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A longitudinal assessment of standing balance in healthy adults

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Exp. Aging Res. 2017; ePub(ePub): 1-13.

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DOI 10.1080/0361073X.2017.1370254 **PMID** 28949814

Abstract

BACKGROUND/STUDY CONTEXT: The study was a longitudinal assessment of age-related changes in standing balance and response strategy usage in healthy adults.

METHODS: Balance of 17 individuals with a mean age of 44.5 years was assessed and then reassessed 19.5 years later. Participants stood on computer-controlled dual-force platforms enclosed by a visual surround and completed six tests in which visual and/or somatosensory information was systematically degraded or eliminated.

RESULTS: Results for each test and a weighted composite balance score revealed no significant change in postural control over the time period studied. However, response strategy scores indicated some significant change with age. Specifically, compensatory movement corrections about the ankle complex increased when standing on a stable support surface with and without vision, and hip-centered corrections were prominent when standing on an unstable surface with eyes open or closed.

CONCLUSION: Increased reliance on response strategy usage with time is interpreted as a compensatory adjustment to age-related increases in postural instability and accounts for the absence of any change in standing balance under different conditions of sensory input.

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A modified seated side tapping test in which the arms are crossed also reflects gait function in community-dwelling elderly

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(Copyright © 2017, Society of Physical Therapy Science)

DOI 10.1589/jpts.29.1598 **PMID** 28931996 **PMCID** PMC5599829

Abstract

PURPOSE: Seated side tapping test (SST) performance is associated with mobility impairment in the elderly. Although this test was developed to assess trunk function, interpretation of its results may be confounded by the upper-limb movements in its protocol. Here, this study aimed to validate the association between trunk function and gait function by means of the Arms Crossed SST (AC-SST), a modified version of the SST in which the arms are crossed over the chest, to exclude the effects of the upper limbs.

SUBJECTS AND METHODS: A total of 116 community-dwelling elderly people were enrolled in the study (mean age: 75.1 ± 5.5 yrs). Measurement categories were gait function (gait speed and TUG), lower extremity strength (knee extension and flexion strength), trunk muscle endurance (trunk extension and flexion endurance), and trunk function (SST and AC-SST).

RESULTS: AC-SST performance significantly correlated with gait function items, as did SST performance. Moreover, AC-SST was one of the significant predictor variables of gait function selected in stepwise multiple regressions.

CONCLUSION: Gait function associated with performance on the AC-SST, a test of trunk function in which the effects of upper limb function were excluded, reinforcing the importance of trunk function to elderly mobility.

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Association between antidepressants and fall-related injuries among long-term care residents

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Abstract

OBJECTIVES: Antidepressants are associated with an increased risk of falls although little is known of the comparative risks of different types of antidepressants or individuals who are at greatest risk for falls. We examined the association between new use of antidepressants and fall-related injuries among older adults in long-term care (LTC).

DESIGN, SETTING, PARTICIPANTS: This was a matched, retrospective cohort study involving LTC residents in Ontario, Canada, from 2008 to 2014. New users of antidepressants were matched to non-users of antidepressants.

MEASUREMENTS: The primary outcome was any fall resulting in an emergency department (ED) visit or hospitalization within 90 days after exposure. Secondary outcomes included hip fractures, wrist fractures, and falls reported in LTC. Multivariate logistic regression was used to estimate the odds ratio (OR) and 95% confidence interval associated with antidepressants and outcomes.

RESULTS: New users of any antidepressant had an increased risk of ED visits or hospitalization for falls within 90 days when compared with individuals not receiving antidepressants (5.2% versus 2.8%; adjusted OR: 1.9, 95% CI: 1.7-2.2). Antidepressants were also associated with an increased risk of all secondary outcomes. The increased risk of fall-related injuries was evident among selective-serotonin reuptake inhibitors, serotonin-norepinephrine reuptake inhibitors, trazodone, and across multiple patient subgroups.

CONCLUSIONS: New use of antidepressants is associated with significantly increased risk of falls and fall-related injuries among LTC residents across different patient subgroups and antidepressant classes. The potential risk of fall-related outcomes should be carefully considered when initiating antidepressants among older adults in LTC.

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Can peer education improve beliefs, knowledge, motivation and intention to engage in falls prevention amongst community-dwelling older adults?

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DOI 10.1007/s10433-016-0408-x **PMID** 28936135 **PMCID** PMC5587454

Abstract

The aim of the study was to evaluate the effectiveness of delivering a contemporary peer-led falls prevention education presentation on community-dwelling older adults' beliefs, knowledge, motivation and intention to engage in falls prevention strategies. A two-group quasi-experimental pre-test-post-test study using a convenience sample was conducted. A new falls prevention training package for peer educators was developed, drawing on contemporary adult learning and behaviour change principles. A 1-h presentation was delivered to community-dwelling older adults by peer educators trained with the new package (intervention group). Control group participants received an existing, 1-h falls prevention presentation by trained peer educators who had not received the adult learning and behaviour change training. Participants in both groups completed a purpose-developed questionnaire at pre-presentation, immediately post-presentation and at one-month follow-up. Participants' levels of beliefs, knowledge, motivation and intention were compared across these three points of time. Generalised estimating equations models examined associations in the quantitative data, while deductive content analysis was used for qualitative data. Participants (control n = 99; intervention n = 133) in both groups showed significantly increased levels of beliefs and knowledge about falls prevention, and intention to engage in falls prevention strategies over time compared to baseline. The intervention group was significantly more likely to report a clear action plan to undertake falls prevention strategies compared to the control group. Peer-led falls prevention education is an effective approach for raising older adults' beliefs, knowledge and intention to engage in falls prevention strategies.

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Difference in trunk stability during semicircular turns with and without a bag in elderly women

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(Copyright © 2017, IOS Press)

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Abstract

BACKGROUND: Direction changes while walking are more likely to cause a hip fracture than is falling while walking in a straight line. Trunk stability is an important contributor to safe and effective walking, and arm movements influence trunk movement while walking. However, the difference in the trunk stability during semicircular turns performed by elderly women with a light bag has not been examined.

OBJECTIVE: To investigate the effects of carrying a bag on trunk stability during semicircular turns in elderly women.

METHODS: We enrolled 15 community-dwelling elderly women capable of independent walking. Participants walked with and without a bag at a self-selected speed along a marked path, which included semicircular turns, while fitted with an accelerometer attached over the L3 spinous process.

RESULTS: Gait velocity was faster during semicircular turning with a bag versus without a bag. The normalized medial-lateral center of mass acceleration was lower during semicircular turning with a bag versus without a bag.

CONCLUSIONS: We suggest that a light additional arm load and increased arm swing contributes to trunk stability and efficient walking during semicircular turning by elderly women.

PDF N Endnote Y

Evaluation of the National Minimum Data Set for neurological conditions in older adults

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DOI 10.1177/0891988717732154 **PMID**28950742

Abstract

AIM: To evaluate the National Minimum Data Set (NMDS) against the International Resident Assessment Instrument-Home Care (interRAI-HC) in diagnosing dementia or Parkinson disease (PD). **METHOD:** The NMDS data were matched with interRAI-HC for all older individuals in New Zealand. Dementia or PD was compared within 90 and 180 days and 1 to 4 years preceding and subsequent to the date of diagnosis in interRAI-HC. Consistency was measured through sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), weighted kappa (κ), and McNemar test.

RESULTS: For a diagnosis within 90 days, dementia showed 60.77% sensitivity, 95.33% specificity, 68.46% PPV, and 93.58% NPV. The PD showed 65.74% sensitivity, 99.52% specificity, 80.43% PPV, and 98.98% NPV. κ for dementia ($\kappa = 0.59$), PD ($\kappa = 0.720$), and McNemar test was significant ($P < .001$) for all lengths of follow-up.

CONCLUSION: Substantial agreement between multiple sources of health data can be a valuable resource for decision-making in older people with neurological conditions.

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Fear of falling among community-dwelling older adults: a scoping review to identify effective evidence-based interventions

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Abstract

Fear of falling presents a significant problem for many older adults by reducing physical function and increasing the risk of future falls. Several different types of interventions have improved fear of falling and a summary of efficacious interventions will help clinicians recommend treatment

options. Using the Arksey and O'Malley Framework for scoping reviews, the purpose of this review was to identify efficacious interventions for treating fear of falling among community-dwelling older adults in order to provide a list of potential treatment options for care providers. A total of 45 publications were identified for inclusion in this review.

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Frailty and its contributory factors in older adults: a comparison of two Asian regions (Hong Kong and Taiwan)

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Abstract

This study aimed to compare the prevalence of frailty across three Chinese populations: Hong Kong, Taiwan-urban and Taiwan-rural. Contributing factors to disparities in frailty were also examined. Data were derived from the Osteoporotic Fractures in Men (MrOs) and Women (MsOs) (Hong Kong) Study (n = 4000) and the Taiwan Longitudinal Study on Aging (n = 2392). Frailty was defined as an index calculated from 30 multiple deficits. The ratio of the frailty index to life expectancy at birth (FI/LE) was used as an indicator of compression of morbidity. Frailty was more prevalent in Taiwan-urban (33.1%) and Taiwan-rural (38.1%) compared to Hong Kong (16.6%, $p < 0.05$) and was higher in women (22.6-49.7%) than in men (10.5-27.5%, $p < 0.05$). The ratios of FI/LE were higher in Taiwan-urban and Taiwan-rural (both 0.27) compared to Hong Kong (0.20, $p < 0.05$). Multivariate analyses revealed that older age, being a woman and low levels of physical activity were common risk factors for frailty across the three populations. Alcohol use was inversely associated with frailty in both Hong Kong and Taiwan-urban populations, but not in Taiwan-rural. Living alone was associated with frailty in Hong Kong men, but not in Hong Kong women or Taiwanese people. For all study populations, older age and being a woman constituted the highest attributable factor. This comparison provides useful data to inform government policies.

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Frequency and nature of coroners' recommendations from injury-related deaths among nursing home residents: a retrospective national cross-sectional study

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(Copyright © 2017, BMJ Publishing Group)

DOI 10.1136/injuryprev-2017-042370 **PMID** 28939660

Abstract

BACKGROUND: Coroners are tasked with the investigation of unnatural and unexpected deaths. In Australia, the coroner's role also includes making recommendations for promoting interventions to improve public safety. However, the coroners' role in public health and safety in the aged care

setting is an underexplored area of research.

OBJECTIVES: To describe the frequency and nature of coroners' recommendations for prevention of harm from injury-related deaths among nursing home residents in Australia. **SETTING:** Accredited nursing homes in Australia.

SUBJECTS: Nursing home residents whose deaths resulted from external causes occurring between 1 July 2000 and 31 December 2013 and notified to a coroner.

MEASUREMENTS: Coroners' recommendations were identified and extracted from the National Coronial Information System. Descriptive statistical techniques were used to calculate the frequency and proportion of recommendations made. The nature of recommendations was quantified using a method comprising seven elements derived from internationally accepted and applied public health conceptual models of mortality causation and prevention.

RESULTS: Coroners made recommendations about the prevention of harm in 53 of the 3289 (1.6%) external cause deaths of nursing home residents. Recommendations were most frequently made for deaths resulting from falls; however, the rate of recommendations per 1000 deaths was highest for thermal mechanisms and complications of clinical care. Most recommendations described the 'countermeasure' element, but rarely specified a timeframe for implementation.

CONCLUSION: Coroners' recommendations need to be further enhanced in the age care setting. The development of national and international guidelines on best practice in the formulation of effective recommendations should be undertaken.

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Global sensory impairment predicts morbidity and mortality in older U.S. adults

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(Copyright © 2017, John Wiley and Sons)

DOI 10.1111/jgs.15031 **PMID** 28942611

Abstract

OBJECTIVES: To evaluate global sensory impairment (GSI, an integrated measure of sensory dysfunction) as a predictor of physical function, cognition, overall health, and mortality.

DESIGN: Prospective study.

SETTING: The National Social Life, Health, and Aging Project.

PARTICIPANTS: A national probability sample of 3,005 home-dwelling older U.S. adults assessed at baseline (2005-06) and 5-year follow-up (2010-11). **MEASUREMENTS:** Gait speed, activity, disability, cognition, overall health, 5-year mortality.

RESULTS: At baseline, older adults with worse GSI were slower (Timed Up and Go times: odds ratio (OR) = 1.32, 95% confidence interval (CI) = 1.17-1.50) and had more activity of daily living deficits (≥ 2 : OR = 1.26, 95% CI = 1.10-1.46). Five years later, they were still slower (timed walk: OR = 1.22, 95% CI = 1.05-1.42), had more disabilities (≥ 2 instrumental activities of daily living; OR = 1.45, 95% CI = 1.23-1.70), were less active (daytime activity according to accelerometry: β = -2.7, 95% CI = -5.2 to -0.2), had worse cognitive function (Montreal Cognitive Assessment; β = -0.64, 95% CI = -0.84 to -0.44), more likely to have poorer overall health (OR = 1.16, 95% CI = 1.03-1.31) and lose weight

(>10%: OR = 1.31, 95% CI = 1.04-1.64), and have died (OR = 1.45, 95% CI = 1.19-1.76). All analyses were adjusted for relevant confounders at baseline, including age, sex, race and ethnicity, education, smoking, problem drinking, body mass index, comorbidities, and cognitive function.

CONCLUSION: GSI predicts impaired physical function, cognitive dysfunction, significant weight loss, and mortality 5 years later in older U.S. adults. Multisensory evaluation may identify vulnerable individuals, offering the opportunity for early intervention to mitigate adverse outcomes.

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Operationalisation and validation of the Stopping Elderly Accidents, Deaths, and Injuries (STeADI) fall risk algorithm in a nationally representative sample

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(Copyright © 2017, BMJ Publishing Group)

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Abstract

BACKGROUND: Preventing falls and fall-related injuries among older adults is a public health priority. The Stopping Elderly Accidents, Deaths, and Injuries (STeADI) tool was developed to promote fall risk screening and encourage coordination between clinical and community-based fall prevention resources; however, little is known about the tool's predictive validity or adaptability to survey data. **METHODS:** Data from five annual rounds (2011-2015) of the National Health and Aging Trends Study (NHATS), a representative cohort of adults age 65 years and older in the USA. Analytic sample respondents (n=7392) were categorised at baseline as having low, moderate or high fall risk according to the STeADI algorithm adapted for use with NHATS data. Logistic mixed-effects regression was used to estimate the association between baseline fall risk and subsequent falls and mortality. Analyses incorporated complex sampling and weighting elements to permit inferences at a national level.

RESULTS: Participants classified as having moderate and high fall risk had 2.62 (95% CI 2.29 to 2.99) and 4.76 (95% CI 3.51 to 6.47) times greater odds of falling during follow-up compared with those with low risk, respectively, controlling for sociodemographic and health-related risk factors for falls. High fall risk was also associated with greater likelihood of falling multiple times annually but not with greater risk of mortality.

CONCLUSION: The adapted STeADI clinical fall risk screening tool is a valid measure for predicting future fall risk using survey cohort data. Further efforts to standardise screening for fall risk and to coordinate between clinical and community-based fall prevention initiatives are warranted.

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Relationships between self perceptions and physical activity behaviour, fear of falling, and physical function among older adults

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DOI 10.1186/s11556-017-0185-3 **PMID** 28943974 **PMCID** PMC5607601

Abstract

BACKGROUND: There has been a lack of research examining the relationship among self-perceptions, behaviour, cognitions and functioning in older adults. This study, therefore, examined the relationship between global and physical self-perceptions, physical activity behaviour, and fear of falling taking into considerations objective measures of physical functioning in community dwelling older adults.

METHODS/DESIGN: Sixty-six participants between 60 and 90 years old (71.9 ± 6.6 years; 47 females; 19 males) completed questionnaires assessing physical and global self-description (PDSQ), planned and incidental physical activity behaviour (IPEQ), and falls efficacy (Short FES-I) as well as tests measuring physical functioning. Backwards multiple linear regression modelling was used to assess possible relationships among variables.

RESULTS: Findings showed that physical self-perceptions (activity, coordination, endurance, flexibility) were associated with self-reported planned and incidental PA whereas sit-to-stand was the only objectively measured physical functioning variable associated with planned PA. Similarly, more falls, global self-esteem, general physical and domain specific physical self-perceptions (flexibility and strength) as well as knee strength were associated with fear of falling. There were also associations between some of the objectively measured physical functioning variables and self-perceptions of the physical self, providing some predictive validity for the PDSQ.

CONCLUSIONS: The findings of this study come to corroborate that the belief system of older adults ideally need to be taken into consideration when designing interventions that aim to enhance PA behaviour or reduce fear of falling. Coupling that with goal-setting, life coaching and behaviour change strategies would also be beneficial to address engagement and adherence to such interventions. **TRIAL REGISTRATION:** This trial was retrospectively registered with the Australian New Zealand Clinical Trials Registry - Registry No. ACTRN12614000700639 on the Jul 03rd 2014.

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Study of fall risk-increasing drugs in elderly patients before and after a bone fracture

Beunza-Sola M, Hidalgo-Ovejero ÁM, Martí-Ayerdi J, Sánchez-Hernández JG, Menéndez-García M, García-Mata S.

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DOI 10.1136/postgradmedj-2017-135129 **PMID** 28916557

Abstract

BACKGROUND: Accidental falls have a significant economic and human impact. The use of certain drugs is one of the modifiable risk factors associated with these events.

OBJECTIVE: The aim of this study was to determine the prevalence of use and to explore changes in treatment with fall-related drugs in patients over 65 years of age admitted as a result of a fall-related fracture.

METHODS: Observational and prospective study performed in a tertiary level hospital. A list of fall

risk-increasing drugs (FRIDs) was drawn up. The main study variables were number and type of FRIDs prescribed at admission and 1 month after the fracture and number, type, treating physician and place where changes in FRIDs were implemented.

RESULTS: In total, 252 patients were included. At admission, 91.3% were receiving at least one FRID, mean daily use was 3.1 FRIDs and the most frequently prescribed FRIDs were diuretics (18%), renin-angiotensin system-acting agents (15.8%) and antidepressants (15%). One month later, mean daily use was 3.4 FRIDs ($p=0.099$) and a significant increase was detected in the use of hypnotics ($p=0.003$) and antidepressants ($p=0.042$). A total of 327 changes in treatment were recorded (1.3 changes/patient). Of the changes, 52.6% were new prescriptions, 72.2% occurred at discharge and 56.6% were ordered by a geriatrician.

CONCLUSIONS: The use of FRIDs among patients with a fall-related fracture is very high. This use rises 1 month after the fracture, significantly in the case of hypnotics and antidepressants.

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The association between cognitive fluctuations and activities of daily living and quality of life among institutionalized patients with dementia

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Int. J. Geriatr. Psychiatry 2017; ePub(ePub): ePub.

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DOI 10.1002/gps.4788 **PMID** 28940504

Abstract

OBJECTIVE: Cognitive fluctuations (CFs) occur commonly in dementia of all types. While it is generally accepted that CFs can affect the clinical rating of dementia severity and neuropsychological performance, little is known about their impact on patients' activities of daily living (ADLs) and quality of life (QOL). Our study aims to explore the impact of CFs on ADLs and QOL among institutionalized patients with dementia.

METHODS: The present study examined the nature and frequency of CFs in 55 institutionalized dementia patients. We used the Dementia Cognitive Fluctuation Scale (DCFS) to assess the presence and severity of CFs. The Alzheimer's Disease Functional Assessment of Change Scale (ADFACS) was used to assess patients' ADLs, and the Quality of Life in Late Stage Dementia scale (QUALID) was used to assess QOL. Linear regression models were used to assess the relationships between CFs, ADLs, and QOL.

RESULTS: The mean age of the patients was 90.41 years ($SD = 2.84$). Their mean Aggressive Behavior Scale score was 1.13 ($SD = 1.59$), mean Severe Impairment Battery total score was 86.65 ($SD = 13.77$), and mean DCFS score was 10.07 ($SD = 3.04$). The mean ADFACS-ADL score was 10.88 ($SD = 6.37$), mean ADFACS-IADL score was 16.61 ($SD = 9.54$), and mean QUALID total score was 18.25 ($SD = 5.70$). DCFS significantly predicted ADFACS-ADL score ($R(2) = 0.39$, $\beta = 0.30$, $P = .011$) although the relationship between ADFACS-IADL score and DCFS score was not significant ($R(2) = 0.16$, $P = .111$). DCFS significantly predicted QUALID score ($R(2) = 0.08$, $\beta = 0.29$, $P = .033$).

CONCLUSION: More severe CFs in patients with dementia were significantly associated with

impaired ability to engage in ADLs and poorer QOL.

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PDF Y Endnote Y

The experience of recurrent fallers in the first year after stroke

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Abstract

PURPOSE: Understanding the experiences of fallers after stroke could inform falls-prevention interventions, which have not yet shown effectiveness in this population. The aim of this study was to explore the experience of recurrent fallers post-stroke in relation to recovery and living with falls. **METHODS:** Participants who had more than one fall in the first year after stroke were identified from a prospective cohort study. The methods of grounded theory informed data collection and analysis. Semi-structured interviews were conducted, audio-recorded and transcribed. Coding was conducted and categories were developed inductively.

RESULTS: Nine stroke survivors aged 53-85 were interviewed 18-22 months post-discharge. Participants had experienced between 2 and 9 falls and one participant suffered a fracture. Three inter-linked categories were identified: (i) Judging the importance of falls by exploring cause and consequence, (ii) getting back up, and (iii) being careful.

CONCLUSIONS: Stroke survivors' assessment of their own falls-risk and their individual priorities contribute to their decisions around activity participation. "Being careful" could be described as a form of self-managing falls-risk. The inclusion of self-management principles, peer-educators, and education to rise from the floor in falls-management programmes warrants investigation. Not all falls were considered equally important by participants. This could be considered when defining falls-related outcomes. Implications for Rehabilitation Healthcare professionals may be able to offer an increased sense of control to stroke survivors through education about how to avoid particular causes and consequences of falls. Falls-related advice should be specific, relevant to the individual, and respectful of their sense of identity. Being able to rise from the floor appears to be important for coping with falls and falls-risk. Professionals should be cognisant of the potential differences of opinion between stroke survivors and their families around management of falls-risk.

PDF Y Endnote Y

The impact of closed versus open kinetic chain exercises on osteoporotic femur neck and risk of fall in postmenopausal women

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DOI 10.1589/jpts.29.1612 **PMID** 28931999 **PMCID** PMC5599832

Abstract

PURPOSE: This study aimed to investigate how closed and open kinetic chain exercises differed in their impact on bone mineral density (BMD) and fall risk in postmenopausal women with osteoporosis.

SUBJECTS AND METHODS: The research sample consisted of 40 postmenopausal women with osteoporosis with ages between 51 and 58 years old. They were divided at random into two groups of 20 each, respectively receiving closed and open kinetic chain exercises. These exercises were administered three times per week over a period of four sequential months. Prior to and following the treatment, Dual X-ray Absorptiometry (DEXA) was used to measure the BMD of the femur neck in every participant, while the Biodex Stability System (BSS) was used to estimate how likely each participant was to sustain a fall.

RESULTS: The strongest effect on BMD and fall risk was recorded by the closed kinetic chain exercise.

CONCLUSION: Osteoporotic postmenopausal women should be prescribed closed kinetic chain exercise to diminish the effects of the disease and minimise their risk of fall.

PDF Y Endnote Y

The influence of body mass index, sex, & muscle activation on pressure distribution during lateral falls on the hip

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Ann. Biomed. Eng. 2017; ePub(ePub): ePub.

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Abstract

Hip fracture incidence rates are influenced by body mass index (BMI) and sex, likely through mechanistic pathways that influence dynamics of the pelvis-femur system during fall-related impacts. The goal of this study was to extend our understanding of these impact dynamics by investigating the effects of BMI, sex, and local muscle activation on pressure distribution over the hip region during lateral impacts. Twenty participants underwent "pelvis-release experiments" (which simulate a lateral fall onto the hip), including muscle-'relaxed' and 'contracted' trials. Males and low-BMI individuals exhibited 44 and 55% greater peak pressure, as well as 66 and 56% lower peripheral hip force, compared to females and high-BMI individuals, respectively. Local muscle activation increased peak force by 10%, contact area by 17%, and peripheral hip force by 11% compared to relaxed trials. In summary, males and low-BMI individuals exhibited more concentrated loading over the greater trochanter. Muscle activation increased peak force, but this force was distributed over a larger area, preventing increased localized loading over the greater trochanter. These findings suggest potential value in incorporating sex, gender, and muscle activation-specific force distributions as inputs into computational tissue-level models, and have implications for the design of personalized protective devices including wearable hip protectors.

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The Semmes-Weinstein Monofilament Examination for predicting physical performance and the risk of falls in older people: results from the Pro.V.A. longitudinal study

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Abstract

OBJECTIVES: to investigate whether Semmes Weinstein Monofilament Examination (SWME) was associated with, and could predict measures of physical performance and the risk of fall in elderly subjects.

DESIGN: prospective study (mean follow-up 4.4-years). **SETTING:** community. **SUBJECTS:** 2826 older subjects enrolled in the Progetto Veneto Anziani (Pro.V.A.), an Italian population-based cohort study. For longitudinal analyses, we considered a subsample of 1885 persons who did not report falls at baseline. **INTERVENTIONS:** not applicable. **MAIN OUTCOME MEASURES:** falls reported in the year preceding the assessment and Short Physical Performance Battery (SPPB) were recorded at baseline and again after 4.4 years.

RESULTS: At baseline, 830 (29.4%) subjects had experienced falls in the previous year, with a higher prevalence of falls in those positive at SWME (SWME+) than in those negative at SWME (SWME-) (35.8% vs 28.0%, $p=0.001$). Using logistic regression, SWME+ subjects had a significant 66% higher risk of presenting worse SPPB score (95%CI: 1.51-1.83), and between 25% and 32% higher risks of having experienced at least one or recurrent falls, than those SWME-. The incidence of falls at follow-up was higher in the SWME+ compared with the SWME- group (42.2% vs 30.7%, $p=0.001$), and multinomial logistic regression showed that the former had a 13% higher risk of decline in SPPB scores (95%CI: 1.03-1.25), particularly for gait and balance, 48% higher risk of having had at least one fall and 77% higher risk of recurrent falls. At both baseline and follow-up, the larger the extension of neuropathy (SWME- vs unilateral vs bilateral SWME+), the greater its negative impact on falls and physical performance.

CONCLUSION: SMWE was associated with, and could predict lower-extremity physical performance and falls in older people.

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Vitamin D status in relation to physical performance, falls and fractures in the longitudinal aging study Amsterdam: a reanalysis of previous findings using standardized serum 25-hydroxyvitamin D values

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Abstract

The Longitudinal Aging Study Amsterdam (LASA) is an ongoing prospective cohort study in a representative sample of Dutch older persons. In previous LASA studies, lower serum 25-hydroxyvitamin D (25(OH)D) values, as assessed by a competitive protein binding assay or radioimmunoassay, have been associated with decreased physical functioning, falls and fractures. Recently, serum 25(OH)D values in LASA were standardized using the Vitamin D Standardization Program (VDSP) protocol as part of the European ODIN project. In the current manuscript, the influence of standardizing serum 25(OH)D values will be discussed using the associations with

physical functioning, falls and fractures as examples.

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Alternative facts? Antidepressants and falls in older adults

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Abstract [Abstract unavailable]

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Longitudinal study of falls among HIV-infected and uninfected women: the role of cognition

Sharma A, Hoover DR, Shi Q, Holman S, Plankey MW, Tien PC, Weber KM, Floris-Moore M, Bolivar HH, Vance DE, Golub ET, Holstad MM, Yin MT.

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Abstract

BACKGROUND: Although fracture rates are higher in HIV+ than HIV- women, whether HIV infection increases risk of falls is unclear. We determined the longitudinal occurrence and risk factors for falls in the Women's Interagency HIV Study (WIHS), and explored associations with cognitive complaints. **METHODS:** Recent (prior 6 months) self-reported falls were collected in 1816 (1250 HIV+; 566 HIV-) women over 24 months. Generalized estimating equation models using stepwise selection determined odds of any fall (vs. none).

RESULTS: HIV+ women were older than HIV- women (median 49 vs. 47yrs, $p=0.0004$), more likely to report neuropathy (20% vs. 16%, $p=0.023$), and had greater central nervous system (CNS) medication use. At least one fall was reported in 41% HIV+ vs. 42% HIV- women, including ≥ 2 falls in 25% HIV+ and 24% HIV- (overall $p=0.30$). Cognitive complaints were associated with falls among HIV+ [odds ratio (OR) 2.38; 95% CI: 1.83-3.09] and HIV- women (OR 3.43; 95% CI: 2.37-4.97); in adjusted models, cognitive complaints remained significant only in HIV- women [adjusted (aOR) 2.26; 95%CI: 1.46, 3.48]. Factors associated with any fall in adjusted analyses included: depressive symptoms and neuropathy (both HIV+ and HIV-); age, marijuana use, multiple CNS medications, and hepatitis C virus infection (HIV+ only); and cognitive complaints, quality of life, hypertension, and obesity (HIV- only).

CONCLUSIONS: Middle-aged HIV+ and HIV- women had similar fall rates. Among HIV+ women, factors affecting cognition such as age, depressive symptoms, marijuana use, and multiple CNS medications were important predictors of falls, however cognitive complaints were not.

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Natural history of falls in an incident cohort of Parkinson's disease: early evolution, risk and protective features

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Abstract

The natural history of falls in early Parkinson's disease (PD) is poorly understood despite the profound effect of falls on outcome. The primary aim of this study was to describe the natural history of falls, and characterise fallers over 54 months in 99 newly diagnosed people with PD. Seventy-nine (79.7%) participants fell over 54 months and 20 (20.3%) remained falls-naïve. Twenty six (26.2%) reported retrospective falls at baseline. Gait outcomes, disease severity and self-efficacy significantly discriminated across groups. Subjective cognitive complaints emerged as the only significant cognitive predictor. Without exception, outcomes were better for non-fallers compared with fallers at any time point. Between group differences for 54 month fallers and non-fallers were influenced by the inclusion of retrospective fallers and showed a broader range of discriminant characteristics, notably stance time variability and balance self-efficacy. Single fallers ($n = 7$) were significantly younger than recurrent fallers ($n = 58$) by almost 15 years ($P = 0.013$). Baseline performance in early PD discriminates fallers over 54 months, thereby identifying those at risk of falls. Clinical profiles for established and emergent fallers are to some extent distinct. These results reiterate the need for timely interventions to improve postural control and gait.

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