

# 31<sup>st</sup> Annual Congress of Gerontology cum 38<sup>th</sup> Annual General Meeting

## Multidisciplinary Care of Older People: From Primary Care to Long Term Care



Officiating Guest  
Mr. Sun Yuk Han Chris, JP  
Secretary for Labour and Welfare



Plenary Speaker  
Prof. Pang Yiu Chung Marco  
Head of PolyU RS



Moderator  
Dr. Leung Man Fuk Edward  
President of HKAG

### Organizer:



香港老年學會  
Hong Kong Association of Gerontology

### Co-organizer:



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學



康復治療科學系  
Department of Rehabilitation Sciences

### Sponsored by:



香港保險業聯會  
The Hong Kong Federation of Insurers

# Table of Content

Program Rundown.....	3
Plenary Speaker Introduction.....	6
Sponsor Advertisement.....	7
Abstract of Outstanding Papers.....	10
Sponsor Advertisement.....	15
Abstract of Free Papers (Session I: Long Term Care).....	19
Abstract of Free Papers (Session II: Dementia / Mental Health).....	24
Abstract of Free Papers (Session III: Healthy Ageing).....	29
Abstract of Free Papers (Session IV: Community Care).....	37
Abstract of E-Poster Papers.....	44



# 31<sup>st</sup> Annual Congress of Gerontology cum 38<sup>th</sup> Annual General Meeting

## Multidisciplinary Care of Older People: From Primary Care to Long Term Care

Date: 30<sup>th</sup> November, 2024

Time: 9:00am - 5:30pm

Location: The Hong Kong Polytechnic University (Lecture Theatre: Z207 & Z205)

Time	Programme
9:00am–9:10am	<b>Welcome Address</b> Dr. LEUNG Man Fuk Edward <i>President, Hong Kong Association of Gerontology</i>
9:10am–9:25am	<b>Keynote Address</b> Mr. SUN Yuk Han Chris, JP <i>Secretary for Labour and Welfare, HKSAR</i>
9:25am–9:45am	Award Presentation
9:45am–10:10am	<b>Plenary Session: Approach to Management and Rehabilitation of Stroke-Related Sarcopenia</b> Prof. PANG Yiu Chung Marco <i>Shun Hing Education and Charity Fund Professor in Rehabilitation Sciences, Chair Professor of Neurorehabilitation, and Head of Department of Rehabilitation Science, The Hong Kong Polytechnic University</i>
10:10am–10:25am	Break
10:25am–11:50am	<p><b>Outstanding Paper Presentation:</b> Moderator: Prof. NGAN Man Hung Raymond</p> <ol style="list-style-type: none"> <li><b>Effectiveness of Community Carer Capacity Building Programme-Formulation of Volunteer-Based Fall Prevention Screening for the Elderly by the Medical-Social Collaboration Model</b> Ms. YIP Wai Yee, <i>Department of Health</i></li> <li><b>The Use of a Medication Management System to Examine Potentially Inappropriate Medication Use and Hospitalization Rates Among Older Adults Living in Residential Care Homes for the Elderly (RCHEs) in Hong Kong</b> Mr. CHAU Ho Cheung, <i>Hong Kong Pharmaceutical Care Foundation</i></li> <li><b>Effects of Acceptance and Commitment Therapy Plus Exercise for Older Adults with Chronic Low Back Pain: A Preliminary Cluster Randomized Controlled Trial with Qualitative Interviews</b> Ms. LIU Qijing, <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></li> <li><b>Linking Social Frailty to Late-Life Obesity: The Hidden Psychological Pathway</b> Ms. CHAN Bianca Nga Ki, <i>School of Nursing, The University of Hong Kong</i></li> <li><b>Moderating Role of Caregiver Sleep Duration in the Association between Care Recipient Comorbidity and Caregiver Depression: The Case of Older Chinese with Dementia</b> Mr. YU Zhuopeng, <i>Department of Applied Social Sciences, The Hong Kong Polytechnic University</i></li> </ol>

11:50am–12:20pm	Annual General Meeting	
12:20pm–12:30pm	Prize Presentation	
12:30pm–1:45pm	Lunch Break (e-Poster Presentation)	
1:45pm–3:00pm	<p>Free Paper Presentation I (Long Term Care) Room: <b>Z207</b> Moderator: Ms. LAW Kai Nin Stephanie</p> <ol style="list-style-type: none"> <li><b>Understanding Job Characteristics of Personal Care Workers in Hong Kong Long-Term Care Facilities</b> Ms. CHEN Huiling <i>Department of Applied Social Sciences, The Hong Kong Polytechnic University</i></li> <li><b>Are Changes in Pain Intensity Related to Changes in Balance Control in Individuals with Chronic Non-Specific Low Back Pain? A Systematic Review and Meta-Analysis</b> Mr. ZHENG Kangyong, Daniel <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></li> <li><b>Upper Limb Kinematic Measurement Using Markerless Motion Capturing (MMC) in Stroke Survivors: A Cross-Sectional Experimental Study</b> Dr. LAM Wing Tung, Winnie <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></li> <li><b>A Cross-Sectional Study Evaluating the Association between Motor Impairment and Changes in Paretic Upper Limb Arterial and Intramuscular Blood Flow in Elderly Individuals with Chronic Stroke</b> Dr. MILLER Tiev <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></li> <li><b>Constructing a Transdisciplinary Capacity Building Framework for the Long-Term Care Workforce in Hong Kong: A Delphi Study</b> Ms. HUANG Yuting <i>Department of Social Work and Social Administration, The University of Hong Kong</i></li> </ol>	<p>Free Paper Presentation II (Dementia / Mental Health) Room: <b>Z205</b> Moderator: Dr. Tong Bing Chung</p> <ol style="list-style-type: none"> <li><b>The Relationship between Dementia Literacy, Acculturation, Social Network and Help-Seeking Behaviour: A Cross-Sectional Study</b> Dr. KODUAH, Adwoa Owusuaa <i>School of Nursing, The Hong Kong Polytechnic University</i></li> <li><b>Feasibility, Safety and Effects of a Step Training Program in Community-Dwelling Older Adults with Dementia: A Feasibility Wait-List Controlled Trial</b> Prof. CHAN Wayne <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></li> <li><b>Palliative Home Care for Dementia Patients (智愛晚晴照顧計劃) - A Multidisciplinary Team Approach</b> Mr. LAW Kwan Pang <i>Home Care Service, Sister Annie Skau Holistic Care Centre</i></li> <li><b>Fun and Dementia-Friendly Gymnastics: An Occupational Therapy within an Interdisciplinary Teamwork</b> Ms. LING Pak Yan, Michelle <i>Hong Kong Christian Service</i></li> <li><b>A Peer Support Intervention on Psychosocial Outcomes Amongst Older Migrants with Depressive Symptom: A Pilot Randomised Controlled Trial</b> Mrs. LAI Wenjuan <i>The Nethersole School of Nursing, The Chinese University of Hong Kong</i></li> </ol>
3:00pm–3:30pm	Break	
3:30pm–5:30pm	<p>Free Paper Presentation III (Healthy Ageing) Room: <b>Z208</b> Moderator: Dr. Chow Ching Yee Amanda</p> <ol style="list-style-type: none"> <li><b>To Enhance Physical Activity and Intergenerational Relationship via Connect Active Program</b> Prof. TSE Mun Yee, Mimi</li> </ol>	<p>Free Paper Presentation IV (Community Care) Room: <b>Z206</b> Moderator: Prof. Chong Ming Lin Alice</p> <ol style="list-style-type: none"> <li><b>The Use of Social Media in Digital Health Literacy Intervention for Caregivers of People with Chronic Illnesses: A Mixed-Methods Study</b> Dr. HUANG Yaqi</li> </ol>



	<p><i>School of Nursing and Health Sciences, Hong Kong Metropolitan University</i></p> <p>2. <b>The Longitudinal Association between Chronic Back Pain and Cognitive Decline in Older Adults: An Analysis of Four Population-based Databases</b> Mr. HUANG Fan, Frank <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p> <p>3. <b>A Home-based Psychoeducation Programme on physical and psychosocial outcomes for Older Adults with Frailty in the Community: A Randomised Controlled Trial</b> Mr. TAO An <i>The Nethersole School of Nursing, The Chinese University of Hong Kong</i></p> <p>4. <b>Promoting Emotional Awareness and Help-seeking in Older Breast Cancer Patients with the Electronic Painting for Breast Cancer (EPBC) Platform</b> Ms. QIU Min <i>School of Nursing, The Hong Kong Polytechnic University</i></p> <p>5. <b>Effectiveness of the Green Oasis (GO) Wellness Program for Residents Living in Concordia Tsat Sing Kong Transitional Housing Estate</b> Prof. TSE Mun Yee, Mimi <i>School of Nursing and Health Sciences, Hong Kong Metropolitan University</i></p> <p>6. <b>Feasibility, Acceptability and Preliminary Effectiveness of the "Outdoor Rehab-Fit" Integrative mHealth Intervention Among Inactive Frail Older Adults in Hong Kong</b> Prof. LEE Lok Chun, Janet <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p> <p>7. <b>Effects of Low-Volume High-Intensity Training Versus Moderate-Intensity Continuous Training on Physical Performance in Older Adults with Possible Sarcopenia</b> Mr. WANG Quan <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p> <p>8. <b>The Effects of High-Intensity Interval Training on Chronic Fatigue in Patients with Chronic Disease: A Systematic Review and Meta-Analysis</b> Mr. XU Chen <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p>	<p><i>The School of Nursing, Research Institute for Smart Ageing, The Hong Kong Polytechnic University</i></p> <p>2. <b>An Investigation of Age Differences in Theory of Mind Using an Ecological Assessment Tool</b> Ms. SO Wing Yee, Winnie <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p> <p>3. <b>Enhancing Nursing Students' Knowledge, Attitudes, and Skills in Elderly Care: An Innovative PIRAA Educational Framework</b> Prof. PENG Zhouyuan <i>School of Nursing, Health Science Center, Shenzhen University</i></p> <p>4. <b>Co-Designing a Web-Based, Gamified, Hearing-Cognitive Dual-Task Training System for Older Adults with Hearing Loss</b> Prof. ZHAO Yan, Ivy <i>School of Nursing, The Hong Kong Polytechnic University</i></p> <p>5. <b>Transforming the Sense of Loneliness among Older Adults in Hong Kong: The Effectiveness of Acceptance and Commitment Therapy Group</b> Mr. CHAN Ho Kong, Bobby <i>The Salvation Army Social Services Department</i></p> <p>6. <b>An mHealth App to Support Using Outdoor Exercise Facilities in Hong Kong: A User Testing Study</b> Ms. LEE Yan Ting, Ms. WONG Wing Ki May <i>Department of Rehabilitation Sciences, The Hong Kong Polytechnic University</i></p> <p>7. <b>Effects of Psychoeducation Interventions on Psychological Outcomes among Spousal Caregivers of Community-Dwelling Older Adults: A Systematic Review and Meta-Analysis</b> Ms. ZHANG Ning <i>The Nethersole School of Nursing, The Chinese University of Hong Kong</i></p>
--	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

# Plenary Speaker Introduction



**Prof. PANG Yiu Chung Marco**

*Shun Hing Education and Charity Fund  
Professor in Rehabilitation Sciences,  
Chair Professor of Neurorehabilitation,  
and Head of Department of Rehabilitation  
Science, The Hong Kong Polytechnic  
University*

Prof. Pang obtained his BSc in Physical Therapy and PhD in Neuroscience from the University of Alberta, Edmonton, Canada. Following his doctoral study, he was awarded a post-doctoral fellowship from Natural Sciences and Engineering Research Council of Canada (NSERC) to conduct stroke rehabilitation research in University of British Columbia, Vancouver, Canada. His research primarily focuses on geriatric rehabilitation, especially among individuals with stroke and dementia. His research has produced a wealth of publications in highly rated journals. He works closely with frontline rehabilitation practitioners to translate the research findings into community service programmes.

His excellence in research work is internationally recognized. He has delivered more than 150 invited lectures and workshops in different parts of the world. In 2023, he was granted the World Physiotherapy International Service Award for Research. This award is a highly regarded honour that is awarded only once every four years. Prof. Pang is the first physiotherapist from Hong Kong in history to receive this award.

Prof. Pang is also enthusiastic in developing new teaching methods, including the use of blended learning model and internationalization of students' learning experience. He had received teaching awards from the University of Alberta and The Hong Kong Polytechnic University.

Prof. Pang was elected as the President of the Hong Kong Physiotherapy Association four times (2017, 2019, 2021, 2023) and has been serving as the Editor-in-Chief of the Hong Kong Physiotherapy Journal since 2011. He was a member of the Executive Board of World Physiotherapy (2017-2019). He is currently the Chair of the World Physiotherapy Asia Western Pacific (AWP) Region of World Physiotherapy.

# Arjo Insight®



Understanding the needs of your care receivers



Assessing the risks of your care staff



Highlighting priorities and opportunities



Guiding the way forward

Evidence-based risk assessment that supports you to promote mobility, caregiver safety and efficient workflows

## How does it work?

1



### Setup

We agree on the scope of the assessment, units or wards to be assessed, and set a date and time to conduct the assessment.

2



### Interviews & equipment assessment

On the day of the assessment, we speak to your unit manager and key care staff to collect information on the functional mobility levels of your residents/patients and discuss how current equipment is utilized within your facility. This takes approx. 1.5 hours for a 60-bed unit.

3



### Share findings

Your facility information is then evaluated and benchmarked against international working guidelines, and we discuss our findings and recommendations with you. This takes at least 1 hour.



Scan the QR code for enquiries

### Arjo Hong Kong Limited

Room 411-414, 4/F, Manhattan Centre, 8 Kwai Cheong Road, Kwai Chong, N.T., Hong Kong  
Tel: 2960 7600 Fax: 2960 1711 Email: [hk.sales@arjo.com](mailto:hk.sales@arjo.com)

[www.arjo.com](http://www.arjo.com)

**arjo**  
EMPOWERING MOVEMENT





# IS NOW AVAILABLE IN HONG KONG



The **FIRST** disease-modifying therapy received  
**FULL** approval from FDA for early Alzheimer's Disease<sup>1-3</sup>

LEQEMBI® allows those affected by early AD\*  
to preserve precious time and live an independent life.<sup>4</sup>



Dual-acting LEQEMBI® clears not only plaques,  
but also protofibrils, the most neurotoxic form of A $\beta$ .<sup>4,5</sup>



\*MCI due to AD and mild AD

**Abbreviations:** A $\beta$ , amyloid-beta; AD, Alzheimer's Disease; FDA, Food and Drug Administration; MCI, mild cognitive impairment

**References:** 1. U.S. Food & Drug Administration. Available online. <https://www.fda.gov/news-events/press-announcements/fda-converts-novel-alzheimers-disease-treatment-traditional-approval>. Last accessed: 28 June 2024. 2. LEQEMBI® Hong Kong Prescribing Information (Version April 2024). 3. Hoing LS, et al. *Alzheimers Res Ther*. 2024;16(1):105. 4. van Dyck CH, et al. *New Engl J Med*. 2023;388(1):9-21. 5. Hampel H, et al. *Mol Psychiatry*. 2021;26(10):5481-503.

#### LEQEMBI® Abbreviated Prescribing Information

LEQEMBI® (lecanemab) concentrate for solution for infusion 200 mg/2 mL, 500 mg/5 mL

**Indication:** LEQEMBI is indicated for the treatment of Alzheimer's disease. Treatment with LEQEMBI should be initiated in patients with mild cognitive impairment or mild dementia stage of disease, the population in which treatment was initiated in clinical trials. **Dosage and administration:** The recommended dosage of LEQEMBI is 10 mg/kg that must be diluted then administered as an intravenous infusion over approximately one hour, once every two weeks. If an infusion is missed, administer the next dose as soon as possible. **Contraindications:** LEQEMBI is contraindicated in patients with serious hypersensitivity to lecanemab or to any of the excipients of LEQEMBI. **Warnings and precautions:** Amyloid Related Imaging Abnormalities (ARIA): ARIA, characterized as ARIA with edema (ARIA-E) and ARIA with hemosiderin deposition (ARIA-H), can be caused. ARIA usually occurs early in treatment and is usually asymptomatic, although serious and life-threatening events, including seizure and status epilepticus, rarely can occur. When present, reported symptoms associated with ARIA may include headache, confusion, visual changes, dizziness, nausea, and gait difficulty. Focal neurologic deficits may also occur. Symptoms associated with ARIA usually resolve over time. The risk of ARIA, including symptomatic and serious ARIA, is increased in apolipoprotein E  $\epsilon$ 4 (ApoE  $\epsilon$ 4) homozygotes. Intracerebral hemorrhages greater than 1 cm in diameter have also occurred in patients treated with LEQEMBI. **Hypersensitivity reactions:** Hypersensitivity reactions, including angioedema, bronchospasm, and anaphylaxis, have occurred in patients who were treated with LEQEMBI. Promptly discontinue the infusion upon the first observation of any signs or symptoms consistent with a hypersensitivity reaction, and initiate appropriate therapy. LEQEMBI is contraindicated in patients with a history of serious hypersensitivity to lecanemab or to any of the excipients of LEQEMBI. **Infusion-related reactions:** Infusion-related reactions were mostly mild (69%) or moderate (28%) in severity. Symptoms of infusion-related reactions include fever and flu-like symptoms (chills, generalized aches, feeling shaky, and joint pain), nausea, vomiting, hypotension, hypertension, and oxygen desaturation. In the event of an infusion-related reaction, the infusion rate may be reduced, or the infusion may be discontinued, and appropriate therapy initiated as clinically indicated. Prophylactic treatment with antihistamines, acetaminophen, nonsteroidal anti-inflammatory drugs, or corticosteroids prior to future infusions may be considered. **Adverse reactions:** The most common adverse reaction (led to discontinuation in 2% of patients treated with LEQEMBI) was infusion-related reactions in one study, and ARIA-H microhemorrhages in another study. Common adverse reactions (reported in at least 5% of patients treated with LEQEMBI 10 mg/kg every two weeks and at least 2% higher than placebo) include headache, cough, diarrhea, ARIA-E, superficial siderosis of central nervous system, rash, and nausea/vomiting. Refer to the full Prescribing Information for other adverse reactions. **Use in specific populations:** Pregnancy: There are no adequate data on the safety of LEQEMBI use in pregnant women. Lactation: There are no data on the presence of LEQEMBI in human milk, the effects on the breastfed infant, or the effects of the drug on milk production. **Pediatric use:** Safety and effectiveness of LEQEMBI in pediatric patients have not been established. **Geriatric use:** No overall differences in safety or effectiveness of LEQEMBI have been observed between patients 65 years of age and older and younger adult patients. **Storage:** Unopened vial: Store in a refrigerator at 2°C to 8°C. Store in the original carton to protect from light. Do not freeze or shake. **Diluted solution:** [See Dosage and Administration (2.4)]. Please refer to the full Hong Kong Prescribing Information for details.

HK-LO-11-003 (Aug 2024)

Eisai (Hong Kong) Company Limited

Unit A, 29/F, Lee & Man Commercial Center, 169 Electric Road,  
North Point, Hong Kong  
Tel: (852) 2516 6128 | Fax: (852) 2561 5042





Victory of taste\*

# Fresubin® 2 KCAL Drink

## Support compliance

Proven nutritional efficacy and winning taste\* with wide variety to optimize nutritional support<sup>1-2</sup>



 ~50% of RDA<sup>3</sup> of Vitamin D in one 200ml bottle

-  High **energy** density
-  125/200ml **volume**
-  High **protein** content
-  Different **flavours**

### Fresenius Kabi Hong Kong Ltd.

Room 5001-5016, 50/F, Sun Hung Kai Centre, 30 Harbour Road, Wanchai, Hong Kong

Tel: (852) 2152 1330 Fax: (852) 2119 0815 Email: [infohk@fresenius-kabi.com](mailto:infohk@fresenius-kabi.com) [www.fresubin.com/hk](http://www.fresubin.com/hk)

References: 1. Volkert D, Beck AM, Cederholm T, Cruz-Jentoft A, Goisser S, Hooper L, et al. ESPEN guideline on clinical nutrition and hydration in geriatrics. Clin Nutr. 2019. 2. Paddon-Jones, D. and B.B. Rasmussen, Dietary protein recommendations and the prevention of sarcopenia. Curr Opin Clin Nutr Metab Care. 2009. 12(1): p. 86-90. 3. Nordic Nutrition Recommendations. 5th ed. Copenhagen 2014. (For the aged 75 or above) \*SAM Sensory Test Results for Fresubin 2kcal DRINK Vanilla /Sensory panel consisting of 11 trained panelists according to ODA methodology (country scope: DE, FR, CH, GB, ES, N=140)

## **Outstanding Paper Presentation – Paper 01**

### **Effectiveness of Community Carer Capacity Building Programme - Formulation of Volunteer-Based Fall Prevention Screening for the Elderly by the Medical-Social Collaboration Model**

Yip, WY<sup>1</sup>, Wan, SY<sup>2</sup>, Chau, CP<sup>3</sup>, Cheung, MT<sup>4</sup>

1. *Elderly Health Service, Department of Health, HKSAR*

2. *Elderly Health Service, Department of Health, HKSAR*

3. *Elderly Health Service, Department of Health, HKSAR*

4. *Elderly Health Service, Department of Health, HKSAR*

*with Kwok WM, Yip CY, Ting SY, Cheung MC, Auw CK, Kong Eva, Department of Health, Elderly Health Service*

#### **Purpose**

In Hong Kong, nearly 75% of unintentional injuries of elderly were caused by falls. To prevent fall incident and echo "ageing-in-place" policy, Department of Health partnered Non-governmental Organisations (NGOs) to empower volunteers to screen the elderly's home environment to identify home hazards, and educate volunteers to deliver fall prevention messages to the elderly. It aims to implement the Medical-Social Collaboration Model and evaluate the effectiveness of the programme.

#### **Method**

Fall prevention workshops and reunions of volunteers were conducted to educate the knowledge and improve the fall prevention skills at home. A tailor-made Home Safety Checklist (HSC) was designed to screen the home hazard. After training, the interrater reliability test for using HSC was conducted to ensure the volunteers' competence in home hazard screening. The pre-and post-course fall knowledge was also assessed. After the volunteers conducted home hazard screening, the high fall risk frail elderly would be referred to Occupational therapists (OTs) for professional interventions. The primary outcome would be the improvements of HSC items compared between volunteers' first visit and subsequent visit by OTs.

#### **Results**

From 2017 to 2023, a total of 1,318 volunteers received trainings from 45 NGOs in different districts. The knowledge test analysis (n=625) showed significant positive results ( $p<0.001$ , by paired t-test). Regarding HSC, 4 out of 15 items showed significant improvement including uneven floor level ( $p=0.007$ ), inadequate lighting ( $p=0.002$ ), use of cloth as floor mat ( $p<0.001$ ) and lack of rails or support ( $p=0.031$ ), by the McNemar Test. The average number of home hazards were significantly reduced from 4.34 at the first visit by volunteers to 3.66 at the second visit by OTs ( $p<0.001$ , by paired t-test).

#### **Conclusion**

This model successfully links up medical and social sectors and empower the community volunteers' capacity to prevent fall of the elderly at home.

## **Outstanding Paper Presentation – Paper 02**

### **Linking Social Frailty to Late-Life Obesity: The Hidden Psychological Pathway**

Chan, B.N.K.<sup>1</sup>, Zhou, Y.<sup>2</sup>, Miao, M.<sup>3</sup>, Sit, T.Y.<sup>4</sup>, Yu, D.S.F.<sup>5</sup>

*1-5. School of Nursing, The University of Hong Kong, HKSAR*

#### **Purpose**

The purpose of this study included identifying the prevalence of social frailty and malnutrition, examining the association of social frailty and malnutrition, and exploring whether such association was mediated by depressed mood among Chinese older adults.

#### **Method**

From May 2022 to June 2024, a total of 5286 older adults aged 60 or above from the JC Pathway to Healthy Aging were recruited in collaboration with three non-governmental organization, which covered nine districts in Hong Kong. Cross-sectional data on older adults' social frailty, depression and malnutrition were collected using questionnaires. Pearson correlation test and mediation analysis were conducted while fully adjusted for all potential confounding factors.

#### **Results**

The results revealed that approximately half of the older individuals were either pre-social frailty (31.7%) or social frailty (16.3%). Also, the prevalence of at risk of malnutrition and malnourished were 14.2% and 0.6% respectively. Furthermore, the result confirmed the mediating role of depression on the relationship between social frailty and malnutrition in older adults. The mediating effect value accounted for 50.0% of the total effect. The identified pathway showed that overweight and obese individuals who experienced social frailty were more vulnerable to malnutrition through depressions than normal or underweight individuals. The mediating effect value accounted for 80.5%.

#### **Conclusion**

This study is the first to identify a specific path to understand the impacts of social frailty on older adults using a large-scale research study in Hong Kong. The result of the mediation models could provide insight on program planning. Social frailty is an important element to terminate the identified pathway of the association of social frailty and malnutrition through depression. Therefore, it is important to promote active participation in social activities among community dwelling older adults, as it may have a preventive effect on depression.

## **Outstanding Paper Presentation – Paper 03**

### **The Use of a Medication Management System to Examine Potentially Inappropriate Medication Use and Hospitalization Rates Among Older Adults Living in Residential Care Homes for the Elderly (RCHEs) in Hong Kong**

Chau, H.<sup>1</sup>, Zhang, K.<sup>2</sup>, Hui, I.<sup>3</sup>, Chiang, S.<sup>4</sup>, Cheung, Y.<sup>5</sup>

1. *Hong Kong Pharmaceutical Care Foundation, HKSAR*

2. *School of Pharmacy, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

3. *School of Pharmacy, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong*

4. *Hong Kong Pharmaceutical Care Foundation, HKSAR*

5. *School of Pharmacy, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

#### **Purpose**

In Hong Kong, many older adults residing in RCHEs are at risk of polypharmacy and the use of potentially inappropriate medication (PIM). A medication is considered PIM when its risk is more significant than its benefit, especially when effective alternatives are available. Few studies have evaluated the prevalence and consequences of PIM use among older adults residing in RCHEs. This study aimed to utilize the data captured through a medication management system to describe the prevalence of PIM use in 29 RCHEs in Hong Kong, and to investigate the association between PIM use and hospitalization in this population.

#### **Method**

This observational study utilized final-administered medication data from SafeMed Medication Management System (SMMS), which is a purpose-built IT system supporting the medication management process at RCHEs. Data on hospital admissions and medications administered to the residents were extracted from SMMS. The 12-month period prevalence of PIM use was obtained by comparing the medication data with the 2023 Beers criteria. Multivariable logistic regression was conducted to investigate the association between PIM use and hospital admissions.

#### **Results**

The study population included 6,346 residents (age  $82.9 \pm 8.6$  years; female 61.9%). The average number of current medications was  $6.8 \pm 7.4$ . Almost half (51.5%) of residents are defined as having polypharmacy ( $\geq 5$  medications). The 12-month period prevalence of PIM use is 34.5%. Among the residents who took PIMs, 65.1% used 1 PIM, 25.5% used 2 PIMs, and 9.4% used  $>2$  PIMs. Residents who used PIMs were associated with higher rates of hospitalization (OR 1.73, 95% CI 1.54 to 1.69), after adjusting for age, sex and comorbidities.

#### **Conclusion**

The use of PIM is observed in one-third of the older adults residing in RCHEs, and is associated with an increased risk of hospitalization. Our findings highlight the need to improve clinicians' awareness of PIM list and its adverse impact on this population.



## **Outstanding Paper Presentation – Paper 04**

### **Acceptance and Commitment Therapy plus Exercise for Community-dwelling Older Adults with Chronic Low Back Pain: A Mixed Methods Study**

Liu, QJ.<sup>1</sup>, Mak, YW.<sup>2</sup>, Aled, LY.<sup>3</sup>, Kwan, Y.<sup>4</sup>, AL Zoubi, F.<sup>5</sup>, Wong, TK.<sup>6</sup>, Tsang, SH.<sup>7</sup>, Kwong, CW<sup>8</sup>

*1,4-8. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

*2. School of Nursing, The Hong Kong Polytechnic University, HKSAR*

*3. Department of Psychology, The University of Hong Kong, HKSAR*

#### **Purpose**

Acceptance and commitment therapy (ACT) improves pain acceptance and depression symptoms in older adults with chronic pain, but the long-term benefits are inconclusive. This 2-arm, double-blind, pilot cluster RCT, with embedded semi-structured interviews, evaluated the efficacy of a novel multimodal treatment approach (ACT plus exercise training; ACT+Ex) on improving self-reported pain-related outcomes and physical fitness in older adults with chronic low back pain (CLBP) at post-treatment and 6-month follow-up.

#### **Method**

Forty community-dwelling older adults (62-85 years) with CLBP were randomized to ACT+Ex (n=20) or an Education plus exercise program (Edu+Ex) (n=20). Treatment was conducted in group-based sessions over 8 weeks with assessments at baseline, post-treatment, and 6-month follow-up (primary endpoint). Self-reported outcomes included pain intensity, functional disability (Roland Morris Disability Questionnaires, RMDQ), psychological inflexibility (Acceptance and Action Questionnaire-Version 2, AAQ-II), health-related quality of life (EuroQol-5 Dimensions, EQ-5D-5L), and psychological well-being (Depression Anxiety Stress Scale). Physical fitness was assessed through various tests.

#### **Results**

This trial achieved high recruitment eligibility (85.1%) and completion rates (92.5%). ACT+Ex demonstrated significant improvements in pain intensity, disability, psychological inflexibility, and HRQoL at post-treatment and 6-month follow-up. During the 6-month follow-up, participants in ACT+Ex had improved physical fitness (especially TUG speed), whereas Edu+Ex experienced no change. Qualitative data identified 3 superordinate themes: previous healthcare experience affecting pain beliefs; Acceptance strategies guiding behavioral changes; and facilitators and barriers to treatment compliance. These findings support the need for a definitive RCT and form a valuable basis for future exploration regarding the behavioral mechanisms of ACT in clinical applications.

#### **Conclusion**

Results from this pilot RCT of a novel combination treatment ACT+Ex compared with Edu+Ex, suggested that ACT+Ex offers stronger treatment benefits than Edu+Ex, especially on the outcomes of physical fitness during the follow-up period.

#### **Acknowledgement**

These findings provide valuable insights into the potential effectiveness of ACT plus exercise for CLBP management, emphasizing its impact on both physical outcomes and patient experiences. The qualitative research highlights the specific needs of older adults with CLBP and offers a foundation for optimizing multimodal interventions.

## **Outstanding Paper Presentation – Paper 05**

### **Moderating Role of Caregiver Sleep Duration in the Association between Care Recipient Comorbidity and Caregiver Depression: The Case of Older Chinese with Dementia**

Yu, Z.<sup>1</sup>, Yan, E.<sup>2</sup>

1. *Department of Applied Social Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *Department of Applied Social Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Purpose**

Dementia is associated with notable declines in cognitive and behavioural functioning and usually coexists with multiple comorbidities, necessitating intensive care from caregivers. In China, family caregivers (CGs) assume the major caregiving responsibilities of older care recipients (CRs) with dementia. The long-term care burden may lead to cumulative stress and adversely affect CGs' mental well-being. This study investigated the impacts of CR comorbidity on CG depression and how these effects were moderated by CG sleep duration in an urban Chinese population.

#### **Method**

Inclusion criteria consisted of CRs aged 55+ with mild to moderate cognitive impairment and/or physical impairment, no psychiatric disorders, and CGs providing at least 4 hours of care per week. A total of 667 CG-CR dyads of data were drawn from a sample of 1002 older patients and their CGs. All patients visited the neurology departments at 3 tertiary hospitals in Guangdong Province, China, between 2015 and 2017. CG depression and CR comorbidity were measured using the CES-D-10 and Charlson Comorbidity Index, respectively. CG sleep duration was categorized into long (> 8 hr/day), medium (7 - 8 hr/day), and short (< 7 hr/day), with medium duration as reference for analysis. A multivariate logistic regression model was constructed to test the proposed hypotheses.

#### **Results**

CGs caring for CRs with higher levels of comorbidity were more likely to be depressed (OR = 2.772, 95% CI: 1.915 - 3.79,  $p < .001$ ). Shorter sleep duration exacerbated the impact of CR comorbidity on CG depression (OR = 3.168, 95 % CI: 2.016 - 4.258,  $p < .001$ ). This effect, however, was not statistically significant among CGs with longer sleep duration (OR = 1.674, 95% CI: 0.932 - 2.108,  $p > .05$ ).

#### **Conclusion**

The moderation role of CG sleep duration in the association between CR comorbidity and CG depression was established. CGs who reported short sleep duration and cared for CR with higher levels of comorbidity showed a significantly increased vulnerability to depression. These findings emphasized the crucial need for incorporating sleep quality improvement in caregiver support interventions.

# A&D 醫護之選

A&D Medical 日本愛安德電子血壓計

## 智能科技 連繫健康生活



準確



簡單



特大字體



優越之選  
PREMIUM

日本手臂式血壓計  
型號:UA-767JP

進階之選  
ADVANCED

日本手腕式血壓計  
型號:UB-533PGMR



進階之選  
ADVANCED

日本手臂式血壓計  
型號:UA-654MR

## 全新升級 符合ISO標準



ISO  
80369



CLINICALLY  
VALIDATED

港豐遠東有限公司  
KINGSFORD FAR EAST LTD

查詢電話:2348 0433



kingsfordfe.com





愛素寶® 100 mini  
高能量營養品

# mini份量 飲得晒!

## 營養唔會咗

細細包  
營養多

200千卡能量  
只有100毫升!!!

7厘米  
超迷你!



日式奶茶味



咖啡朱古力味



粟米湯味



香蕉味

日本製

了解更多



銷售地點：  
Nestlé HK eshop, HKTV mall, 卓思廊, 華康, 文化村, 及各大復康店有售  
在醫護人員指示下使用, 特殊醫用食品。

[www.nestlehealthscience.com.hk](http://www.nestlehealthscience.com.hk)



TENA  
添寧

連續 6 年  
全港銷量

No.1

# 日夜安心自主 盡享精彩旅程

星級照護  
鄧萃雯

輕巧型

日用型

夜用型

最受用家及  
照護者推薦

成人紙尿褲品牌\*



夜用吸量

No.1

## 添寧安心活力褲



一拉即著

2倍彈性腰圍\*



99%抗菌淨味\*

瞬吸防漏

立體防漏隔邊



適合以下人士使用



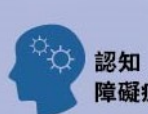
可自行  
走動



輔助下  
可行走



輔助下  
可坐立



認知  
障礙症

免費試用熱線 2741 8111

www.tena.com.hk | 添寧 TENA Hong Kong



索取試用裝

圖片僅供參考，產品以實物為準。\*根據Nielsen IQ 2017年1月至2022年12月香港成人紙尿片(紙尿褲及紙尿片類別)零售調查報告 (©2023 NielsenIQ 版權所有) \*根據2022年8月253名受尿滲或失禁困擾人士或其照護者使用不同品牌的尿褲/紙尿片後之意見調查結果。\*有效對抗99%大腸桿菌、金黃色葡萄球菌及白色念珠菌。\*根據添寧活力褲腰部橡膠筋位置拉伸前後之呎吋對比。†不包括橡筋及膠貼位置。\*整個添寧活力褲系列中吸量最高。

essity Essity, all TENA rights reserved



# 香港保險業 聯會

133

會員公司



香港保險業聯會  
The Hong Kong Federation of Insurers

保險業界  
代表組織

香港保險業聯會（保聯）現有約 133 家會員公司，為獲政府認可的保險業界代表組織。

保聯一方面經常與保險業監管局對話，協商影響保險業之法例事宜，另一方面則積極推動良好行業慣例，提高保險業的專業水平，加強市民對保險業的信心。



<http://www.hkfi.org.hk>



2520 1868



[hkfi@hkfi.org.hk](mailto:hkfi@hkfi.org.hk)

## **Free Paper Presentation I: Long Term Care – Paper 01**

### **Understanding Job Characteristics of Personal Care Workers in Hong Kong Long-Term Care Facilities**

CHEN, HL<sup>1</sup>, Huang, SX<sup>2</sup>, Yau, SY<sup>3</sup>, Lee, YK<sup>4</sup>, Dong, D<sup>5</sup>

1. *Department of Applied Social Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *The Hong Kong Polytechnic University, HKSAR*

3. *Hong Kong Metropolitan University, HKSAR*

4. *Hong Kong Metropolitan University, HKSAR*

5. *The Chinese University of Hong Kong, HKSAR*

#### **Purpose**

The demand for long-term care (LTC) workers is rising due to population aging, with personal care workers (PCWs) making up 70% of the workforce. Despite government efforts to improve staffing, including importing migrant workers, a crisis persists. Most studies have focused on professional health and social workers' job characteristics and well-being in LTC facilities, leaving PCWs—who face greater demands—under-researched. This study, based on The Job Demands-Resources (JD-R) theory, aims to examine the job characteristics of PCWs in Hong Kong LTC facilities, identifying job demands that increase their burnout and job resources that enhance their work engagement.

#### **Method**

Between April to September 2024, semi-structured interviews with 15 PCWs in Hong Kong's LTC facilities were conducted to understand their job demand and resources. Thematic analysis was conducted with the qualitative data analysis software NVIVO 12. A combination of deductive and inductive coding strategies was adopted.

#### **Results**

Four themes emerged from data analysis: (1) job demands; (2) job resources; (3) personal demands; and (4) personal resources. PCWs in Hong Kong's LTC facilities experience both general and occupation-specific job demands and resources that influence their work-related well-being. Specifically, physical, cognitive, emotional, and psychosocial demands, work pressure (including workload and time pressure), as well as professional demand constitute major job demands for PCWs. Coaching, development opportunities, social support, skill training, work environment, pay and benefits are identified to be job resources for PCWs. Compassion, empathy, optimism, and self-efficacy were found to be personal resources, while work-life conflict is a significant personal demand for PCWs.

#### **Conclusion**

Personal care worker is a high-demand and low-resource job. Although JD-R model captures many relevant workforce features, it drops off some important components for the occupational group of PCWs in LTC facilities. An occupation-specific Personal Care Worker Job Demands-Resources Model is proposed based to guide future investigation. Theoretical, practical, and policy implications are drawn.

## **Free Paper Presentation I: Long Term Care – Paper 02**

### **Are Changes in Pain Intensity Related to Changes in Balance Control in Individuals with Chronic Non-Specific Low Back Pain? A Systematic Review and Meta-Analysis**

Zheng, D.K.Y.<sup>1</sup>, Liu, J. Q. J.<sup>2</sup>, Chang, J. R.<sup>3</sup>, Ng, J.<sup>4</sup>, Zhou, Z.<sup>5</sup>, Wu, J.<sup>6</sup>, Cheung, C. K. C.<sup>7</sup>, Huang, F. F.<sup>8</sup>

1-5, 7-8. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

6. *College of Physical Education, Southwest University, Chongqing, 400715, China*

#### **Background of Research**

Individuals with CNSLBP display impaired balance control. Theoretically, if pain is a cause of suboptimal balance control, pain remission may improve balance control of these individuals.

#### **Purpose**

To summarize the evidence regarding whether pain reduction in individuals with chronic non-specific low back pain (CNSLBP) following conservative interventions is related to corresponding improvements in balance control.

#### **Method**

Randomized controlled trials were identified from five databases. Two reviewers independently screened and identified relevant studies that investigated the effects of nonsurgical or nonpharmacological CNSLBP treatments on both pain intensity and balance control. Meta-regression analyses were performed to establish the associations between post-treatment changes in these two variables.

#### **Results**

42 studies involving 1,913 participants with CNSLBP were included. Moderate-quality evidence suggested that pain reduction was associated with and explained 34-45% of decrease in body sway. Low to very low-quality evidence indicated that pain relief was related to and explained 15-45% of improved one-leg stance with eyes open and static anteroposterior stability index with eyes closed, and that reduced pain was associated with and accounted for 25-43% of improved composite and posteromedial scores of the star-excursion balance test. In addition, very low-quality evidence suggested that pain reduction was associated with and accounted for 14% of improvements in the timed up and go test. Finally, moderate to very low-quality evidence indicated that pain relief was associated with and accounted for 14-34% of improved functional performance as measured by the five times sit-to-stand test and walking speed. Low-quality evidence suggested a relationship between pain relief and improved walking speed in working-age adults, but no significant association was found in older adults.

#### **Conclusion**

Pain relief following conservative interventions may enhance balance control in individuals with CNSLBP. These findings have important clinical implications for individuals with CNSLBP who are at risk of falls.



## **Free Paper Presentation I: Long Term Care – Paper 03**

### **Upper Limb Kinematic Measurement Using Markerless Motion Capturing (MMC) in Stroke Survivors: A Cross-Sectional Experimental Study**

Winnie W. T. LAM<sup>1</sup>, Kenneth N. K. FONG<sup>2</sup>

*1. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

*2. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Purpose**

This study evaluates: 1) the differences in the upper limb joint angles between stroke survivors with different functional levels and their healthy counterparts in controlled indoor and uncontrolled outdoor environments; and 2) the relationship between the kinematic information obtained by MMC technology through a customized MMC system using an iPad Pro and the scores of manual motor assessments.

#### **Method**

A customized MMC system developed using an iPad Pro with a LiDAR scanner was designed to capture the movements of the participants. The stroke survivors first underwent three upper limb assessments and then performed seven sets of upper limb tasks with their non-hemiplegic side, followed by their hemiplegic side. The healthy participants performed the same sets of tasks for the motion capturing, with their dominant side followed by their non-dominant side. All of the participants performed tasks in the laboratory first, then repeated them in three randomly selected outdoor areas. The sensitivity and specificity of the selected machine models were calculated in regard to the classification of upper limb motor functional level based on the kinematic data from the MMC system on the iPad Pro.

#### **Results**

Fifty stroke survivors and 49 healthy adults were recruited. Significant differences were found between the upper limbs of the hemiplegic and non-hemiplegic sides of the stroke participants in most of the tasks. Significant positive correlations were found between the results of the manual motor assessments and most of the kinematic parameters. The results of the four selected machine learning models revealed  $\geq 0.85$  sensitivity in the stroke upper limb functional level classification.

#### **Conclusion**

The MMC system combined with a machine learning classification algorithm can be used to provide precise data with which to evaluate the upper limb functional recovery of stroke survivors. Further studies on the operation of the MMC system by stroke survivors at home during remote therapy is warranted.

## **Free Paper Presentation I: Long Term Care – Paper 04**

### **A Cross-Sectional Study Evaluating the Association between Motor Impairment and Changes in Paretic Upper Limb Arterial and Intramuscular Blood Flow in Elderly Individuals with Chronic Stroke**

Miller, T.<sup>1</sup>, Ouyang, H.X.<sup>2</sup>, Tsang, C.S.L.<sup>3</sup>, Calderon-Juarez, M.<sup>4</sup>, Ying, M.T.C.<sup>5</sup>, Pang, M.Y.C.<sup>6</sup>

1. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *Department of Biomedical Engineering, Guangzhou Medical University*

3. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

4. *Faculty of Science, National Autonomous University of Mexico*

5. *Department of Health Technology and Informatics, The Hong Kong Polytechnic University, HKSAR*

6. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Purpose**

Although previous evidence suggests peripheral vascular changes are likely more pronounced in stroke-affected limbs, comparisons of intramuscular blood flow between people with stroke and their healthy counterparts have not been studied. Additionally, the relationship between microvascular alterations and functional impairment after stroke is unknown. This cross-sectional study aimed to compare bilateral differences in upper limb arterial and intramuscular blood flow between people with stroke and healthy controls and explore the relationship between these vascular parameters and motor function post-stroke.

#### **Method**

A total of 64 elderly individuals (age=60.8±7.7) with chronic stroke (duration since onset=5.7±3.9years) and healthy matched controls (n=64, age=59.4±7.8) participated. Diameter and blood flow volume of the brachial arteries were assessed with Doppler ultrasound, while intramuscular blood perfusion was estimated using the vascularity index. Perceived usage of the paretic limb and motor impairment were measured with the Motor Activity Log and Fugl-Meyer Assessment, respectively.

#### **Results**

Significant interactions were observed for arterial diameter and vascularity index ( $p \leq 0.048$ ). Post hoc analyses demonstrated smaller arterial diameter and lower vascularity index in paretic limbs (stroke), with greater blood flow volume for dominant limbs (control), and greater percent bilateral difference (%SSD) for vascularity index and arterial diameter in participants with stroke ( $p \leq 0.017$ ). The %SSD in all vascular parameters showed a significant association with motor impairment and disuse ( $p \leq 0.05$ ). Motor impairment emerged as a predictor of the %SSD in vascularity index ( $R^2=0.259$ ,  $p=0.008$ ) and arterial diameter ( $R^2=0.280$ ,  $p=0.018$ ). Disuse was a predictor of the %SSD in blood flow volume ( $R^2=0.158$ ,  $p=0.046$ ).

#### **Conclusion**

Paretic upper limb arterial size and muscle blood perfusion were significantly reduced in comparison to the non-paretic and bilateral limbs of controls. Motor impairment and disuse also emerged as significant predictors of these vascular outcomes. Whether vascular changes occur independently or in tandem with motor recovery remains unknown and will require further study.

## **Free Paper Presentation I: Long Term Care – Paper 05**

### **Constructing a Transdisciplinary Capacity Building Framework for the Long-Term Care Workforce in Hong Kong: A Delphi Study**

Huang, Y.<sup>1</sup>, Xia, N.<sup>2</sup>, Lou, V. W.<sup>3</sup>, Zhong, Y.<sup>4</sup>

1. *Department of Social Work and Social Administration, The University of Hong Kong; Sau Po Centre on Ageing, The University of Hong Kong, HKSAR*
2. *Sau Po Centre on Ageing, The University of Hong Kong, HKSAR*
3. *Department of Social Work and Social Administration, The University of Hong Kong; Sau Po Centre on Ageing, The University of Hong Kong, HKSAR*
4. *Department of Social Work and Social Administration, The University of Hong Kong, HKSAR*

#### **Purpose**

To meet the increasing need for elderly care and enhance Hong Kong's long-term care (LTC) system, this study aims to develop a transdisciplinary capacity building framework for the LTC workforce. It focuses on identifying the essential competencies that care workers at different levels should possess.

#### **Method**

A five-round participatory Delphi design was utilized. Forty experts from various professions in the field of LTC were invited to participate. During the first-round meeting, the experts discussed the hierarchical structure of the LTC workforce and identified relevant competencies that care workers need to master. In the subsequent two rounds, the experts rated these items in terms of clarity, relevance, and importance through questionnaires, and the items were decided based on the mean, percentage of agreement, and interquartile range. In the final two rounds of meetings, experts further discussed and validated the final framework.

#### **Results**

The expert panel proposed a three-tier hierarchical structure within the LTC workforce, along with 49 corresponding competencies. The basic level included six essential competencies that all LTC staff must possess, such as understanding the concept and content of LTC, using assessment tools and interpreting the results, communicating effectively with older adults and their families. The middle level contained 41 more competencies for qualified case management practitioners, such as knowledge and skills in case management, designing and implementing individual care plans, mobilizing community resources. The superior level involved two additional competencies—supervising plan implementation and leading team collaboration—which are to be managed by team supervisors.

#### **Conclusion**

The study develops a transdisciplinary capacity-building framework that can be used to guide and train LTC workers from different professions. The framework indicates a pathway for capacity building from beginner to advanced levels and clarifies the responsibilities of various roles, which can help improve the quality of LTC services and enable seamless coordination among multidisciplinary teams.

#### **Acknowledgement**

We would like to acknowledge The Hong Kong Council of Social Service (HKCSS) for their collaboration throughout the research, including organizing and sharing information about the study. We would particularly like to thank all the experts who participated in the study, without whom this study would not have been possible.

## **Free Paper Presentation II: Dementia / Mental Health – Paper 01**

### **The Relationship between Dementia Literacy, Acculturation, Social Network and Help-Seeking Behaviour: A Cross-Sectional Study.**

Koduah A.O<sup>1</sup>, Cheung T<sup>2</sup>, Leung A.Y.M<sup>3</sup>

1. School of Nursing, The Hong Kong Polytechnic University, HKSAR

2. School of Nursing, The Hong Kong Polytechnic University, HKSAR

3. School of Nursing, The Hong Kong Polytechnic University, HKSAR

#### **Purpose**

To examine the relationship between dementia literacy, acculturation, social network, and the intention to seek help for dementia among Africans in Hong Kong.

#### **Method**

Data were derived from a cross-sectional study using convenient and snowball sampling to recruit participants between October and December 2021. Descriptive statistics, spearman correlation analyses and structural equation models were employed to select the sample.

#### **Results**

Four hundred and sixty-one Africans, with a mean age of 33.5, participated in the study. Social network ( $\beta = 0.09$ ,  $p=0.021$ ), assimilation strategy ( $\beta = 0.16$ ,  $p<0.001$ ), and dementia literacy subscale (knowledge of how to access dementia information) ( $\beta = -0.16$ ,  $p<.001$ ) were significantly associated with intention to seek help (RMSEA=0.001; NFI= 0.99; TLI=1.00; CFI=1.00;  $X^2/df=0.723$ ;  $P=0.395$ ;  $df=1$ ). Knowledge of how to access information mediated the relationships between social networks and intention to help-seeking; and between acculturation and intention to help-seeking.

#### **Conclusion**

The findings highlight the essential role of fostering supportive social networks and enhancing awareness of dementia-related resources within the community, particularly for ethnic minorities. By improving access to information and promoting effective assimilation strategies, health professionals from various disciplines can work collaboratively to encourage proactive help-seeking behaviors among older adults, including Africans living in Hong Kong. Future interventions should focus on integrating these elements into a multidisciplinary framework, ensuring that comprehensive support is available to help this population navigate dementia care effectively.



## **Free Paper Presentation II: Dementia / Mental Health – Paper 02**

### **Feasibility, Safety and Effects of a Step Training Program in Community-Dwelling Older Adults with Dementia: A Feasibility Wait-List Controlled Trial**

Chan, W.<sup>1</sup>, Cheung, D.<sup>2</sup>

1. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *School of Nursing and Midwifery, Deakin University*

#### **Purpose**

This study evaluates the feasibility, safety, and effects of a step training program on stepping performance, physical function, and cognitive function in community-dwelling older adults with dementia.

#### **Method**

This study is a pilot quasi-experimental, wait-list controlled trial. Fifty-six older adults who had a diagnosis of dementia and were able to walk 10 m independently without any walking aid or with a walking stick were recruited. Participants who were allocated to the step training program completed two 40-minute exercise sessions per week for 12 weeks. Participants who were assigned to the wait-list control group received usual care for the first 12 weeks, followed by the same step training program. The feasibility (retention and adherence to the step training program), safety (percentage of the participants having any adverse events), and clinical outcomes of the participants, including the stepping performance, general mobility, walking speed, lower limb muscle strength, dynamic balance, global cognition, and functional ability, were assessed at the baseline and 12 weeks.

#### **Results**

Forty-seven participants (84%) completed the 12-week assessment. The mean number of completed exercise sessions was 17.95 (74%). No adverse events were recorded. Significant interactions in choice stepping reaction time ( $p = .038$ ), maximum step length [left leg backward stepping ( $p = .046$ ) and side stepping ( $p = .020$ )], and alternate stepping ( $p = .002$ ) between the step training and wait-list control groups were found.

#### **Conclusion**

The step training program was feasible, safe, and potentially effective in improving the stepping performance of older adults with dementia. Future research to evaluate the effects of the step training program using a larger sample and a more stringent study design is therefore warranted.

#### **Acknowledgement**

This study is financially support by the Hong Kong Polytechnic University.

## **Free Paper Presentation II: Dementia / Mental Health – Paper 03**

### **Palliative Home Care for Dementia Patients (智愛晚晴照顧計劃) - A Multidisciplinary Team Approach**

Law, K.<sup>1</sup>, Wu, T.<sup>2</sup>, Seaman, T.<sup>3</sup>, Yuen, T.<sup>4</sup>, Chen, W.<sup>5</sup>, Liong, T.<sup>6</sup>, Woo, C.<sup>7</sup>, Yau, N.<sup>8</sup>

*1-8. Home Care Service, Sister Annie Skau Holistic Care Centre, HKSAR*

#### **Background**

There is currently no cure for dementia and there will be more than three hundred thousand of elderly aged over 60 will be suffering from dementia in 2039 by projection. However, it is often challenging for dementia patients and the caregivers to be referred to palliative care, let alone to receive the specialized support they need for home care.

#### **Purpose**

This report aims to investigate the effectiveness of a Palliative Home Care Program for Dementia Patients

#### **Method**

Targeted population:

- a. Dementia/cognitive impairment with life-limiting illness, with less than 12 months life expectancy
- b. Severe dementia (FAST scale: 7 or above), with approximately 12 months life expectancy

A nurse would be assigned as the Case Manager to mobilize inter-disciplinary support from doctor, social worker, physiotherapist, occupational therapist, nursing assistants and volunteers to provide holistic support such as symptom management, exploration of Advance Care Planning (ACP), relieving carer stress, wish fulfilling, connection to community resources and even dying in place with bereavement support.

Assessment would be done to evaluate the following aspects of patients and caregivers at certain time point:

Patients:

Aspect: Physical & psychiatric symptom

Tool: Numerical Rating Scale (NRS)

Time: Start of service, and 3 months later

Caregivers:

Aspect: Stress level, Self-perception of psychiatric symptom

Tool: CSI, Numerical Rating Scale (NRS),

Time: Start of service, and 3 months later

#### **Results**

74 families, patients and caregivers included, were recruited in this programme from May 2023 till end of September 2024. Data was collected from 27 out of 74 families and result as follow:

a) Patients:

Aspect: Physical & psychiatric symptom

Tool: Numerical Rating Scale (NRS)

Result: Significantly improved ( $p < 0.01$ ), 81% had >20% improvement

Caregivers:

Aspect: Stress level; Self-perception of psychiatric symptom

Tool: CSI; Numerical Rating Scale (NRS),

Result: Significantly improved ( $p < 0.01$ ), 81% had >20% improvement; Significantly improved ( $p < 0.01$ ), 85% had >20% improvement

b) 100% of caregiver participated in ACP for the patients. 23% of the planning resulted in written form like Do Not Attempt CPR

#### **Conclusion**

This report demonstrated the positive effect of this palliative home care program for supporting both the patients and caregivers by reducing the physical and psychiatric symptom of patients, and caregivers' stress level and self-perception of psychiatric symptom.

A challenge is also observed that caregivers are very willing to participate ACP discussion but reluctant to transfer the result into a written form.

## **Free Paper Presentation II: Dementia / Mental Health – Paper 04**

### **Fun and Dementia-Friendly Gymnastics: An Occupational Therapy within an Interdisciplinary Teamwork**

Ling, M.P.Y.<sup>1</sup>, Kwong, A.N.L.<sup>2</sup>, Li, S.K.Y.<sup>3</sup>, Lam, J.H.W.<sup>4</sup>

*1-4. Hong Kong Christian Service, HKSAR*

#### **Purpose**

Purpose: Tertiary prevention strategies for dementia aim to enhance the quality of life, boost well-being, and reduce disability in individuals living with dementia. This can be achieved through physical engagement. However, due to memory issues, lack of motivation, and limited access to dementia-specific exercise programs, physical inactivity is prevalent among this population. In this presentation, we will illustrate the design of Fun and Dementia-friendly Gymnastics, a programme designed to motivate individuals with dementia to participate in physical exercises and address the challenges faced by staff in implementing group-based physical activities for individuals with varying demographic backgrounds and different levels of physical and cognitive abilities.

#### **Method**

An interdisciplinary team consisting of nursing, occupational therapy, and social work professionals utilized the design thinking methodology to develop the gymnastics program. This systematic approach involves empathizing, defining, ideating, prototyping, and testing to create innovative solutions. The program recruits 50 community-dwelling older individuals with dementia throughout the year.

#### **Results**

The current cohort of 29 individuals with dementia, aged between 62 and 94, have undergone a comprehensive 6-month dementia training program. Most of them are female (70%). 86% of the participants are assessed as having mild dementia, with the remainder having a moderate level. In terms of mobility, 65.5% walk independently, 27.6% walk with supervision and 6.9% require a wheelchair. The design thinking process has resulted in a final dementia-friendly gymnastics programme that incorporates occupational therapy elements of functional training, play, leisure, social participation, aiming to improve occupational performance.

#### **Conclusion**

The design thinking process is beneficial in this context, where activities and training are tailored to accommodate the varying cognitive and physical levels of individuals with dementia. Our Fun and Dementia-friendly Gymnastics programme not only addresses the physical training needs of individuals with dementia but also promotes their psychosocial wellbeing.



## **Free Paper Presentation II: Dementia / Mental Health – Paper 05**

### **A Peer Support Intervention on Psychosocial Outcomes Amongst Older Migrants with Depressive Symptom: A Pilot Randomised Controlled Trial**

Lai, W.<sup>1</sup>, FU, Y.<sup>2</sup>, CAI, M.<sup>3</sup>, WANG, S.<sup>4</sup>, CHAN, Y.<sup>5</sup>

1,5. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

2,3. *Nursing Department, Peking University Shenzhen Hospital*

4. *Department of Statistics and Data Science, Southern University of Science and Technology*

#### **Purpose**

Internal migration across provinces is common among older adults in mainland China due to family reasons, resulting in elevated levels of psychosocial stress. This study aims to evaluate the feasibility of peer support intervention for improving psychosocial outcomes among these older internal migrants.

#### **Method**

A theory-driven, evidence-based peer support intervention was developed based on systematic review. The intervention included four sections mutual group meeting with 10 participants per group which last for eight weeks. We conducted an assessor-blinded, two-arm, parallel, randomised controlled trial to assess its feasibility and acceptability among older internal migrants with depressive symptoms in Mainland China. Study outcomes were measured at baseline (T0), immediately post-intervention (T1), and at twenty weeks post-allocation (T2). Individual qualitative interviews conducted as part of a process evaluation with a purposive sample of participants. Independent t-test and generalised estimating equations models were used to determine the effects of the intervention on the outcomes.

#### **Results**

Of 79 eligible older migrants, 60 participated in the trial, resulting in a recruitment rate of 75.95%. The mean age of participants was 69.77 years (SD = 4.05, ranging from 63 to 79), half of them (50.0%) were male, 51 participants (85.0%) without a college and tertiary education level. The intervention was well-received by participants, with a mean satisfaction score of 4.2 out of 5 and a completion rate of 93.3%. Attrition rates at T1 and T2 were 3.3% and 8.3%, respectively. The depressive symptoms (T1: adjusted mean difference = -0.8, 95% CI: -1.08 to -0.52,  $p < 0.001$ ; T2: adjusted mean difference = -1.045, 95% CI: -1.35 to -0.74,  $p < 0.001$ ), anxiety (T1: adjusted mean difference = -1.33, 95% CI: -2.15 to -0.52,  $p = 0.001$ ; T2: adjusted mean difference = -1.57, 95% CI: -2.36 to -0.79,  $p < 0.001$ ), loneliness (T1: adjusted mean difference = -1.2, 95% CI: -2.21 to -0.19,  $p = 0.019$ ; T2: adjusted mean difference = -1.44, 95% CI: -2.44 to -0.43,  $p = 0.005$ ), self-efficacy (T1: adjusted mean difference = 5.8, 95% CI: 2.55 to 9.05,  $p < 0.001$ ; T2: adjusted mean difference = 6.54, 95% CI: 3.23 to 9.85,  $p < 0.001$ ) and social support (T1: adjusted mean difference = 4.27, 95% CI: 1.60 to 6.94,  $p = 0.002$ ; T2: adjusted mean difference = 4.96, 95% CI: 2.26 to 7.66,  $p < 0.001$ ) significantly improved by time. The participants in the intervention group reported significantly improved the depressive symptom (T1: adjusted mean difference = 0.42, 95% CI: 0.05 to 0.77,  $p = 0.027$ ; T2: adjusted mean difference = 0.60, 95% CI: 0.21 to 0.98,  $p = 0.002$ ). Qualitative findings revealed the strengths of the programme, such as the booklet and video were helpful for the mutual group meetings, skills learning and sharing were close to and useful for daily life, and emotional support from peers. However, challenges related to transportation, long session duration, and lack of facilitate ability were noted as implementation barriers.

#### **Conclusion**

The peer support intervention and trial design were both feasible and acceptable to the participants. Several areas for refinement were identified, including increasing flexibility in the scheduling of mutual group meetings and providing additional training for peer facilitators. A larger, more rigorous trial is recommended to further evaluate the effectiveness of the intervention.

## **Free Paper Presentation III: Healthy Ageing – Paper 01**

### **To Enhance Physical Activity and Intergenerational Relationship via Connect Active Program**

Tse, M.<sup>1</sup>, Kwok, T.<sup>2</sup>, Sun, Y.<sup>3</sup>, Chu, K.<sup>4</sup>

1. *School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR*

2. *Hong Kong Metropolitan University, HKSAR*

3. *Hong Kong Metropolitan University, HKSAR*

4. *Hong Kong Metropolitan University, HKSAR*

#### **Background:**

Older adults often experience physical immobility and diseases associated with age, which could negatively influence their quality of life and psychological well-being. Similarly, 80% of adolescents worldwide do not engage in sufficient physical activities daily. Given the sedentary lifestyles of both generations, they could exercise together to motivate themselves and enhance their intergenerational relationships. Younger generations could also use their digital expertise to teach older adults using mobile apps to enhance their engagement and enjoyment in exercise.

#### **Purpose**

To investigate the effectiveness of Connective Active Program (CAP) in improving intergenerational relationship, psychological well-being and physical fitness for older adults, to teach older adults in using mobile apps, and to examine experiences and feedback from participants in using the apps and joining the CAP.

#### **Method**

It was a pilot randomized controlled trial. Each dyad consists of one older adult and one younger family member/relative; to join as an experimental group (with the CAP) and control group (with leaflets and written materials). The 6-week CAP included weekly walking exercise, digital information and the use of mobile application while walking.

#### **Results**

There were 20 dyads (parent-child relations) joined the study, experimental group (n=10 dyads) and the control group (n=10 dyads). The mean age was 67.6 for the seniors and 28.6 for the younger adults. The intergenerational relationship quality scale, the 6-minute walk test and the health-related quality of life improved significantly in the experimental group but not the control group.

#### **Conclusion**

The CAP could significantly enhance physical activity and integrational relationship among older adults and younger one. Indeed, intergenerational approach is a good way to enhance health habits between both generations and can be promoted widely in the community.

#### **Acknowledgement:**

This study was supported and funded by the Hong Kong Metropolitan University, project code RD/2023/2.19 for this study. The authors express profound thanks to the participation of all participants.

### **Exploring the Association between Chronic Back Pain and Cognitive Decline in Older Adults and the Mediating Role of Sleep: an Analysis of Four Longitudinal Cohort Databases.**

Frank F. Huang<sup>1</sup>, Yuying Zhang<sup>2</sup>, Lian Liu<sup>3</sup>, Chun Liang Hsu<sup>4</sup>, Raymond Chung<sup>5</sup>, Wanming Wu<sup>6</sup>, Daniel K.Y. Zheng<sup>7</sup>, Zihui Xiong<sup>8</sup>,

1,4,5,7. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

2,3,6. *Acupuncture, Moxibustion, and Rehabilitation Clinical Medical College, Guangzhou University of Chinese Medicine, Guangzhou, China*

8. *Department of Hepatobiliary Surgery, Guangdong Province Traditional Chinese Medical Hospital, Guangzhou, China*

#### **Background**

Chronic back pain (CBP) is known to be associated with more severe cognitive decline in older adults. However, longitudinal relationships between these factors across different countries/regions remain uncertain.

#### **Purpose**

We aimed to investigate the potential causal association between chronic back pain (CBP) and cognitive decline in older adults using four population-based databases, and explored whether sleep duration could mediate this association.

#### **Method**

Data on CBP and cognitive function were extracted from four databases [the China Health and Retirement Longitudinal Study, the English Longitudinal Study of Ageing, the Health and Retirement Study (HRS), and the Survey of Health, Ageing and Retirement in Europe (SHARE)]. Individuals were eligible if they were 60 years or older and were free from memory-related diseases (MDs) at baseline. Primary outcomes included subjective cognitive decline (SCD) and MDs, while secondary outcomes were cognitive performance. Multiple models were employed to investigate the association between CBP and cognitive outcomes, with additional subgroup and mediation analyses.

#### **Results**

Our analysis involved 18,558 individuals from 2010 to 2023 with a median follow-up of 8.4 years in 17 countries. The association between CBP and SCD [HR = 1.02, 95% CI: (1.00, 1.03)], MDs [OR = 1.35, 95% CI: (1.03, 1.68)], and delayed word recall memory [ $\beta$  = -0.050, 95% CI: (-0.09, -0.02)] were found based on data from the four databases. Additionally, significant associations were identified between CBP and some types of cognitive performance (i.e., numeracy, orientation, immediate word recall, delayed word recall memory, an overall cognitive score). Subgroup analyses revealed that CBP was significantly associated with the occurrence of SCD in Europe and the United States, respectively. Furthermore, the European data showed that sleep duration significantly mediated the association between CBP and cognitive performance, with shorter sleep duration correlating with lower overall cognitive scores among older adults with CBP.

#### **Conclusion**

CBP is associated with cognitive decline in older adults across various regions, highlighting the need for interventions to prevent cognitive decline in this population. Sleep duration could partially mediate this association.



## **Free Paper Presentation III: Healthy Ageing – Paper 03**

### **A Home-based Psychoeducation Programme on physical and psychosocial outcomes for Older Adults with Frailty in the Community: A Randomised Controlled Trial**

TAO An<sup>1</sup>, CHAN Yue Lai Helen<sup>2</sup>, Ho Hok Man Ken<sup>3</sup>

1. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

2. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

3. *School of Nursing & Midwifery, La Trobe University*

#### **Purpose**

To examine effects of a home-based psychoeducation programme on physical and psychosocial outcomes among older adults with frailty in the community.

#### **Method**

A two-arm randomised controlled trial was conducted in collaboration with three non-governmental organisations in Hong Kong between November 2023 and August 2024. All participants received 60-minute weekly group-based online sessions via video-conferencing platform for 12 weeks. The sessions for the intervention group were guided by Self-Determination Theory to empower the participants to cope with frailty proactively, while the sessions for the control group only focused on general health management. Physical and psychosocial outcomes, including subjective wellbeing, depressive symptoms, quality of life, social support and physical functioning, were measured at baseline and 12 weeks post-allocation. Data analysis was performed by Mann-Whitney U test and Wilcoxon Signed Rank test, as appropriate.

#### **Results**

The study recruited 24 participants with a mean age of 77.7 (SD = 6.2) years. Most of them (91.7%) were female. Recruitment and attrition were 82.8%, and 16.7%, respectively. The attendance rate was 83.3% and mean satisfaction score was 4.6 out of 5. Significant improvements in subjective well-being ( $p = .010$ ) and agility ( $p = .013$ ) were observed in the intervention group but not the control group. Qualitative results indicated participants experienced sense of achievement through the intervention and the convenient means also fostered social interaction, despite challenges due to limited technical troubleshooting skills, schedule conflicts, attention constraints, comprehensive barriers.

#### **Conclusion**

This robust study demonstrated that this home-based psychoeducation programme has good potential to improve both psychosocial and physical wellbeing of older adults with frailty in the community. We acknowledged that the findings are limited by sampling bias. A large-scale study is warranted to test its effects on among this population.

## **Free Paper Presentation III: Healthy Ageing – Paper 04**

### **Promoting Emotional Awareness and Help-seeking in Older Breast Cancer Patients with the Electronic Painting for Breast Cancer (EPBC) Platform**

Qiu, M.<sup>1</sup>, Leung, A.<sup>2</sup>

1. School of Nursing, The Hong Kong Polytechnic University, HKSAR

2. School of Nursing, The Hong Kong Polytechnic University, HKSAR

#### **Purpose**

This study aimed to assess the feasibility and acceptability of an 8-week intervention using the electronic painting for breast cancer (EPBC) system in older adults with breast cancer; and to assess the preliminary efficacy of the intervention on their emotion and quality of life.

#### **Method**

This was a randomized controlled trial with three time-point measures, including baseline (T0), week 4 (T1), and week 8 (T2). After undergoing a screening process using validated anxiety and depression to ensure the inclusion of participants experiencing mood disturbances, these recruited participants were divided into two groups: the control group participated in electronic painting activities at T0, while the intervention group participated in them at T2. This study utilized a quantitative method to test participants' emotion and quality of life, including Depression, Anxiety, and Stress Scale (DASS-8), EuroQol-5 Dimensions-5 Levels (EQ-5D-5L), Sense of Coherence (SOC-13), The World Health Organization-Five Well-Being Index (WHO-5), Self-Rated Health Status (SRH), and Patient Health Questionnaire-2 (PHQ-2). The generalized estimating equation was used for data analysis.

#### **Results**

61 participants were screened for eligibility, and 48 participants completed these 3 surveys, with 25 participants in the intervention group and 23 participants in the control group. After attending the intervention, participants' emotion and quality of life improved compared to the control group, but it did not demonstrate a statistically significant improvement through the Generalized Estimating Equations test.

#### **Conclusion**

Electronic painting activities can be effective in improving the emotion and quality of life of older adults with breast cancer. Future randomized controlled trials with larger sample sizes and long-term follow-ups are encouraged.

## **Free Paper Presentation III: Healthy Ageing – Paper 05**

### **Effectiveness of the Green Oasis (GO) Wellness Program for Residents Living in Concordia Tsat Sing Kong Transitional Housing Estate**

Tse, M.<sup>1</sup>, Chan, D.<sup>2</sup>, Kwok, T.<sup>3</sup>, Chien, S<sup>4</sup>, Lui, A.<sup>5</sup>, Tse, P.<sup>6</sup>, To, K.<sup>7</sup>

1-3. *School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR*

4. *Associated Medical Supplies Company Limited.*

5. *Hong Kong Lutheran Social Service, HKSAR*

6-7. *Hong Kong Metropolitan University, HKSAR*

#### **Background of Research**

Housing affordability in Hong Kong has led many residents to live in cramped spaces while awaiting Public Rental Housing (PRH). The Concordia Tsat Sing Kong Transitional Housing Estate, run by Hong Kong Lutheran Social Services, provides temporary personal living spaces with communal facilities such as a community garden, laundry services, convenience stores, and social work services. The Green Oasis (GO) website was developed to enhance residents' health and wellness.

#### **Purpose**

This pilot study aimed to develop and refine the Green Oasis (GO) website by incorporating participant feedback and evaluating its impact on health and wellness. The objectives were to increase health awareness, promote physical activities, and enhance transitional housing residents' happiness and quality of life.

#### **Method**

Ten residents were invited to participate in the development of the GO website over four weeks. The co-design approach will be integrated into the methodology of the Green Oasis (GO) wellness program to ensure that the website and activities are tailored to the needs and preferences of the residents. This approach involves engaging participants in the design process through workshops and feedback sessions. Participants were invited to share their ideas and suggestions for the website features, physical activities, and gardening tasks. Their input was incorporated into the development and refinement of the program, which was used to polish the website. The study also employed a pre-post design with assessments at baseline and after the intervention. Standardized questionnaires were used to measure health and wellness outcomes, including the Subjective Happiness Scale, WHOQOL-BREF, Activities of Daily Living Questionnaire, and the 5-Item Physical Activity Questionnaire.

#### **Results**

Participants' feedback significantly improved the website's usability and engagement features. Preliminary data, including the Subjective Happiness Scale, WHOQOL-BREF, Activities of Daily Living Questionnaire, and the 5-Item Physical Activity Questionnaire, reported improvements in subjective happiness, quality of life, daily living activities, and physical activity levels, indicated improvements in physical and psychological well-being.

#### **Conclusion**

The pilot study demonstrated the feasibility and potential benefits of the GO website in enhancing health and wellness among transitional housing residents. The positive outcomes highlight the importance of such digital interventions. Further research with a larger sample size is recommended to validate these findings and explore the long-term impact of the GO wellness program.

#### **Acknowledgement:**

This pilot study was supported and funded by Associated Medical Supplies Company Limited. The authors express profound thanks to the participation of all participants.



## **Free Paper Presentation III: Healthy Ageing – Paper 06**

### **Feasibility, Acceptability and Preliminary Effectiveness of the "Outdoor Rehab-Fit" Integrative mHealth Intervention Among Inactive Frail Older Adults in Hong Kong**

Lee, J.<sup>1</sup>, Xiao, R.<sup>2</sup>, Zhang, H.Y.<sup>3</sup>, Wong, A.<sup>4</sup>, Ng, P.<sup>5</sup>, Fong, K.<sup>6</sup>, FU, A.<sup>7</sup>, Cheung, A.<sup>8</sup>,

1-4,6-7. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

5. *Department of Computing, The Hong Kong Polytechnic University, HKSAR*

8. *School of Health Sciences, Western Sydney University*

#### **Purpose**

This study evaluated the acceptability, feasibility, and the longitudinal effects of the integrative mHealth intervention.

#### **Method**

This feasibility pilot randomized controlled trial (RCT) was conducted in Hong Kong. The integrative mHealth intervention consisted of group sessions, outdoor self-practice, and a mobile app to teach users to properly use outdoor exercise facilities to improve their physical activity levels, while the control group received health education with an experiential exercise component. Assessments were conducted at baseline, post-intervention and three months post-treatment.

#### **Results**

Thirty-six participants were randomly allocated to two groups. The integrative mHealth intervention demonstrated potential feasibility, with a 50.7% recruitment rate, 78.8% completion rate, high adherence to workshops (93%), and reasonable participation in outdoor practice (71%) and mobile app engagement (69%).

As hypothesized, both self-reported and objectively measured accelerometry physical activity data indicated that both the intervention group and control group increased their physical activity levels immediately post-intervention, however, only intervention group maintained the elevation at the three-month follow-up. Conversely, the control group showed decreasing trend at the three-month follow-up, although the interaction was not statistically significant. For secondary outcome, intervention group showed significantly better improvement in mental well-being compared to the control group at the 3-month follow-up ( $F=6.61$ ,  $p=0.04$ ,  $ES=0.31$ ).

Interviews data revealed that the integrative intervention was well-received by participants. Participants appreciated the integrative structure, content and delivery mode of the intervention. They suggested that the intervention could be further improved by allowing participants to find the location of a specific equipment via the mobile app. They also suggested to have additional supervised demonstration session in a park to enhance their experience.

#### **Conclusion**

This study provided evidence to support the feasibility and acceptability of an integrative mHealth intervention in improving physical activity levels and mental well-being of inactive frail older adults living in the community. The app and integrative intervention have a large potential to be used in primary and long-term care settings.

## **Free Paper Presentation III: Healthy Ageing – Paper 07**

### **Effects of Low-Volume High-Intensity Training Versus Moderate-Intensity Continuous Training on Physical Performance in Older Adults with Possible Sarcopenia**

WANG Quan

*Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Background**

Sarcopenia is an age-related geriatric syndrome characterized by progressive loss of muscle mass and function. Before the diagnosis of sarcopenia, a “possible sarcopenia” stage has been proposed recently, characterized by low muscle strength or poor physical performance, even with normal muscle mass. Possible sarcopenia emphasizes the importance of early intervention. High-intensity interval training (HIIT), a time-efficient aerobic training, has gained increasing popularity for its benefits in physiologic outcomes such as muscle strength and physical functions in other populations. However, the benefits of HIIT have not been well-studied following older adults with possible sarcopenia.

#### **Purpose**

In the present study, we aim to investigate the effects of a 7-week HIIT and moderate-intensity continuous aerobic training (MICT) on physical performance in older individuals with possible sarcopenia.

#### **Method**

The participants have been randomly allocated into the HIIT or MICT group (1:1 ratio). The participants have received the training 3 times per week over seven weeks. HIIT consisted of 5 bouts of interval training intensity with 1-minute-high intensity (76-90% HRmax) and 1-minute-recovery per session (total 15 minutes). MICT involved an intensity of 65-70% HRmax training that lasts 25 minutes per session. Evaluation have been performed at baseline, after 4 weeks, and 7 weeks of the intervention. The primary outcomes include 10-meter walking test and the five-time chair stand test. The secondary outcomes include grip strength, the functional stretch test; the Exercise Enjoyment Scale and the Physical Activity Enjoyment Scale for affective valence.

#### **Results**

A total of 132 community-dwelling elderly individuals were screened for eligibility. Of these, 65 participants underwent assessment, and 30 individuals meeting the criteria for possible sarcopenia were successfully recruited. The HIIT group had a better effect of increasing the 5STS time and self-selected walking speed compared to the MICT group with significant difference only elicited after seven weeks rather than four weeks. PACES and EES scores in the HIIT group were significantly better than those in the MICT group throughout.

#### **Conclusion:**

The findings of this study suggest that a seven-week low-volume high-intensity interval training (LVHIIT) program is a time-efficient intervention with better exercise enjoyment which leads to significantly better improvements in functional performance compared to MICT in individuals with possible sarcopenia.

### **The Effects of High-Intensity Interval Training on Chronic Fatigue in Patients with Chronic Disease: A Systematic Review and Meta-Analysis**

Xu, C.<sup>1</sup>, Jiang, J.<sup>2</sup>, Chen, Y.<sup>3</sup>, Tang, A.<sup>4</sup>, Huang, M.<sup>5</sup>

1. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

2. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

3. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

4. School of Rehabilitation Sciences, Faculty of Health Sciences, McMaster University, Hamilton, Canada

5. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

#### **Background**

Chronic fatigue is common, and individuals with chronic fatigue often struggle to endure prolonged exercise sessions.

#### **Purpose**

To examine the effects of high-intensity interval training (HIIT) on chronic fatigue in broad populations.

#### **Method**

Embase, PubMed, ICTRP, CT.gov, CINAHL, Medline, SPORTDiscus, PsycINFO, and Scopus were searched. Eligible randomised controlled trials that compared changes in chronic fatigue scored before and after HIIT and the non-active group/other exercises were included. Study quality and certainty of evidence were assessed using PEDro and GRADE approach respectively. Effect sizes were quantified by standardised mean differences (SMDs) and 95% confidence intervals (CIs) and pooled using random-effects models.

#### **Results**

Nineteen trials with 898 participants were included. "Low" certainty of evidence indicated that HIIT significantly reduced chronic fatigue compared with the non-active group (SMD: -0.306, 95% CI: -0.577 to -0.036) or other exercises of equal session duration (SMD: -0.588, 95% CI: -0.964 to -0.213). The HIIT subgroup featuring high volume ( $\geq 15$  minutes high-intensity intervals) (versus the non-active group: SMD: -0.698, 95% CI: -1.090 to -0.306, "moderate" certainty of evidence) (versus other exercises: SMD: -0.684, 95% CI: -1.103 to -0.265, "low" certainty of evidence), or  $< 3$  sessions/week (versus the non-active group: SMD: -0.665, 95% CI: -1.195 to -0.135, "low" certainty of evidence) (versus other exercises: SMD: -1.003, 95% CI: -1.434 to -0.573, "moderate" certainty of evidence), showed significant reductions in chronic fatigue. Meta-regression analysis indicated that a lower weekly frequency of HIIT sessions was associated with more reductions in chronic fatigue ( $\beta = 0.376$ ,  $R^2 = 0.79$ ,  $p = 0.005$ ). No serious exercise-related adverse events were reported.

#### **Conclusion**

HIIT is effective and practical in reducing chronic fatigue in broad populations compared with the non-active group or other exercises of equal session duration. High-volume HIIT ( $\geq 15$ -minute high-intensity intervals) or low-frequency HIIT ( $< 3$  sessions/week) protocols may result in greater reductions in chronic fatigue.



## **Free Paper Presentation IV: Community Care – Paper 01**

### **The Use of Social Media in Digital Health Literacy Intervention for Caregivers of People with Chronic Illnesses: A Mixed-Methods Study**

Huang, Y.<sup>1</sup>, Leung, A.<sup>2</sup>, Adowa Owusuua KODUAH<sup>3</sup>

1. *The School of Nursing, The Hong Kong Polytechnic University; Research Institute for Smart Ageing, The Hong Kong Polytechnic University, HKSAR*
2. *WHO Collaborating Centre for Community Health Services; School of Nursing, The Hong Kong Polytechnic University; Research Institute for Smart Ageing, The Hong Kong Polytechnic University; College of Nursing, HKSAR*
3. *School of Nursing, The Hong Kong Polytechnic University, HKSAR*

#### **Background**

Digital health literacy (DHL) is essential for caregivers of individuals with chronic illnesses, especially during public health crises such as the COVID-19 pandemic. Despite the increasing reliance on digital platforms for health information, many caregivers struggle with accessing, understanding, and utilizing these resources in health decision-making.

#### **Purpose**

This study aims to report the trial run of a DHL intervention through social media platforms and assess its feasibility and acceptability for caregivers.

#### **Method**

The intervention comprised of eight weekly interactive sessions and two bi-weekly boosting sessions. Caregivers were required to learn via multiple social media platforms including WhatsApp, Facebook, YouTube and Zoom. A mixed-methods approach was employed to assess eligibility screening, recruitment rate, retention rate, adherence to each session, and subjective experiences of the DHL intervention among caregivers of individuals with chronic illnesses. A single-arm pretest-posttest trial was conducted to measure digital health literacy and vaccine literacy at baseline (T0), at Week 8 (T1) and Week 12 (T2). Paired t-tests were used to analyze the differences before and after the intervention.

#### **Results**

Forty-three caregivers were screened, of which 21 (48.83%) met the eligibility criteria and 15 (71.43%) subsequently enrolled. A high retention rate was observed, with 86.67% participants completed all the measurements. The engagement was quite well, with each session averaging 8.3 comments and 21.33 reactions. All caregivers (100%) completed the learning tasks on Facebook. After 8 weeks, DHL was significantly improved (eHEAL: mean difference, MD = 2.92,  $p = 0.049$ , Cohen's  $d = 0.61$ ) and DHLI: MD = 6.46,  $p = 0.02$ , Cohen's  $d = 0.79$ ). Three main themes were identified for their experiences in the DHL intervention: knowledge and ability to access, comprehend and appraise online information; perception about the intervention acceptability; barriers and suggestions for improving engagement.

#### **Conclusion**

The DHL intervention demonstrated strong feasibility and acceptability for caregivers of individuals with chronic illnesses. The preliminary findings show its potential for bringing benefits for caregivers. Large-scale randomized controlled trials with modification based on the users' comments would be warrant.

## **Free Paper Presentation IV: Community Care – Paper 02**

### **An Investigation of Age Differences in Theory of Mind Using an Ecological Assessment Tool**

SO, W.<sup>1</sup>, CAO, Y.<sup>2</sup>, WANG Y.<sup>3</sup>, CHAN, R.<sup>4</sup>, SHUM, D.<sup>5</sup>

1. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *Department of Social Work and Social Administration, The University of Hong Kong, HKSAR*

3. *Neuropsychology and Applied Cognitive Neuroscience Laboratory, CAS Key Laboratory of Mental Health, Institute of Psychology, the Chinese Academy of Sciences*

4. *Neuropsychology and Applied Cognitive Neuroscience Laboratory, CAS Key Laboratory of Mental Health, Institute of Psychology, the Chinese Academy of Sciences*

5. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Purpose**

To build and maintain relationships, we must understand what others might think and feel. This critical social skill is called Theory of Mind (ToM). However, limited understanding of whether ToM declines with ageing. This study aimed to 1) investigate the age differences in ToM ability, specifically in four subconstructs of ToM (viz., first- and second-order ToM; cognitive and affective ToM) and 2) compare the differences in selecting the mentalising error types (i.e., reduced mentalising, no mentalising and overthinking).

#### **Method**

Forty Young Adults (YA; Mage = 23.98 years, SD = 3.77) and thirty-eight Older Adults (OA; Mage = 66.89 years, SD = 4.68) were recruited in the current study. They were asked to complete the adapted version of Virtual Assessment of Mentalizing Abilities (VAMA). In total, this assessment comprises 10 videos clips related to YAs' daily life issues.

#### **Results**

A 2(OA versus YA) × 2 (First- versus Second-order ToM) × 2 (Cognitive versus Affective ToM) ANOVA was conducted. A significant main effect of the Group was observed ( $F(1, 76) = 11.74, p < .001, \eta^2 = 0.13$ ), where OA ( $M = 5.14, SD = 0.79$ ) performed significantly worse than the YA ( $M = 5.75, SD = 0.79$ ) in VAMA. Specifically, the results also revealed that OA had a higher frequency of selecting "hypermentalising" ( $F(1, 76) = 6.65, p < .05, d = .080$ ) and "no mentalising" ( $F(1, 76) = 6.94, p < .05, d = .084$ ) error types than YA.

#### **Conclusion**

To conclude, OA performed significantly worse than YA and tended to overthink or could not infer others' mental states. However, these findings could be explained by the familiarity hypothesis. That is, the scenarios adopted in the VAMA mainly focus on YA-related issues, not on OA. Thus, it would be more difficult for them to take YA' perspective. Further research on this area is needed.

## **Free Paper Presentation IV: Community Care – Paper 03**

### **Enhancing Nursing Students' Knowledge, Attitudes, and Skills in Elderly Care: An Innovative PIRAA Educational Framework**

Peng, Z

*School of Nursing, Health Science Center, Shenzhen University*

#### **Purpose**

The rapid aging of the population has posed significant challenges to healthcare systems worldwide, necessitating the development of innovative educational models to equip nursing students with the competencies needed to provide quality care for the elderly. This study aims to evaluate the effectiveness of a new pedagogical model, the Policy-Industry-Research-Application-Academic (PIRAA) mechanism, in improving nursing students' knowledge, attitudes, and skills in gerontological nursing.

#### **Method**

A quasi-experimental one-group pre- and post-test design was employed, involving 82 third-year undergraduate nursing students. The PIRAA mechanism included theoretical lessons, group workshops, and practical nursing home visits. Surveys were administered before and after the course to assess students' knowledge, attitudes, and skills using validated tools: the Chinese versions of Kogan's Attitudes towards Old People (KAOP), Palmore's Facts on Aging Quiz (FAQ), and a gerontological nursing core competencies questionnaire.

#### **Results**

Statistically significant improvements were observed in students' knowledge (mean correct rate increased from  $0.48 \pm 0.14$  to  $0.53 \pm 0.11$ ,  $p = 0.001$ ), attitudes (mean KAOP score increased from  $109.12 \pm 13.61$  to  $112.98 \pm 14.03$ ,  $p = 0.016$ ), and skills (mean score increased from  $90.87 \pm 23.31$  to  $106.59 \pm 20.16$ ,  $p < 0.001$ ) post-intervention.

#### **Conclusion**

The PIRAA mechanism demonstrated significant potential in enhancing the gerontological nursing competencies of undergraduate students. Despite these promising results, further refinement of the model is needed to ensure optimal knowledge retention and skill proficiency. Future research should focus on exploring the long-term impact and broader applicability of this educational approach in diverse nursing education settings.



## **Free Paper Presentation IV: Community Care – Paper 04**

### **Co-Designing a Web-Based, Gamified, Hearing-Cognitive Dual-Task Training System for Older Adults with Hearing Loss**

Zhao, Y.I.<sup>1</sup>, Leung, Y.M.A.<sup>2</sup>, Lau, T.W.<sup>3</sup>, Li, C.<sup>4</sup>, Sweetow, R.W.<sup>5</sup>

1. School of Nursing, The Hong Kong Polytechnic University, HKSAR

2. School of Nursing, The Hong Kong Polytechnic University, HKSAR

3. School of Nursing, The Hong Kong Polytechnic University, HKSAR

4. Department of Applied Social Science & Department of Computing, The Hong Kong Polytechnic University, HKSAR

5. Otolaryngology/Head and Neck Surgery, University of California San Francisco, San Francisco, California, USA

#### **Purpose**

This study aims to co-design a web-based, gamified, hearing-cognitive dual-task training system with older adults with age-related hearing loss (ARHL) who are the potential end-users.

#### **Method**

A co-design methodology was employed to develop and conduct co-design workshops and hold consultations with stakeholders. Digital recordings of the co-design workshops were concurrently transcribed verbatim. The co-design workshops followed a qualitative community-based participatory research approach that enabled the participants (co-researchers) and researchers to collaborate in an interactive enquiry to address the research aim. Digital recordings of the co-design workshops were concurrently transcribed verbatim. Thematic analysis was adopted.

#### **Results**

Fifteen co-researchers completed three co-design workshops until the data saturation was achieved. Two key service providers were consulted. Three key themes emerged: 1) A user-friendly hearing-cognitive training system is preferred by older adults with ARHL; 2) Clear, localized and colloquial instructions for the training tasks are necessary; and 3) Diversified, tailor-made and adaptive training tasks performed in an interactive and game-like mode can motivate and sustain the training system usage. A prototype of a web-based, interactive and adaptive hearing-cognitive training system was co-designed as the outcome of this study.

#### **Conclusion**

Co-designing the hearing-cognitive training system with older adults with ARHL provided valuable insights into the challenges and needs of this population. Our findings affirmed the importance of truly listening to the voices of end-users and create a system that is responsive to their needs and preferences. Future studies are recommended to examine the effects of this system on older adults with ARHL.

## **Free Paper Presentation IV: Community Care – Paper 05**

### **Transforming the Sense of Loneliness among Older Adults in Hong Kong: The Effectiveness of Acceptance and Commitment Therapy Group**

Almond W. M. Lau, , Alfred H. H. Wan, Bobby H.K. Chan, Angel W. Y. Leung, Calvin C. M. Cheng, Suki L. Y. Yi<sup>1</sup>, Stephen K. F. Mann<sup>2</sup>

1. *The Salvation Army Social Services Department, HKSAR*

2. *Hong Kong Shue Yan University, HKSAR*

#### **Background**

Loneliness poses a global challenge for older adults, who experience gradual decline in social connections. The conventional intervention addressed on enhancing social connection. The Salvation Army instead has adopted Acceptance and Commitment Therapy (ACT) to empower older adults in overcoming the experience of loneliness.

#### **Purpose**

The purpose of this study is to evaluate the effectiveness of ACT groups on promoting psychological flexibility, fostering meaning of life and alleviating the sense of loneliness of the older adults.

#### **Method**

Sixty-one older adults (Mage=80.23, SD=8.42) were recruited to participate in 5-week ACT groups. The group sessions focused on acceptance of emotions, develop mindfulness, and make meaningful life choices through committed actions. The DeJong Gierveld Loneliness Scale, the short-form of the Comprehensive Assessment of Acceptance and Commitment Therapy Processes (CompACT-10), and the Meaning in Life Questionnaire (MLQ) were utilized to measure participants' levels of loneliness, psychological flexibility, and sense of meaning in life before and after the group intervention. The effectiveness of the groups was evaluated using paired-samples t-tests.

#### **Results**

96.7% of the participants (n=59) showed notable improvements in at least one of the three measured indicators. The average sense of loneliness experienced by the participants decreased by 0.95 ( $t=5.415$ ,  $p < .001$ ). Furthermore, there was a notable increase of 4.05 ( $t=-4.585$ ,  $p < .001$ ) in scores related to psychological flexibility. Lastly, the participants experienced a significant increase of 8.36 ( $t=-6.408$ ,  $p < .001$ ) in scores related to meaning in life.

#### **Conclusion**

The findings of this study provide evidence for the effectiveness of ACT groups in reducing loneliness among older adults. ACT appears to promote psychological flexibility and foster a sense of purpose and meaning in life, ultimately facilitate a more fulfilling and connected existence for older adults.

## **Free Paper Presentation IV: Community Care – Paper 06**

### **An mHealth App to Support Using Outdoor Exercise Facilities in Hong Kong: A User Testing Study**

Chan, T. H.<sup>1</sup>, Chung, H. Y.<sup>2</sup>, Lee, Y. T.<sup>3</sup>, Wong, W. K. M.<sup>4</sup>, Wu, K. T.<sup>5</sup>, Lee, L. C. J.<sup>6</sup>, Ng, H. F. P.<sup>7</sup>, Fong, N. K. K.<sup>8</sup>

1-5. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

6. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University; Research Institute for Smart Ageing, The Hong Kong Polytechnic University, HKSAR*

7. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University; Research Centre for Assistive Technology, The Hong Kong Polytechnic University; Department of Computing, The Hong Kong Polytechnic University, HKSAR*

8. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University; Research Centre for Assistive Technology, The Hong Kong Polytechnic University, HKSAR*

#### **Background**

A mobile health (mHealth) application named "Outdoor Rehab-Fit" was developed. This initiative seeks to encourage the utilization of publicly accessible outdoor exercise spaces to improve regular physical activity levels among the elderly.

#### **Purpose**

This study evaluated the user experience of Outdoor Rehab-Fit among 3 stakeholder groups (older adults, caregivers, health and social care professionals) and assessed the functionality, engagement, aesthetics and quality of the app using uMARS among these groups.

#### **Method**

This 2-phase usability study was conducted in Hong Kong. Phase 1 included an app introduction workshop guiding participants (excluding healthcare professionals) to utilize the app. Phase 2 included a 2-week trial period and face-to-face interviews for elderly and elderly's caregivers; while interviews with healthcare professionals were held via Zoom. The study interpreted and discussed findings in relation to the User Mobile App Rating Scale (uMars) and semi-structured interview.

#### **Results**

Twenty participants were recruited, with 3 stakeholder groups. The mHealth intervention demonstrated satisfactory usability with 80% completion rate, full adherence to workshops.

uMars data indicated a high level of satisfaction with the app. The overall rating among 16 participants is 4.12 / 5, indicating a generally high level of user satisfaction. The mean score for engagement, functionality, aesthetics, information, perceived impact, and health behaviour were 3.70 (SD=0.819), 4.095 (SD=0.74), 3.94 (SD=0.77), 4.10 (SD=0.713), 3.58 (SD=0.943), 4.19 (SD=0.856) respectively.

Interview data indicated that the app features a simple and intuitive interface, characterized by a clear graphic layout that creates a positive first impression and encourages users to learn. Additionally, the app offers comprehensive information, ensuring good accessibility and providing descriptive, user-friendly content.

Participants also identified areas for improvement, including: 1) inappropriate layout for elderly, 2) insufficient information, and 3) impracticality. Some participants suggested the introduction of a supplementary course.

#### **Conclusion**

Though with areas for improvement, the study suggested good usability of the mHealth application, demonstrating high potential to facilitate physical activity among elderly through outdoor exercise facilities utilisation.



## **Free Paper Presentation IV: Community Care – Paper 07**

### **Effects of Psychoeducation Interventions on Psychological Outcomes among Spousal Caregivers of Community-Dwelling Older Adults: A Systematic Review and Meta-Analysis**

Zhang, N<sup>1</sup>, Tao, A<sup>2</sup>, Chan, YL<sup>3</sup>

1. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

2. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

3. *The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong, HKSAR*

#### **Purpose**

To systematically identify and synthesise evidence regarding the effects of psychoeducation interventions on psychological outcomes among spousal caregivers of community-dwelling older adults.

#### **Method**

Eight electronic databases, including Cochrane Library, PubMed, CINAHL, MEDLINE (OvidSP), Embase (OvidSP), PsycINFO (OvidSP), Chinese Journal Net and Wanfang were searched from inception to August 2024. Randomised controlled trials of psychoeducation interventions on psychological outcomes in spousal caregivers of older adults were included. The quality of the included studies was evaluated using The Cochrane Risk of Bias Tool v2. Meta-analysis was conducted by using RevMan 5.4. The certainty of the evidence was assessed by the GRADE approach.

#### **Results**

A total of 18 studies were identified. The results of the overall risk of bias indicated that four studies had low risk, eight studies had some concerns, and six studies had high risk. The pooled analysis suggested that psychoeducation interventions had significant effects on marital satisfaction (SMD = 0.28, 95% CI: 0.09 to 0.47,  $p = 0.005$ ; low certainty) and positive aspects of caregiving (SMD = 1.30, 95% CI: 0.43 to 2.17,  $p = 0.003$ ; very low certainty), but no effects on caregiving burden, anxiety, mental health, coping and self-efficacy. Subgroup analysis showed that interventions delivered through a combination of in-person and phone contacts could alleviate depressive symptoms (SMD = -0.97, 95% CI: -1.80 to -0.15,  $p = 0.02$ ) compared to interventions delivered in-person only.

#### **Conclusion**

Psychoeducation interventions may have potential benefits in improving marital satisfaction and positive aspects of caregiving among spousal caregivers. In future trials, analysis of the mechanisms of psychoeducation interventions and tailoring the programme to a co-design with spousal caregivers will contribute to the development of more effective interventions.

## **E-Poster Presentation: Paper 01**

### **Development of Resources-Oriented Salutogenic Intervention for Sense of Coherence among Prediabetes Population in Hong Kong**

Y.q. Liu<sup>1</sup>, Y.q. Hung<sup>2</sup>, A.O. Koduah<sup>3</sup>, T. Lau<sup>4</sup>, J. Montayre<sup>5</sup>, Angela Y.M. Leung<sup>6</sup>

*1-6. School of Nursing, The Hong Kong Polytechnic University, HKSAR*

#### **Background**

Older adults with pre-diabetes in Hong Kong face unique health challenges, including limited awareness and resources for disease management. The theory of salutogenesis focuses on identifying and utilising available resources surrounding people to enhance sense of coherence (SoC) for coping with tension created by challenges. This approach is crucial for this vulnerable population addressing both prevention and effective management of prediabetes.

#### **Purpose**

This study aims to describe the development procedure and contents of Resources-Oriented Salutogenic (ROS) intervention for older adults with prediabetes population in Hong Kong.

#### **Method**

This study included two phases that were based on the operationalization of salutogenesis theory. Phase one was a qualitative study performed to explore available resources and needs for prediabetes population from three domains of SoC (comprehensibility, manageability and meaningfulness), which guided to develop the intervention draft. Phase two included content validity in experts and focus group interview on prediabetes population with low, moderate and high levels of SoC. Based on the findings of Phase two, the draft intervention was revised into the final version.

#### **Results**

In Phase one, a comprehensive resource map for the prediabetes population in Hong Kong was created, highlighting personal resilience, community support, and healthcare guidance as key resources. While resource accessibility varied, participants shared a common goal of adopting an informed, balanced approach to managing prediabetes. Phase two led to the development of an 8-week, online, group-based ROS intervention. The intervention was structured to help participants leverage resources across the three SoC domains: comprehensibility (exploring and recognizing resources), manageability (identifying and utilizing resources), and meaningfulness (reflecting on and internalizing resources). The intervention's content included modules on health literacy, blood glucose management, food literacy, exercise literacy, stress management, and social support. Additionally, participants were provided with a free, web-based resource book and a salutogenic diary to support skill-building through goal setting, experience sharing, and self-reflection during prediabetes management.

#### **Conclusion**

The ROS intervention was developed based on theoretical, scientific and friendly-user approach. It transformed prediabetes stakeholders' (population and experts in prediabetes) experiences and feedbacks into ROS intervention that was benefit for targeted users in prediabetes. By guiding participants to explore, utilize, and internalize their available resources, ROS intervention promotes prediabetes population sustained health promoting behaviors and encourages a Salutogenic orientation.

## **E-Poster Presentation: Paper 02**

### **Optimization of the Bathing Protocol of Residential Home for the Elderly**

Lau, T.<sup>1</sup>, Luk Y.<sup>2</sup>, Lau C.<sup>3</sup>

1. Hong Kong Christian Service, HKSAR

2. Hong Kong Christian Service, HKSAR

#### **Purpose**

Bathing is one of the essential personal care for frail elders in residential care homes. However, showering wheelchair and bedbound clients can be stressful and exhausting for care staff due to time and manpower constraints. A more "time-saving and stress-relieving" bathing protocol is thus crucial to improve current conditions.

In July 2023, a multi-professional task force, including senior management, occupational therapists, nurses, and social workers, was formed to conduct a showering workflow optimization project at Hong Kong Christian Service Shun Lee Home for the Elderly. This project involved structured workflow assessment (Value Stream Analysis) and onsite solution trials. The goal was to address manpower constraints in bathing tasks, enhance staff satisfaction, improve safety and quality of bathing, and overall efficiency of the showering process, thus enhancing residents' quality of life.

#### **Method**

During the assessment, the showering process was visualized to track staff, equipment, client movement, and interactions. Utilizing visualization and value stream mapping, the task force proposed several solutions:

- Reassigning staff workflow
- Establishing standards for basic washing, drying, and dressing procedures to ensure quality
- Setting standard rest times during the showering procedure
- Creating a checklist for preparing shower items and individual client bathing supplies in advance
- Rearranging work duties
- Reallocating some clients' bed positions to facilitate transfers

#### **Results**

A follow-up audit evaluated the outcomes of the improved bathing protocol. Findings included:

- Resident safety improved, with bathing-related accidents decreasing by 67%.
- The aged home saved approximately one man-hour daily, allowing diverted manpower for other vital duties like changing diapers, which improved compliance by 30%.
- Staff satisfaction exceeded 95%, particularly regarding efficacy, occupational safety and health, quality of bathing, and enhancement of client skin condition.
- The dignity of residents' personal care improved.

#### **Conclusion**

We would expand the bathing workflow analysis in other units of our organization aiming at enhancing the residents well being and staff occupational health.

## **E-Poster Presentation: Paper 03**

### **The Sensitivity of a Wearable Sensor on Fall Risk Prediction for Community-Dwelling Older People in Hong Kong: A Prospective Cohort Study**

Lai, K. M.<sup>1</sup>, Fong, N. K.<sup>2</sup>

1. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

2. Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR

#### **Purpose**

Because of recent advances in technology, wearables are now common for detecting fall risks among older people in the community. This was a prospective cohort study aiming to investigate the sensitivity of a wearable waist-belt sensor, the Booguu Aspire system, in evaluating and predicting fall risk among older people in Hong Kong with a history of falls over the preceding 12 months.

#### **Method**

We recruited 37 community-dwelling participants in Hong Kong, aged 60 or above. They were first stratified as 'moderate' or 'high' fall risk using the Booguu sensor, and further evaluated using physical function tests, including the Single Leg Stand Test (SLST), 6 Metre Walk Test (6MWT), and Five Times Sit to Stand Test (5STS). All participants received quarterly follow-up phone calls for the next 12 months. Correlation and regression analyses were conducted to assess the relationship between the sensor-based fall risk ratings, physical test performance, and actual falls.

#### **Results**

The comparison of physical performance between older people in the high-risk and moderate-risk groups did not reveal significant differences. No significant correlations were found between sensor-based fall risk ratings and physical function test outcomes. The SLST, 6MWT, 5STS, and HK-MoCA correctly classified 51.4%, 64.9%, 59.5%, and 50% of the fall risk ratings determined by the sensor, respectively. The overall sensitivity of the sensor was 13.51% true positives for fallers, with a false positive rate of 86.48%. It predicted 20% of fallers in the high-risk group but failed to predict those in the moderate-risk group. The predictive sensitivity for repeated falls in the high-risk group was 8%. ROC analysis showed an AUC of 0.688.

#### **Conclusion**

The Booguu Aspire system showed low sensitivity, a high false positive rate, and limited agreement with physical function tests. It may not be a useful tool for predicting actual falls.



## **E-Poster Presentation: Paper 04**

### **To Explore Pain Education Preferences Among Middle-Aged and Older Adults with Chronic Pain**

He, J<sup>1</sup>, Tse, M<sup>2</sup>, Kwok, T<sup>3</sup>

1. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

2. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

3. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

#### **Purpose**

Despite the higher prevalence of pain among older adults, few studies have focused on the pain education preferences. This study aims to examine the pain education preferences among middle-aged adults and older adults with chronic pain, to better understand their unique needs and improve pain management.

#### **Method**

This cross-sectional study in mainland China used an online self-administered questionnaire, adapted from a previous study and validated by experts, demonstrating strong content validity (CVI=0.99) and internal consistency (Cronbach's  $\alpha$ =0.92). It assessed pain history, pain education preferences and demographics. Middle-aged (45-59) and older adults (60+), with smartphone internet access, were eligible to participate.

#### **Results**

A total of 176 middle-aged adults (63.1% men, mean age = 49.43) and 36 older adults (58.3% men, mean age = 63.94) with chronic pain participated. While 80.2% expressed willingness to engage in pain education sessions, significant differences were observed between middle aged adults and older adults ( $p < 0.01$ ). Both groups preferred peer support, face-to-face, and mHealth formats; however, middle-aged adults showed a higher preference for peer support groups ( $p < 0.01$ ). Education duration preferences also differed, with older adults favoring shorter sessions (1 week) and middle-aged adults preferring longer formats (5-8 weeks) ( $p < 0.05$ ). Both groups expressed interest in learning about pain mechanisms, pain impacts, differences between acute and chronic pain, and non-pharmacological interventions, with no significant differences in specific topics ( $p > 0.05$ ). Exercise and psychotherapy were the most requested non-pharmacological interventions in both groups, with no significant differences ( $p > 0.05$ ).

#### **Conclusion**

The study highlights that older adults are less proactive in participating in educational sessions. To increase older adults' participation, it is essential to offer shorter, self-managed online education combined with exercise, enhance engagement with enjoyment and pleasant experiences, and provide knowledges and techniques to promote self-efficacy and competence for older adults.

#### **Acknowledgement**

We would like to thank the support and consultants of all the doctors and clinicians who assisted to revise the questionnaire and all participants who joined in this study.

## **E-Poster Presentation: Paper 05**

### **Preparing Nurses and Prospective Carers in Building Resilience Among Older Adults in Their Daily Living: A Preliminary Study**

Lo, S.K.<sup>1</sup>, Tse, M.M.Y.<sup>2</sup>

1-2. *School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR*

#### **Background**

In this ageing era, older adults are traditionally treated as susceptible population with increased vulnerability who often encounter complex health issues and emotional distress. Resilience among older adults are considered as an individual's unique strengths and circumstances to maintain high and stable functional ability and intrinsic capacity over their life time for as long as possible. Savouring happiness and the positive experiences may have the potential to build resilience among older adults.

Compassion training is crucial in healthcare education, especially for those working with vulnerable populations like the elderly. Compassion may be a modifiable internal resource to promote healthy attitudes to ageing. Cultivating self-compassion among older adults may strengthen emotional resilience, offering new and healthy ways to cope with life adversities of ageing & leading to preserve their well-being, more satisfied & fulfilling lives.

Health care providers and prospective carers such as family members are in close connection with this vulnerable population, they have to develop the ability to manage stress and approach caregiving with compassion themselves before they understand take care of these older adults.

#### **Purpose**

This study aimed to help nurses and prospective carers to cultivate resilience with experiences and embodiments of essential elements of compassion such as kindness, common humanity and mindfulness; bringing own life experiences during the programme prior to their encounters with older adults in health care settings or back to their various work sectors, and get them more psychologically prepared. Prospective carers will also cope with compassion fatigue and integrating these key resilience elements in fostering the well-being of older adults in the delivery of care.

#### **Method**

In this preliminary study, 60 students were recruited with various background including health care, medical, engineering, business, social services, law, industrial services. An 8-week Mindful Self-compassion program was conducted with in- class guidance, self-compassion practices and inquiry, supplement with home practice and weekly journaling. Feedbacks will be provided to the weekly journals. A pre- and post- questionnaire with 5-point likert scale was given at the commencement of the programme and after completion of the programme respectively. Measurements focused on the following parameters: self-kindness vs self-judgement; connectedness vs isolation; mindfulness vs over-identification

#### **Results**

The study showed an improved self-kindness and mindfulness, there is less sense of isolation & self- judgment. In the qualitative feedback, participants responded that the programme provided opportunities for them to understand older adults from their own perspectives. They become more understanding and acceptance of their own challenges, thus acknowledging the adversity of the lives of older adults; they learn how to savour their own daily experiences and become more grateful in their daily lives and could help older adults to savouring their contributions in their life experiences.

#### **Conclusion**

This preliminary study shed light on promoting self-compassion among health care providers and prospective carers to understand the life trajectory among older adults. The experience of self-compassion among care-givers may enrich the quality of care rendered to older adults during their life trajectory especially in this aging era.

#### **Acknowledgement**

The authors express profound thanks for the participation of all participants and the support of Hong Kong Metropolitan University.

## **E-Poster Presentation: Paper 06**

### **An Interdisciplinary Network of Staff, Family Caregivers and Volunteers: A Training Model to Promote the Concept of DementiAbility Methods in a Community Setting**

Kwong, A. N. L.<sup>1</sup>, Ling, M. P. Y.<sup>2</sup>, Li, S. K. Y.<sup>3</sup>, Lam, J. H. W.<sup>4</sup>

1. Hong Kong Christian Service, HKSAR

2. Hong Kong Christian Service, HKSAR

3. Hong Kong Christian Service, HKSAR

4. Hong Kong Christian Service, HKSAR

#### **Purpose**

In this presentation, we will share the practice of an interdisciplinary training model designed to promote the concepts of DementiAbility Methods in dementia care. This model involves both formal and informal caregivers, necessitating dialogues with various stakeholders including multi-disciplinary professionals, family caregivers, and volunteers dedicated to working with this unique group. The training aims to: (1) foster interdisciplinary collaboration in dementia care, (2) equip caregivers with competencies that cater to the needs, interests, strengths, and abilities of individuals living with dementia, and (3) develop localized interventions using DementiAbility Methods.

#### **Method**

The interdisciplinary network comprises professionals from occupational therapy, social work, and nursing, along with family caregivers of people with dementia and volunteers. The training consists of four major components: 'learning together for working together', 'thinking differently and focusing on Can', 'transforming guided group interventions to simplified self-guided home activities' and 'embracing the unexpected'. The training activities include mini-lectures, taster workshops, study groups, and guided case practice. Case studies will be presented to illustrate how we further customize the training activities for different stakeholders.

#### **Results**

The outcomes of this training include new collaborations between various professionals, opportunities for creative practice, exchange of care experiences between formal and informal caregivers, and the active and sustained involvement of informal caregivers in dementia care.

#### **Conclusion**

This interdisciplinary training model demonstrates the feasibility of adapting DementiAbility Methods in a local context, encompassing both center-based and home-based settings. It also underscores the significant contribution of informal caregivers in promoting tertiary prevention of dementia, which focuses on managing symptoms and complications and improving the quality of life.

## **E-Poster Presentation: Paper 07**

### **Effect of the Circadian Rhythm of Heart Rate Variability on Frailty Assessment in Community-Dwelling Older Adults**

CHEN, HL.<sup>1</sup>, Tse, MY.<sup>2</sup>

1. *Department of Applied Social Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *Hong Kong Metropolitan University, HKSAR*

#### **Purpose**

Frailty is a common aging-related syndromes, leading to high mortality, high hospitalization and readmission in older adults. People become frail along with the aging-related functional declines in multiple physiological systems regulated by the autonomic nervous system (ANS). Heart rate variability (HRV), variation between inter-beat intervals, is an objective biomarker reflecting the ANS function. It was believed to be a potential measure for frailty assessment due to the interlinkage between frailty, ANS and HRV. However, the precise role of HRV in assessing frailty remains unclear due to the existing controversial results. This study aimed to examine the circadian rhythm of HRV and its prediction performance in frailty assessment.

#### **Method**

Thirty-six community-dwelling individuals at 50 years old and over were identified as non-frail or pre-frail according to Fried's criteria. The polar watch was used to collect participants' HRV for 24 hours. The circadian rhythm of the most common HRV parameters were examined in the two groups: standard deviations of all normal-to-normal intervals (SDNN), root mean square of the successive differences (RMSSD), high frequency (HF), low frequency (LF), and LF/HF. Receiver Operating Characteristic (ROC) curves assessed the predictive performance of these parameters for frailty.

#### **Results**

The results showed that the non-frail group demonstrated significant diurnal differences in SDNN, RMSSD, HF, and LF/HF ( $\Delta=4.88, 6.51, 147.83$ , and  $1.13$ , respectively). In contrast, only HF showed significance in the pre-frail group ( $\Delta=165.80$ ). LF/HF is a predictive parameter for frailty with an area under the curve of  $0.806$ .

#### **Conclusion**

The findings suggested poor cardiac autonomic function in the pre-frail individuals. The circadian rhythm of HRV, especially LF/HF, showed good predictive value for frailty assessment. While more evidence is needed, examining 24h HRV could be an effective strategy to early identify frailty, contributing to healthy aging.



## **E-Poster Presentation: Paper 08**

### **Preliminary Report on the Program Effectiveness of "A Trip of Memory"- An Innovative Cognitive Stimulation Training Using Good Old Times on Bus for Visually Impaired Elderly**

Chiu, A.<sup>1</sup>, Wong, W.<sup>2</sup>, Wong, T.<sup>3</sup>, Chien, S.<sup>4</sup>

1. *The Hong Kong Society for the Blind, HKSAR*

2. *Department of Chinese and Bilingual Studies, Faculty of Humanities, The Hong Kong Polytechnic University, HKSAR*

3. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

4. *Project Manager and Consultant on Gerontechnology*

#### **Purpose**

Non-pharmacological interventions, such as cognitive stimulation, have been proven effective in improving the cognitive functions of people with dementia (PwD; Woods et al., 2023). Storytelling has been commonly used as a therapy for PwD in which narratives relevant to their personal experiences can be adopted for life review or reminiscence (Damianakis et al., 2010). The present pilot study aimed to investigate the efficacy of 'A Trip of Memory', a narrative-based cognitive stimulation program on PwD with visual impairment.

#### **Method**

A total of 36 visually impaired PwD (mean age = 87.2 years) residing in the Kowloon Home for the Aged Blind participated in the current study. They attended 10 sessions of narrative-based therapy in groups of five to six. In each session, the participants listened to a story related to a local bus trip, which was followed by questions regarding the story and discussion/sharing of personal events related to the plot of the story. Outcome measures included the Hong Kong Version of Montreal Cognitive Assessment for the Visually Impaired (HK-MoCA-VI, Yip et al., 2024), semantic category fluency, the Cantonese version of the Amsterdam Nijmegen Everyday Language Test (CANELT; Wong, 2024), Communication Outcomes for People with Dementia Scale for the Visually Impaired (COPD-VI; Ho et al., 2024) and the Holden Communication Scale (HCS; Holden & Woods, 1995).

#### **Results**

Adherence to therapy was good. Gains in HK-MoCA-VI and verbal fluency after therapy reached statistical significance ( $p \leq .01$ ). Nevertheless, no improvement in CANELT, COPD-VI and HCS was noted.

#### **Conclusion**

The study provided preliminary clinical evidence for 'A Trip of Memory' in improving global cognition and executive functions of PwD with visual impairment. Further investigation of the therapy on a larger scale is warranted.

#### **Acknowledgement**

We would like to thank the elderly of the Hong Kong Society for the Blind for their participation in the study, occupational therapy students of the Rehabilitation Science of the Hong Kong Polytechnic University in study material preparation and assistance in therapy delivery, and the Kowloon Motor Bus Co. (1933) Ltd. for their generous support in treatment material donation.

## **E-Poster Presentation: Paper 09**

### **An Exploratory Study on the Usage of Community-Engaged Exergames in Primary Healthcare to Promote Older Adults' Health Behavior and Health Ownership**

Sun, Y.<sup>1</sup>, Wang, S.<sup>2</sup>, Chung, C.<sup>3</sup>, Theng, Y.<sup>4</sup>

1. *Department of Building and Real Estate, The Hong Kong Polytechnic University, HKSAR*

2. *Department of Building and Real Estate, The Hong Kong Polytechnic University, HKSAR*

3. *Department of Building and Real Estate, The Hong Kong Polytechnic University, HKSAR*

4. *Nanyang Technological University & Wee Kim Wee School of Communication and Information*

#### **Purpose**

Promoting medical-social collaboration is essential to changing the primary healthcare toward more prevention-oriented and community-engaged programmes. The role of technology should be highlighted in enhancing older people's quality of life and their level of adaptability to contextual changes when they age. Exergame has been proven as an effective intervention tool that enhances health. It integrates medical (e.g., family doctors) and social resources (e.g., social workers) to foster independence and healthy lifestyles for older adults. This explorative study aims to conduct a community-engaged exergame programme (with academics, social workers, and NGOs) and examine its effectiveness in changing people's health behaviors and perceptions.

#### **Method**

In partnership with the I-SING2023 program from ARISE in Singapore, we recruited 33 older adults from two community centers in Hong Kong's old neighborhoods with relatively low incomes. Older adults participated in a 12-session exergame training, followed by 4-week free-plays. Different games were selected, targeting their physical, social, and cognitive health, respectively. The questionnaire survey was conducted at week 0 (baseline), 3rd, 6th, and 10th to assess changes in habits of playing exergames, lifestyle, physical activity, and health ownership.

#### **Results**

Participants' habits of playing exergame, level of physical activity, and healthy lifestyle were improved significantly after 16 weeks. Moreover, exergames were proven to effectively increase their sense of health ownership, suggesting that older adults position themselves as the guardians of their own well-being. Motivations for maintaining social interactions and physical fitness are strong reasons for people's adherence to exergames.

#### **Conclusion**

In sum, exergame is an effective community-engaged intervention to change individuals' health behaviors and health ownership.

## **E-Poster Presentation: Paper 10**

### **Cultivating Sense of Control with Voice-Activated Intelligent Personal Assistant in Parkinson's Diseases: A Qualitative Study**

Lau, T.<sup>1,3</sup>, Liu, Y<sup>1</sup>, Leung, A<sup>1,2,3</sup>

1. School of Nursing, The Hong Kong Polytechnic University, HKSAR

2. WHO Collaborating Centre for Community Health Services, School of Nursing, The Hong Kong Polytechnic University

3. Research Institute for Smart Ageing, The Hong Kong Polytechnic University

#### **Purpose**

Voice-Activated Intelligent Personal Assistant is a recent invention that usually takes form of a smart speaker in assisting our daily lives. At the same time, no existing research explored how people with Parkinson's disease could utilize such invention under the salutogenic framework. The current study aims to explore the user experience of the implemented Voice-Activated Intelligent Personal Assistant.

#### **Method**

7 in-depth face-to-face semi-structured interviews were conducted via extreme case sampling. Qualitative data were analyzed through hybrid thematic analysis with an interpretive description approach.

#### **Results**

The overarching theme was "a salutogenic tool to regain control." The first three themes are "To comprehend Parkinson's disease through online resources," "auxiliary resources for Parkinson's disease," and "regaining control over symptoms," The intervention could lessen the impact of participants' both motor and non-motor symptoms and access their existing community resources. The last theme, "in need of a more empathetic virtual assistant," highlighted the future development to capitalize on its therapeutic effect.

#### **Conclusion**

The intervention could benefit people with Parkinson's disease that are living alone at a higher disability level. The VIPA intervention could promote PWP's meaningfulness by cultivating a sense of control and normalization to regain control over their life. More research is required to examine the possibility of extending its application into different settings.

#### **Acknowledgement**

The doctoral student is supported by the Teaching Postgraduate Studentship scheme in The Hong Kong Polytechnic University.

## **E-Poster Presentation: Paper 11**

### **The Beat Force Djembe Project: Enhancing social welling and body mobility for Residents living in Private Long-Term Care Homes**

Li, Q.<sup>1</sup>, Lee, A.<sup>2</sup>, Cheung, C.<sup>3</sup>, Chan, F.<sup>4</sup>, Leung, K.<sup>5</sup>

*1-5. Hong Kong Sheng Kung Hui Multi-disciplinary Outreaching Support Team for the Elderly (Kowloon Central Cluster), HKSAR*

#### **Purpose**

To energize the mood, social connection and muscle movements of older people living in long-term care homes by learning Djembe (integration of physiotherapy and social work elements)

#### **Method**

Drumming and related activities were employed in four Djembe sessions to achieve the therapeutic goals.

#### **Results**

Positive impacts on participants' social and physical mobility, self-esteem, health status, social connection and life satisfaction, underscoring the importance of enhancing quality of life in long-term care settings,

#### **Conclusion**

The impact of purposeful activity on the social and body mobility of the elderly living in a long-term care home was studied through an examination of the "Beat Force Djembe Project", a trial project that employed drumming and related activities to achieve therapeutic goals for its participants. The study assessed the mood and demeanor of participants by social workers, physiotherapists and self-ratings before and after engaging in four Djembe sessions. Additionally, semi-structured interviews and observations were conducted to gather data from 34 participants. The results indicated a significant improvement in all aspects of the participants' mood, demeanor, and body mobility following their participation in the drumming sessions.



## **E-Poster Presentation: Paper 12**

### **Cognitive Benefits of Gamma Entrainment Using Sensory Stimuli on the Rehabilitation of Neurodegenerative Diseases: A Literature Review**

Chen, Y.<sup>1</sup>, Liu, K.<sup>2</sup>

1. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

2. *Department of Rehabilitation Sciences, The Hong Kong Polytechnic University, HKSAR*

#### **Purpose**

The purpose of this study was to review the literature and report on the benefits of gamma entrainment using sensory stimuli on cognitive performance for older adults with neurodegenerative diseases.

#### **Method**

A systematic literature search of publications written in English and with full text searched up to August 2024, including only human subject studies. The electronic databases PubMed, Embase, MEDLINE, and PsycInfo were searched. PICOS framework was used to specify the research questions and inform the key search terms used. The search strategies for all databases were constructed using key search terms, including 'neurodegenerative diseases', 'gamma entrainment using sensory stimuli', and 'cognitive function'. All search terms were mapped for 'index terms' and included when relevant. Keywords and their synonyms were used with 'AND' and 'OR' to narrow or broaden the search depending on the search strategy for each database. The authors independently selected articles for eligibility criteria as well as extracted data, and disagreements between reviewers were resolved by consensus.

#### **Results**

A total of four studies were included in the review, including two RCTs for older adults with Alzheimer's disease and two quasi-experimental studies for Alzheimer's disease and dementia, respectively. Results showed that exposure to auditory combined with visual stimuli for 7x1 hour per session over six months could effectively improve global cognition and memory for Alzheimer's disease. Deep micro vibration at the gamma frequency band of 14 sessions over 12 weeks significantly improved the global cognition and working memory of older adults with dementia.

#### **Conclusion**

This review comprehensively reviewed gamma entrainment using sensory stimuli and its cognitive benefits on global cognition, memory, and executive function. Since the benefits of cognitive performance have been shown to have a positive impact on neurodegenerative diseases, it could be applied to the rehabilitation of neurodegenerative diseases.

## **E-Poster Presentation: Paper 13**

### **The Use of Smart Phone to Enhance Exercise Performance among Adults Age 50 and Above**

Chen Z. J.<sup>1</sup>, Tse M. Y. M.<sup>2</sup>, Wong B. Y. M.<sup>3</sup>

1. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

2. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

3. School of Nursing and Health Sciences, Hong Kong Metropolitan University, HKSAR

#### **Purpose**

This study aimed to investigate physical activity and smartphone use among older adults aged 50 years and older in mainland China. Physical activity levels decline with age, so providing middle-aged adults over the age of 50, as well as older adults, with techniques to increase their physical activity is critical to ensuring their healthy aging.

#### **Method**

This study used an online self-administered questionnaire to collect information. Demographic characteristics, physical activity, smartphone use, and their perceptions of smartphones in terms of exercise instruction were collected.

#### **Results**

75 adults (33 males, 42 females, mean age = 62.48 years) joined the study. Only half of them (50.7%, n = 38) followed WHO's recommendation of exercising more than 3 times per week for longer than 30 minutes each time. Among those who were active, the most common chronic disease was hypertension (57.9%, n = 22), followed by cataracts (42.1%, n = 16) and cerebral hemorrhage (26.3%, n = 10).

They also expressed a need for physical activity guidance (p = 0.004) and struggled with the way to do exercise appropriately (p = 0.029). They showed a positive attitude to use smartphone for exercise instruction (p = 0.041).

We collected the information about their smartphone applications and found that they used the smartphone for communication with others (62.7%), to read news reports (48%), social networking (44%), and entertainment (32%). And only a small proportion of them (14.7%) using applications for exercise programs.

#### **Conclusion**

The use of exercise apps may improve the regularity and effectiveness of their exercise performance. Particularly through these apps, they can effectively guide and motivate adults to exercise, provide relevant advice, and foster a community for sharing exercise results.

## **E-Poster Presentation: Paper 14**

### **A Pilot Study: Application of Stick Mobility in the Elderly for Fall Prevention**

Wu, S.L.<sup>1</sup>, Ching, C.M.<sup>2</sup>, Lau, Y.H.<sup>3</sup>, Wong, S.C.<sup>4</sup>

*1-4. Yang Memorial Methodist Social Service, HKSAR*

#### **Purpose**

To evaluate the effects of stick mobility exercise program on muscle strength, balance and fear of fall in the participants.

#### **Method**

Participants were medically stable, community-dwelling elderly with fear of fall, aged > 60 year old. Recruitment were done by phone contact of current service users. Two groups were assigned: stick mobility exercise as intervention and traditional balance exercise as control groups. Each group consisted of eight weekly sessions and each lasted for an hour. The main outcome measures were handgrip strength, 30 second sit to stand test (lower limb strength) and mini balance evaluation systems test (Mini-BESTest). Fear of fall was also evaluated by questionnaire of Falls Efficacy Scale International (FES-I).

#### **Results**

60 participants telephoned and 16 of them met the inclusive criteria. 8 participants were allocated in the intervention and control group respectively. The mean age was 76.2-year-old. At the end of the program, 8/8 (100%) intervention and 6/8 (75%) control participants completed the final assessment. Controlling for baseline values, the intervention group had 2.25 ( $p=0.058$ ) more number of repetitions in 30 second sitting to standing and 3.96 ( $p=0.037$ ) more score in Mini-BESTest, compared with the control. Intervention group showed improvement in handgrip strength, and both groups showed improved trend in FES-I.

#### **Conclusion**

The pilot study of stick mobility in the elderly for fall prevention was practical to implement. There was an improvement of lower limb strength, balance test and FES-I for the participants.

#### **Acknowledgement**

Stick mobility is a training system designed for athletes to increase athletic performance, reduce risk of injury and speed recovery. It combines joint mobilization, strength training and active stretching for better mobility. We expect elderly could be beneficial from fall prevention from the program.

## **E-Poster Presentation: Paper 15**

### **A Pilot Case Study of Daily Community LiFE Program (DC-LiFE) for In-Patient Stroke Rehabilitation**

Lau, S.T.<sup>1</sup>, Chan, W.K.<sup>2</sup>, Au, B.K.M.<sup>3</sup>, Ho, C.M.<sup>4</sup>

*1-4. Occupational Therapy Department, Tai Po Hospital, Hospital Authority, HKSAR*

#### **Background of research**

A rising trend of young stroke in Hong Kong was reported, they had active social, working, childcare role before stroke. Factors that restrict their social participation include fear of fall, environmental barriers, confidence in mobility. Lifestyle-integrated functional exercise (LiFE) (2010) is an evidence based intervention aims at reducing falls and improves functioning by integrating balance and strength activities into daily tasks and routines. Daily Community LiFE program (DC-LiFE), is a modified program, aimed to develop individualized community skills training by focusing on environmental barriers in the community, therefore, to enhance adjustment and coping, and facilitate community reintegration.

#### **Purpose**

A pilot study was conducted to explore the effectiveness of the DC-LiFE program on fall efficacy, functional status, and community integration among stroke patients and feasibility of implementation in hospital setting.

#### **Method**

Program outline:

Participants were recruited in the DC-LiFE program after completion of a week of daily LiFE training focusing on balance and strength activities. DC-LiFE includes 1) community skills training within hospital indoor and outdoor environments prior discharge, 2) home visit to assess environment and community access with home modification and adaptation using the concept of LiFE. A 1-month post-discharge telephone follow-up on the latest functioning was done.

A pilot case study for program illustration:

Mr Leung, a 44-year-old man, was admitted to Tai Po Hospital for stroke rehabilitation. His ADL was fully independent in pre-morbid with an active working and social role.

The outcome measures include 1) Modified Barthel Index (MBI), 2) Short Physical Performance Battery (SPPB), 3) Fall Efficacy Scale (FES), 4) Community Integration Questionnaire (CIQ), 5) Satisfaction survey post home visit.

#### **Results**

Mr Leung was recruited for DC-LiFE. The results showed improvement in all treatment outcomes by comparing pre-post intervention. His ADL functioning and functional mobility improved significantly in pre-post MBI by 42% (from 64/100 to 91/100) and in pre-post SPPB by 166% (from 3/12 to 8/12) respectively. A reduction of fear of falling was shown by increase in pre-post FES by 80% (from 45/100 to 81/100). There was enhancement in community integration as shown by 31% increase in pre-post CIQ (from 13/23 to 17/23) based on his premorbid score. In the patient satisfaction survey and telephone follow-up, he agreed that DC-LiFE could enhance ADL performance, and increase confidence in social and productive activities participation since being discharged with 100% satisfaction towards the program.

#### **Conclusion**

This study shows the potential benefits of the DC-LiFE for post-stroke patients in terms of ADL, reduced fear of falling, promote community reintegration, also further enhanced their confidence and competence level when returning to the community. In addition, it is feasible to implement in inpatient setting with support from inpatient LiFE corner, HA Go app on home program, and LiFE calendar and shopping bag for fall prevention tips with good patient satisfactory. It would be beneficial to expand the service for review in the future.