitation and Mobility Status in Elderly Inpatients with Heart Failure: A Nationwide Retrospective Cohort Study." Yagi M; DBA; Yasunaga H, Matsui H, Fushimi K, Fujimoto M, Koyama T, **Fujitani J.**

Major Research Interest

- ❏ Dysphagia and aspiration pneumonia in the elderly
- ❏ Dysphagia diet
- ❏ Cooperation between Medical Institutions and the Community

Recent Publications (Selected)

1. ***Benefits of physical therapy for people living with hemophilia.*** Kikuchi K, Komachi T, Honma Y, **Fujitani J**. Glob Health Med. 2021 Dec 31;3(6):409-412. doi: 10.35772/ghm.2021.01026.
2. ***Survey of motor function and activities of daily living in hemophilia patients with HIV.*** Kikuchi K, Komachi T, Honma Y, Endo T, Watabe K, Yokomaku Y, Hashiba C, Yamamoto M, Nagayo Y, Ito T, Imamura J, Suzuki T, **Fujitani J**. Global Health and Medicine Open "2021
3. ***Potential of Rice-Flour Jelly Made from High-Amylose Rice as a Dysphagia Diet: Evaluation of Pharyngeal Residue by FEES.*** Tsubokawa M, **Fujitani J**, Ashida K, Hayase M, Kobayashi N, Horita C, Sakashita M, Tokunaga T, Hamano T, Kikuta KI, Fujieda S. Dysphagia. 2022 Oct 15. doi: 10.1007/s00455-022-10529-y. Online ahead of print.
4. ***Outcomes After Intensive Rehabilitation for Mechanically Ventilated Patients: A Nationwide Retrospective Cohort Study.*** Yagi M, Morita K, Matsui H, Michihata N, Fushimi K, Koyama T, **Fujitani J**, Yasunaga H. Arch Phys Med Rehabil. 2021 Feb;102(2):280-289. doi: 10.1016/j.apmr.2020.09.389. Epub 2020 Oct 22.
5. ***Thoracic ROM measurement system with visual bio-feedback: system design and biofeedback evaluation.*** Ando T, Kawamura K, **Fujitani J**, Koike T, Fujimoto M, Fujie MG. Annu Int Conf IEEE Eng Med Biol Soc. 2011;2011:1272-4. doi: 10.1109/IEMBS.2011.6090299.
6. ***Society of swallowing and dysphagia of Japan: Position statement on dysphagia management during the COVID-19 outbreak.*** Kimura Y, Ueha R, Furukawa T, Oshima F, **Fujitani J,** Nakajima J, Kaneoka A, Aoyama H, Fujimoto Y, Umezaki T. Auris Nasus Larynx. 2020 Oct;47(5):715-726. doi: 10.1016/j.anl.2020.07.009. Epub 2020 Jul 23.
7. ***Evaluation of a chest rehabilitation project in Nepal using the St. George's Respiratory Questionnaire and Chronic Obstructive Pulmonary Disease Assessment Test.*** Sato A, Kamimura M, Yorimoto K, Kato T, Yamashita S, Mouri A, Tanigawa M, Arimoto Y, **Fujitani J,** Yogi KN; FCCP, Karki KB, Hayashi S. J Phys Ther Sci. 2020 Dec;32(12):795-799. doi: 10.1589/jpts.32.795. Epub 2020 Dec 11.

8. ***Association Between Early Rehabilitation and Mobility Status in Elderly Inpatients with Heart Failure: A Nationwide Retrospective Cohort Study.*** Yagi M; DBA; Yasunaga H, Matsui H, Fushimi K, Fujimoto M, Koyama T, **Fujitani J.** Prog Rehabil Med. 2018 Oct 24;3:20180017. doi: 10.2490/prm.20180017. eCollection 2018.

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Filling the Gaps: A Scoping Review on the Missing Pieces of Geriatric Dysphagia

Byung-Mo Oh, MD, PhD

Seoul National University Hospital

Summary

As with many other bodily functions, age-related decline is often accompanied by a deterioration in swallowing function, also known as presbyphagia. However, if presbyphagia progresses to the point where functional decline exceeds the safety margin, it can lead to complications such as aspiration, repeated pneumonia, choking, malnutrition, and generalized muscle wasting, which can cause a vicious cycle of further deterioration of swallowing function. According to reports, although the percentage varies depending on the study, between 27% and 44% of elderly individuals over the age of 65 complain of discomfort in their swallowing function, making dysphagia, among many factors that make up geriatric syndrome, a very important public health issue.

This study focused on the epidemiology, pathophysiology, and association with major health outcomes of geriatric dysphagia, and searched PubMed, EMBASE, and the Cochrane Library. The search yielded 4,430 articles on epidemiology, 8,188 on pathophysiology, and 8,086 on association with health outcomes. However, despite the large number of articles on epidemiology, it was difficult to accurately estimate the incidence and prevalence of dysphagia because different tools and criteria were used in each report. In particular, when using self-reported surveys, cases that include symptoms of swallowing disorders but with little actual reduction in swallowing ability (e.g. gastroesophageal reflux disease) are also common. Therefore, the prevalence of geriatric dysphagia may have been somewhat inflated.

Pathophysiology related to geriatric dysphagia includes aging-related decline in motor control, decreased saliva production, reduced pharyngeal sensory function, reflux due to decreased esophageal motility, and decreased efficiency of swallowing due to muscle atrophy and weakness in the tongue and pharyngolarynx. Recently, severe sarcopenia has been identified as a significant cause. However, there is little literature on the relationship between decreased elasticity of the lungs and tracheobronchial trees, changes in head and neck and thoracic posture, and swallowing disorders. Major health outcomes such as pneumonia, malnutrition, and death are strongly associated with geriatric dysphagia. To develop and validate effective treatments for this hard-to-treat condition, more systematic research on the pathophysiology of geriatric dysphagia is urgently needed.

Education

2005-2009 Ph.D. Medical Science, Seoul National University College of Medicine, Seoul, South Korea

The title of thesis was "Low-frequency Repetitive Transcranial Magnetic Stimulation in the Early Subacute Phase of Stroke Enhances the Angiogenic Mechanisms in Rats" (Advisor, pf. Tai Ryoon Han)

2002-2004 M.S. Medical Science, Seoul National University College of Medicine, Seoul, South Korea

The title of thesis was "Functional improvement and cortical reorganization induced by electrical stimulation of the neck muscles in patients with dysphagia" (Advisor, pf. Nam-Jong Paik)

1993-1999 M.D. Seoul National University College of Medicine, Seoul, South Korea

Professional Experiences

2022.Oct- present, Editor-in-Chief, Annals of Rehabilitation Medicine, the official journal of Korean Academy of Rehabilitation Medicine

2021.Sep- current, Clinical Professor, Dept. of Rehabilitation Medicine, Seoul National University College of Medicine, Seoul National University Hospital, Seoul, South Korea

2020.Jul- current, Vice President, National Traffic Injury Rehabilitation Hospital, Yangpyung, South Korea

2019.Oct-2020. Jun, Director, National Traffic Injury Rehabilitation Research Institute, Yangpyung, South Korea

2016.Sep-2020. Jun, Associate Clinical Professor, Dept. of Rehabilitation Medicine, Seoul National University College of Medicine, Seoul National University Hospital, Seoul, South Korea

2014.Dec-2016.Jun, Visiting Scholar, Dept. of PM&R, UPMC, University of Pittsburgh, Pittsburgh, PA, USA

2009. Mar-2014.Nov, Assistant Clinical Professor, Dept. of Rehabilitation Medicine, Seoul National University College of Medicine, Seoul National University Hospital, Seoul, South Korea

2008 May-2009 Feb, *a Clinical and Research fellow*, Dept. of Rehabilitation Medicine, Seoul National University Hospital

2005 Apr-2008 Apr, Clinical Director, Gangwon-Do Rehabilitation Hospital, Chuncheon, South Korea

2001 Mar-2005 Feb, *Residency training*, Dept. of Rehabilitation Medicine, Seoul

National University Hospital

2000- 2001 *an Intern*, Seoul National University Hospital

Honors and Awards

In 2021

- Best oral presentation award, 2021 Annual Meeting of the Korean Academy of Rehabilitation Medicine, 29-30 Oct, 2021, "Nogo-A-targeting antibody protects against axonal degeneration after traumatic brain injury in mice"

In 2020

- Best poster award, 2020 Annual Meeting of the Korean Academy of Rehabilitation Medicine, 30-31 Oct, 2020, "Evidence for Altered Functional Connectivity after Mild Traumatic Brain Injury"

In 2016

- Best oral presentation, 2016 Annual Meeting of the Korean Society for NeuroRehabilitation, 19 Mar 2016, Han Gil Seo, Youbin Yi, Nam-Jong Paik, Byung-Mo Oh, "Neuroprotective Effect of Secreted Factors from Human Adipose Stem Cells in a Rat Stroke Model"
- Best Scientific Award, the 44th Annual Meeting of The Korean Academy of Rehabilitation Medicine, 29 Oct 2016, Characteristics of the Glucose Hypermetabolism in Denervated Skeletal Muscle: an Animal Study, Seung Hak Lee(presenting author), Han Gil Seo, Byung-Mo Oh(coauthor), Hongyoon Choi, Gi Jeong Cheon, Shi-Uk Lee

In 2014

- Best Oral Presentation, 2014 Annual Meeting of the Korean Society of Medical & Biological Engineering, 9-10 May 2014, "A Study on Applying Guidance Laws in Developing Algorithm which Enables Robot Arm to Trace 3D Coordinates Derived from Brain Signal"

In 2013

- Outstanding collaboration Award, Korea Institute of Science and Technology, 5 Dec 2013
- Poster Award, the 7th World Congress of the International Society of Physical and Rehabilitation Medicine (ISPRM 2013), June 16-20, 2013, Beijing, China, Han Gil Seo (presenting author), Hye Jin Jang (coauthor), Byung-Mo Oh (coauthor)
- Best Scientific Award, the 41th Annual Meeting of The Korean Academy of Rehabilitation Medicine, 26 Oct 2013, Feasibility of FDG PET as a Noninvasive

Diagnostic Tool of Muscle Denervation : A Preliminary Study, Seung Hak Lee(presenting author), Shi-Uk Lee, Byung-Mo Oh(coauthor), Jin Joo Lee

- Best Scientific Award, the 4th Annual Meeting of the Korean Dysphagia Society,16 Nov 2013, Compliance with Viscosity-Modified Diet Among Patients with Dysphgia, Jeong-Gil Kim (presenting author), Byung-Mo Oh(Coauthor), Tai Ryoon Han

Major Research Interest

#1. Animal models of traumatic brain injury and recovery
#2. Blood-based biomarkers for TBI prognostication
#3. Clinical trials on the efficacy of robotic-assisted rehabilitation after stroke
#4. Kinematic and kinetic analysis of swallowing movement

Recent Publications (Selected)

1: Lee HY, Oh BM. Nutrition Management in Patients With Traumatic Brain Injury: A Narrative Review. Brain Neurorehabil. 2022 Mar 28;15(1):e4. doi:10.12786/bn.2022.15.e4. PMID: 36743843; PMCID: PMC9833460.

2: Hwang W, Choi JK, Bang MS, Park WY, Oh BM. Gene Expression Profile Changes in the Stimulated Rat Brain Cortex After Repetitive Transcranial Magnetic Stimulation. Brain Neurorehabil. 2022 Sep 30;15(3):e27. doi:10.12786/bn.2022.15.e27. PMID: 36742089; PMCID: PMC9833481.

3: Lee Y, Oh BM, Park SH, Han TR. Low-Frequency Repetitive Transcranial Magnetic Stimulation in the Early Subacute Phase of Stroke Enhances Angiogenic Mechanisms in Rats. Ann Rehabil Med. 2022 Oct;46(5):228-236. doi: 10.5535/arm.22040. Epub 2022 Oct 31. PMID: 36353835; PMCID: PMC9650368.

4: Kim MY, Park JY, Leigh JH, Kim YJ, Nam HS, Seo HG, Oh BM, Kim S, Bang MS. Exploring user perspectives on a robotic arm with brain-machine interface: A qualitative focus group study. Medicine (Baltimore). 2022 Sep 9;101(36):e30508. doi: 10.1097/MD.0000000000030508. PMID: 36086771.

5: Kim E, Seo HG, Seong MY, Kang MG, Kim H, Lee MY, Yoo RE, Hwang I, Choi SH, Oh BM. An exploratory study on functional connectivity after mild traumatic brain injury: Preserved global but altered local organization. Brain Behav. 2022 Sep;12(9):e2735. doi: 10.1002/brb3.2735. Epub 2022 Aug 22. PMID: 35993893; PMCID: PMC9480924.

6: Park D, Yun JH, Chun S, Oh BM, Kim HS. The Association Between Antihypertensive Drug Use and Hospitalization for Pneumonia in the General Population: A Case-

Crossover Study Using the National Health Insurance Database of Korea. J Korean Med Sci. 2022 Aug 15;37(32):e248. doi: 10.3346/jkms.2022.37.e248. PMID: 35971762; PMCID: PMC9424691.

7: Yun JH, Rhee SY, Chun S, Kim HS, Oh BM. Association Between Antihypertensive Use and Hospitalized Pneumonia in Patients With Stroke: A Korean Nationwide Population-Based Cohort Study. J Korean Med Sci. 2022 Apr 18;37(15):e112. doi:10.3346/jkms.2022.37.e112. PMID: 35437963; PMCID: PMC9015902.

8: Kim TL, Byun SJ, Seong MY, Oh BM, Park SJ, Seo HG. Fracture risk and impact of osteoporosis in patients with Parkinson's disease: a nationwide database study. J Bone Miner Metab. 2022 Jul;40(4):602-612. doi:10.1007/s00774-022-01322-w. Epub 2022 Mar 26. PMID: 35347431.

9: Kim JY, Kim E, Shim HS, Lee JH, Lee GJ, Kim K, Lim JY, Beom J, Lee SY, Lee SU, Chung SG, Oh BM. Reference Standards for Nerve Conduction Studies of Individual Nerves of Lower Extremity With Expanded Uncertainty in Healthy Korean Adults. Ann Rehabil Med. 2022 Feb;46(1):9-23. doi: 10.5535/arm.21170. Epub 2022 Feb 28. PMID: 35272436; PMCID: PMC8913270.

10: Lee YJ, Lee SC, Wy SY, Lee HY, Lee HL, Lee WH, Oh BM, Jeoung JW. Ocular Manifestations, Visual Field Pattern, and Visual Field Test Performance in Traumatic Brain Injury and Stroke. J Ophthalmol. 2022 Jan 7;2022:1703806. doi: 10.1155/2022/1703806. PMID: 35036002; PMCID: PMC8759901.

11: Yoo RE, Choi SH, Youn SW, Hwang M, Kim E, Oh BM, Lee JY, Hwang I, Kang KM, Yun TJ, Kim JH, Sohn CH. Myelin Content in Mild Traumatic Brain Injury Patients with Post-Concussion Syndrome: Quantitative Assessment with a Multi-dynamic Multi-echo Sequence. Korean J Radiol. 2022 Feb;23(2):226-236. doi:10.3348/kjr.2021.0253. Epub 2022 Jan 4. PMID: 35029073; PMCID: PMC8814703.

12: Kim E, Yoo RE, Seong MY, Oh BM. A systematic review and data synthesis of longitudinal changes in white matter integrity after mild traumatic brain injury assessed by diffusion tensor imaging in adults. Eur J Radiol. 2022 Feb;147:110117. doi: 10.1016/j.ejrad.2021.110117. Epub 2021 Dec 23. PMID:34973540.

13: Choi Y, Kim EY, Sun J, Kim HK, Lee YS, Oh BM, Park HY, Leigh JH. Incidence of Depression after Traumatic Brain Injury: A Nationwide Longitudinal Study of 2.2 Million

Adults. J Neurotrauma. 2022 Mar;39(5-6):390-397. doi:10.1089/neu.2021.0111. Epub 2022 Feb 2. PMID: 34931535; PMCID: PMC8892960.

14: Kong YK, Cho MU, Park CW, Kim SY, Kim MJ, Moon J, Lim S, Oh BM, Han B, Choi J, Choi KH. Quantification of physical stress experienced by obstetrics and gynecology sonographers: A comparative study of two ultrasound devices. Appl Ergon. 2022 Apr;100:103665. doi: 10.1016/j.apergo.2021.103665. Epub 2021 Dec 13. PMID: 34915350.

15: Kim H, Kim E, Yun SJ, Kang MG, Shin HI, Oh BM, Seo HG. Robot-assisted gait training with auditory and visual cues in Parkinson's disease: A randomized controlled trial. Ann Phys Rehabil Med. 2022 May;65(3):101620. doi: 10.1016/j.rehab.2021.101620. Epub 2022 Feb 23. PMID: 34896605.

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#2. National Traffic Injury Rehabilitation Hospital, 260 Jungang-ro, Yangpyung-gun, Gyeonggi-do, 10300, South Korea
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Management of malnutrition and anorexia

Keisuke Maeda, MD, PhD

Department of Geriatric Medicine, Hospital, National Center for Geriatrics and Gerontology, Aichi, Japan

Summary

Anorexia of aging refers to the loss of appetite and decreased food intake that can occur in older adults. A complex mechanism explains anorexia of aging. Age-related changes in olfaction, taste, gut mediators and gastrointestinal hormones affect satiety and eating behavior. Comorbidities, functional disabilities, social problems, health care delivery and psychological problems are also risk factors for anorexia of aging.

Anorexia and undernutrition are serious problems in physically impaired older adults. Because much of the living environment is provided by others, poor appetite and nutritional status may also be influenced by environmental factors. The appearance and taste of the diet itself should also be considered. Texture-modified diets consumed by individuals with swallowing difficulties are less tasty. It is even possible that dysphagia patients with dementia may not recognize a texture-modified diet as a meal.

Early identification of anorexia and malnutrition requires appropriate therapeutic intervention. The first step is to identify the possibility of anorexia through assessment of food intake, subjective complaints of appetite, screening tools, etc., and prompt diagnosis of undernutrition using the GLIM criteria. The Simplified Nutritional Appetite Questionnaire (SNAQ) as a screening tool for detecting anorexia, and the Mini Nutritional Assessment Short Form (MNA-SF) and the Patient-generated Subjective Global Assessment Short Form (PG-SGA-SF) for undernutrition may be useful in clinical practice. Anorexia and undernutrition in older adults are multi-causal and require a multidimensional approach using the Comprehensive Geriatric Assessment approach.

Education

2002 - 2006 PhD: Graduate School of Medical Science, Kumamoto University, Japan

1992 - 1998 MD: School of Medicine, Kumamoto University, Japan

Professional Experiences

1998 - 2011 Resident and Fellow at Kumamoto University, etc., Japan

2011 - 2017 Chairman of Nutrition Support Team, Tamana Regional Health Medical Center, Japan

2017 - 2018 Senior Lecturer, Dept. of Palliative and Supportive Medicine, Graduate School of Medicine, Aichi Medical University, Japan

2019 - 2020 Associate Professor, Dept. of Palliative and Supportive Medicine, Graduate School of Medicine, Aichi Medical University, Japan

2020 - present Section Chief, Dept. of Geriatric Medicine, Hospital, National Center for Geriatrics and Gerontology, Japan

Guest Professor, Dept. of Palliative and Supportive Medicine, Graduate School of Medicine, Aichi Medical University, Japan

Honors and Awards

● Award for excellence at The 26/27th Japanese Society of Dysphagia Rehabilitation, Aug 2021

● Outstanding Abstract Award at The 6th Asian Conference for Frailty & Sarcopenia, Oct 2020

● Geriatrics & Gerontology International Best Reviewer Award 2019, 2020

● Best Nutrition Support Team at The 23th Japan Society of Metabolism and Clinical Nutrition, Jan 2019

● Best Poster Presentation Award at The 19th Parenteral and Enteral Nutrition Society of Asia (PENSA), Jun 2018

● Fellowship Award at Japanese Society for Parenteral and Enteral Nutrition (JSPEN), Feb 2017

● Outstanding Poster at The 38th European Society for Clinical Nutrition and Metabolism (ESPEN),Sep 2016

● Grand Prize for community care and network at Japan Primary Care Association (JPCA), Jun 2016

● Outstanding Poster at The 37th European Society for Clinical Nutrition and Metabolism (ESPEN), Sep 2015

Major Research Interest

Malnutrition in older adults
Swallowing difficulties
Sarcopenia
Aspiration pneumonia

Recent Publications (Selected)

1. Ueshima J, Nagano A, Maeda K, Enomoto Y, Kumagai K, Tsutsumi R, et al. Nutritional counseling for patients with incurable cancer: Systematic review and meta-analysis. Clin Nutr. 2023;42(2):227-34.
2. Mori N, Maeda K, Fujimoto Y, Nonogaki T, Ishida Y, Ohta R, et al. Prognostic implications of the global leadership initiative on malnutrition criteria as a routine assessment modality for malnutrition in hospitalized patients at a

university hospital. Clin Nutr. 2023;42(2):166-72.
3. Nishioka S, Nakahara S, Takasaki M, Shiohama N, Kokura Y, Suzuki T, et al. The concept of aggressive nutrition therapy and clinical indication: A position paper. Clin Nutr ESPEN. 2022;52:322-30.
4. Nagano A, Shimizu A, Maeda K, Ueshima J, Inoue T, Murotani K, et al. Predictive Value of Temporal Muscle Thickness for Sarcopenia after Acute Stroke in Older Patients. Nutrients. 2022;14(23).
5. Nagano A, Maeda K, Shimizu A, Murotani K, Mori N. Effects of Carbonation on Swallowing: Systematic Review and Meta-Analysis. Laryngoscope. 2022;132(10):1924-33.
6. Ueshima J, Shimizu A, Maeda K, Uno C, Shirai Y, Sonoi M, et al. Nutritional Management in Adult Patients With Dysphagia: Position Paper From Japanese Working Group on Integrated Nutrition for Dysphagic People. J Am Med Dir Assoc. 2022;23(10):1676-82.
7. Nagano A, Ueshima J, Tsutsumiuchi K, Inoue T, Shimizu A, Mori N, et al. Effect of tongue strength on clinical outcomes of patients: A systematic review. Arch Gerontol Geriatr. 2022;102:104749.
8. Ishida Y, Shimizu A, Maeda K, Murotani K, Inoue T, Ueshima J, et al. A Score to Predict Home Discharge for Patients With Stroke in Rehabilitation Units. J Am Med Dir Assoc. 2022;23(9):1585-6.
9. Maeda K, Murotani K, Kamoshita S, Horikoshi Y, Kuroda A. Effect of Parenteral Energy or Amino Acid Doses on In-Hospital Mortality Among Patients With Aspiration Pneumonia: A Cohort Medical Claims Database Study. J Gerontol A Biol Sci Med Sci. 2022;77(8):1683-90.
10. Inoue T, Shimizu A, Ueshima J, Murotani K, Nagano A, Ishida Y, et al. Diet-induced inflammation is associated with sarcopenia and muscle strength in older adults who visit a frailty clinic. Aging Clin Exp Res. 2022;34(10):2525-32.

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Nutritional problems characteristic of older people and their causes and consequences

Masafumi Kuzuya, MD, PhD

Meitetsu Hospital

Summary

Body composition generally changes in older people with less skeletal muscle mass and more fat, especially visceral fat mass, than middle-aged adults. Age-related changes in muscle mass cause sarcopenia and frailty, which have a significant impact on the health of older adults. Furthermore, not only is height shortened in older people, but weight itself is often reduced in later life.

Good nutritional status is crucial for maintaining growth and health in all stages of life. However, the relationship between nutritional status and health and its impact on various health-related outcomes varies by life stage. In fact, optimal nutritional status for poor health outcomes such as mortality and physical impairment related to healthy life expectancy in older adults has been reported to differ from that of middle-aged adults. Although the presence of metabolic syndrome and obesity are already established risk factors associated with all-cause and cardiovascular mortality in middle-aged adults, their impact on life outcomes in older adults is clearly reduced compared to middle-aged adults. Rather, it is important to note that weight loss and undernutrition induce frailty and increase the risk of health problems in older adults.

Malnutrition in older adults is a risk not only for frailty and sarcopenia, but also for increased severity of disease, development of new diseases, hospitalization, and death. Malnutrition in older adults can have many causes, including anorexia of aging, diseases, drugs, environment, and sensory disturbance. Eliminating or preventing these causes as much as possible is very important to achieve healthy longevity.

Education

Osaka Medical College. 1978-1983

Nagoya University Graduate School of Medicine. 1985-1989

Professional Experiences

1991-,	Visiting Fellow, Gerontology Research Center, NIA/NIH, USA
1995-1999,	Assistant Professor, Department of Geriatrics, Nagoya University Hospital
1999-2011,	Associate Professor, Department of Geriatrics, Nagoya University
2011-2022,	Professor and Chairman, Department of Community Healthcare & Geriatrics, Nagoya University Graduate School of Medicine
2014-2022,	Professor, Institute of Innovation for Future Society, Nagoya University

(Concurrent post)

2022-present, Director, Meitetsu Hospital, Nagoya, Japan

Honors and Awards

2007, 2011 Best Article Award, Japanese Geriatric Society

2012 Best Article Award 2012, Geriatrics Gerontology International

2015 Mitsui Sumitomo Insurance Welfare Foundation Founded 40 Anniversary Special Award

2017- present Vice-Editor-in-Chief, Geriatrics Gerontology International

Major Research Interest

- ❏ Geriatrics
- ❏ Nutrition
- ❏ Frailty & sarcopenia

Recent Publications (Selected)

1. Inoue A, Kuzuya M, Cheng XW, et al. Young bone marrow transplantation prevents aging-related muscle atrophy in a senescence-accelerated mouse prone 10 model. J Cachexia Sarcopenia Muscle. 2022 Dec;13(6):3078-3090.
2. Piao L, Kuzuya M, Cheng XW, et al. Human umbilical cord-derived mesenchymal stromal cells ameliorate aging-associated skeletal muscle atrophy and dysfunction by modulating apoptosis and mitochondrial damage in SAMP10 mice. Stem Cell Res Ther. 2022 Jun 3;13(1):226.
3. Tanaka F, Kuzuya M. Examination of the body composition of patients with Werner syndrome using bioelectrical impedance analysis. Geriatr Gerontol Int. 2022 Jan;22(1):75-80.
4. Makino T, Umegaki H, Kuzuya M, et al. Effects of Aerobic, Resistance, or Combined Exercise Training Among Older Adults with Subjective Memory Complaints: A Randomized Controlled Trial. J Alzheimers Dis. 2021;82(2):701-717.
5. Huang CH, Kuzuya M, et al. Dietary patterns and intrinsic capacity among community-dwelling older adults: a 3-year prospective cohort study. Eur J Nutr. 2021 Sep;60(6):3303-3313.
6. Huang CH, Kuzuya M, et al. Dietary Patterns and Muscle Mass, Muscle Strength, and Physical Performance in the Elderly: A 3-Year Cohort Study. J Nutr Health Aging. 2021;25(1):108-115.
7. Kuzuya M. Nutritional status related to poor health outcomes in older people: Which is better, obese or lean? Geriatr Gerontol Int. 2021 Jan;21(1):5-13.
8. Kuzuya M, et al. Management guideline for Werner syndrome 2020. 2. Sarcopenia

associated with Werner syndrome. Geriatr Gerontol Int. 2021 Feb;21(2):139-141.
9. Japan Geriatrics Society Subcommittee on End-of-Life Issues; Kuzuya M, et al. Japan Geriatrics Society "Recommendations for the Promotion of Advance Care Planning": End-of-Life Issues Subcommittee consensus statement. Geriatr Gerontol Int. 2020 Nov;20(11):1024-1028.
10. Huang CH, Kuzuya M, et al. Effect of various exercises on frailty among older adults with subjective cognitive concerns: a randomised controlled trial. Age Ageing. 2020 Oct 23;49(6):1011-1019.

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Malnutrition and Cachexia among elderly in Taiwan

Wen-Yuan, Lin (M.D., M.S., Ph.D., EMBA)

1. Professor and Director, Department of Social Medicine, College of Medicine, China Medical University
2. Deputy Superintendent, Center of Health Evaluation and Promotion, China Medical University Hospital
3. Director, Department of Community and Family Medicine, China Medical University Hospital

Summary

According to World Health Organization, malnutrition refers to deficiencies or excesses in nutrient intake, imbalance of essential nutrients or impaired nutrient utilization. The double burden of malnutrition consists of both undernutrition and overweight and obesity, as well as diet-related noncommunicable diseases, especially in the elderly. The causes of cachexia are mostly due to diseases, such as cancer, congestive heart failure et al. Simple cachexia due to aging is unusual. Among nutrition survey, both sarcopenia and obesity increase the burden of health in the elderly. The prevalence of sarcopenia, obesity and sarcopenic obesity (SO) in the elderly largely depend on their definitions. For obesity, the definition of general obesity and central obesity in the elderly was same as in the adult which was defined using body mass index >=27 kg/m^2 and waist circumference >=90 cm in men and >=80cm in women in Taiwan. However, this definition varies among different races and countries. The definition of sarcopenia also have several definitions, although the Asian Working Group for Sarcopenia has proposed their consensus for the definition of sarcopenia. SO was defined using different definition. Baumgartner defined sarcopenia as appendicular skeletal muscle index below -2SD of the sex-specific mean of a younger reference group. Percentage body fat greater than the median (>26% in men and >36% in women) using DXA was defined as obesity. Janssen defined sarcopenia as skeletal mass index below -2SD of younger adult values. Davison defined SO individuals as those in the upper two quintiles of body fat and in the lower three of muscle mass.

According to National Health Interview Surveys in Taiwan at 2001and 2017, the prevalence of obesity in the elderly among aged >=65 years old were 10.9% and 17.2% in men and 13.8% and 21.0% in women, respectively. The prevalence of undernutrition in the elderly was 6% in 2017. The prevalence of sarcopenia varies from 3.9% (2.5% in women and 5.4% in men) to 7.3% (6.5% in women and 8.2% in men) for community elderly in Taiwan. Using “Sarcopenia and Translational Ageing Research in Taiwan (START) team” dataset in Taiwan, the prevalence of SO among elderly varies from 11.3%~29.7% in men and 8.1%~42.5% in women, respectively. No union definition for

SO, therefore, we need universal assessment and diagnostic criteria in Asia. There are no effective treatment methods for prevent from SO except nutrition support and exercise training. Our previous studies found that multidisciplinary approach could largely reduce all-cause mortality for those malnutrition elderly living in the long-term care facilities.

Education

Educational Establishment	Nationality	Major	Degree	Period
China Medical University	Taiwan	Medicine	M.D.	09/1989 ~ 06/1996
National Taiwan University	Taiwan	Preventive Medicine	Sc.M.	09/2001 ~ 06/2003
China Medical University	Taiwan	Clinical Medical Science	Ph.D.	09/2006 ~ 06/2010
National Taiwan University	Taiwan	EMBA	EMBA	06/2014 ~ 06/2017

Professional Experiences

Institute	Department	Position	Since
China Medical University Hospital, TAIWAN	Family Medicine	Attending Physician	07/2002 to Present
China Medical University Hospital, TAIWAN	Center of Health Evaluation and Promotion	Deputy Superintendent	08/2022 to Present
China Medical University Hospital, TAIWAN	Community and Family Medicine	Director	04/2015 to Present
China Medical University, TAIWAN	College of Medicine	Professor	08/2013 to Present
China Medical University, TAIWAN	Social Medicine	Director	08/2015 to Present
Columbia University, NY, United States	Human Nutrition	Visiting Scholar	08/2008 to 07/2009
Saint Luke's-Roosevelt Hospital Center, NY, United States	New York Obesity Nutrition Research Center	Research Fellow	08/2008 to 07/2009
National Taiwan University Hospital, TAIWAN	Family Medicine	Resident	07/1998 ~ 06/2001

Honors and Awards

1. Best Physician, China Medical University Hospital, 2003
2. Best Research Award, Taiwan Association of Family Medicine, 2003

3. Best Young Research Award, Taiwan College of Family Physician, 2006
4. Best Research Award, Taiwan Association of Family Medicine, 2009
5. Best Research Award, Taiwan Association of Gerontology and Geriatrics, 2011
6. Best poster award, the 20th IAGG World Congress of Gerontology and Geriatrics, IAGG, 2013
7. Outstanding Oral Presentation Award, IAGG Asia-Oceania 2019
8. Outstanding Poster Presentation Award Winner, The 11th International Association of Gerontology and Geriatrics, 2019
9. Clinical Medical Education Contribution Award, China Medical University, 2019

Membership

Current

Vice President, Asia-Oceania Association for the Study of Obesity (AOASO)
President, Taiwan Medical Association for the Study of Obesity (TMASO)
President, Taiwan Health Evaluation and Promotion Association (THEPA)
President, Taiwan Association for Comprehensive Care of Chronic Diseases
Supervisor, Taiwan Academy of Hospice Palliative Medicine
Board member, Taiwan Association for International Health
Board member, Taiwan College of Family Physician (TCFP)
Standing Director, Formosa Animal-Assisted Activity and Therapy Association

Past

President, Formosa Animal-Assisted Activity and Therapy Association
President, Taiwan Medical Association of Human Nutrition

Major Research Interest

❑ Family Medicine, Geriatric Medicine, Obesity Medicine, Preventive Medicine

Recent Publications (Selected)

Peer-review Publications: more than 150 peer-reviewed papers (SCI, SSCI)

1. Jason I-Hsiu Chiang, Tsai-Chung Li, Chia-Ing Li, Chiu-Shong Liu, Nai-Hsin Meng, Wen-Yuan Lin, Sing-Yu Yang, Chen, Hsuan-Ju, Cheng-Chieh Lin*.Visit-to-visit variation of fasting plasma glucose is a strong predictor of hip fracture in older persons with type 2 diabetes: The Taiwan Diabetes Study.OSTEOPOROSIS INTERNATIONAL.2016 Jun
2. Cheng-Chieh Lin, Tsai-Chung Li, Chiu-Shong Liu, Chuan-Wei Yang, Chih-Hsueh Lin, Jen-Hao Hsiao, Nai-Hsin Meng, Wen-Yuan Lin, Li-Na Liao*, Chia-Ing Li*, Fang-Yang Wu*.Associations of TNF-alpha and IL-6 polymorphisms with osteoporosis through joint

effects and interactions with LEPR gene in Taiwan: Taichung Community Health Study for Elders (TCHS-E).MOLECULAR BIOLOGY REPORTS.2016 Oct;43(10) : 1179-1191

3. Chuan-Wei Yang,Li, Chia-Ing,Li, Tsai-Chung,Liu, Chiu-Shong,Lin, Chih-Hsueh,Lin, Wen-Yuan,Lin, Cheng-Chieh*.The joint association of insulin sensitivity and physical activity on the skeletal muscle mass and performance in community-dwelling older adults. EXPERIMENTAL GERONTOLOGY.2017 Sep;95 : 34-38
4. Chien-Hsiang Weng, Chia-Ping Tien, Li, Chia-Ing, Abby L'Heureux, Liu, Chiu-Shong, Lin, Cheng-Chieh, Lin, Chih-Hsueh, Lai, Shih-Wei, Lai, Ming-May, Lin, Wen-Yuan*. Mid-upper arm circumference, calf circumference and mortality in Chinese long-term care facility residents: a prospective cohort study. BMJ Open.2018May;8: e020485. doi:10.1136/bmjopen-2017-020485
5. Li, Tsai-Chung, Tzu-Yun Yu, Li, Chia-Ing Liu, Chiu-Shong Lin, Wen-Yuan Lin, Chih-Hsueh, Chiang, Jen-Huai, Lin, Cheng-Chieh*.Three-year renal function trajectory and its association with adverse renal event in patients with type 2 diabetes.JOURNAL OF DIABETES AND ITS COMPLICATIONS.2018 Aug;32(8) : 784-790
6. Tsai-Chung Li,Chia-Ing Li,Chiu-Shong Liu,Wen-Yuan lin,Chih-Hsueh Lin,,J.-H. Chiang,Cheng-Chieh Lin*.Visit-to-visit blood pressure variability and hip fracture risk in older persons.OSTEOPOROSIS INTERNATIONAL.2019 Apr;30(4) : 763-770
7. Chia-Ing Li,Chiu-Shong Liu,Chih-Hsueh Lin,Wen-Yuan lin,Yih-Dar Lee,,Tsai-Chung Li*,Cheng-Chieh Lin*.Competing risk analysis on visit-to-visit glucose variations and risk of depression: The Taiwan Diabetes Study.DIABETES & METABOLISM.2019 Aug;() : -
8. Mu-Cyun Wang,Tsai-Chung Li,Chia-Ing Li,Chiu-Shong Liu,Wen-Yuan Lin,Chih-Hsueh Lin,Chuan-Wei Yang,,Cheng-Chieh Lin*.Frailty, transition in frailty status and all-cause mortality in older adults of a Taichung community-based population.BMC Geriatrics.2019 Jan;19() : 26
9. Chuan-Wei Yang,Chia-Ing Li,Chiu-Shong Liu,Chih-Hsueh Lin,Wen-Yuan lin,Tsai-Chung

   Li,Cheng-Chieh Lin*.Relationship among urinary advanced glycation-end products, skeletal muscle mass and physical performance in community-dwelling older adults..Geriatrics & Gerontology International.2019 Sep;() : -
10. Kuan-Yu Lai,Tai-HisenWu,Chiu-Shong Liu,Chih-Hsueh Lin,Cheng-Chieh in,Ming-May Lai,Wen-Yuan lin*.Body mass index and albumin levels are prognostic factors for ong-term survival in elders with limited performance status.Aging-US.2020;12(2):1104-1113.
11. Mu-Cyun Wang, Tsai-Chung Li,Chia-Ing Li,Chiu-Shong Liu,Chih-Hsueh Lin,Wen-Yuan lin,Chuan-Wei Yang,Cheng-Chieh Lin*.Cognitive function and its transitions

in predicting all-cause mortality among urban community-dwelling older adults.BMC Psychiatry.2020 May;20() : 203-

12. Cheng-Chieh Lin, Chiu-Shong Liu,Chia-Ing Li,Chih-Hsueh Lin,Wen-Yuan lin, Mu-Cyun Wang, Tsai-Chung Li*.Dietary macronutrient intakes and mortality among patients with type 2 diabetes.Nutrients.2020 Jun;12(6) : 1665-
13. Tsung-Po Chen, Michelle Lai, Wen-Yuan lin, Kuo-Chin Huang, Kuen-Cheh Yang*.Metabolic profiles and fibrosis of nonalcoholic fatty liver disease in the elderly: A community- based study.JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY.2020 Sep;35(9) : 1636-1643
14. Chia-Ming Li, Chih-Hsueh Lin, Chia-Ing Li, Chiu-Shong Liu, Wen-Yuan lin, Tsai-Chung Li, Cheng-Chieh Lin*.Frailty status changes are associated with healthcare utilization and subsequent mortality in the elderly population.BMC PUBLIC HEALTH.2021 Apr;21(1) : 645-
15. Cheng-Chieh Lin, Chia-Ing Li, Chiu-Shong Liu, Mu-Cyun Wang, Chih-Hsueh Lin, Wen-Yuan lin, , Tsai-Chung Li*.Lifetime risks of hip fracture in patients with type 2 diabetic: Taiwan Diabetes Study.OSTEOPOROSIS INTERNATIONAL.2021 Jul;32(12) :2571-82

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Optimising continence for people living with dementia

Dr Joan Ostaszkiewicz, RN, GCert Cont Prom, GCertHE, MNurs-Res, PhD

Affiliation: National Ageing Research Institute

Summary

Around 55 million people worldwide have a diagnosis of dementia. One third of this population experience incontinence. Incontinence increases an older person's risk of falling and developing incontinence-associated dermatitis and reduces their quality of life. The negative effects also extend to family carers who experience a range of problems related to supporting the person to remain independent in toileting. Despite the prevalence and impact of incontinence in people with dementia, there is a paucity of information to support family carers about strategies to delay or prevent the onset of incontinence or about the emotional and physical aspects of everyday management. To address gaps in current evidence and support, our research team co-designed and disseminated a course about the physical, psychological and psychosocial aspects of caregiving associated with dementia and incontinence. Using co-design principles, the content for the course was developed with people with dementia, their family carers, and formal carers. Thereafter, the researchers collaborated with instructional designers to translate the draft content into a Massive Open Online Course (MOOC). The MOOC is written in simple language, includes navigational cues, and is visually engaging. Opportunities for peer interaction are available, as will opportunities to ask questions of a moderator, and to share knowledge and experiences. It addresses gaps in public information about:

- The lived experience of dementia, incontinence and caregiving
- Normal and abnormal bladder/bowel function
- Promoting normal bowel and bladder function
- Assisting with toileting and personal hygiene
- Assisting with the use of continence aids and incontinence products
- Communicating and collaborating
- Personalising care at home, out and about, and in respite or residential care

Since release in August 2022, the MOOC has attracted over 1,700 viewers, 20% of whom engage in the social platform. This presentation describes the process of co-designing the MOOC, its outcomes and recommendations for policy, research, education and practice.

Education

2016 - Graduate Certificate in Higher Degree Teaching and Learning (Deakin University), Australia

2013 - Doctor of Philosophy, (Nursing) (Deakin University), Australia

2004 - Master of Nursing Research: (High Distinction) (Melbourne University), Australia

Professional Experiences

20/03/2020 – current	Director, Aged Care Research, National Ageing Research Institute (Full-time)
17/10/2017 – 18/03/2020	Research Fellow, Centre for Quality and Patient Safety Research, School of Nursing and Midwifery, Deakin University (Full-time)
12/03/2016 – 18/05/2017	Research Officer, The Continence Foundation of Australia (Casual)
03/03/2014 – 31/12/2015	Postdoctoral Research Fellow, Centre for Quality and Patient Safety Research, School of Nursing & Midwifery, Deakin University

Honors and Awards

2023 Honorary Associate Professor, Faculty of Medicine, Dentistry and Health Sciences,

University of Melbourne

Award for Best Abstract at 51st Annual Meeting International Continence Society

Melbourne, Australia. 12-15th October 2021

Barry Cahill Award for Best abstract at National Conference on Incontinence

Melbourne, Australia 11-14th May 2022.

2021 Adjunct Professor, Health and Innovation Transformation Centre, Federation University

2020 Honorary Fellow: Deakin University, School of Nursing and Midwifery

2017 Honorary Fellow: National Ageing Research Institute

Continence Nurses Society Australia (Vic/Tas branch) Research/Project Scholarship 2017 ($3,000)

2016 Incontinence Products Promotional Group Nurse Scholarship 2016 Vic and Tas. ($500)

2015 Editor's Choice Article in the Dec 2015 issue of International Nursing Review: Ostaszkiewicz, J., Lakhan, P., O'Connell, B., Hawkins, M. (2015). Ongoing challenges responding to behavioural and psychological symptoms of dementia. Int Nurs Rev. 62(4):506-516

2014 Association of Commonwealth Universities, Titular Fellowship ($9,185)

Pro Vice-Chancellor's Award for Innovation, Faculty of Health, Deakin Uni

Major Research Interest

- ❑ The art and science of continence care for care-dependent older adults,
- ❑ Caregiving, dementia and incontinence
- ❑ Stigma related to incontinence and continence care
- ❑ Models of care for frail older adults

Recent Publications (Selected)

1. Ostaszkiewicz J., Kosowicz L., Cecil J., Wise E., Garratt S., Dow. B. (2022). The design and feasibility pilot of a model to guide continence care in Australian residential aged care homes. Australian and New Zealand Continence Journal. 28(3):41-51. Doi: https://doi.org/10.33235/anzcj.28.3.41-51
2. Suskind AM, Vaittinen T, Gibson W, Hajebrahimi S, Ostaszkiewicz J, Davis N, Dickinson T, Spencer M. & Wagg A. (2022). International Continence Society white paper on ethical considerations in older adults with urinary incontinence. Neurourol Urodyn. 41(1):14-30 http://dx.doi.org/10.1002/nau.24795
3. Ostaszkiewicz J., Dunning T., Watt E. (2021). Adjusting to urinary incontinence: insights from a review of research into adjustment to a chronic illness. Aust NZ Cont J. 27(3):60-65. doi: 10.33235/anzcj.27.3.60-65
4. Gibson W, Johnson TII, Kirschner - Hermanns R, Kuchel G, Markland A, Orme S, Ostaszkiewicz J, Szonyi G, Wyman J, Wagg A. (2021). Incontinence in Frail Elderly Persons – Report of the 6th International Consultation on Incontinence. Neurourology and Urodynamics. 40(1): 38-54. http://dx.doi.org/10.1002/nau.24549
5. Ostaszkiewicz J, Dickson-Swift V, Hutchinson A, Wagg AS. (2020). A concept analysis of dignity-protective continence care for care dependent older people in long-term care settings. BMC Geriatr. 20, 266 (2020). https://doi.org/10.1186/s12877-020-01673-x

6. Ostaszkiewicz J, Tomlinson E, Hunter K. (2020). The effects of education about urinary incontinence on nurses' and nursing assistants' knowledge, attitudes, continence care practices and patient outcomes Journal of Wound, Ostomy and Continence Nursing. 47(4):365-380. doi: 10.1097/WON.0000000000000651.

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Evidence up date for the effectiveness of “Prompted Voiding” -To promote EBP in toileting assistance for frailty elderly-

Wakako SATO, RN, Ph.D

Yamagata University Graduate School of Medicine, Major of Nursing, Division of Clinical Nursing

Summary

From2019, Long-term Care Insurance System for the Elderly has established new accountable insurance covered the continence care for the care giving elderly with UI in JAPAN. The recommendation that some medical guidelines for Lower Urinary Tract Symptoms: LUTS and/ or Urinary Incontinence: UI should be used effectively by doctors and nurses in the facilities has described by JAPAN Ministry of Health, Labor and Welfare.

In recently years, many kinds of clinical guidelines for LUTS have published. In 2021, the clinical guideline for frailty and dementia elderly with LUTD was published at last by “Japanese Association on Sarcopenia and Frailty” and “National Center for Geriatric and Gerontology “.

Toileting assistances were included in their guidelines as behavioral therapy and/or lower urinary tract rehabilitation for urinary incontinence. There are three types; Timed Voiding: TV, Habit training: HT and Prompted Voiding: PV. Each systematic review about the effectiveness of them were reported in the Cochrane Database from 2004 to 2006. The effectiveness of TV and HT were unclear. On the other hand, PV improved UI in the short-term, but its long-term results were unknown. PV have used in particular in North America mainly in long term facilities for people with cognitive impairment or dementia or not. Urinary Incontinence Rate is one of the Quality Indicators for Resident Assessment Indicator for Nursing Home in the USA. The system may have promoted the development of the prompted Voiding as behavioral therapy to improve UI for institutionalized elderly.

In 2018, we conducted the systematic review and hand search for the effectiveness of PV to improve urinary incontinence. In this review, the long-term effectiveness of PV was reported in Asian country’s research. And we confirmed the effectiveness to improve UI rate (%)/day by Meta analysis.

Toileting assistance have often hesitated to assist, such as when ADL or cognitive function declines and the normal desire to void is unclear.

To promote that the clinical guideline be used effectively in JAPAN, we would like to introduce about research history and the evidence update process from 2018 for PV in this symposium.

Education

1992 Rikkyo University, Bachelor of laws

1995 Tsukuba University Master of Medical Sciences:

1997 Yamagata University Philosophy of Doctor (Medicine)

Professional Experiences

1981 ～ Registerd Nurse

1995 ～ Research associate, Yamagata University, School of Nursing, Division of Clinical Nursing

1998 ～ associate Professor, 〃

1999 ～ Professor ：Yamagata University Graduate School of Medicine, Major of Nursing / Faculty of Medicine, School of Nursing, Division of Clinical Nursing

Honors and Awards

1. 2011～2016: Nursing Committee of International Continence Society, Educational sub committee
2. 2012～2016、2018～2020： Trustee of Japanese Society of Geriatric Urology,
3. 2014: The Chair of 27th Japanese Society of Geriatric Urological Conference.
4. 2021～2023: Committee of Nursing Care Development/Standardization, JAPAN Academy of Nursing Science,

Major Research Interest

❑ **Teaching Interests:** Gerontological nursing, Rehabilitation Nursing

Research Interests: Specialty areas are frail elderly with urinary incontinence: behavioral therapy, nursing for elderly with LUTS, Independent life support system for house-bound elderly

Recent Publications (Selected)

1. Wakako Sato(h):LUTS and Continence Care for Non-insttutionalized Elderly with Frailty Receiving Long-term Care Insurance Level1 and 2 Support. The Journal of Japanese Continence Society, Vol.29、No.2, pp.359-353.
2. Wakako Satoh, et.al : Using action research to develop comprehensive care management and consultation manual for frail and dementia elderly with

urinary incontinence in collaboration with interdisciplinary team and government organizations in Yamagata Prefecture .[20Th] East Asian Forum of Nursing Scholars, 2016,

3. Satoh W, Horie T: CHANGES IN LOWER URINARY TRACT SYMPTOMS AND QOL IN FRAIL ELDERLY OVER A ONE-YEAR PERIOD. 43rd Annual Meeting of the International Continence Society, August, 2013.
4. Wakako Satoh, Yuka Kanoya, et al: Ongoing Activities of Evidence-Based Nursing in Japan, 14[Th] East Asian Forum of Nursing Scholars, ,Panel Discussion, Saul : 2011.

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The interdisciplinary continence self-management program for stroke patients

Miho Shogenji

Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University

Summary

The ability to urinate independently is an important issue related to human dignity. Stroke is amain cause to lose this ability. Stroke causes severe damage to motor and cognitive functions resulting in impaired activities of daily living (ADLs) including voiding behavior. Additionally, many stroke patients suffer from voiding symptoms due to central nervous system damage immediately after onset of stroke and storage symptoms (e.g., frequency, urgency, and incontinence) after cerebral edema are alleviated. Therefore, healthcare professionals provide treatment and rehabilitation to improve patients' ADLs and lower urinary tract symptoms (LUTS) enough to return to home.

To obtain the ability to urinate independently again, Japan started to cover the interdisciplinary continence self-management program by insurance since 2016. This continence care is provided by a team composed of a physician, a nurse and a physiotherapist/occupational therapist for inpatients with LUTS after indwelling catheter treatment. More than 900 hospitals started this health insurance by August 2021, and several hospitals have already reported good results such as low incidence of catheter related urinary tract infection, and improvement of LUTS. However, many stroke patients could not receive this program continuously from acute care hospitals to the convalescent rehabilitation hospitals (recovery phase). Because this health insurance had not covered when patients transfer to other hospitals.

Our research team examined effectiveness of continuous continence self-management program for stroke patients during the acute and recovery phases. As a result, we found that this program improved LUTS and the ability to urinate independently and promoted return to home at the discharge of the convalescent rehabilitation hospitals. We hope that the interdisciplinary continence care team for stroke patients will widespread including Asian countries.

Education

Department of Nursing　Faculty of Medicine, University of Toyama. 1996-2000
Master's Level Section of Integrated Course, Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University. 2000-2002
Doctoral Level Section of Integrated Course, Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University. 2005-2008

Professional Experiences

2002-2007	Assistant, School of Health Sciences, College of Medical, Pharmaceutical and Health Sciences, Kanazawa University
2007-2021	Assistant Professor, Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University
2022-present	Associate Professor, Division of Health Sciences, Graduate School of Medical Sciences, Kanazawa University

Honors and Awards

2022	Conference Award, Japanese Society of Geriatric Urology
2021-present	Auditor, Japanese Society of Geriatric Urology
2019	Best Poster Award, Annual Meeting of The Japan Federation of Gerontological Societies
2016	Best Paper Award, Japanese Society of Wound, Ostomy & Continence Management

Major Research Interest

- ❑ Continence care for older adults and stroke patients in hospitals
- ❑ Prevention of ADLs decline and disuse syndrome by hospitalization
- ❑ Fall prevention through behavior analysis in daily life using sensing technology

Recent Publications (Selected)

1. Shogenji M, Yoshida M, Sumiya K, Shimada T, Ikenaga Y, Ogawa Y, Hirako K, Sai Y, Association of a continuous continence self-management program with independence in voiding behavior among stroke patients: a retrospective cohort study. Neurology and Urodynamics. 2022; 1-12. DOI: 10.1002/nau.24922
2. Shogenji M, Yoshida M, Sumiya K, Shimada T, Ikenaga Y, Ogawa Y, Hirako K, Sai Y, Relationship between bowel/bladder function and discharge in older stroke patients in convalescent rehabilitation wards: a retrospective cohort study. Progress in Rehabilitation Medicine. 2022; 7. DOI: 10.2490/prm.20220028
3. Yingjie Jin, Sano Y, Shogenji M, Watanabe T, Fatigue effect on minimal toe clearance and toe activity during walking. Sensors. 2022; 22(23):9300. DOI: 10.3390/s22239300
4. Sawai M, Yuno C, Shogenji M, Nakada H, Takeishi Y, Kawajiri M, Nakamura Y, Yoshizawa T, Yoshida M, Prevalence of symptoms of pelvic floor dysfunction and related factors among Japanese female healthcare workers. Lower Urinary Tract Symptoms. 2022; 14: 380-386. DOI: 10.1111/luts.12455
5. Shogenji M, Yoshida M, Kato M, Effects of consultation for voiding behavior on

nighttime voiding status of older adults living alone: a preliminary study. Drug Discoveries & Therapeutics. 2021; 15(6):325-330. DOI: 10.5582/ddt.2021.01104

Contact Information

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Pharmacological treatment of urinary incontinence in the elderly, including patients with frailty and dementia

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Summary

The number of older people is exponentially growing in the world. In 2019, about 28 % of the population in Japan were 65 years or older and this number is expected to rise to almost 31 % by 2030.

Urinary incontinence (UI) increases in prevalence with increasing age, with frail older adults having a higher prevalence of UI than any other group. The most common cause of UI in older people is overactive bladder (OAB). OAB affects over 45% of women ages 65 and older.

While treatment guidelines that clearly define appropriate pharmacological treatment strategies for OAB exist, there are reasons to believe that these guidelines reflect more of a “one size fits all” model that may not be appropriate for use in all older adults. For example, older patients with special considerations such as frailty, poor functional status, cognitive impairment, multimorbidity, polypharmacy and estrogen deficiency may respond differently to certain therapies or experience a higher rate of treatment related side effects compared to younger patients. In addition, older people are often not included in clinical drug trials and therefore little or no evidence has been generated for the use of many drugs in older patients.

This lecture will highlight unique clinical considerations for the pharmacological management of OAB in elderly, including patients with frailty and dementia.

Education

1981 - 1987 M.D., Seoul National University College of Medicine Seoul, Korea

1995 - 1996 Clinical and Research Fellowship of Urology, Samsung Medical Center, Seoul, Korea,

1996 - 1998 Ph.D.(Urology), Seoul National University College of Medicine, Seoul, Korea
Paper: Effects of interferon gamma on collagen expression in obstructed urinary bladder of rat

Professional Experiences

1996 - present Director of Neurourology & Female Urology Division Staff of Urology, Samsung Medical Center Seoul, Korea

1997.04 - 2001.03	Assistant Professor of Urology, Sungkyunkwan University School of Medicine, Seoul, Korea
2010.10 - 2013.06	Director, Div. Medical Device, Clinical Trial Center, Clinical Research Institute, Research Institute for Future Medicine, Samsung Medical Center, Seoul, Korea
2006.10 - present	Professor of Urology, Sungkyunkwan University School of Medicine, Seoul, Korea
2013.07 - 2019.03	Director, Biomedical Engineering Research Center, Clinical Research Institute, Research Institute for Future Medicine, Samsung Medical Center, Seoul, Korea
2015.04 - 2021.03	Chairman, Dept. Urology, Samsung Medical Center, Seoul, Korea
2019.04 - 2020.04	Director, Smart Health Care Research institute, Research Institute for Future Medicine, Samsung Medical Center, Seoul, Korea
2020.05 - present	Executive Vice President, R&D, Director, Research Institute for Future Medicine, Samsung Medical Center, Seoul, Korea

Honors and Awards

2022 Ministers's Citation, Ministry of Economy and Finance, Korea

2021 Presidential Citation, Korea Health Industry Development Institute, Korea

2018 Chungdam Award, Korean Continence Society Annual Meeting, Seoul, Korea

Major Research Interest

To date, Prof Lee has contributed more than 200 peer-reviewed articles to the international scientific journal and urological communities, and has presented the results of his studies both nationally and internationally. His current research interests include optogenetics and neuromodulation in the field of bladder outlet obstruction, neurogenic bladder dysfunction, urinary incontinence, and overactive bladder.

Recent Publications (Selected)

1. Martin C Michel, Linda Cardozo, Christopher J Chermansky, Francisco Cruz, Yasuhiko Igawa, Kyu-Sung Lee, Arun Sahai, Alan J Wein, Karl-Erik Andersson. Current and emerging pharmacological targets and treatments of urinary incontinence and related disorders. Pharmacol Rev. 2023 Mar 14;PHARMREV-AR-2021-000523. doi: 10.1124/pharmrev.121.000523. Online ahead of print.

2. Park E, **Lee KS.** A new approach to urinary bladder control with optogenetics. **.**Investig Clin Urol. 2019 Mar;60(2):61-63. doi: 10.4111/icu.2019.60.2.61
3. Kwang Jin Ko, Won Jin Cho, Young-Suk Lee, Joongwon Choi, Hye Jin Byun, Kyu-Sung Lee. Comparison of the efficacy between transurethral coagulation and transurethral resection of Hunner lesion in interstitial cystitis/bladder pain syndrome patients: A prospective randomized controlled trial. European Urology 77; 644-651, 2020
4. Ko KJ, Kim KH, Kim SW, Kim SO, Seo JT, Choo MS, Lee JZ, Oh SJ, Kim HG, Min KS, Kim JH, Lee KS..Efficacy and Safety of Tolterodine and Pilocarpine in Patients with Overactive Bladder. J Urol. 2019 Sep;202(3):564-573.

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総括

第 18 回国際シンポジウムはオンサイトで行なわれ、参加者の合計は 220 名であった。その内訳は、当センターからの参加者が 33 名、当センター以外の国内参加者が 71 名、国外からの参加者が 116 人と非常に盛況であった。特に国外からの参加者は、IAGG-AOR との併催を行ったためと考えられ、今後も国際学会との併催の可能性を探っても良いのではないかと考えられた。

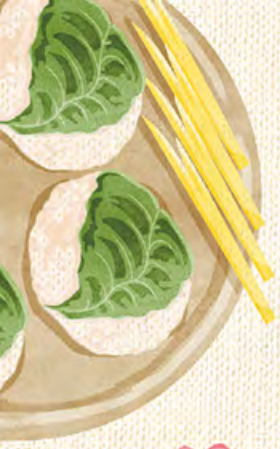
セッション 1 は「嚥下障害とオーラルフレイル」について、栄養管理、苦痛の少ない筋強化はオーラルフレイルに止まらずフレイル全般でも検討して行かなければならない課題であり、オーラルフレイルの疫学、またコミュニティアプローチは、両者の病態に取り組んで行くため必須であり、今後の研究およびその結果の社会実装に非常に有益であると考えられた。老食症（presbyphagia）の概念は、非常に新鮮であり、今後の研究の展開が期待された。

セッション 2 では、栄養障害と摂食障害の知見が報告された。オーラルフレイルの領域のパイオニアである前田圭介先生の非常に整理されたこの概念の総括、高齢者の栄養障害の特徴とその帰結に関する葛谷雅文のお話、さらに Wen-Yuan, Lin 先生からサルコペニアと肥満はいずれも高齢者の大きな健康に影響を与えることが示されましたが、ただまだサルコペニア肥満（SO）には統一された定義がないため、アジアでの診断基準が必要であるとされた。

セッション 3 では、認知症予防を研究にとどめるのではなく社会実装する試みについて、豪州、日本から 4 題の発表がなされた。NCGG では多くの実証研究が進行しているが、得られた知見を研究コホートだけではなく社会実装することは NCGG の重要なミッションである。社会実装は単に参加者の人数を増やすことではない。実装科学のマナーを学び実践することで、持続性のある社会貢献が進められるよう期待したい。

以上のように、第 18 回国際シンポジウムでは、世界の老年医学の研究者との交流が可能となり、NCGG の研究・臨床活動の活性化に貢献することができた。さいごに、公益財団法人長寿科学振興財団（The Japan Foundation for Aging and Health）様のご共催、多くの企業、団体のご後援、また、センター内外からのご発表者、ご参加の皆様に深く御礼申し上げます。

（国立長寿医療研究センター 病院長　近藤　和泉）



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Dysphagia and Excretory Disorder of Older Adults