spatiotemporal interaction and opportunities to access locations for older adults' daily activities.

COGNITIVE APPRAISAL AND KNOWLEDGE AS RISK FACTORS FOR HIGH FEAR OF FALLING IN OLDER AND MIDDLE-AGED ADULTS IN SINGAPORE

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Fear-of-falling (FOF) can be adaptive or maladaptive depending on one's appraisal of knowledge and beliefs, but few have elucidated this cognitive process in older adults surrounding falls. We aim to identify risk factors for high FOF amongst community-dwelling older adults (OA) and middle-aged adults (MA) in Singapore. This was a cross-sectional survey of a nationally-representative sample of OA (≥60 years) and MA (40-59 years) identified by stratified random sampling. Primary outcome was high FOF measured by a single-item (4-point scale). Independent variables were history-of-falls, quality-of-life, fall-related cognitive appraisal (balance problems, importance to restrict activities to prevent falls) and knowledge indicators (knowledge of other OA who fell, ability to identify out of 13 fall risk factors). MA were also asked if they're caregivers. Multiple logistic regressions identified risk factors for high FOF separately by age-groups, adjusting for socio-demographics and comorbidities. The final analysis included 549 OA (70.6±6.88 years) and 309 MA (49.7±5.89 years). No differences in high FOF was found among OA and MA (37% vs. 38%, p=0.305), but there were more falls among OA (19% vs 12%, p=0.010). Higher knowledge of fall risk factors and self-reported balance problems were significant risk factors for high FOF among OA only, while a history-of-falls and being a caregiver were significant among MA only. Perceived importance to restrict activities was associated with high FOF in both age-groups. Although findings suggest differences in the mechanism of high FOF between OA and MA, both age-groups have maladaptive appraisal tendencies related to restrict activities to prevent falls.

ABERRANT FUNCTIONAL CONNECTIVITY UNDERPINNING CHANGES IN LIFE-SPACE MOBILITY IN OLDER ADULTS

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Subtle, but observable, changes in mobility often exist among older adults. Life-space mobility defines the frequency and extent of movements in the environment, and lower life-space mobility is associated with adverse health outcomes and mild cognitive impairment (MCI). Currently, the underlying mechanism of this association is not well understood. The aim of this study was to examine the functional neural correlates of reduced life-space mobility over 12 months. Thirty-five older adults over the age of 65 years with MCI were recruited and enrolled into this 12-month prospective study. Resting-state functional magnetic resonance imaging was completed at study baseline. Clinical assessment of anthropometric, behavioural measurements, and life-space mobility was conducted at study baseline and at the 12-month period. Over the 12-month study, the 35 participants demonstrated a significant reduction in LSA scores (paired sample t-test mean change=-6.53, p=0.01); greater baseline connectivity between the default mode network and the sensorimotor network was significantly associated with lower life-space mobility (R2=0.44, p=0.04). These findings suggest reduced life-space mobility in older adults may be partially due to altered inter-network connectivity in the brain such that normal neuro-cognitive motor behaviours is disrupted. Therefore, the maintenance of functional architecture of the brain may be essential in preserving the extent and frequency of older individuals' movement in their environment.

SYSTEMATIC REVIEW OF THE EFFECTS OF NON-VR EXERGAMING ON MOBILITY OUTCOMES OF OLDER ADULTS LIVING IN LONG-TERM CARE

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Introduction: Institutionalized older adults have highrates of mobility decline resulting in reduced quality of life and increased dependency. Given the ageing population, there has been a proliferation of exergaming technology targeting older adults to maintain their physical activity (PA) levels and prevent decline. However, it is unclear if exergaming is effective to maintain or improve the PA of institutionalized older adults. Method: Four databases (MEDLINE/CINAHL/PsycINFO/Compendex) were systematically searched (key terms like "nursing homes", exergaming"). Quantitative manuscripts examining the effects of exergaming on PA measures of institutionalized older adults published in English between 2006-present were eligible. Virtual reality was excluded from the search. No meta-analysis was conducted due to heteeogeneity of the results. Results: 11 studies were included from a search that yielded 208 results. The exergaming platforms that were used the most were the Kinect and Wii. The most commonly used PA measures were the Berg Balance Scale and the Timed-up-and-Go (n=4 studies) with no other measures being used in more than one study. Interventions ranged in exercise (e.g. cognitive-motor training, strength training, balance, etc), frequency, duration, and modality. Study designs were also heterogeneous. Articles were of very poor to poor quality. There was minimal reporting on adverse events. Older adults with cognitive impairment were commonly excluded. Challenges in current technology and studying this group are highlighted. Conclusion: Exergaming may be promising to maintain PA but more robust research is needed. More exergaming technology designed for long-term care to meet the specific complex needs of this population is warranted.