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PROMOTING HEALTH AND WELL-BEING IN
AGEING POPULATION: STRATEGIES AND
ACTIONS

PROGRAMME BOOK



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Programme Rundown

Time	Programme
8:45am–9:10am	Registration
9:10am–9:20am	Welcome Address Dr LEUNG Man Fuk Edward <i>President, Hong Kong Association of Gerontology</i>
9:20am–9:35am	Keynote Address Miss LEE Pui Sze Charmaine, JP <i>Director of Social Welfare, Social Welfare Department, HKSAR</i>
Plenary Session (Moderator: Dr LEUNG Man Fuk Edward)	
9:35am–10:00am	Mental Health in the Ageing Population - Needs, Implications and Strategy Prof CHAN Wai Chi Sally <i>President, Tung Wah College</i>
10:00am–10:25am	International Trend on End of Life Care in Older People - The implications on Policy and Practice in Hong Kong Prof CHOW Yin Man Amy <i>Head, Department of Social Work and Social Administration, The University of Hong Kong</i>
10:25am–10:40am	Break
10:40am–12:05pm	Outstanding Paper Presentation (Moderator: Prof. FONG Nai Kuen Kenneth) <ol style="list-style-type: none"> Evaluation Study of an Advance Care Planning one-stop service for community-dwelling older adults in Hong Kong WONG Oi Kau Stephanie, LEUNG Wai Ping Apple, CHAN Charis, SIT Po See, CHAN Yue Lai Helen <i>The Hong Kong Family Welfare Society, The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong</i> Decision control preference for end-of-life care among Chinese older adults NAN Kurt, LAI Yuk Kit Rosanna, CHAN Yue Lai Helen <i>Hong Kong Young Women's Christian Association</i> Cooking-based intervention for improving the health and well-being of older adults with subjective cognitive decline and their caregivers: A randomized controlled trial YU Ho Yan Ruby, LEUNG Sin Man Grace, LAI Chun Kiu Derek, WONG Chui Yan Esther, WONG Yeuk Hang Twiggy, NG Mei Kiu Jojo, LO Ka Chun Wilson, CHUN Sin Man Sammi, CHAN Kar Po Judy <i>CUHK Jockey Club Institute of Ageing, Hong Kong Sheng Kung Hui Welfare Council & The Hong Kong and China Gas Company Limited</i> Effects of older people's mobility and community facility planning on physical and mental health: a GPS-based survey WANG Siqiang, YUNG Hiu Kwan Esther, YU Peiheng <i>Department of Building and Real Estate, The Hong Kong Polytechnic University</i> Post-COVID-19 Rehabilitation Programme for Residents of Residential Care Homes for the Elderly in Hong Kong CHOW Pui Yee Tiffany, WONG Chi Kin William, LAI Fan Chun Jenny, TSE Ka Ling Lisa, KONG Chun Hin Lislely <i>Rehabilitation Team, The Hong Kong Society for the Aged</i>
12:05pm–12:35pm	Annual General Meeting
12:35pm–12:45pm	Prize Presentation
12:45pm–2:15pm	Lunch Break / E-poster Presentation

2:15pm–3:30pm	<p>Free Paper Presentation I (Health and Mental Health) Moderator: Ms CHENG Po Po Peggy Venue: K1613</p> <ol style="list-style-type: none"> iHealth Screen for Promoting Healthy Ageing LAW Po Ka Noble, WONG Fung Yee Maggie, WOO Jean <i>CUHK Jockey Club Institute of Ageing, The Chinese University of Hong Kong</i> A "Humanism in Ageing" Workshop for Cultivating Awareness of Ageism and for Promoting Medical Students' Professional Interest in Working with Older Adults WONG Ki Sum Samson, CHAN Karina Hiu Yen, LUK Po Ling Pauline, WRIGHT Abigail, KONG Tak Kwan <i>Medical Ethics and Humanities Unit, School of Clinical Medicine, Li Ka Shing Faculty of Medicine, The University of Hong Kong</i> Examining the Health and Well-being of Family Carers of Older Adults in Hong Kong LAU Chi Kit John, TAI Suet Ying Shirley, TAO An, SHAM Ka Hung Joe, CHAN YT Kitty, CHAN Yue Lai Helen <i>The Nethersole School of Nursing, Faculty of Medicine, The Chinese University of Hong Kong; The Hong Kong Housing Society; St James' Settlement</i> Subjective Well-being and its Associated Factors among Community-dwelling Chinese Older Adults in Hong Kong during COVID-19 Pandemic TAO An <i>The Chinese University of Hong Kong</i> When Both Spouses Have Functional Decline: Collaboration Coping Strategy in Mastering Stressors LOU W. Q. Vivian, LIU Huiying, Chen Bixia <i>Sau Po Centre on Ageing, The University of Hong Kong</i> Smoking Duration is Not Associated with Quit Rate Amongst Elderly: Self-Confidence Level and Encouragement are the Key of Actions LEE Ka Hong John, LAM Chi Kit Adonis, GURUNG Sharmila, TANG Shao Fen Joyce <i>Smoking Cessation Programme, United Christian Nethersole Community Health Service</i> 	<p>Free Paper Presentation II (Dementia) Moderator: Dr TONG Bing Chung Venue: K1611&K1612</p> <ol style="list-style-type: none"> Promoting Cognitive & Psychosocial Well-being of Elders with mild-to-moderate Cognitive Impairment by CST groups led by non-professionals: Lessons learned CHUNG Yui Ching Brian, WONG Hoi Yan Gloria, LAI Yuk Kit Rosanna, CHAN Wai Fung Vivian, CHOY Chak Pui Jacky, LAI Kam Yuk Claudia, CHAN Wai Chi <i>Elderly Service Department, Hong Kong Young Women's Christian Association</i> The Efficacy of a Tailor-made PingPong Programme in improving the cognitive and physical function in Dementia clients. LAU Tak Wang Dennis, NGAI Chun Hei Heyson <i>CCHS, Hong Kong Christian Service.</i> Telephone-coached bibliotherapy for informal caregivers of people with dementia: Preliminary effects on psychological well-being and mechanism exploration WANG Shanshan, CHEUNG Sze Ki Daphne, LEUNG Yee Man Angela <i>School of Nursing, The Hong Kong Polytechnic University</i> Depression, Anxiety and Stress on Caregivers of Persons with Dementia (CGPWD) in Hong Kong amid COVID-19 Pandemic FONG Kwan Hin Tommy, CHEUNG Teris, CHENG Pak Wing Calvin <i>School of Nursing, The Hong Kong Polytechnic University</i> Break the boundaries of social distancing measures amid the pandemic: delivery of the health promotion programme for the older adults and their carers through the online platform LI Suet Ying, LEUNG Suet Lai <i>The Services for the Elderly, Caritas -Hong Kong</i> Empowering Optimized Health Trajectory for Discharged Middle-Aged and Older Patients with a Tech-inclusive Approach LOU W. Q. Vivian, XU Shicheng, SO Wai Lam, CHENG Y.M. Clio, ZHONG Yin <i>Sau Po Centre on Ageing, The University of Hong Kong; Department of Social Work & Social Administration, The University of Hong Kong</i>
3:30pm–3:45pm	Break	

<p>3:45pm–5:00pm</p>	<p>Free Paper Presentation III (Rehabilitation) Moderator: Prof KWAN Yiu Cho Rick Venue: K1613</p> <ol style="list-style-type: none"> A structural equation model of fatigue, depressive symptoms, self-efficacy, social support and community integration HO Yuen Wah Lily, LAI Kam Yuk Claudia, NG Sheung Mei Shamay <i>The Hong Kong Polytechnic University</i> Lifestyle-integrated Functional Exercise (LiFE) Program for Community Living Older Adults After Stroke FAN Hiu Ue Silvia, TANG Lok Man, CHAN Po Shan Alice, AU Kai Ming Brian <i>Occupational Therapy Department, Tai Po Hospital</i> The effectiveness of a Multicomponent Exercise on Cognition for the Elderly recovered from the COVID-19 in Residential Home in Hong Kong LEE Hoi Wing, POON Yat Sum <i>Occupational Therapy Department, Caritas Li Ka Shing Care and Attention Home, Caritas Hong Kong - Service for the Elderly</i> A comparative study of arterial stiffness in people with and without stroke HO Yuen Wah Lily, LAI Kam Yuk Claudia, NG Sheung Mei Shamay <i>The Hong Kong Polytechnic University</i> The synergistic effect of a nurse proactive phone call with an mHealth application program on sustaining app usage WONG Kwan Ching Arkers <i>The Hong Kong Polytechnic University</i> Computerized biofeedback game-based swallowing training (BGBST) for dysphagia after stroke in elderly residential home during COVID-19 YIP Chi Kong Calvin, CHIU Tat San Armstrong, Wong Wing Sze Wincy <i>School of Medical and Health Sciences, Tung Wah College; Kowloon Home for the Aged Blind, The Hong Kong Society for the Blind; Department of Chinese and Bilingual Studies, The Hong Kong Polytechnic University</i> 	<p>Free Paper Presentation IV (Long Term Care) Moderator: Prof CHAN Yue Lai Helen Venue: K1611&K1612</p> <ol style="list-style-type: none"> Modification Work of Nursing Care Home Bathing Facilities -Contemporary Design and Assistive Devices Prevention of Frailty Progression in Older visually impaired elderly -Prospective Cohort Study Chiu ATS, Yeung K, Wong JYC <i>The Hong Kong Society for the Blind, Kowloon Home for the Aged Blind; Senior Homes Safety Specialists</i> The Predictive Value of Tongue Thickness and Sarcopenia for Residential Older Adults With Sight Loss YIP Chi Kong Calvin, LAM Wai Shun Wilson, CHIU Tat San Armstrong <i>School of Medical and Health Sciences, Tung Wah College; The Hong Kong Society for the Blind, Hong Kong</i> The effects of Sitting Tai Chi on balance control and mental wellbeing among older adults living in residential care home for elderly in Hong Kong CHAN Kin Tung, CHAN Mei Po, Ka Wai Li, YEUNG Chun Wing <i>Multi-disciplinary Outreaching Support Teams for the Elderly, Hong Kong Sheng Kung Hui Welfare Council Limited</i> Promoting Quality of Life (QoL) & Mood for long stay residents - “Coloring our life by Comforting Pastel Art Program 療癒粉彩畫” HUI Sau Shan Suki <i>Occupational Therapy Department, Cheshire Home, Chung Hom Kok</i> Deployment of Technology-assisted Interventions in Elderly Care Home for Residents with Cognitive Impairment LOU Wei Qun Vivian, TAN Cheng Kian Kelvin, TSOI Kam Fai Kelvin, WAI Man Yi, CHAN Lai Lok <i>Sau Po Center on Ageing, The University of Hong Kong; Social Work and Social Administration, The University of Hong Kong; Stanley Ho Big Data Decision Analytics Research Centre, The Chinese University of Hong Kong; Hong Kong Sheng Kung Hui Welfare Council Limited</i> An exploratory study on the institutionalization of a case management model for community care services in Hong Kong WONG Yu Cheung, KAN Wing Shan, LOU Wei Qun Vivian <i>Department of Social Work, Hong Kong Baptist University</i>
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Presenters of the Hong Kong Association of Gerontology 29th Annual Congress with accepted poster and paper presentations are welcome to submit their papers for publication in the Special Issue: A Transdisciplinary Approach to Healthy Ageing of the International Journal of Environmental Research and Public Health (IJERPH) (2021 Impact Factor: 4.614; 2021 5-Year Impact Factor: 4.798) and be offered a special 10% discount in Article Processing Charge (original amount: 2500 CHF (Swiss Francs)).

Details are available at: https://www.mdpi.com/journal/ijerph/special_issues/approach_healthy_ageing

Plenary Session I – Mental Health in the Ageing Population – Needs, Implications and Strategy

Moderator: Dr LEUNG Man Fuk Edward

Prof. Sally Wai-chi CHAN
*President,
Tung Wah College*



Sally is a global healthcare educator and researcher. She has extensive experience in the higher education sector. Sally's career influences the tripartite mission of research, education and practice. She focuses on translating evidence to improve healthcare practice outcomes, implementing teaching innovations, and mentoring new generations of healthcare professionals.

Supported by more than 100 funded studies (more than Aus\$10 millions), more than 400 publications in international healthcare journals and international presentations, Sally has developed and sustained international inter-institutional partnerships. The results of her sustained research agenda and scholarship have made a recognized impact on healthcare practice and education in the Region. She has been named by the Journal of Advanced Nursing (JAN) as the top 10 Australia and New Zealand Professors with the highest education-focused citations (JAN2018 <https://doi.org/10.1111/jan.13698>). She is on the list (154th of 746 in Nursing) of the World's top 2% Scientists (2020) and the top 2% most-cited scientists (2021 and 2022) released by the Stanford University.

Sally has rich leadership and management experience in tertiary institutions. During her terms of service as the Pro Vice-Chancellor (PVC) of the University of Newcastle (UON) Singapore Campus (UON Singapore), she successfully led the University to achieve prudent growths in student population and financial capacity despite COVID-19 pandemic. Prior to that, she was the Dean of the School of Nursing and Midwifery of UON in Australia from 2014 to 2019.

Sally has served on the editorial and advisory board of many renowned journals. She was a member of the World Health Organization (WHO) to the Primary Care Consultation group for Revision of ICD-10 Mental and Behavioral Disorder. She was also a member of the Council of Deans of Nursing & Midwifery, Australia & New

Zealand. Her leadership is evident in her former appointment as member of the Expert Group on Mental Health Services by the Hong Kong Government; and the National Nursing Task Force by the Singapore Government. She has also been expert witness in the court.

Sally started her academic journey in 1992. She had served at the Hong Kong Polytechnic University, the Chinese University of Hong Kong and the National University of Singapore and nurtured generations of nurses over the years. She has also served as Visiting Professor /Adjunct Professor in different universities across China, Malaysia and Australia. Besides, she has extensive experience in working with multiple stakeholders from government, healthcare, education and business sectors.

Sally has been honored for her significant and sustained contribution to nursing which improved the nursing profession and the people it serves. In 2013, she has been awarded the 'International Nurse Researcher Hall of Fame' by the Sigma Theta Tau International Honors Society of Nursing. She was also inducted into the Fellow of the American Academy of Nursing in 2013. In 2022, she received the Honorary Fellow awarded by the Hong Kong Academy of Nursing. In 2018, she received Research Supervision Excellence Award from the School of Nursing and Midwifery, University of Newcastle. She also received the Outstanding Achievement Award from the Hong Kong College of Mental Health Nursing. In 2017, she received the Outstanding Alumni Award from the Hong Kong Polytechnic University for her significant achievement and contribution to nursing development and Hong Kong community. In 2016, she received the University of Newcastle Vice-Chancellor's Award for International Engagement; and the Faculty of Health and Medicine International Award for her exceptional achievement in building and sustaining international relations and engagement for the University. Her extensive list of accolades also includes the Chinese University of Hong Kong 'Teacher of the Year' awards in 1998, 2002, 2003, 2004, 2006, and the 'Master Teacher' in 2007 by the institute's Faculty of Medicine.

Plenary Session II – International Trend on End of Life Care in Older People - The implications on Policy and Practice in Hong Kong

Moderator: Dr LEUNG Man Fuk Edward

Prof. Amy Chow

*Head, Department of Social
Work and Social
administration,
The University of Hong Kong*



Professor Amy Y. M. Chow is the Si Yuan Professor in Health and Social Work at the University of Hong Kong. She is the Head of the Department of Social Work and Social Administration, the Master of New College, and the Director of the Jockey Club End-of-Life Community Care Project of the University. She is the first Fellow in Thanatology awarded by the Association of Death Education and Counseling in Asia and the former Chairperson of the International Workgroup on Death, Dying and Bereavement. She served as the Secretary of the Association for Death Education and Counseling and as council member of the Asia Pacific Hospice and Palliative Care Network. Professor Chow actively contributes to the local professional organization and government committees. She is the Chairperson of the Steering Committee of the Hong Kong Academy of Social Work, the member of Lotteries Fund Advisory Committee, Social Work Training Fund Committee, Criminal and Law Enforcement Injuries Compensation Boards and Chinese Medicine Practitioners Board. Her achievement in bereavement research is well recognized locally and internationally. She received the Association for Death Education and Counseling 2005 Cross-Cultural Award, the Cadenza Fellow in 2008, the Distinguished Alumni Award 2013 of the Department of Social Work, CUHK, the 2013 Rainbow of Life Outstanding Individual Award, and the 2014 Outstanding Social Worker Award. Recently, she received the Association for Death Education and Counseling 2020 Research Recognition Award.

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Outstanding Paper Presentation (1/5)

Evaluation Study of an Advance Care Planning one-stop service for community-dwelling older adults in Hong Kong

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Purpose The Hong Kong Family Welfare Society (HKFWS) launched an Advance care planning (ACP) one-stop service which support community-dwelling older adults to prepare for their end-of-life. The purpose of this study is to evaluate the effectiveness of the case management service.

Method This was a prospective cohort study conducted between April 2021 and August 2022. People aged ≥ 60 years with advanced disease or 80 years or above were eligible to the study. Trained social workers facilitated participants in exploring their values and preferences for end-of-life care; formulating plans related to medical care, property and funeral arrangement, fulfilling wishes in the bucket list, having farewell, and offering professional support for completion of legal documents. The Integrated Palliative Care Outcome Scale (IPOS) and a modified ACP Engagement Survey were used to monitor changes before and after the project.

Results Sixty participants enrolled in the project. Their mean age was 81.4 (ranged 63 – 97), with 58% were female and 85% received primary or above education. Nearly half (47%) of participants are widowed, divorced or single. Improvements were noted in their depressive symptoms, anxiety and information needs although the changes were not statistically significant. There were significant improvements in readiness for discussing care preferences with surrogate ($p < .001$); discussing care preferences with doctor ($p = .001$), completing advance directive ($p < .001$), making financial arrangement ($p < .001$) and funeral planning ($p = .006$), and fostering positive relationships with significant others ($p < .001$) after the project. The results of satisfaction survey showed that participants perceived the service increased their understanding of ACP, facilitated family communication on end-of-life care and reduced their psychological burden.

Conclusion The project empowers the older adults to express their preferences for end-of-life care and provide pragmatic support that assisted them to document their end-of-life care decisions.

Outstanding Paper Presentation (2/5)

Decision control preference for end-of-life care among Chinese older adults

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Background There has long been a presumption that Chinese people refrain from expressing end-of-life care preferences due to the influence of collectivist culture or taboo. This study aims to examine the decision control preferences for end-of-life care and its association with demographic factors among Chinese older adults.

Methods We conducted a cross-sectional survey on views toward end-of-life care between September and October 2021 in Hong Kong. Respondents were asked about their decisional control preferences to end-of-life care based on the Control Preferences Scale. Their decision-making roles were categorized into three levels (active, collaborative and passive). Chi-square tests were used to examine differences across socio-demographic characteristics.

Results A total of 532 completed questionnaires were collected from 11 community centres. The majority of respondents were female (74.2%), aged between 60 and 69 (43.0%), married (54.7%) and living with family members (66.7%). More than half of them (58.0%) preferred an active role in the decision-making process, although only 24.3% had underwent advance care planning to discuss their care preferences. The proportion of young-old preferring an active role is significantly higher than their older counterparts ($p = .005$). More participants who were living alone or staying in the care homes preferred a passive role ($p = .009$). Despite these differences, over half of the respondents across all age groups and types of living arrangement preferred an active role. Additionally, the decisional control preferences were not associated with sex, education and marital status.

Conclusion Contrary to the presumption of Chinese older adults' preferences for end-of-life decision-making, a considerable proportion of them were eager to assume an active role. Our findings underscored the importance of empowering them with fair access to advance care planning, regardless of their socio-cultural background, so that they can participate in the decision-making process.

Outstanding Paper Presentation (3/5)

Cooking-based intervention for improving the health and well-being of older adults with subjective cognitive decline and their caregivers: A randomized controlled trial

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Purpose Evidence on the effectiveness of using cooking activities as a well-being intervention for older adults with subjective cognitive decline (SCD) and their caregivers is scarce. In view of this, the present study aimed to examine 1) whether a 5-week cooking-based intervention can improve the health and psychosocial well-being of these two groups of people, and 2) whether its benefits differ across gender and age subgroups.

Methods A randomized controlled trial was conducted. Sixty pairs of community-dwelling older adults aged 60 years or above with SCD (mean age = 78.4 years) and their caregivers (mean age = 65.3 years) were recruited and randomly assigned to the intervention group (n = 30 pairs) and the wait-list control group (n = 30 pairs). The intervention was an innovative 5-week (2 hours per week) cooking-based intervention employing procedural learning methods specifically adapted for older adults with SCD. The outcomes were changes in 1) a health and well-being index composed by four indicators: self-rated health, life satisfaction, feelings of happiness, and meaning in life, and 2) family harmony and satisfaction score over 5 weeks. For ease of interpretation, all measures were rescaled such that the scores fell between 0 and 10.

Sample size: 120

Study year: 2021

Results For both older adults with SCD and their caregivers, the increases in the health and well-being index were significantly greater in the intervention group than in the control group (older adults: 3.3 vs. 0.3 points, caregivers: 2.4 vs. -2.9 points, $p < .05$). Among the four component measures, meaning in life showed the greatest improvement. Regarding gender subgroups, male older adults with SCD in the intervention group increased their family harmony and satisfaction score more than those in the control group (0.9 vs. -0.2 points, $p < .01$). Regarding age subgroups, caregivers aged 65 years or below in the intervention group increased their life satisfaction score more than those in the control group (0.6 vs. -0.8 points, $p < .05$).

Conclusion The 5-week cooking-based intervention resulted in an improvement in the health and psychosocial well-being of older adults with SCD and caregivers.

Outstanding Paper Presentation (4/5)

Effects of older people's mobility and community facility planning on physical and mental health: a GPS-based survey

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Background Community facility is an essential element of community planning to support aging-in-place and promote older people's health. Older people's community facility usage also closely relates to their mobility. However, there are insufficient studies to explore the relationship between the planning of different types of community facilities, older people's mobility, and their health status. Thus, this study aims to identify the critical factors of community facility planning and older people's mobility that significantly correlate with their physical and mental health.

Methods GPS survey and correlated questionnaire survey were conducted between April and September 2021 to collect older people's usage pattern of different types of community facilities and mobility pattern (moving distance, activity space and out-of-home activity), and their self-rated health. 94 older participants were invited to wear the GPS equipment for one week. Geographic Information System techniques were employed to analyze the spatial distribution of community facilities.

Results This study illustrated that ratio of residents to commercial facility, cultural facility and religious facility was positively related to older people's weekly moving distance, daily activity space and weekly out-of-home activity. In addition, sufficient provision of leisure facility could promote older people's both physical ($p < 0.05$) and mental health ($p < 0.05$). Older people's higher usage level of municipal facility could promote older people's physical health ($p < 0.01$). Older people's weekly out-of-home activity was also associated with physical health ($p < 0.01$). Furthermore, this study found that the special centralized distribution of community facilities in public housing estates may result in significant lower level of weekly moving distance ($p < 0.05$), daily activity space ($p < 0.05$) and weekly out-of-home activity ($p < 0.05$), which may also contribute to lower level of mental health ($p < 0.05$). **Conclusion:** The findings could provide reference to planners and policy makers of community facility planning to promote their physical and mental health.

Outstanding Paper Presentation (5/5)

Post-COVID-19 Rehabilitation Programme for Residents of Residential Care Homes for the Elderly in Hong Kong

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Background The fifth wave of COVID-19 has raged in Hong Kong since February 2022, causing many older people suffering from severe and fatal illnesses. The rehabilitation team of SAGE found that many elderlies encountered different impairments, such as muscle weakness, shortness of breath, poor self-care ability and swallowing difficulty.

Purpose The transdisciplinary rehabilitation team, which included physiotherapists, occupational therapists and speech therapists formulated a “Transdisciplinary Rehabilitation Programme” (The “Programme”) for post-COVID-19 elderlies aimed to restore their health conditions to premorbid status.

Method Elderlies who were infected from COVID-19 in the fifth wave of COVID-19 in 2022 were recruited from nine residential care homes under SAGE. Based on assessment, the transdisciplinary rehabilitation team categorized them into eight types of impairments, including decreased lung function, decreased physical ability, pain, decreased cognitive function, increased dependence in self-care, communication problems, decreased swallowing ability and psychological problems. Residents who experienced any one type of impairment would be provided with an 8-week tailor-made rehabilitation programme, including chest physiotherapy, physical training, pain management, cognitive training, activities of daily living training, aids prescription, oral motor training, swallowing treatment and relaxation therapy.

The outcome indicators, Modified Functional Ambulation Classification (MFAC), Montreal Cognitive Assessment 5-Minute Protocol Hong Kong Version (HK-MoCA 5-Min Protocol), assistive devices used in daily self-care, and the Royal Brisbane Hospital Outcome Measure for Swallowing (RBHOMS) were assessed at three time points included “Premorbid”, “Pre-programme” and “Post-programme”. The within-group comparisons of “pre-programme” and “post-programme” were based on Wilcoxon signed rank test for MFAC and RBHOMS, and Repeated ANOVA for HK-MoCA 5-Min Protocol. Statistical significance was set at $\alpha=0.05$.

Results 720 residents were infected with COVID-19 in the fifth wave of COVID-19. 373 (52%) of them who experienced at least one type of impairment were invited to join the “Programme”: Before training, 163, 135, 127 and 57 residents showed decline in MFAC, HK-MoCA 5-Min Protocol, assistive devices used in daily self-care and RBHOMS respectively. After 8 weeks of corresponding trainings, participants were shown to have significant improvement in MFAC and RBHOMS ($p<0.05$). For participants with cognitive impairment, although the mean HK-MoCA score was higher in the post-programme group (6.0) when compared to the pre-programme group (5.2), there was no significant difference ($p=0.14$). However, significant improvement in HK-MoCA 5-Min protocol was shown after 16 weeks of cognitive training ($p<0.05$). Whilst 69 out of 127 (54%) residents improved the independence in using assistive devices in daily self-care. After the 8-week programme, 80, 39, 47, and 24 residents were able to revert to their premorbid state respectively.

Implications COVID-19 caused different physical impairments to the elderly. Appropriate rehabilitation might promote health in post-COVID-19 elderlies and restore their health conditions to premorbid status.

Free Paper Presentation I (Health and Mental Health) (1/6)

iHealth Screen for Promoting Healthy Ageing

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Purposes Through the increasingly ageing population, older adults are facing with various health challenges. To manage these challenges, mobile applications may represent a cost-effective and low-threshold approach to enable them to maintain independence and to promote their health and functioning.

Method The mobile application - iHealth Screen was created for older adults in preliminary health screening. The design framework incorporated 11 common geriatric assessments for users to conduct self-help health screening without time and location boundaries. Quantitative and qualitative method were used to collect feedback.

Result There were 225 older adults and caregivers who had participated the face-to-face iHealth Screen workshop, 96% reported that they would continue to use iHealth Screen and 95% would recommend iHealth Screen to their friends and family. Over 90% participants found the app could assist their understanding of health condition. Besides, 9 focus groups were conducted with 45 participants. Older adults' respondents expressed that their personal health literacy was improved by using iHealth Screen; and the resourceful information, interactive videos facilitated healthy ageing. The software successfully cultivated a chill and relaxing atmosphere for caregivers to discuss health concerns with older adults. It also enhanced caregivers' knowledge and increased their confidence in caring for their loved one, so as to alleviate the caregiver stress. Furthermore, the reporting feature allowed caregivers to monitor health condition of the older adults on a regular basis and seek for professional consultation if necessary.

Conclusion The mobile application increased efficiency in carrying out health screening for older adults and served as a cost-effective tool to serve the ageing community. The application empowered older adults and caregivers in health care monitoring and improved their health literacy. On a wider level of application potential, iHealth Screen could be used on a district-based level for elderly centers to better understand older adults' condition and allocate appropriate resources.

Free Paper Presentation I (Health and Mental Health) (2/6)

A "Humanism in Ageing" Workshop for Cultivating Awareness of Ageism and for Promoting Medical Students' Professional Interest in Working with Older Adults

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Background With the increased exposure to frail and vulnerable older patients, medical students may develop the tendency to view ageing negatively. Age-related biases in healthcare include seeing ageing as a frustrating process of decline, infirmity, and decay. In mainland China, a recent cross-sectional survey reported that first-year medical students held more favorable attitudes toward older adults than senior students did, suggesting that attitudes on ageing might have been affected by knowledge in the medical school. (Zhao et al., 2011) This phenomenon is worrisome at a time when COVID-19 has exacerbated intergenerational tension.

Visual images evoke emotions, abstract ideas and our shared human experience. For instance, images of senile and frail older adults could elicit learners' apprehension of and feelings toward geriatric care, thereby enabling dialogue about stereotypes and in turn facilitating empathy, insight, and perspective-taking. (Linz, 2011)

In HKUMed's Medical Humanities Programme, we sought to harness the potential of photo-elicitation and design thinking for improving MBBS students' attitudes towards ageing and professional interest in working with older patients.

Purposes This study aims to assess the impact of a novel "Humanism in Ageing" Workshop in HKU's MBBS curriculum on student attitudes towards ageing and geriatric care. Our educational intervention is inspired by a pilot in Australia and developed in accordance with the PEACE (Positive Education about Aging and Contact Experience) Model.

Methods 33 year-2 MBBS students received the Workshop in 2021-22. Before and after class, we administered the UCLA Geriatrics Attitudes Scales (UCLA-GAS) and Reactions to Ageing Questionnaire (RAQ) to measure student attitudes towards older patient care and personal ageing.

Results 94% attendees completed the questionnaires. Mean age was 20.5. Our workshop had improved undergraduate medical students' attitudes towards older patient care ($p < 0.001$) and self-views on ageing ($p < 0.05$).

Conclusion With reference to the technique of photo-elicitation and the PEACE Model published in Gerontologist, we devised a low-cost 2.5-hr interactive workshop with demonstrated efficacy in improving medical students' attitudes towards older patient care. Our project illustrates a creative response to the UN Decade of Healthy Ageing (2021-2030)'s international call for action to "change how we think, feel and act towards age and ageing".

Free Paper Presentation I (Health and Mental Health) (3/6)

Examining the health and well-being of family carers of older adults in Hong Kong

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Purposes Family caregiving is a pillar to support ageing in place. It is widely acknowledged that, apart from providing physical care, family carers often experience intense emotional burden, thereby at risk of burnout. This study aims to examine the physical health and psychosocial well-being of family carers for older people.

Methods This is a prospective cohort study commenced since July 2022. Adults involved in caregiving tasks for older relatives were recruited from three senior housing estates and a community centre. The DASS was used to evaluate their perceived stress, anxiety and depression. The INTERHEART score was used to estimate the risk of cardiometabolic diseases and automated retinal imaging analysis (ARIA) was used to estimate stroke risk.

Results As of 30th September, fifty-six family carers were recruited. Their mean age was 66.1 years (SD 10.3), ranging from 45 to 91. The majority of them were female (73.2%) and had completed senior secondary education or above (67.9%). Over half (51.8%) were retired. Their mean INTERHEART score was 13.6 (SD 6.5), with over two-thirds at risk of cardiometabolic diseases. The ARIA results showed that 21.3% were at risk of stroke. Approximately 30.4% and 19.7% were found with moderate to very severe level of anxiety and depressive symptoms, respectively, and 20% reported moderate to severe level of caregiving burden. The INTERHEART scores was significantly positively correlated with caregiving hours ($p = .038$), anxiety ($p = .008$), and caregiving stress (.004).

Conclusion A considerable proportion of family carers were at risk of cardiometabolic diseases. It appears that such risk was associated with their caregiving roles and responsibilities. Our findings revealed that their health and well-being is alarming, prompting an urgent need to strengthen their coping strategies and self-care through psychoeducation and increase tangible support in the community through home services, neighbourhood support and respite care.

Free Paper Presentation I (Health and Mental Health) (4/6)

Subjective well-being and its associated factors among community-dwelling Chinese older adults in Hong Kong during COVID-19 pandemic

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² *The Hong Kong Housing Society*

Background Given their susceptibility to being infected and the threat of complications, older people are facing particularly huge challenges in both physical and psychological health during the COVID-19 pandemic. Therefore, this study aims to identify the factors associated with their subjective well-being.

Method A cross-sectional survey was conducted in three senior housing estates in Hong Kong from August – September 2022. Chinese older adults (aged ≥ 65) who were cognitively sound (AMT > 6) were invited to complete a questionnaire, which included assessments of activities of daily living, nutrition, sleep quality, frailty status, subjective well-being (SWB) measured by WHO-5, psychological resilience, coping strategies, social support and network. Senior fitness tests were also performed to evaluate the participants' physical function. Univariable analyses and multivariable stepwise regressions were conducted to identify factors associated with SWB.

Results A total of 105 participants with a mean age of 78.0 ± 8.4 were recruited. Most of them were female (81.2%), married (41.0%) and living alone (54.3%). SWB was significantly positively correlated to the number of children, sleep quality, psychological resilience, problem-focused coping, and social support, but negatively associated with the number of hospital admission, frailty, and emotion-focused coping. Stepwise regression showed that psychological resilience (Standardized $\beta = .522$, $p < .001$), emotion-focused coping (Standardized $\beta = -.364$, $p < .001$), lower body strength (Standardized $\beta = .188$, $p < .021$), and social support (Standardized $\beta = .188$, $p < .033$), were significantly and independently associated with SWB.

Conclusion Psychological resilience, coping strategies, lower body strength and social support are independently associated with SWB of community-dwelling older adults. It indicated that physical health, social well-being, and psychological outcomes are highly interrelated, and thus future interventions to promote their subjective well-being should be multi-dimensional.

Free Paper Presentation I (Health and Mental Health) (5/6)

When Both Spouses Have Functional Decline: Collaboration Coping Strategy in Mastering Stressors

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Background In a rapid aging society like Hong Kong, a huge number of older couples are getting frail together. Current research on informal caregivers dominantly take a spousal caregiving perspective by clearly distinguishing the roles of caregivers and care recipients, overlooking a prevalent phenomenon that both spouses are at risk of functional decline and mutual support is vital for their daily living.

Objectives This study examines couples' experiences of handling stressors and the impacts of caregiving on their well-being. By integrating interdependence theory and frameworks of dyadic coping, this study will test the hypotheses: more frequent use of collaboration to deal with stressors is prospectively associated with greater individual well-being and higher levels of marital satisfaction.

Methodology A sample of 77 older couples wherein both spouses reported functional decline were recruited to participate in the survey from November 2020 to August 2021. Participants completed the questionnaire on mental well-being (PHQ-9), marital satisfaction, collaborative coping strategy (Dyadic Coping Inventory, DCI), and demographic information (e.g., age, education level, housing status, incomes, economic sources, etc.).

Result Dyadic Coping Inventory evaluates the methods of how spousal dyads cope with stressors, which includes nine domains (e.g., stress communicated by oneself, delegated dyadic coping by oneself, and common dyadic coping, etc.). It is found in this study that the most frequently used method is common dyadic coping, and the second commonly used method is delegated dyadic coping by oneself. The most common method used by both husband and wife is the same, which is the common dyadic coping. Analysis on the DCI total score reveals that there is a significantly negative relationship between collaborative coping strategy and depression symptoms ($r = -.184$, $p = .022$), while there is a significantly positive relationship between collaborative coping strategy and marital satisfaction ($r = .594$, $p = .000$). The more using the collaborative coping strategy, the higher the marital satisfaction, and the less potential depression symptoms.

Conclusion Collaborative coping strategy is closely associated with individual well-being. In the future study, a more acute perspective is needed to promote the collaborative coping strategy when both spouses have functional decline.

Acknowledge This study is based on the study "When Both Spouses Have Functional Decline: Spousal Collaboration Dynamics in Mastering Daily Stressors Using Ecological Momentary Assessment". Thanks for the support of the Research Grants Council of Hong Kong (Ref No. 17605119). Thanks for the contribution of all co-investigators including Prof Yu Doris Sau Fung, Dr Yu Nancy Xiaonan, Prof Chou Kee Lee, Dr Lau Gary Kui Kai, Dr Bai Xue, Dr Luo Hao

Free Paper Presentation I (Health and Mental Health) (6/6)

Smoking Duration is Not Associated with Quit Rate Amongst Elderly: Self-Confidence Level and Encouragement are the Key of Actions

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Introduction Aging trend is becoming a major concern in Hong Kong. While smoking is one of a remarkable health topic among community health including elderly, United Christian Nethersole Community Health Service have been providing smoking cessation service. Throughout the promotion, treatment and counselling on smoking cessation, it was observed elderlies were often reluctant for the service. Whereas many elderlies expressed that quitting after long duration of smoking with large number of cigarettes has no benefit, or furthermore a sudden cessation of smoking may cause death particularly when suffering from chronic diseases.

Thus, this study aim to

- To assess the quit rate among the elderlies
- To assess key factors that might increase the quit rate in elderlies
- To suggest strategies of quitting among aging population

Method The data collected from 1st April 2017 to 31st March 2021. A baseline structured questionnaire was used to assess smoking habits such as years of smoking, average cigarettes per day and overall health status including history of any chronic diseases. Apart the demographic profile, self-confidence level on quitting was assessed by a Matrix Scale from 1 to 10. Statistical analysis was performed by using SPSS with chi-square test and regression model

Result A total of 1,378 smokers enrolled in smoking cessation programme. Those aged 50 years or above were considered as the aging population which accounted for 392 smokers. Amongst those the quit rate was 46% (179/392). In addition, there was significant association between the numbers of cigarettes per day (cpd) and quit rate, those who smokes 20cpd above has a quit rate of 31%, 11-20cpd quite rate 44% and 10cpd or below quit rate 58% ($p<0.001$). Their self-confidence level (CL) was also found to have a significant association with quit rate ($p<0.001$), higher the self-confidence level scored, higher the quit rate upon 52-week evaluation (CL: Quit Rate, 0-2: 43%, 3-5: 30%, 6-8: 45%, 9-10: 62%).

Conclusion Though there are often myths amongst the elderly regarding any benefits of quitting after long history of smoking, with appropriate smoking cessation service including treatment and counselling, they do adhere then consequently quit smoking. As the quit rate of elderly population primarily depend on their self-confidence, more resources and multidisciplinary effort is needed in promoting smoking cessation amongst the elderly to increase their confidence in quitting. While a considerable positive correlation was also found on age groups in aging population and prevalence of chronic diseases among quit rate, elderlies who suffering from chronic diseases needs continuous encouragement and information to motive them to quit.

Free Paper Presentation II (Dementia) (1/6)

Promoting Cognitive & Psychosocial Well-being of Elders with mild-to-moderate Cognitive Impairment by CST groups led by non-professionals: Lessons learned

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Purpose CST is often led by health and social care professionals, although it has been designed to allow non-professionals to take up the facilitator role, allowing sustainable provision at scale. However, evidence on feasibility and efficacy of CST led by non-professionals is limited. This project investigated the efficacy of CST delivered by trained non-professionals on quality of life (QoL) and cognitive function (ADAS-Cog) among older people with mild-to-moderate cognitive impairment.

Methods From 2018 to 2020, 129 older people with mild-to-moderate cognitive impairment were recruited from community or residential care units to receive CST administered by 38 non-professionals trained through a 26-hour train-the-trainer program. A single blind randomized control trial was conducted to compare an experimental group (n=65), who received twice-weekly CST for seven weeks, with a wait-list control group (n = 64), who received usual care for seven weeks, followed by a 7-week CST program. Data on QoL rated by participants and cognition assessed by the researchers were collected for analysis at baseline (T0), seven weeks (T1, post-intervention for the experimental group), and fourteen weeks (T2, post-intervention for the wait-list control group).

Results Comparing post-CST data from the whole sample (n=129) with 7 weeks of usual care (n=64), improved or maintained cognition was more likely with CST (OR = 2.482, p = 0.025). Five factors were significantly correlated to the outcomes in regression analysis: (1) non-professionals having experience in CST implementation, (2) facilitating skills, (3) dementia caregiving experience, (4) group size, and (5) previous dementia-related training. **Conclusion** Together with high attendance and low attrition, CST delivered by non-professionals following a standardized 26-hour training provides a feasible and effective intervention with the increasing number of patients in an aging population. A model for wider involvement of non-professionals in facilitating CST is developed based on the lesson.

Free Paper Presentation II (Dementia) (2/6)

The Efficacy of a Tailor-made PingPong Programme in improving the cognitive and physical function in Dementia clients.

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Introduction Previous studies revealed that open skill sport could promote the cognitive and physical health of elderly in augmenting their task performance involving attention, executive function, memory and hand dexterity. This pilot study aimed to test the effectiveness of our tailor-made PingPong Program(Fig 1) with gerontechnology equipments in facilitating training of motor learning/motor imagery skill, dual motor-cognitive task and inhibition training for improving cognitive and physical function in elderly. The gerontechnology equipments include VR system, Smart-fit system, etc.

Methodology Fourteen participants with Mild Grade Dementia selected from C&A Homes in April 2021, randomized trial 7 in each of the experimental group (Mean age =89), and control group (Mean age = 90) engaged in 32 sessions Pingpong training program and conventional intervention respectively. The outcome measures were attention, executive function, memory and hand dexterity. Task-specific training effects were quantified by the accurate responses and improvement in pingpong performance.

Analysis Statistical analysis was conducted using SPSS. Demographic characteristics of both groups and differences in outcome measurements between both groups were compared using Paired T-Test.

Results Participants in experimental group showed improvement in Colored Trail Test 1 ($p=0.062$), Stroop test ($p < 0.01$) and Visuospatial memory test ($p=0.036$) across 32 training sessions. Compared with control group, significant Group X Time effect were revealed in score of Stroop test ($p=0.015$) as well as Colored Trail Test-1 ($p=0.05$). And there is marginal effect in Visuospatial memory test ($p=0.079$). However, there were no significant differences in the Rivermead memory test and 9-hole peg test. (Fig 2)

Conclusions The finding provided support that our 32 sessions of Pingpong programme would improve the client in attention and executive function which helps in organizing , planning and carry out daily tasks effectively, also ability of self monitoring/ self regulating the behaviour. Further directions: the original plan would increase the sample size, gradate the training difficulty by utilizing gerontology equipment like EEG and make use of intergenerational activities like co-training with their grandchild. However the Covid outbreak had stopped us in proceeding to other stages of programme since Feb 2022.

第六至九堂			
技巧學習	1. 執行力訓練 2. 感知空間技巧 3. 反應訓練		
時間	共 40 分鐘		
地點	活動室		
工具	1. VR 系統 2. 改裝感應球拍 3. 彈力軟軸乒乓球訓練器 4. SmartFit 系統		
活動	1. VR 乒乓球訓練 2. 軟軸模擬對打 3. SmartFit 對打		
活動一 – VR 乒乓球訓練			
活動三 –SmartFit 對打			
時間	訓練元素	方法	難度分級
5 分鐘	➤ 感知空間技巧	利用 VR 訓練，在較容易及無挫敗的環境中訓練乒乓球相關的感知空間技巧。	/
			

Fig 1: PingPong Programme Manual

Paired Samples Test									
		Paired Differences							
						95% Confidence Interval of the Difference			
		Mean	Std. Deviation	Std. Error Mean		Lower	Upper	t	Sig. (2-tailed)
Pair 1	CCT-A Pre - CCT-A Post	-1.714	24.703	9.337		-24.561	21.132	-0.184	0.860
Pair 2	CCT-A PreExp - CCT-A PostExp	147.000	150.629	61.494		-11.076	305.076	2.390	0.062
Pair 3	CCT1changeCon - CCT1changeExp	146.333	140.224	57.246		-0.822	293.489	2.556	0.051
Pair 4	CCT-B Pre - CCT-B Post	37.000	36.483	16.316		-8.299	82.299	2.268	0.086
Pair 5	CCT-B PreExp - CCT-B PostExp	17.250	65.992	32.996		-87.758	122.258	0.523	0.637
Pair 6	CCT2changeCon - CCT2changeExp	11.667	85.331	49.266		-200.307	223.640	0.237	0.835
Pair 7	Stroop Pre - Time - Stroop Post - Time	-4.571	20.024	7.568		-23.090	13.947	-0.604	0.568
Pair 8	Stroop Pre - TimeExp - Stroop Post - TimeExp	24.833	9.827	4.012		14.521	35.146	6.190	0.002

Fig2. Comparison of CCT, Stroop Test, Visual Spatial Memory Test, Rivermead Memory Test, Nine Hole Peg Test, task specific training effect.

Free Paper Presentation II (Dementia) (3/6)

Telephone-coached bibliotherapy for informal caregivers of people with dementia: Preliminary effects on psychological well-being and mechanism exploration

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Background Dementia informal caregiving is a global phenomenon. Though sometimes being rewarding, informal caregiving is generally documented to be detrimental to caregivers' psychological well-being. Telephone-coached bibliotherapy, a self-help intervention may be an effect strategy to improve caregivers' psychological well-being. However, the number of studies is still limited, and the influencing mechanism is under-explored. From Lawton's two-factor model, caregiving appraisal is a key driver to mediating caregiving outcomes, but the role of caregiving appraisal in mediating intervention effect has not been examined.

Purpose To examine the effects of telephone-coached bibliotherapy for improving dementia caregivers' psychological well-being, and examine the mediation effect of caregiving appraisal.

Methods A two-arm pilot randomized controlled trial was conducted among 60 informal caregivers of people with dementia. Caregivers in the intervention group received eight weekly telephone-coached bibliotherapy. Caregivers in the control group only received the usual care. Data were collected at baseline and immediately post-intervention. Generalized estimating equation and path analysis were used to analyze data.

Results Compared to the control group, caregivers in the bibliotherapy group showed greater change in caregiving appraisal ($p < .001$) and the personal growth subscale of psychological well-being ($p = .025$). Caregiving appraisal fully mediated the effect of bibliotherapy. The path from bibliotherapy to residualized change in caregiving appraisal ($\beta = 9.62$, $SE = 2.39$, $p < .001$) and from residualized change in caregiving appraisal to that of psychological well-being ($\beta = 0.43$, $SE = 0.14$, $p < .001$) are significant.

Discussion & Conclusion Bibliotherapy showed a significant effect on improving caregiving appraisal and the personal growth. The mediation analysis suggested that bibliotherapy influences psychological well-being by reshaping caregivers' appraisal.

Free Paper Presentation II (Dementia) (4/6)

Depression, Anxiety and Stress on Caregivers of Persons with Dementia (CGPWD) in Hong Kong amid COVID-19 Pandemic

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Background Coronavirus disease 2019 (COVID-19) contributed to increasing prevalence of depressive symptoms and other psychological repercussions, particularly in the disease population in Hong Kong. Nonetheless, the caregiver burden of caregivers of persons with dementia (CGPWD), has been under-investigated. Aims: This study examined the psychological impact and its correlates on the CGPWD in Hong Kong amid the COVID-19 outbreak.

Methods CGPWD referred from rehabilitation clinics and online seminar were used to recruit participants to complete an online questionnaire by the end of the second-wave of the COVID-19 outbreak (June, 2021). To be eligible, either full-time or part-time CGPWD, aged 18 or above, can understand Cantonese, currently reside in Hong Kong and offering care to PWD for at least one year, were recruited. Those CGPWD diagnosed with any type of psychiatric disorder were excluded from this study. The Chinese Center for Epidemiologic Studies Depression Scale (CES-D), Perceived Stress Scale (PSS-10), Generalized Anxiety Disorder (GAD-7), Zarit Burden Interview (ZBI-22), and Nonattachment Scale (NAS-7) were used to measure participants' depression, perceived stress, anxiety symptoms, caregiver burden and wisdom in subjective feelings of internal stress. The modified Medical Outcomes Study Social Support Survey (mMOS-SS) and the SARS Appraisal Inventory (SAI) were also administered to measure participants' perceived support and coping efficacy. Follow-up responses were gathered by the end of third-wave outbreak (October, 2021).

Results A total of 51 CGPWD participated, of which, 33 (64.7%) suffered from probable depression (CES-D score ≥ 16). Participants also showed a significant increase in depression symptom scores at the three-month follow-up period ($t = 2.25$, $p = 0.03$). CGPWD with probable depression had less non-attachment awareness and higher scores in anxiety, stress, caregiving burden, and coronavirus impact (all $p < 0.05$) than those without.

Conclusions High prevalence of depressive symptoms was noted among our CGPWD sample and these symptoms seemed to worsen substantially. Contingent online mental health support should be prioritized to those CGPWD to reduce psychiatric morbidity and the global disease burden.

Free Paper Presentation II (Dementia) (5/6)

Break the boundaries of social distancing measures amid the pandemic: delivery of the health promotion programme for the older adults and their carers through the online platform

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Purpose This study aims to examine the feasibility of delivering the health promotion programme for older adults and their carers through the online platform.

Method The Occupational Therapist (OT) of the carers resources center designed and delivered the health promotion programme on brain health and assistive devices twice per week through Zoom meetings from January to August 2022. In the sessions on brain health, OT introduced different brain gym exercises and online interactive cognitive games in which the participants could do the exercises and cognitive games together. In the sessions on assistive devices, OT showed various aids in caring for the daily living of older adults. Recorded videos of the brain gym exercises were uploaded to the center's YouTube channel for participants to review. The users' satisfaction was evaluated using the Telemedicine Satisfaction Questionnaire (14 items) and an additional questionnaire (9 items) on the satisfaction of participating in the online programme and the programme content. The questionnaires were sent to the registered participants' WhatsApp group in September 2022.

Results A total of 54 sessions of Zoom meetings were held with 2312 attendance. Among the 141 registered participants, around 80% of them were aged 60 or above, and 52.4% were carers of older adults. The response rate of the questionnaire was 56% (n=79), and 89.9 % of respondents reported no assistance was required in joining the online programme. 98.9 % of respondents agreed or strongly agreed with the item “it is convenient to join the programme through the online platform” and “online programme saves the traveling time”. An average of 94.7% of the respondents agreed or strongly agreed that the programme was useful and interesting. 90% of respondents reported that they had practiced the brain gym exercise taught outside the online sessions. Overall, a high level of satisfaction with the programme quality was reported (96.2%).

Conclusion The services for older adults have shifted abruptly to telehealth service delivery model during the COVID-19. This study supports the findings that telehealth programme can reach out to service users with fewer restrictions on distance and time. Telehealth programme could be a solution to the development of our future services in answering the immense services needs of the ageing population.

Free Paper Presentation II (Dementia) (6/6)

Empowering Optimized Health Trajectory for Discharged Middle-Aged and Older Patients with a Tech-inclusive Approach

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Background Empowerment-oriented Transitional Care (ETC) project (<https://jcetc.hk/>) aims to optimise the health trajectories among middle-aged and older adults discharged from hospitals. Firstly, needs assessments for both discharged patients and their caregivers were established to satisfy the family's needs. For discharged patients, a standardised care protocol was established based on interRAI Home Care; informal caregivers were assessed with multi-dimensional assessment. Moreover, a tech-inclusive one-stop online platform has been developed to enable real-time assessment results with the Clinical Assessment Protocol portfolio at both individual and group levels, which inform responsive care planning and service delivery.

Objectives This study aims to examine the health trajectory of discharged older patients after implementing the empowerment-oriented transitional care service model.

Methodology This is a one-group prospective intervention design. 233 discharged older patients and 143 family caregivers joined the study during a 12 months period. The inclusion criteria are: 1) aged 50 years or above; 2) recently discharged from the hospital; 3) being assessed as having rehabilitation potential; and 4) with at least one primary caregiver. The exclusion criteria are: 1) older adults and their caregivers are currently using other discharge support services; 2) being diagnosed with mental disorders or acute disabilities, or evidence of unstable medical status that would hinder active rehabilitation treatment. The discharged middle-aged and older adults and their caregivers received standardised assessments conducted by trained professionals. A tech-inclusive online system was co-created by three NGO partners and tendered for screening, assessing, and generating individualised care plans based on the assessment results. Intervention contains 'intensive care' and 'maintenance' care and support stages to maximise the efficacy of transitional care. A total of 114 middle-aged and older discharged patients received assessment immediately after joining the ETC project, and after implementing the first individual care plan with a three-month interval.

Findings With the assessment results generated immediately after joining the ETC project, patients significantly improved in functional performance, cognitive and mental health, social interaction, and clinical issues such as fall prevention and bladder continence after receiving responsive care guided by empowerment-oriented transitional care. Among the 69 patients who completed transitional care intervention, 46.4% successfully returned home and community, within which 18.8% were successfully bridged to community care services. Only 14 moved to long-term care facilities.

Implication The empowerment-oriented transitional care model, focusing on standardised assessments targeting both care recipients and caregivers, and a tech-enable platform, was found to be effective in achieving optimal health trajectory among discharged middle-aged and old discharged patients. It fills in the gap of establishing a tech-inclusive platform for enabling responsive service delivery of transitional care in Hong Kong. We aim to scale up beneficiaries in future and be the spring of hope for discharged patients and

their caregivers.

Acknowledgements This project is funded by The Hong Kong Jockey Club Charities Trust. We would like to thank our community partners, including Haven of Hope Christian Service (HOHCS), The Hong Kong Society for the Aged, and Hong Kong Sheng Kung Hui Lady MacLehose Centre for their dedicated contributions. We would also like to thank all the participants of the present study.

Free Paper Presentation III (Rehabilitation) (1/6)

A structural equation model of fatigue, depressive symptoms, self-efficacy, social support and community integration

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Background Community integration is important for the well-being of people with stroke. It can be negatively affected by physical impairment, fatigue and depressive symptoms. Increased self-confidence and support from family and close friends, on the other hand, can promote community integration and enhance the well-being of people with stroke.

Objectives This study aimed to examine the direct and indirect associations of physical impairment, fatigue and depressive symptoms with community integration, and the direct associations of self-efficacy and social support with community integration in people with stroke.

Methods Community-dwelling people with stroke (n=100) were recruited from self-help groups in 2021. They were assessed using the Fugl-Meyer Assessment, Fatigue Assessment Scale, Geriatric Depression Scale, New General Self-Efficacy Scale, Multidimensional Scale of Perceived Social Support, and Community Integration Measure. Partial correlation between community integration and other variables were first examined after controlling for age and gender. Significant correlates of community integration were entered into multiple linear regression using a stepwise approach. Self-efficacy and social support demonstrating significant partial correlations with physical impairment, fatigue or depressive symptoms were also entered into multiple linear regression, with self-efficacy and social support as dependent variables. Significant predictors in the regression analyses were used to construct a path diagram.

Results Fatigue had a direct association with self-efficacy ($\beta=-0.29$, $p=0.007$) and community integration ($\beta=-0.25$, $p=0.012$). Depressive symptoms had a direct association with self-efficacy ($\beta=-0.34$, $p=0.002$), social support ($\beta=-0.37$, $p<0.001$) and community integration ($\beta=-0.29$, $p=0.005$). Depressive symptoms also had an indirect association with community integration mediated by social support. The model demonstrated good fit.

Conclusions To promote community integration for people with stroke, other than alleviating their fatigue and depressive symptoms, it may be beneficial to adopt strategies to improve their social support.

Free Paper Presentation III (Rehabilitation) (2/6)

Lifestyle-integrated Functional Exercise (LiFE) Program for Community Living Older Adults After Stroke

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Introduction Senior post-stroke survivors have higher risk of fall, which may result in greater functional impairment and caring needs. A lifestyle-integrated functional exercise (LiFE) is found to be a generalizable and sustainable approach in increasing physical activity level and prevent fall in older adults. Since there are limited studies on the effect of LiFE program in community living senior stroke survivors, a pilot study was done to investigate the possibility of implementing LiFE program with appropriate adaptation for fall prevention among this group of patients.

Objective To investigate the effect of LiFE program on lower limb extremity functioning, fall efficacy and functional status among stroke survivors aged 65 years-old or above.

Method Stroke patients attending Tai Po Hospital Geriatric Day Hospital and Rehabilitation Center aged 65 and above were recruited in the LiFE program. Participants received a 30-minute face-to-face training session focusing on how to integrate balance and strength activities into daily routine in the first week, and received 5 days of tele-rehabilitation on LiFE activities at home with use of HA GO app per week for 8 weeks. Regular follow-up on the progress and compliance was done once a week. The outcome measures include Short Physical Performance Battery (SPPB), Fall Efficacy Scale (FES), Activities-specific Balance Confidence Scale (ABC Scale), Modified Barthel Index (MBI), and Lawton Instrumental Activities of Daily Living (IADL) Scale which examined the lower limb extremity functioning, fall efficacy, balance confidence in performing daily activities, ADL functioning and IADL functioning respectively.

Results 11 patients (mean \pm SD age= 70.27 \pm 6.87) were recruited. The mean compliance rate of tele-rehabilitation was 58.62 \pm 23.26 %. A Wilcoxon signed-rank test indicated there were significant improvement in all treatment outcomes ($p < 0.05$). Improvement in the lower limb extremity functioning was indicated by the significant increase in SPPB pre- and post-treatment ($Z = -2.77$) while a gain in fall efficacy was found by significant increase between pre-FES and post-FES ($Z = -2.85$). There was also enhancement in balance confidence as shown by significant increase in ABC-scale pre- and post-intervention ($Z = -2.67$). Improved functioning in ADL and IADL were indicated by the significant increase in MBI ($Z = -2.81$) and Lawton IADL scale ($Z = -2.82$).

Conclusion This study shows the potential benefits of LiFE program in terms of lower limb extremity function, balance, fall efficacy, ADL and IADL functioning. It is feasible to apply LiFE program to reduce fall risk factors, and thus promoting health among community living senior stroke survivors.

Free Paper Presentation III (Rehabilitation) (3/6)

The effectiveness of a Multicomponent Exercise on Cognition for the Elderly recovered from the COVID-19 in Residential Home in Hong Kong

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Objective This study investigated the effectiveness of a Multicomponent Exercise on cognition for the elderly recovered from the COVID-19 in the residential home in Hong Kong

Background COVID-19 infection may cause neurological symptoms, functional and structural changes in the brain. Cognitive impairment and fatigue are commonly reported symptoms. Persistent fatigue in COVID-19 patients was frequently accompanied by cognitive dysfunction. Due to a wide variety and severity of COVID-19 symptoms, multicomponent Interventions were suitable and growing evidences suggested that cognitive, physical training and Qigong would be beneficial for the cognitive function and mental health of COVID-19 survivors. A Multicomponent Exercise (ME) combining Baduanjin Qigong, cognitive and physical training was designed by Occupational Therapists for the older survivors of COVID-19.

Methods This study employed a single-armed pretest-posttest design. Twenty-five COVID-19 survivors with subjective complaints on fatigue and cognition indicated in cognitive evaluation simultaneously were recruited in a residential home in 2022. Participants were allocated to either 6-week ME group (n = 17) or educational group (n = 8, control group). ME Group was held 45 minutes each, twice a week. The cognitive function was measured by the Chinese Version of Montreal Cognitive Assessment 5-minute Hong Kong Version (HK-MoCA 5-Min) at baseline and after completion of groups.

Results All data were analyzed by Wilcoxon signed-rank tests. Both groups showed improvement in HK-MoCA 5-Min total scores, while improvement in ME group ($z=-2.879$, $p=0.004$) was greater than the educational group ($z=-2.023$, $p=0.043$). When further analyzing the domain of HK-MoCA 5-Min, only the memory domain of ME group ($z=-3.438$, $p=0.001$) and orientation domain of educational group ($z=-2.070$, $p=0.038$) showed significant improvement.

Conclusion The findings indicate that the Multicomponent Exercise may have positive effects on global cognitive function and memory for the older survivors of Covid-19 in the Residential Home.

Keywords

COVID-19, Cognition, Multicomponent Exercise

Free Paper Presentation III (Rehabilitation) (4/6)

A comparative study of arterial stiffness in people with and without stroke

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Background Arterial stiffening increases with ageing. Arterial stiffness is accelerated by smoking, diabetes, hyperlipidemia, and increased body mass index and it can be modified by lifestyle changes. Results of previous studies demonstrated that people with cardiac or renal diseases had stiffer arteries than those in control groups. Yet, few studies compared arterial stiffness between people with and without stroke. Understanding the difference in arterial stiffness between people with and without stroke can help healthcare professionals develop person-centered care to promote health of stroke populations. Based on the high association between arterial stiffness and risk of cardiovascular diseases, it was hypothesised that people with stroke have stiffer arteries than those without stroke.

Objectives This study aimed to compare arterial stiffness between people with and without stroke.

Methods Participants were recruited from self-help groups and non-governmental organisations in 2021. Arterial stiffness in term of cardio-ankle vascular index (CAVI) was measured using the VaSera device (Fukuda Denshi, Japan). This device has been reported as reliable in measuring arterial stiffness independent of blood pressure. Arterial stiffness between the two groups of participants was compared using independent T-test.

Results Sixty-seven people with stroke and 45 people without stroke were included in this analysis. CAVI values of people with stroke were insignificantly higher than those people without stroke (paretic side of people with stroke 8.34 ± 1.11 , non-dominant side of people without stroke 8.20 ± 1.02 , $p=0.628$; non-paretic side of people with stroke 8.20 ± 1.02 , dominant side of people without stroke 8.18 ± 1.11 , $p=0.948$).

Conclusions There is no significant difference in arterial stiffness between people with and without stroke. Further studies could explore the factors that help reduce arterial stiffness in people with stroke. Identifying severity of arterial stiffness and addressing factors that could reduce arterial stiffness may promote the health of stroke populations.

Free Paper Presentation III (Rehabilitation) (5/6)

The synergistic effect of a nurse proactive phone call with an mHealth application program on sustaining app usage

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Introduction Although mobile health application (mHealth app) programs have effectively promoted disease self-management behaviors in the last decade, many have failed to maintain usage rates over time.

Methods This was a three-arm randomized controlled trial. A total of 221 older adults with hypertension, diabetes, or chronic pain were randomized into three groups: mHealth (n=71), mHealth with interactivity (mHealth+I) (n=74), and the control (n=76). The mHealth application was given to the mHealth and mHealth+I groups. The mHealth+I group also received eight proactive calls in three months from a nurse to encourage use of the app. The control group received no interventions. Data were collected between year 2021 and year 2022 at pre-intervention (T1), post-intervention (T2), and at three months post-intervention (T3) to ascertain the sustained effect.

Results 37.8% mHealth+I and 18.3% mHealth group subjects continued using the mHealth app daily until the end of the sixth month respectively with a significant difference in app usage across the two groups between T2 and T3 ($\chi^2=6.81$, $p\text{-value}=.009$). Improvements were observed regarding self-efficacy and depression levels in the subjects continued using the app in mHealth group from T1 to T3. Although self-efficacy and depression scores improved from T1 to T2 in the mHealth+I group, the mean values decreased at T3. All groups experienced a decrease in health service utilization from T1 to T2, with a marginal increase at T3.

Discussion The relatively low rates of mHealth app usage at follow-up is comparable to those reported in literature. There is a need for more work to converge the technology-driven and in-person aspects of mHealth application.

Free Paper Presentation III (Rehabilitation) (6/6)

Computerized biofeedback game-base swallowing training (BGBST) for dysphagia after stroke in elderly residential home during COVID-19

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Introduction Dysphagia is a crucial problem in post-stroke care in an elderly residential home. The face-to-face training sessions for dysphagia were risky and were affected by the COVID-19 pandemic in HK. We proposed the computer BGBST training to reduce face-to-face training in elderly residential homes during this period.

Objective To investigate the effectiveness of the BGBST for elderly with dysphagia after stroke in elderly residential homes.

Method Twenty-seven elderlies with dysphagia who fulfilled the inclusion and exclusion criteria were recruited for the study. Their mean (standard deviation; S.D.) age was 83.25 (8.57). After baseline assessment, they were randomly allocated to receive nine sessions of the BGBST (training group) or training as usual (control group). The primary outcome was the sEMG of suprahyoid muscle while swallowing levels 0, 2 and 4 IDDSI food textures. Between groups at baseline and after training were compared by two-way ANOVA and post hoc tests.

Result There was a significant difference between the group effect ($p < 0.001$) but not a significant difference in the IDDSI levels effect ($p = 0.117$) and time effect (0.154). No interaction effects were shown among the group, IDDSI levels and time. Post hoc analysis showed a significant difference between the training and control groups at IDDSI levels 0 ($p = 0.047$) and 4 ($p = 0.049$) at post-training assessment.

Conclusion The study showed the effectiveness of the BGBST for elderly with dysphagia after stroke in residential homes. It was an alternative method of swallowing training when face-to-face training was not feasible during the COVID-19 pandemic.

Free Paper Presentation IV (Long Term Care) (1/6)

Modification Work of Nursing Care Home Bathing Facilities -Contemporary Design and Assistive Devices Prevention of Frailty Progression in Older visually impaired elderly -Prospective Cohort Study

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Documentary Video : https://youtu.be/TI_MfkiZ-l4

Objectives The aim of this study was to determine whether nursing home bathing facilities modification (areas 27.89 sq. meter) was associated with subsequent progression of frailty and quality of life in older adults.

Method We conducted a prospective cohort study in 48 females adults 65 and older who required a low to moderate level of assistance on the two residents' floors of aged blind nursing home.

Of these, nursing home modified the bathing facilities grooming, toileting and bathing areas with design (i.e. drainage system, wet dry zone, infection control, non-slip and wet floor etc.) and assistive devices (i.e. wheelchair accessible areas, height adjustable facilities, movable handrails, illumination). It created an accessible environment for all level of assistance to enjoy their self-care activities It clearly reflects that our goal is to create a daily life with self-esteem, quality, and the low fall risk bathing facilities environment freedom to safely look after themselves.

Result The quality of life (HKQoLVIES), elderlies mobility scale (EMS), modified Barthel index (MBI) and fall rate (bathroom) was significantly improved among older adults with nursing home bathing facilities modifications than in those without home modifications at 1 year. The results of the present study differed from those of previous studies. This could because the experts panel redesign and reconstructed the whole bathroom (areas 27.89 sq meter) and suggested better compartment, water drainages, illumination, installation of universal concept assistive devices), this significant changes to the bathing area that accounted for the improvement of elderlies physical abilities and quality of life.

Conclusion The results of the present study revealed that the appropriate application of design and assistive Devices based on these initiatives, which were well-suited to the visual impaired elderly 'physical abilities resulted in the prevention of falls.

Acknowledgement We would like to acknowledge Mr. Jeffrey Tai, Mr. Nils Bundgaard, Mr. Jens Winter, and Mr. Ming Tai for their wonderful collaboration. We want to thank you for your support on the environment modification work in the past decade.

Free Paper Presentation IV (Long Term Care) (2/6)

The Predictive Value of Tongue Thickness and Sarcopenia for Residential Older Adults With Sight Loss

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Sarcopenia is a progressive muscle disorder characterized by progressive and generalized loss of skeletal muscle mass and functions and it is strictly correlated with physical disability and functional decline. When sarcopenia presents itself as the atrophy of tongue muscles which is further manifested by a reduction of tongue thickness, the reduction of suprahyoid muscle strength may result in difficulties in swallowing and increased risks of aspiration, which can be fatal. Common screening approaches at sarcopenia include questionnaires, diagnostic grids, or prediction equations which comprise of “rule-out” tests that identify those who are not at risk of sarcopenia by comparing different parameters. SMM and bodyweight are regarded as the most reliable and common parameters and could be obtained by a bioelectrical impedance analysis (BIA) machine. The Iowa Oral Performance Instrument (IOPI) used as an intervention tool in measuring strength and endurance of tongue in healthy populations or disordered populations. Owing to the adverse impacts of sarcopenia on swallowing, there is a need for using a more cost-effective and universal method to measure tongue thickness for the screening of sarcopenia. This study aimed at measuring the tongue thickness using ultrasound, examining the correlation between sarcopenia and tongue thickness and generalizing the use of ultrasound in the screening of sarcopenia.

Objectives The study aimed at comparing the tongue thickness between healthy subjects and older individuals with sarcopenia.

Methods A population-based sample of 35 male and female were recruited by convenience sampling. The sample met the selection criteria and was comprised of the sarcopenia group (n=15) who were recruited from the Kowloon Home for the Aged Blind and the healthy subject group (n=25) who were recruited in the community. The tongue thickness of the subjects was examined by the MIRUKO® Portable Ultrasound (Nippon Sigmax Co. Ltd, Tokyo, Japan). The mean value of the distance between the midpoint of the lower end of the geniohyoid muscle to the tongue dorsum obtained from the three trials was considered to be the tongue thickness. Muscle mass, Skeletal Muscle Mass (SMM) and skeletal muscle index (SMI) were measured by bioelectrical impedance analysis (BIA) using InBody S10 (InBody Co. Ltd, Seoul, Korea). This study adopted the EWGS cut-off thresholds for skeletal muscle index (SMI) hand grip strength was 7.4 kg/m² and 22 kg for females with sarcopenia. (Bahat G et al., 2016)

Results Receiver operating characteristic curve on the tongue thickness revealed that the tongue thickness at 4.145cm displayed the sensitivity and specificity to classify the sarcopenia at 80% and 70% respectively. The area under the curve at 0.737 with $p = 0.018$. In people with sarcopenia (N= 15), there were significant correlation between tongue thickness, the skeletal muscle mass ($r = 0.643$, $p = 0.01$) and skeletal muscle index ($r = 0.564$, $p = 0.028$). Regression model on the prediction of the SMM by the tongue thickness showed that the tongue thickness explained 35.7% of the SMM ($F = 7.223$, $df = 1$, $p = 0.019$). We incorporated Height, Weight, Tongue thickness, Tongue strength and Lip strength into the regression model, which explained 95.1% of the SMM ($F = 19.367$, $df = 7$, $p < 0.001$). However, only the coefficient of height and weight were significant in the model.

Conclusion and Future Implications Our findings suggested that tongue thickness had a positive and significant correlation with skeletal muscle mass and body weight. The results revealed that tongue thickness might be an indicator

of sarcopenia, and hence ultrasound could be used in the screening of sarcopenia. Early screening may help to minimize the health consequences of dysphagia and aspiration that could otherwise be avoided and the economic burden sarcopenia has exerted on the healthcare system. In addition, the use of ultrasound in measuring tongue thickness has the potential to monitor the progress of oral-motor training and rehabilitation process of older individuals with sarcopenia.

Free Paper Presentation IV (Long Term Care) (3/6)

The effects of Sitting Tai Chi on balance control and mental wellbeing among older adults living in residential care home for elderly in Hong Kong

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Year of Study: 2022

Objectives To investigate the effect of sitting Tai Chi on balance control and mental wellbeing among older adults living in residential care home of elderly (RCHE) in Hong Kong.

Background Older adults among residential care home are usually suffered from multi-morbidity and impaired physical mobility. Both of their physical mobility and mental wellbeing are greatly affected during the COVID-19 pandemic. Unfortunately, the poor mood and restricted mobility will form a vicious cycle of immobility, which in turn further deteriorates their health. Sitting Tai Chi is a safe and gentle exercise which may be beneficial to these older adults in terms of balance and mental wellbeing.

Methodology Thirty-one participants were recruited from various RCHEs in Hong Kong. There was no limitation to specific disease group and age of participants. Participants were allocated either to intervention group or to control group according to their preference. In the intervention group, 19 participants received 10 sessions of sitting Tai Chi training. The duration of each session was at least 30 minutes with the teaching video demonstration and coaching by a physiotherapist. In the control group, 12 participants received equivalent training duration with the traditional physical training instead of sitting Tai Chi.

Sitting forward reaching test was chosen as the outcome measure of sitting balance while the WHO-5 questionnaire was used to measure the psychological wellbeing over the preceding 2 weeks.

Result Sitting Tai Chi group has shown a significant improvement in sitting forward reaching test ($p < 0.001$) and in WHO-5 questionnaire ($p < 0.001$) but not in the control group. There is also a significant time by group interaction found in sitting forward reaching test ($p = 0.016$) using the two-way repeated measures analysis of covariance in SPSS.

Conclusion The results demonstrated that Sitting Tai Chi training could improve sitting balance and mental wellbeing of older adults living in RCHE. It is worth to promote Sitting Tai Chi to more RCHEs as a routine exercise program.

Free Paper Presentation IV (Long Term Care) (4/6)

Promoting Quality of Life (QoL) & Mood for long stay residents - “Coloring our life by Comforting Pastel Art Program 療癒粉彩畫”

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Purpose Quality of Life (QoL) in infirmary setting is one of the utmost important concern. Evidences showed that art-activity can promote well-being, offer positive impact with regards to health, cognition, social interaction, confidence and renew sense of life satisfaction. Pastel Art is a kind of creative and healing process to foster psychological well-being, promote of life and increase self-awareness for the long stay patients.

Method, Sample size, Year of study This study aimed to assess the effectiveness of using pastel art program to promote Quality of Life (QoL) and Mood for the long stay patients with diverse physical disabilities in infirmary setting. This was a pre and post intervention study. The study was piloted for long stay patients from April to May, 2021. Subject's mean age was 60, the mean of Modified Barthel Index was 50/100 and HK-Moca was 19/30. Total of 10 long-stay patients were recruited for completing 3 sessions of art program that led by Occupational Therapists (OT). OT instructs patients to use their fingers and modified tools to “create” their artworks with 3 themes: 棉花糖櫻花樹,夕陽醉了,花之蜜語. Primary outcome measure used were Chinese WHO-5 to see the impact on patient's quality of life after intervention. Also, subjective Mood Score was used. Secondary outcome measure used was patient's self-report questionnaire.

Result Data from mood score and WHO-5 were analyzed with SPSS. In Mood Score, pre-program mean was 5.4 ± 1.7 and post program mean was 8.7 ± 2.1 . Significant increase was identified ($p = 0.005$, $p < 0.05$). 9 sets of WHO-5 data out of 10 patients were analyzed as 1 patient has expressive aphasia and unable to complete WHO-5. There was a significant increase of WHO-5 ($p = 0.011$, < 0.05) with pre-program mean of 53.3 ± 21.3 and post program mean of 82.2 ± 14.0 .

A self-reported questionnaire was conducted to collect patient's feedback. A 6-point Likert scale was analyzed. All patients' agreed that the art program provided them happiness (5.4) and relaxation (5.6). Patients also expressed satisfaction on the program (5.7). The significant increase of mood score and WHO-5 suggested that 療癒粉彩畫 has positive effects to enhance Mood and Quality of Life for the long stay patients.

Free Paper Presentation IV (Long Term Care) (5/6)

Deployment of Technology-assisted Interventions in Elderly Care Home for Residents with Cognitive Impairment

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Hong Kong Sheng Kung Hui Welfare Council Limited

Purpose The overall objectives of the study are: (1) to examine the utilization feasibility of technology-assisted related devices in residential care homes; (2) to evaluate the impact of companion robot intervention on the quality of life of residents suffering from cognitive impairment and its impact on person-centered care practices in residential care homes; (3) to explore and consolidate the good practices of adopting technology-assisted interventions. Ultimately, building a pool of knowledge and competencies in using companion robots and enhancement in the overall well-being of senior residents living with cognitive impairments can be achieved.

Methods The research team adopted a mixed methodology, including literature review, questionnaire survey, experiment with a longitudinal design, focus group discussion and in-depth interview. An ABAB experimental research design was used to examine outcomes of applying Kabo-Chan (a human-like companion robot) in residential care home facilities. In order to improve the validity of this study, a Randomised Controlled Trial (RCT) has been adopted, with participants randomly assigned to either intervention or control group.

Sample Size Elderly residents: 103 subjects

Year Research was completed in 2019

Results Results from both quantitative and qualitative analysis have shown that there is feasibility in utilization of companion robot Kabo-Chan at residential care homes. Good practices on the deployment of technology-assisted devices have been established. The study result revealed that there was a reduction in problematic behaviors, decrease in depressive symptoms, and sustenance in the quality of life among intervention groups, which resulted in mitigation of caregiving distress. This study served as a reference for service development and planning at residential care settings when introducing technology-assisted intervention. Innovative solutions can be an opportunity to enhance the quality of life of residents and to reduce caregiving distress simultaneously.

Free Paper Presentation IV (Long Term Care) (6/6)

An exploratory study on the institutionalization of a case management model for community care services in Hong Kong

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One of Hong Kong's foremost challenges is that of services for an ageing population. Studies suggest an increasing gap between the supply of long-term care services and their demand. The case management approach has been recommended as a new service delivery mode for community care services to promote well-being in older people and achieve ageing in place. However, there is little study of case management in social welfare settings in Hong Kong. To fill this knowledge gap, we conducted exploratory qualitative research on case management in Hong Kong, with the primary research question of how an individual case management model can be implemented successfully for community care services for older people. What are the resources, organizational strategies, and professional capacities needed to institutionalize case management? What are its barriers? The purpose of this study is to examine the lived experiences of service users, family caregivers and professional workers surrounding the process of case management in Enhanced Home and Community Care Services (EHCCS) and Integrated Home Care Service (Frail Cases) (IHCS)(FC). In-depth individual face-to-face interviews were conducted with 26 service users and 26 family caregivers, while two focus group interviews were conducted with 10 social workers and 10 health care professionals, respectively, from July to December 2021. Findings indicate a number of barriers to effective implementation of case management, such as insufficient professional training, high turnover rate of the service teams, heavy workloads on staff, resource constraints, lack of institutional support, and others. This study provides new insights on the potential roles, functions and work practices of an individualized case management approach for community care services in Hong Kong. The study points to a number of needed policy changes.

Poster Presentation

Effectiveness of the LiFE fall prevention program for patients with stroke

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Background In Hong Kong, stroke is a major cause of morbidity and mortality with increasing number by 52% from 37 800 in 2009/10 to 57 500 in 2018/19. Local studies state that there is an increasing rate of fall prevalence after stroke from 7% (first week post stroke) to 73% (one year post stroke). Moreover, stroke is also one of the significant factors of fall that leads to hip or pelvic fracture because of impairment in balance, gait, visuospatial/hemineglect, cognitive function and functional performance. Lifestyle-integrated functional exercise (LiFE) (2010) is widely adopted to reduce falls and improve functioning by embedding activities that improve their balance and strength into participants' daily tasks and routines for community dwelling elderly. Therefore, a pilot study on LiFE program has implemented for stroke patients during their in-patient rehabilitation phase.

Objective To evaluate the effectiveness of LiFE program to patients with stroke by exploring functional ADLs, fall efficacy and their satisfaction to the program.

Methodology Participants were recruited from Medical and Geriatric ward in Tai Po Hospital from July 2022 to Sep 2022. The inclusion criteria were: 1) diagnosed with stroke, 2) cut-off scored above 7th percentile in Montreal of Cognitive Assessment (MoCA), 3) MBI>60 with at least minimal assistance in ADL and 4) potential discharge home. A pilot study of 9 cases with stroke were recruited to attend daily sessions for 20 minutes of 2 weeks LiFE program for practicing balance and strength activities. Outcome measures were: 1) Modified Barthel Index (MBI), 2) Fall Efficacy Scale (FES), 3) Short Physical Performance Battery (SPPB), and 4) Participant feedback survey on LiFE program.

Results & Conclusion Eight man and one woman were recruited. The mean age of the participants was 63.5. Wilcoxon Signed Ranks Test was conducted to compare means of the outcome measures pre- and post-treatment. The results showed that there was a statistically significant change in MBI ($p<0.05$), SPPB ($p<0.05$) and FES ($p<0.05$). In participant feedback survey, all participants agreed that LiFE program could enhance the awareness of home safety, confidence of performing Activities of Daily Living (ADL) and also easy to follow to incorporate in daily life. The LiFE program has showed to be effective in improving patient's ADL performance. Further study with larger sample to improve generalization of results is recommended.

Poster Presentation

Hemiplegic upper extremity management program for patients with stroke in a local hospital setting

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Purposes Protective measures including proper positioning of hemiplegic upper extremity and use of shoulder sling can reduce shoulder subluxation of flaccid upper extremity in stroke patients. However, the compliance rate on these protective measures were not satisfactory on wards or in Occupational Therapy (OT) Department as staff showed inadequate knowledge and fair competence level in application of these protective measures. The purpose of this program is to facilitate proper management of hemiplegic upper extremities of patients with stroke.

Methods The program consisted of 3 phases. Phase 1 – review on the compliance of protective measures for stroke patients and evaluation on the knowledge and competence level of ward staff and OT staff; Phase 2 – provision of educational talks and hands-on practice for staff and introduction of signage cards with related information to be used on wards for hemiplegic upper extremity protection; Phase 3 – re-evaluation on staff knowledge and competence level and compliance of hemiplegic upper extremity protective measures. A 5-questions knowledge test with evaluation on the competence and confidence level in protective measures was conducted to OT staff before and after training. Pre- and Post-training test scores were reviewed and compared.

Results 44 OT staff (52.3% supporting staff, 47.7% occupational therapist) with mean medical field working experience 2.25 +2.79 years (range :0-10 years) were recruited. OT staff and ward staff who received training showed significant improvement in knowledge ($p<0.05$) and competence level ($p<0.00$) on hemiplegic upper extremities protective measures. The signage cards also served as reminders for ward staff on flaccid upper extremity positioning and proper use of shoulder sling on wards. The compliance of the protective measures for hemiplegic patients was enhanced.

Conclusion The hemiplegic upper extremity management program was effective in improving the compliance of hemiplegic upper extremity protective measures by OT and ward staff. Staff training on a regular basis is encouraged to ensure quality of rehabilitation services for stroke patients.

Poster Presentation

Effects of Exergaming on Depressive Symptoms of People with Dementia (PwD): A Systematic Review

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Introduction Depressive symptoms in dementia is one of the concerns in current society. Exergaming, consisting of both physical activity and gaming, has been increasingly being used to alleviate depressive symptoms in dementia.

Objective This systematic review aimed to review the available evidence investigating the effectiveness of exergames on depressive symptoms of people with dementia.

Methods Data sources were identified by searching CINAHL, CNKI, Embase, PsycINFO and Pubmed for experimental studies published from database inception to 30 August 2022. Meanwhile, the reference list of included studies or relevant reviews were searched. Only articles published in Chinese and English reporting the effects of exergames on depressive symptoms of people with dementia were included. A narrative synthesis of findings was conducted. Methodological quality of the trials was assessed with the Revised Cochrane risk-of-bias tool (RoB2) and Risk of Bias in Non-randomised Studies (ROBINS-I) for randomized controlled trials and non-randomized studies respectively.

Results Six studies published from 2011 to 2021 with 255 participants were included in this review, consisting of four RCTs and two single-group pretest-posttest designs. Improvement in depressive symptoms were reported with significant results in 4 studies. Heterogeneity in outcome measures, intervention characteristics and included participants was found. However, in general, the exergames adopted in the included trials consisted of the following elements: (1) skill-related exercise (especially training coordination), (2) challenge, (3) scoring mechanism and (4) social play. Interventions with at least 15 minutes per session and no less than 8 weeks with minimal/minimum 2 sessions weekly are suggested to yield significant results.

Conclusion There is preliminary evidence showing that exergames have a potential to alleviate depressive symptoms of people with dementia. However the studies included have moderate to serious risks of bias. Therefore, more rigorous research is needed before a definitive conclusion can be made.

Poster Presentation

To examine habits and preferences of smartphone use among community-dwelling older adults: questionnaire development

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Purpose Given the influence of the COVID-19 pandemic, the accessibility to health service and health-related information is limited. Meanwhile, the increase of using smartphone technology on older adults provide a chance to enhance health promotion via mobile health (mHealth). A self-developed questionnaire is designed to examine the habits and preferences of smartphone use in obtaining health-related information among community-dwelling older adults.

Method The questionnaire is designed based on the validated theories and previous literature, examining the habits of using a smartphone and the preference in obtaining health-related information. It contains 33 items in 5-point Likert scale, higher marks indicate more preferences for using smartphone technology in obtaining health-related information. The validity of the questionnaire was assessed by Content Validity index (CVI). A panel of five experts was invited to validate the study questionnaire. The panel consisted of experts in the area of gerontology, which included one medical officer and two registered nurses who had working experience in geriatrics department in Hospital Authority hospitals; one academic staff expert in research; and one registered nurse-in-charge currently practicing in elderly centre. They were invited to rate the degree of representation of each question by using four-point Likert scale to determine the relevancy and to give comments on the appropriateness and clarity.

The stability of the questionnaire was assessed by test-retest method. Same group of respondents were recruited to fill in the questionnaires twice with a two-week interval. Cover letter for test-retest reliability and the questionnaires were distributed to 15 respondents with explanation on how to fill in the questionnaire for two times with time interval of two weeks. Pearson correlation was performed on the data collected for the reliability coefficient.

Results The final CVI was 0.89 which is more than 0.8. Hence, the study questionnaire was considered valid. Based on the comments from the five experts, some minor changes were made. The average coefficient resulted from test-retest method ranged was calculated as 0.986 which near 1.00 indicated the observed score is representative of the true score. We are starting data collection from across 18 council districts in Hong Kong to examine the habits and preferences of smartphone use in obtaining health-related information among community-dwelling older adults.

Poster Presentation

Management of Orthostatic Hypotension in Occupational Therapy to facilitate Activities of Daily living (ADL) performance

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Background Orthostatic hypotension (OH), which is commonly seen in elderly patients, greatly impairs elderlies' independence and safety in Activity of Daily Living (ADL). An undetected OH may lead to fall injuries and unplanned admissions. Occupational therapists (OccT) aim to improve patients' ADL performance through symptom management and training.

Purpose(s) To evaluate the effectiveness of OccT intervention on patients with OH in symptoms management and ADL performance.

Method Patients with OH referred OccT in Caritas Medical Centre M&G rehabilitation ward between April 2020 and August 2022 were recruited. After medical and pharmacological management were optimized, OccT offered comprehensive assessment, and prescribed interventions including tailor-made abdominal binders with education of the application in daily living, lower limbs counter pressure maneuvers education, and adaptation of lifestyle in ADL and/or IADL.

Blood pressure (BP) was measured in each postural change. Patients' functional performance in ADLs was assessed with Modified Barthel Index (MBI). Identifying the severity of symptoms through clinical observation and questionnaire were conducted.

Results Seven patients were enrolled. Abdominal binder reduced OH in systolic BP (SBP) and diastolic BP (DBP), the median change of BP was obtained for pre-post comparison. In sitting, BP increased from 99/54mmHg to 117/65mm, SBP was increased by 18mmHg, while DBP was increased by 11mmHg. In standing, BP raised from 71/38mmHg to 88/55mmHg, elevation of both SBP and DBP with 17mmHg were obtained.

Approximately 75% of patients reported symptoms relieved with abdominal binder. There is a difference in the median of MBI scores with an increase of 24. Indeed, it optimized patients' ADL engagement with better OH symptoms management.

Conclusions OccT non-pharmacological intervention improves patients with OH in symptom management and ADL performance. For future development, more cases need to be recruited; patients' quality of life in physical, psychological and social well-being, and sense of confidence in managing OH symptoms should be explored.

Poster Presentation

Chinese Calligraphy Handwriting to enhance cognitive performance and well-being for the older adults with mild cognitive impairment in infirmary setting

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Purpose This pilot study investigates the effects of Chinese Calligraphy Handwriting (CCH) on cognitive performance and well-being for the older adults with mild cognitive impairment (MCI). Calligraphy activity is a mind-and-body activity culturally relevant to older adults. It involves perception and spatial structuring of the Chinese characters, cognitive planning and maneuver of the brush to follow specific character configurations. Recent evidences showed the positive effects on promoting cognitive performance including attention control, visual scan, processing speed function and well-being for MCI clients.

Methods, Sample size This was a pre and post intervention study conducted from June to July, 2022. 6 long stay patients with MCI were recruited for completing 4 sessions of calligraphy class that led by Occupational Therapists. Inclusion criteria were age ≥ 60 , HKMoCa-5 score < 20 , absence of blindness and willing to join. Patients was being instructed basic calligraphy knowledge, tools, strokes of Chinese characters and different styles. Then they tried to writing Chinese characters in different styles (Ka-style 楷書 and Clerical Scri 隸書).

Primary outcomes measures used were “HKMoca-5, Digit Span Test and Clock-drawing Test. Secondary measure used was the patient’s self-report questionnaire.

Result of the study Data collected was analyzed by SPSS. The findings were positive in terms of attention, working memory and visual-spatial performance. The mean score of Digit-span Test significantly increased of 44% from 9 ± 3.6 to 13 ± 3.6 ($p < 0.027$) while the mean score of Clock-drawing Test showed a surge of 133% from 1 ± 0.6 to 2.33 ± 1.2 ($p < 0.066$) after intervention. In HK-Moca-5, mean score remained static after intervention.

As for the well-being of the long-stay patients, patients generally showed satisfaction towards the activity. Participant’s self-report questionnaire in 6-point likert scale shown patients felt relax (mean score 5, 83.3%) and satisfied (mean score 4.7, 78.3%) towards the Chinese Calligraphy Handwriting group.

As such, Chinese calligraphy class improved working memory, visual-spatial performance and well-being of the elderly with MCI.

Poster Presentation

Oldest-old lived online exercise participation experience at home: an interpretative phenomenological analysis of three cases in Hong Kong

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Purposes We aimed to explore the lived experiences of Hong Kong Oldest-old recreational online exercise experience at home since the COVID-19 pandemic.

Methods Using an interpretative phenomenological analysis (IPA), this pilot study examined the lived online exercise experience among three community-dwelling oldest-old women in the Hong Kong through repeated semi-structured interviews, and home visits which participants “show and tell” their online exercise experiences. Participants’ online exercise experience was video-taped by researcher or provided by caregiver to complement researchers’ understanding of their lived experiences.

Sample size Three women aged 87 to 94 years old participated in the study. One of the interviews was jointly participated by the participants’ daughter, as the participant cannot express herself well.

Year 2022

Result Interpretative phenomenological analysis revealed three superordinate themes. The first theme, entitled: “Vitality”, highlighted that participation of online exercise brings vitality to their physical bodies and mental spirit. The second theme, entitled: “Vibrant”, highlighted the moment that they participated in the online class, the sound from the class, greetings from peers and instructions from the instructor bring a vibrant atmosphere to their quiet home. The third theme, “Rhythm”, highlighted that regular exercise participation brings rhythm to their aimless daily life. Our findings reveal the benefits of online exercise class participation among oldest-old are beyond physical bodily health. Participation also brings mental health benefits by uplifting their mood, engaging with community members and helping them to connect to the outside world regularly.

Poster Presentation

Effect of Virtual Reality IADL Training on Geriatric Patients with Impaired Balance Function

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Background Impaired balance function is one of the major factors leading to impaired mobility, decreased ADL performance and reduced social participation. Occupational therapists incorporate daily functional activities and interactive computerized training to improve the balance function of the elderly. With the rapid development of virtual reality (VR) technology, customization and delivery of interactive computerized training in VR has become more convenient.

In this article, the treatment effect of task-oriented VR training is illustrated through a short case report.

Methodology Mr. S was a 67-year-old man who suffered from an ischemic stroke. He was independent in instrumental activities of daily living (IADL) before admission. However, due to right hemiparesis and impaired standing balance, as a result of the stroke, he could only manage the simulated IADL tasks with mild assistance. He also expressed a lack of confidence to be daytime alone at home. He was prescribed a week of task-oriented VR training program consisting of three 30-minute-VR training sessions between two assessment sessions, in addition to conventional rehabilitation.

The task-oriented VR training system consists of an Oculus VR headset, a series of VR IADL training programs installed on a computer, and a ceiling-mounted hoist. There are four IADL tasks in the VR IADL training program, including laundry, cooking, shopping, and metro navigating. The IADL tasks were selected according to the need of Mr. S. He has to manipulate two joysticks and perform reaching, stepping, bending, and squatting, in order to complete virtual laundry, cooking and shopping.

Mr. S was assessed with Short Physical Performance Battery (SPPB) and Fall Efficacy Scale (FES) during the assessment sessions.

Results & Conclusion After a week of task-oriented VR training, Mr. S showed improvement in both static and dynamic standing balance, with his SPPB score increased from 4 to 8 out of 12. He could manage the IADL tasks under supervision with a reduction in fear of falls, with FES increased from 83 to 98 out of 100. Mr. S expressed satisfaction and interest in the task-oriented VR training program and asked for further VR training. He was also more confident to take steps and reach during VR training. To conclude, task-oriented VR training may be an effective and engaging training modality to improve the elderly's balance function and efficacy.

Poster Presentation

Enhancing intergenerational relationship: walking with technology

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Purpose The life expectancy of Hong Kong people has increased significantly and even taken over the lead position of life expectancy from Japan since 2010. With the longer life expectancy, the shared lifetimes between parents and their children have also increased, therefore the relationship between generations has a much bigger impact on both the elderly and the young adults than ever. Fitness apps are becoming more and more popular in the fitness circle. It not only helps to keep track of the exercise performed, the distance, and the calories used, but it also helps in setting personalized goals and helps the person stay motivated. The apps could remind the person to do the exercise and show the results and improvement of the individual. Exercise and enhancing intergenerational relationships is one of the ways to maintain better physical and mental health. Our purpose is to improve intergenerational relationships by walking exercises with the support of technology (fitness and other apps).

Method We designed a 6-week walking program. The younger generations (university students) will invite their family members (older generations) to have a regular walking exercise and using a variety of mobile apps to enhance their enjoyment.

A variety of mobile apps will be used to increase pleasure and advance intergenerational relationships such as Google Maps, MTR app, Trailwatch, etc. The first and last week will be the pre-assessment and re-assessment where participants will go to the sports ground nearby and practice walking and sport activities. The second week is the waterfront park walk where participants could have a 'chill walk' with their families for ice-breaking. The third week is to go around art topics and participants will have a walk with their relatives at an art-related location to explore the next generation's ideas. The fourth week will be walking in the old town of Hong Kong for the participant to share their story with the next generation. The week before the last will be hiking to let participants be closer to nature with their families and enhance their relationships.

Result We are in the process of carrying out the program, and, 4 younger generations taken their senior family members to join the program. They were in the week 4 of the program and gave very positive comments. Their senior family members expressed the happiness of being able to spend more time with their younger generations and they shared more about their lives, their studies than before. The senior family members become more skillful in using various phone applications to perform daily tasks, which are consistent with our aim.

Poster Presentation

Literature Review: Multimodal Lifestyle Interventions to Promote Brain Health for People with Cognitive Decline

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Background Dementia is a major challenge worldwide with population ageing. It is of vital importance to promote brain health in order to preserve people's brain functions, thus decreasing the risk of developing dementia. Multimodal lifestyle interventions are strategies that can promote brain health. Studies had been conducted on people with cognitive decline including individuals experiencing subjective memory complaints (SMC) and mild cognitive impairment (MCI).

Objectives This paper aims to review existing literatures on the effectiveness of multimodal lifestyle interventions on brain health promotion for people with cognitive decline.

Methods Literatures were searched through electronic databases including MEDLINE, EMBASE, PubMed and CINAHL with keywords of 'multimodal intervention', 'brain health' and 'cognitive decline'. Hand-searching was also performed through the reference lists of articles. Articles published between January 2012 and December 2021 written in English were included.

Results Nine studies were included in this literature review. The studies supported multimodal lifestyle interventions on brain health promotion and people with cognitive decline. Positive effects were shown with areas of improvements mainly on cognitive performance, lifestyle changes and activities engagement.

Conclusion Review of the nine studies demonstrated evidence on the effectiveness of multimodal lifestyle interventions on brain health promotion. The interventions were feasible and suitable for individuals with SMC and MCI. Brain health promotion is recommended in primary care settings. However, the evidence was inconclusive and future researches with better methodological quality and longitudinal studies are recommended to investigate the evidence in this area.

Poster Presentation

Modified Lifestyle-integrated Functional Exercise (LiFE) Program for Patients with Probable Sarcopenia in Geriatric Day Hospital

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Introduction Sarcopenia is an age-related condition characterized by the loss in muscle mass, strength and physical performance. It is positively associated with falls and fractures in elderlies (Yeung et al., 2019). Sedentary lifestyle resulting from sarcopenia creates a vicious cycle and will further increase the fall risks. The causes of fall are multifactorial and should be managed with the involvement of the person, activities and the environment. Lifestyle-integrated Functional Exercise (LiFE) is an evidence-based fall prevention program. The balance and strength activities are incorporated into the daily tasks and routine through specific instructions on the assigned daily functioning activities. For example, performing tandem stand while brushing teeth. The specific LiFE activities are embedded within their home environment and carried on as a home program, and thus change their habits and increase their activity participation. A modified LiFE program with four training sessions has been piloted in Geriatric Day Hospital (GDH) in FYKH as a fall prevention program for patients with probable sarcopenia since September 2021.

Objectives A pilot study to examine the applicability and effectiveness of LiFE program in GDH

Methodology A within-group pretest-posttest design was employed in this pilot study. Subjects were GDH patients (1) identified with probable sarcopenia; (2) with Modified Barthel Index (MBI) scored 90 or above; (3) with Montreal Cognitive Assessment 5-minute protocol scored above the 16th percentile cutoff; (4) with no acute medical problems; and (5) with stable mood. Outcome measures were MBI, Lawton IADL-Chinese Version Scale (Lawton IADL-CV), Short Physical Performance Battery (SPPB) and Activities-specific Balance Confidence Scale (ABC-C Scale).

Result & Outcome From September to December 2021, ten subjects aged between 67 and 90 completed the training, and two other subjects withdrew from the program. There were significant improvements in MBI ($t=2.667$, $p=0.026$), Lawton IADL-CV ($t=2.862$, $p=0.019$) and SPPB ($t=4.045$, $p<0.01$), but no significant difference in ABC-C Scale ($t=-0.867$, $p=0.409$). There were improvements shown in the lower extremity functioning and overall functional performance of the patients. The modified program is applicable in GDH setting. Further studies with larger sample size and longer follow-up period are recommended to examine the effectiveness and long term effects of LiFE program in reducing the fall rate of GDH patients.

Poster Presentation

LiFE Fall Prevention Pilot Program for Fracture Hip Patients

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Background Around 95% of fracture hip was caused by falling. Significant association between fracture hip with morbidity and mortality was noticed. 4% of patients with fracture hip had secondary fracture(s) within 12 months. A Hong Kong version of the Lifestyle-integrated Functional Exercise (LiFE) for fall prevention was validated in 2017. Current service models for LiFE mainly were out-patient, day patient and home visit in Hong Kong.

Objective This pilot study aimed at investigating the effectiveness of using LiFE for fall prevention in in-patient rehabilitation settings for patients with fracture hip.

Methodology Patients admitted to Tai Po Hospital after fall incidents with post-operative fracture hip, cognitively sound (HK-MoCA ≥ 7 th percentile) and ADL with mild assistance were included. Daily individual LiFE training session focusing on balance and strengthening which incorporated in daily activities was prescribed during hospital stay. LiFE training videos were also prescribed via HA Go (Hospital Authority App). The Short Physical Performance Battery, Modified Barthel Index, Lawton IADL, Fall Efficacy Scale and compliance rate in HA Go were used for outcome measurement before and after the program.

Results Total 8 patients were recruited from July – September 2022. The average age was 77.88 ± 7.90 year with 50 % being female. Over half of them (62.5%) fell due to a loss of balance on slippery floor and 12.5% fell due to lower limb weakness. The compliance rate monitored by HA Go for attending the LiFE training was 100 % during hospital stay. Wilcoxon Signed-Rank Test was used for statistical analysis. The patients showed significant improvement in Modified Barthel Index ($P < 0.05$) and Short Physical Performance Battery ($P < 0.05$). No statistical significance was noted in Lawton IADL ($P = 0.180$) and Fall Efficacy Scale ($P = 0.463$).

Conclusion The LiFE program for patients with fracture hip has shown to be effective in improving their functional performance in ADL and physical performance. It is recommended to recruit larger sample size for generalizability in future study.

Poster Presentation

Embracing lives- the experience of practicing mindfulness and self-compassion

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Purposes The impact of the COVID-19 pandemic during the past 2 years has led to worsening social interaction especially among older adults, who have experienced severe sense of social isolation and loneliness with potentially serious mental and physical health consequences. Family members also concerned with the well-being of these older adults.

The launch of mindfulness and self-compassion workshops to those potential caregivers helps to promote a compassionate understanding and kindness towards themselves before they know how to interact with elders.

Methods A series of mindfulness and self-compassion workshops was organized weekly or bi-weekly in a face-to-face mode from May 2021 to December 2021. The workshops were changed to online mode due to the worsening of the COVID-19 pandemic situation in Jan- June 2022.

Convenience samples was taken in one University for staff and students as they are the potential caregivers to the older adults and some also experienced the same situations as the older adults.

Guided meditation was introduced during the workshop and some simple gratitude exercises was also taught to encourage home practices.

Post-workshop evaluation forms were given to participants and later through online evaluation when the workshop was changed to online mode.

Results Reflected from the evaluation forms after each workshop, the mindfulness practices help participants to be able to relax and reduce their physical stress. The gratitude practices enlightened them to embrace the positives in their daily life and less dissatisfied with the adversity. Taken the feedback from caregiver participants, the mindfulness and self-compassion workshops are conducted to community-dwelling elders who are using the community services in different NGOs, most of them have indicated different levels of loneliness and social isolation, it is expected after the workshop, they will be less unhappy and their sense of isolation and dissatisfaction in life will be decreased.

Poster Presentation

The effectiveness of virtual reality and exercise program in relieving chronic pain and enhance happiness for community-dwelling older adults with chronic pain: a pilot study

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Purpose It is found that more than 45 percent of older adults experiencing pain on a regular based. Pain have significantly affected the activity of their daily life and wellbeing as well as increase the health care burden. Virtual reality (VR) is a new and innovative system, and it helps to create an immersive and multi-sensors experience, or an illusion of participation in a synthetic environment. With VR, virtual environment and virtual worlds can help to create a relaxing environment and help to improve the quality of life for users. We propose to a virtual reality and exercise program to manage pain and enhance happiness for older adults.

Method An 8-week virtual reality and exercise program (VRE) was developed. The virtual reality experience was held in the VR cave in the university, where 360-degree VR videos to be played to the older adults for 20 minutes. The content of the VR videos included nature environment of highlands, beaches, and rainforest as well as cities views, and exercise were performed while watching the videos in the VR cave. Exercise included stretching and strengthening of arms, legs, core and shoulder muscle. Videos of the nature environment and the exercise were sent to participants through their WhatsApp. To enhance the effect of exercise, participants were reminded to perform two times of exercise per week at home, each exercise period for 30 minutes, via WhatsApp.

Results There were 10 participants joined our study. Upon completion of the VRE, pain intensity and anxiety symptoms decreased and happiness score increased from 7.90 to 8.40 (on a 0-10 scale); yet, these changes were not statistical significant ($p>0.05$) post-intervention. VRE has a potential for to help older adults with chronic pain and warrants further investigations. The feedback from the participants were positive, and they liked the VR environment. There is great potential to use this non-pharmacological strategies to relieve pain and enhance happiness for older adults.

Poster Presentation

Community-University partnerships in managing chronic pain for older adults and their caregivers

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Purpose Systematic literature reviews suggested the importance of community-university partnerships as an effective way to address better health outcomes, including managing cancer and cancer-related issues, health concerns faced by ethnic minorities and older adults.

With the high prevalence of chronic non-cancer pain among community-dwelling older adults, and the burden and impact in the caring process for their caregivers; and, the geographic location of the university in the neighborhood, thus, we would like to develop dyadic pain management program (DPM) to our stakeholders.

Method An 8-week DPM was developed. The DPM will be a one hour per week program, with center / university based and home based exercise component. The research team approached the social worker in charge of community center, and, they recognized the pain issues are severe among community-dwelling older adults. Thus, collaborate efforts via this community-university partnerships would be beneficial.

Posters were put up in the center and phones calls were made by the social worker to approach their members, who are community-dwelling older adults and their caregivers, to join the DPM.

Results At this stage, we had 10 older adults and their informal caregivers joined the DPM. The participants enjoyed having the DPM in the university setting and shared their excitement in learning and practicing exercise, also they shared their children and grandchildren studying status in various universities and institutions in Hong Kong and in overseas. We shall enhance further of this community- university partnerships as the program goes on.

Poster Presentation

The development of a dyadic pain management program (DPM) for older adults & their informal caregivers

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Purpose Given the prevalence of chronic non-cancer pain is high among community-dwelling older adults that impose a negative impacts on their health and well-being; as well as a great burden to their informal caregivers in the caring process, thus, we would like to develop dyadic pain management program (DPM) to our stakeholders.

Method A 8-week DPM was developed. The DPM will start with 20 minutes of physical exercises, followed by 20 minutes of pain management education, including information on the impacts of pain, the use of drug and non-drug strategies for pain management. Demonstrations and return demonstrations of various non-drug pain management techniques, including deep breathing exercise, the use of music, visual stimulation and aromatherapy will be included. Communication skills regarding the practice of various pain management techniques by the participants and their caregivers will be taught, and the participants will be encouraged to practice various pain-relief methods during the online class and at their own time.

The use of a WhatsApp group (digital-based activities): all participants will join a WhatsApp group to receive teaching materials and videos of the physical exercise they learned in the class.

Results We are in the process of recruiting participants in the elderly community center. At this stage, we had 10 older adults and their informal caregivers joined the DPM. Baseline data indicating their pain scores were 4 (on a 0-10 scale) and the caregivers' burden were considered to be high. It is expected, upon the completion of study, the pain scores will be reduced, and the caregivers' burden could be improved.

Poster Presentation

Effectiveness of Gerontechnology Library in Enhancing Patient's Care

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Purpose To allow patients and their caregivers for better understanding on the varieties and functions of gerontechnology (GT) assistive devices, a GT Library was established in the Occupational Therapy Department in Tai Po Hospital. Various types of GT products were displayed and trial used by patients. QR code which linked to electronic product information and videos on how to-use were generated and sent to the caregivers via telecare as reference. The objective of the study is to review the effectiveness of the GT Library in enhancing patient's care.

Method The project consisted of 3 phases. **Phase 1** – Procurement and categorization of GT products available in the market. Information on the availability, function, usage and price on various products was compiled. QR codes which linked to electronic product information and videos on how to-use were also generated. **Phase 2** – A uniform GT Library with display of various GT products was established and electronic product information and videos were registered to the electronic GT Library in June 2022. **Phase 3** – The GT products were introduced to caregivers and trial used by patients before they were discharged. Training was provided to caregivers and product QR codes were sent to them as reference. Satisfaction level of patients and caregivers towards the recommendation of GT products were evaluated with an electronic questionnaire. Staff's feedback towards the GT Library utilization was also reviewed.

Results and Conclusion About 80% of patients / caregivers responded to the questionnaire. Most of them were positive towards GT product recommendation. About 80% of them reflected that the advanced products and relevant caregiver training had significantly improved their competence in patient caring and the ease of caring. Both patients and their caregivers showed interest to know more about GT products on fall prevention, functional transfer and memory aids. Therapists were satisfied towards the GT Library in terms of its convenience in recommending relevant products to patients or caregivers. They also commented more fall prevention related GT products should be added to the library. Overall, both patients and their caregivers were satisfied with the GT products recommendations. Prescription of those products by therapists was enhanced.

Poster Presentation

Enhancing elderly's independence in dialysis with 3D-printed APD adaptive device designed by Occupational Therapists

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Purpose Increasing aging population with renal dysfunction requires peritoneal dialysis such as Automated Peritoneal Dialysis (APD) to remove accumulated waste products from the body. During dialysis, elderly with visual or hand function impairments had high risk of touch contamination during connection of catheters, which is a common cause of peritonitis, resulting in hospital admission.

Occupational therapists in Caritas Medical Centre designed a 3D-printed APD adaptive device, allowing elderly to precisely connect the APD catheters without contamination. It facilitates elderly's independent use of APD and minimizes the risk of peritonitis.

Method In July 2022, a case study has been conducted on a 62-years old patient, who is living alone, with chronic renal failure and diabetes mellitus retinopathy. Comprehensive assessments on cognition, vision, hand function, and simulated APD procedures were performed. He had blurred vision, and fair eye-hand coordination as his performance of nine hole peg test fell below norm. Hence, he encountered difficulty in connecting catheters accurately by himself and failed the APD training.

A 3D-printed APD adaptive device was fabricated to connect both the patient line and supply line to the catheters of solution bag. He performed the dialysis and completed the training with the above-mentioned device more easily and accurately.

Regular review of patient's independence, accuracy, efficacy and satisfaction in performing dialysis with APD adaptive device was conducted.

Result With 3D-printed APD adaptive device and educational pamphlet provided, patient can perform APD procedures independently. For accuracy, without the adaptive device, he had touch contamination of connectors in 3 out of 5 simulated trials. Contrastingly, he performed the connection precisely at one time with the presence of adaptive device. Patient's self-efficacy has significant improvement from NRS 5/10 to NRS 9/10; while his satisfaction has attained NRS 9/10.

Conclusion Occupational therapists develop customized adaptive devices with 3D printing technology, which promotes independent living in aging population, while reducing the possibility of life-threatening complications. It also greatly improves the elderly's satisfaction and enhances their quality of life.

Poster Presentation

Effectiveness of exergaming for improving physical performance among older adults in care facilities: a systematic review

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Purposes In care facilities, only 6-31% of older adults are successfully engaged in physical activity programs and >90% of their awake time is usually spent sedentary. Exergaming (active, gamified video-based exercises) is a fun, engaging, interactive form of exercising, of which the real-time, augmented environment provokes motivation and enjoyment. Although recent findings have demonstrated beneficial effects of exergaming on older adults, a relevant systematic review in care facility settings is still lacking. Therefore, this systematic review aimed at synthesizing evidence on effects of exergaming on physical performance among care facility residents.

Methods PubMed database was searched from inception to 28th March 2022. Parallel, cross-over, or cluster randomized controlled trials (RCTs) on the effects of exergaming on physical functions in older adults attending any levels of care facilities, including retirement communities, assisted living, and nursing homes were included. Only RCTs with full text available and in English language were included.

Results Our search retrieved 1,971 records, of which seven met inclusion criteria, providing data for 420 participants. Interventions ranged from six to 12 weeks, with one to three sessions weekly. Results showed that exergaming was a beneficial exercise for balance (57.1% of trials), falls (42.9%), knee joint proprioception (14.3%), and pain intensity (14.3%) in care facility residents, yet one study (14.3%) revealed no effect. Thus far, there was no evidence of serious adverse effects from performing exergame training.

Discussion High adherence rates across studies (86-100%) reflect the motivation and enjoyment components of exergaming in care facility settings. Given a small number of RCTs with a broad range of outcome measures, a comprehensive meta-analysis is not possibly conducted. Further high-quality trials with standard protocols, longer-term follow-up, and adequate sample size are imperatively required to substantiate its role in routine practice.

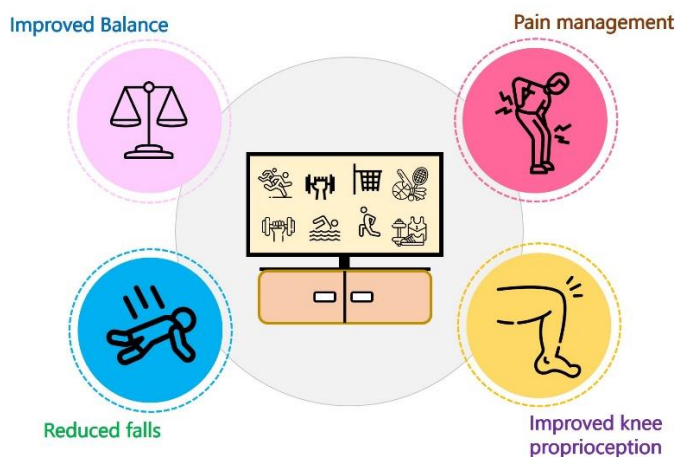


Fig. 1. Benefits of exergaming on physical functions among older adults in care facilities.

Table 1. Summary of findings from randomized controlled trials for effectiveness of exergame training on physical performance among older adults in care facilities ($n = 7$).

Author (publication year); place	Setting (level of care)	Intervention	Control	Delivery	Duration	Training volume	Attrition rate	Main findings ^a	
Fu et al. (2015) [1]; Hong Kong	Nursing homes (high)	Nintendo Wii Fit balance training (e.g., Soccer Heading, Table Tilt, and Balance Bubble) (<i>n</i> = 30); 23% men	Conventional balance training (<i>n</i> = 30); 27% men	Rehabilitation assistant	6 weeks	60 min x 3 per week	EG: 7% Control: 10%	Reduced fall risk and incidence.	
Sadeghi et al. (2017) [2]; Malaysia	Daycare centers (intermediate)	Xbox exercise Stomp It, Kick, Goalkeeper) (<i>n</i> = 16); 100% men	Kinect (e.g., Target and	Usual care (<i>n</i> = 16); 100% men	n/a	8 weeks	40 min x 3 per week	EG: 6% Control: 6%	Knee joint proprioception improved.
Taylor et al. (2018) [3]; New Zealand	Low-level dependency LTC facilities (intermediate)	Xbox exercise Shape Evolved, Aging with Grace package) (<i>n</i> = 29); 23% men	Kinect (Your Fitness 2012	Usual care (<i>n</i> = 36); 28% men	Physical therapist / qualified exercise science instructor	8 weeks	35 min x 2 per week	EG: 10% Control: 11%	No effect on mobility and balance.
Liao et al. (2019) [4]; Taiwan	Daycare centers (intermediate)	Kinect sensor system (<i>n</i> = 31); 30% men	Combined exercise (resistance,	Physical therapist	12 weeks	60 min x 3 per week	EG: 13% Control: 17%	Balance improved.	

				aerobic, and balance training) (<i>n</i> = 30); 32% men					
Stanmore et al. (2019) [5]; United Kingdom	Assisted living facilities (intermediate)	Kinect sensor system (<i>n</i> = 50); 24% men	Standard care (physiotherapy advice and leaflet) (<i>n</i> = 56); 20% men	Physiotherapist physiotherapist assistant	/	12 weeks	3 per week	EG: 14% Control: 13%	Balance improved. Reduced fear of falling, fall incidence, and pain intensity.
Yousefi Babadi & Daneshmandi (2021) [6]; Iran	Nursing homes (high)	Xbox exercise (e.g., boxing, table tennis, soccer, golf, skis, and American football) (<i>n</i> = 12); 50% men	Kinect (e.g., balance training (<i>n</i> = 12); 50% men - Usual care (<i>n</i> = 12); 42% men	- Conventional balance training (<i>n</i> = 12); 50% men - Usual care (<i>n</i> = 12); 42% men	n/a	9 weeks	60 min x 3 per week	EG: 0% Control: - Conventional: 0% - Usual care: 0%	Balance improved. ^b
Zahedian-Nasab et al. (2021) [7]; Iran	Nursing homes (high)	Xbox exercise (e.g., ski, penalty and goalkeeper, darts) (<i>n</i> = 30); 73% men	Kinect (e.g., ski, and and	Usual care (<i>n</i> = 30); 73% men	n/a	6 weeks	30-45 min x 1 per week	EG: 0% Control: 0%	Balance improved. Reduced fear of falling.

Abbreviations: EG, exergaming; LTC, long-term care

^a All main findings represented outcome measures with between-group differences (i.e. compared to control groups) from baseline to the completion of intervention.

^b Balance was improved while comparing the exergaming intervention to the usual care group from baseline to the completion of intervention.

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Poster Presentation

Creating a new assistive device for stroke patients with diabetes mellitus using 3D printing

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Introduction Many people, suffering from diabetes mellitus (DM), need to self-administer insulin injections daily. However, many of them also suffer from stroke with limited upper limb and hand function. It is difficult for them to perform the insulin injection, especially the assembly of the injection devices and the adjustment of the injection dose.

Objectives This study aims at using an innovative way to create assistive devices for insulin injection by stroke patients with limited upper limb and hand function.

Method A patient who had DM and stroke with limited upper limb and hand function was seen in Tai Po Hospital. The assisted device was designed using computer-aided design software based on the insulin injection pen model Novopen 5. It was printed by a fused deposition modeling 3D printer. After printing the assistive devices, the patient was educated to use the assistive device to perform the insulin injection.

Results The patient was unable to self-perform the insulin injection without assistance. With the introduction of the newly designed assistive device, the patient took around 10 minutes to learn. The assistive device was mounted on table top to facilitate the patient to perform insulin injection by himself. The patient was able to mount the assistive device by himself and perform insulin injection with one handed technique using Novopen 5.

Conclusion 3D printing has potential to facilitate the meeting of individualized needs of patients through customization of assistive devices.

Poster Presentation

The Development of a Dyadic Photo-with-Movement Pain Management Program for Community-dwelling Older Adults with Chronic Pain

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Background Chronic pain is highly prevalent among community-dwelling older adults, although pharmacological and non-pharmacological interventions are widely available. Unmanaged chronic pain can cause psychological distress and impose a myriad of long-term negative consequences in daily living. Compared with the conventional method, a pain management program adopting a dyadic approach can engage clients and caregivers in the pain management process and thus enhance the compliance of the pain management program and relieve the burden of informal caregivers.

Methods This study is a two-arm, pilot randomized controlled trial. Participants will be randomized into an experimental group to attend an 8-week Photo-with-Movement Program (PMP) as an intervention or control group to receive a leaflet on chronic pain management as usual care. The 8-week Photo-with-Movement Program mainly consisted of pain distraction by tailor-made, visually appealing photo albums and a series of pain-relieving exercises. The photo albums have four themes: mountains, beaches, hiking trails, and parks in Hong Kong. Famous scenery, including The peak, Lion Rock, Repulse Bay, Tai Long Sai Wan, MacLehose Trail, and Hong Kong Wetland Park, was portrayed for visual stimulation and distraction. A series of pain-relieving exercises guided by physiotherapists will be included in the program. Apart from face-to-face intervention, participants in the experimental group will join a WhatsApp group to receive electronic photo albums and videos of the pain-relieving exercises they learned in class for home practice. Informal caregivers will facilitate participants to practice various pain-relief methods during the program and at home.

Results and potential Implications This study is in the phase of subject recruitment. Currently, ten dyads were recruited from Neighborhood Elderly Center to participate in the PMP program. Data will be collected at baseline and after the intervention program. The primary outcome includes the severity of the pain. Secondary outcomes include the self-efficacy of pain, happiness, loneliness, and caregivers' stress. The findings may inform the feasibility and design of the main study.

assessed as having rehabilitation potential; and 4) with at least one primary caregiver. The exclusion criteria are: 1) older adults and their caregivers are currently using other discharge support services; 2) being diagnosed with mental disorders or acute disabilities, or evidence of unstable medical status that would hinder active rehabilitation treatment. The discharged middle-aged and older adults and their caregivers received standardised assessments conducted by trained professionals. A tech-inclusive online system was co-created by three NGO partners and tendered for screening, assessing, and generating individualised care plans based on the assessment results. Intervention contains 'intensive

care’ and ‘maintenance’ care and support stages to maximise the efficacy of transitional care. A total of 114 middle-aged and older discharged patients received assessment immediately after joining the ETC project, and after implementing the first individual care plan with a three-month interval.

Findings With the assessment results generated immediately after joining the ETC project, patients significantly improved in functional performance, cognitive and mental health, social interaction, and clinical issues such as fall prevention and bladder continence after receiving responsive care guided by empowerment-oriented transitional care. Among the 69 patients who completed transitional care intervention, 46.4% successfully returned home and community, within which 18.8% were successfully bridged to community care services. Only 14 moved to long-term care facilities.

Implication The empowerment-oriented transitional care model, focusing on standardised assessments targeting both care recipients and caregivers, and a tech-enable platform, was found to be effective in achieving optimal health trajectory among discharged middle-aged and old discharged patients. It fills in the gap of establishing a tech-inclusive platform for enabling responsive service delivery of transitional care in Hong Kong. We aim to scale up beneficiaries in future and be the spring of hope for discharged patients and their caregivers.

Acknowledgements This project is funded by The Hong Kong Jockey Club Charities Trust. We would like to thank our community partners, including Haven of Hope Christian Service (HOHCS), The Hong Kong Society for the Aged, and Hong Kong Sheng Kung Hui Lady MacLehose Centre for their dedicated contributions. We would also like to thank all the participants of the present study.

