

SafetyLit August 13 2017**Adherence and attrition in fall prevention exercise programs for community-dwelling older adults: a systematic review and meta-analysis**

Osho O, Owoeye O, Armijo-Olivo S.

J. Aging Phys. Act. 2017; ePub(ePub): ePub.

Affiliation: Institute of Health Economics, Edmonton, Alberta.

(Copyright © 2017, Human Kinetics Publishers)

DOI 10.1123/japa.2016-0326 **PMID** 28771111

Abstract

Fall prevention exercise programs have been reported to be effective in minimizing falls in older adults. However, adherence and attrition in exercise programs remain a challenge. This study reviewed the evidence on how levels of adherence and attrition in fall prevention exercise programs may affect magnitude of effect of fall risk reduction in community-dwelling older adults. A systematic review and meta-analysis of randomized controlled trials on fall prevention exercise programs for community-dwelling older adults aged 65+ years published between 2005 and 2016 from six databases were undertaken. Twenty articles met inclusion criteria.

RESULTS showed that program adherence >80% may result in greater fall risk reduction compared to lower levels of adherence. A possible inverse relationship exists between attrition levels and effect sizes of fall prevention exercise programs. Future studies should properly report falls/fallers and a consensus on a standardized measure for reporting adherence to fall prevention exercise programs is recommended.

PDF Y Endnote Y

Casual effects of informal care and health on falls and other accidents among the elderly population in China

Wu H, Lu N, Wang C, Tu X.

Qual. Life Res. 2017; ePub(ePub): ePub.

Affiliation: Department of Family Medicine and Public Health, UC San Diego School of Medicine, La Jolla, CA, 92093, USA.

(Copyright © 2017, Springer Science+Business Media)

DOI 10.1007/s11136-017-1665-7 **PMID** 28766081

Abstract

PURPOSE: This article analyzes the causal effects of informal care, mental health, and physical health on falls and other accidents (e.g., traffic accidents) among elderly people. We also examine if there are heterogeneous impacts on elderly of different gender, urban status, and past accident history.

METHODS: To purge potential reversal causal effects, e.g., past accidents induce more future informal care, we use two-stage least squares to identify the impacts. We use longitudinal data from a representative national China Health and Retirement Longitudinal Study of people aged 45 and older in China. A total of 3935 respondents with two-wave data are included in our study. Each respondent is interviewed to measure health status and report their accident history. Mental health is assessed using CES-D questions.

RESULTS: Our findings indicate that while informal care decreased the occurrence of accidents, poor health conditions increase the occurrence of accidents. We also find heterogeneous impacts on the occurrence of accidents, varying by gender, urban status, and past accident history.

CONCLUSIONS: Our findings suggest the following three policy implications. First, policy makers who aim to decrease accidents should take informal care of elders into account. Second, ease of birth policy and postponed retirement policy are urgently needed to meet the demands of informal care. Third, medical policies should attach great importance not only to physical health but also mental health of elderly parents especially for older people with accident history.

PDF Y Endnote Y

Differences of muscle co-contraction of the ankle joint between young and elderly adults during dynamic postural control at different speeds

Iwamoto Y, Takahashi M, Shinkoda K.

J. Physiol. Anthropol. 2017; 36(1): e32.

Affiliation: The Center for Advanced Practice and Research of Rehabilitation, Graduate School of Biomedical and Health Sciences, Hiroshima University, 2-3 Kasumi 1-chome, Minami-ku, Hiroshima, 734-8553, Japan. biomec@hiroshima-u.ac.jp.

(Copyright © 2017, Japan Society of Physiological Anthropology)

DOI 10.1186/s40101-017-0149-3 **PMID** 28764814

Abstract

BACKGROUND: Agonist and antagonist muscle co-contractions during motor tasks are greater in the elderly than in young adults. During normal walking, muscle co-contraction increases with gait speed in young adults, but not in elderly adults. However, no study has compared the effects of speed on muscle co-contraction of the ankle joint during dynamic postural control in young and elderly adults. We compared muscle co-contractions of the ankle joint between young and elderly subjects during a functional stability boundary test at different speeds.

METHODS: Fifteen young adults and 16 community-dwelling elderly adults participated in this study. The task was functional stability boundary tests at different speeds (preferred and fast).

Electromyographic evaluations of the tibialis anterior and soleus were recorded. The muscle co-contraction was evaluated using the co-contraction index (CI).

RESULTS: There were no statistically significant differences in the postural sway parameters between the two age groups. Elderly subjects showed larger CI in both speed conditions than did the young subjects. CI was higher in the fast speed condition than in the preferred speed condition in the young subjects, but there was no difference in the elderly subjects. Moreover, after dividing the analytical range into phases (acceleration and deceleration phases), the CI was larger in the deceleration phase than in the acceleration phase in both groups, except for the young subjects in the fast speed conditions.

CONCLUSIONS: Our results showed a greater muscle co-contraction of the ankle joint during dynamic postural control in elderly subjects than in young subjects not only in the preferred speed condition but also in the fast speed condition. In addition, the young subjects showed increased muscle co-contraction in the fast speed condition compared with that in the preferred speed condition; however, the elderly subjects showed no significant difference in muscle co-contraction between the two speed conditions. This indicates that fast movements cause different influences on dynamic postural control in elderly people, particularly from the point of view of muscle activation. These findings highlight the differences in the speed effects on muscle co-contraction of the ankle joint during dynamic postural control between the two age groups.

PDF Y Endnote Y

Does baseline depression increase the risk of unexplained and accidental falls in a cohort of community-dwelling older people? Data from The Irish Longitudinal Study on Ageing (TILDA)

Briggs R, Kennelly SP, Kenny RA.

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

Affiliation: Department of Medical Gerontology, Mercer's Institute for Successful Ageing, St. James Hospital, Dublin 8, Ireland.

(Copyright © 2017, John Wiley and Sons)

DOI 10.1002/gps.4770 **PMID** 28766755

Abstract

BACKGROUND: Depression independently increases the risk of falls in older people, but the mechanism for this relationship, as well as the specific falls type involved, remains unclear. Accidental falls (AFs) are due to slips or trips, while the cause of unexplained falls (UFs) is not immediately apparent and can include unrecognised syncope.

METHOD: This longitudinal study examines the relationship between baseline depression and subsequent falls, both accidental and unexplained, at 2-year follow-up in a cohort of community dwelling adults aged ≥ 50 years. Baseline depression was defined as a score ≥ 16 on The Centre for Epidemiological Studies Depression Scale. At follow-up, participants were assessed regarding falls since last interview.

RESULTS: One-third (228/647) of the depressed group had fallen at follow-up, compared with 22% (1388/6243) of the nondepressed group ($P < .001$). Multiple logistic regression models demonstrated that depression was associated with an odds ratio of 1.58 (1.31-1.89) $P < .001$; 1.24 (1.00-1.52), $P = .046$; and 1.89 (1.45-2.46), $P < .001$ for total falls, AFs and UFs, respectively, after controlling for relevant covariates. Participants with depression who fell were more likely to have prior falls, functional impairment and slower gait when compared with depressed participants who did not fall.

DISCUSSION: The risk of falls associated with depression in older adults is more marked for UFs, with the association for AFs approaching borderline significance only. This finding is important because UFs require focused clinical assessment with attention to potential causes such as cardiac arrhythmia or orthostatic hypotension.

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Effect of hearing aids on static balance function in elderly with hearing loss

Negahban H, Bavarsad Cheshmeh Ali M, Nassadj G.

Gait Posture 2017; 58: 126-129.

Affiliation: Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran. Electronic address: nassadj@yahoo.com.

(Copyright © 2017, Elsevier Publishing)

DOI 10.1016/j.gaitpost.2017.07.112 **PMID** 28772132

Abstract

While a few studies have investigated the relationship between hearing acuity and postural control, little is known about the effect of hearing aids on postural stability in elderly with hearing loss. The aim was to compare static balance function between elderly with hearing loss who used hearing aids and those who did not use. The subjects asked to stand with (A) open eyes on rigid surface (force platform), (B) closed eyes on rigid surface, (C) open eyes on a foam pad, and (D) closed eyes on a foam pad. Subjects in the aided group ($n=22$) were tested with their hearing aids turned on and hearing aids turned off in each experimental condition. Subjects in the unaided group ($n=25$) were tested under the same experimental conditions as the aided group. Indicators for postural stability were center of pressure (COP) parameters including; mean velocity, standard deviation (SD) velocity in anteroposterior (AP) and mediolateral (ML) directions, and sway area (95% confidence ellipse). The results showed that within open eyes-foam surface condition, there was greater SD velocity in the off-aided than the on-aided and the unaided than the on-aided ($p < 0.0001$ for SD velocity in AP and ML). Also, no significant differences were found between the off-aided and unaided group ($p=0.56$ and $p=0.77$ for SD velocity in AP and ML, respectively). Hearing aids improve static balance function by reducing the SD velocity. Clinical implications may include improving hearing inputs in order to increase postural stability in older adults with hearing loss.

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Falls: the adverse drug reaction of the elderly and the impact of pharmacogenetics

Just KS, Schneider KL, Schurig M, Stingl JC, Brockmüller J.

Pharmacogenomics 2017; ePub(ePub): ePub.

Affiliation: Institute of Clinical Pharmacology, University of Göttingen, Göttingen, Germany.

(Copyright © 2017, Future Medicine)

DOI 10.2217/pgs-2017-0018 PMID 28776468

Abstract

Falls is a frequent type of adverse drug reactions causing significant morbidity and mortality in the elderly. We reviewed, with which drugs the risk of falls is relevant and might depend on genomic variation. Pharmacogenetic variability may contribute to drug-induced falls for instance mediated by impaired drug elimination due to inherited deficiency in enzymes like CYP2C9, CYP2C19 and CYP2D6. The relative role of specific genes and polymorphisms in old age may differ from younger people. Biomarkers for frailty, but also genomic biomarkers might help identifying patients at high risk for drug-induced falls. Many other factors including disease and drug-drug interactions also contribute to risk of falls. Further studies analyzing the impact of genomic variation on the medication-related fall risk in the older adult are urgently needed.

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Feasibility, acceptability and diagnostic test accuracy of frailty screening instruments in community-dwelling older people within the Australian general practice setting: a study protocol for a cross-sectional study

Ambagtsheer R, Visvanathan R, Cesari M, Yu S, Archibald M, Schultz T, Karnon J, Kitson A, Beilby J. *BMJ Open* 2017; 7(8): e016663.

Affiliation: Torrens University Australia, Adelaide, South Australia, Australia.

(Copyright © 2017, BMJ Publishing Group)

DOI 10.1136/bmjopen-2017-016663 PMID 28775191

Abstract

INTRODUCTION: Frailty is one of the most challenging aspects of population ageing due to its association with increased risk of poor health outcomes and quality of life. General practice provides an ideal setting for the prevention and management of frailty via the implementation of preventive measures such as early identification through screening.

METHODS AND ANALYSIS: Our study will evaluate the feasibility, acceptability and diagnostic test accuracy of several screening instruments in diagnosing frailty among community-dwelling Australians aged 75+ years who have recently made an appointment to see their general practitioner (GP). We will recruit 240 participants across 2 general practice sites within South Australia. We will invite eligible patients to participate and consent to the study via mail. Consenting participants will attend a screening appointment to undertake the index tests: 2 self-reported (Reported Edmonton Frail Scale and Kihon Checklist) and 5 (Frail Scale, Groningen Frailty Index, Program on Research for Integrating Services for the Maintenance of Autonomy (PRISMA-7), Edmonton Frail Scale and Gait Speed Test) administered by a practice nurse (a Registered Nurse working in general practice). We will randomise test order to reduce bias. Psychosocial measures will also be collected via questionnaire at the appointment. A blinded researcher will then administer two reference standards (the Frailty Phenotype and Adelaide Frailty Index). We will determine frailty by a cut-point of 3 of 5 criteria for the Phenotype and 9 of 42 items for the AFI. We will determine accuracy by analysis of sensitivity, specificity, predictive values and likelihood ratios. We will assess feasibility and acceptability by: 1) collecting data about the instruments prior to collection; 2) interviewing screeners after data collection; 3) conducting a pilot survey with a 10% sample of participants.

ETHICS AND DISSEMINATION: The Torrens University Higher Research Ethics Committee has approved this study. We will disseminate findings via publication in peer-reviewed journals and presentation at relevant conferences.

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How clinical practitioners assess frailty in their daily practice: an international survey

Bruyere O, Buckinx F, Beudart C, Reginster JY, Bauer J, Cederholm T, Cherubini A, Cooper C, Cruz-Jentoft AJ, Landi F, Maggi S, Rizzoli R, Sayer AA, Sieber C, Vellas B, Cesari M.

Aging Clin. Exp. Res. 2017; ePub(ePub): ePub.

Affiliation: G erontop le de Toulouse, D epartement de M edecine Interne et G erontologie Clinique, Centre Hospitalo-Universitaire de Toulouse, Toulouse, France.

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DOI 10.1007/s40520-017-0806-8 **PMID** 28770478

Abstract

INTRODUCTION: Various operational definitions have been proposed to assess the frailty condition among older individuals. Our objective was to assess how practitioners measure the geriatric syndrome of frailty in their daily routine.

METHODS: An online survey was sent to national geriatric societies affiliated to the European Union Geriatric Medicine Society (EUGMS) and to members of the European Society for Clinical and Economic Aspects of Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (ESCEO).

RESULTS: A total of 388 clinicians from 44 countries answered to the survey. Most of them were medical doctors (93%), and their primary field of practice was geriatrics (83%). Two hundred and five clinicians (52.8%) always assessed frailty in their daily practice, 38.1% reported to "sometimes" measure it, and 9.1% never assess it. A substantial proportion of clinicians (64.9%) diagnose frailty using more than one instrument. The most widely used tool was the gait speed test, adopted by 43.8% of the clinicians, followed by clinical frailty scale (34.3%), the SPPB test (30.2%), the frailty phenotype (26.8%) and the frailty index (16.8%).

CONCLUSION: A variety of tools is used to assess frailty of older patients in clinical practice highlighting the need for standardisation and guidelines.

PDF Y Endnote Y

Predicting falls in older adults using the four square step test

Cleary K, Skorniyakov E.

Physiother. Theory Pract. 2017; ePub(ePub): ePub.

Affiliation: Department of Integrative Physiology and Neuroscience , Washington State University , Spokane , WA , USA.

(Copyright   2017, Informa - Taylor and Francis Group)

DOI 10.1080/09593985.2017.1354951 **PMID** 28771062

Abstract

The Four Square Step Test (FSST) is a performance-based balance tool involving stepping over four single-point canes placed on the floor in a cross configuration. The purpose of this study was to evaluate properties of the FSST in older adults who lived independently. Forty-five community dwelling older adults provided fall history and completed the FSST, Berg Balance Scale (BBS), Timed Up and Go (TUG), and Tinetti in random order. Future falls were recorded for 12 months following testing. The FSST accurately distinguished between non-fallers and multiple fallers, and the 15-second threshold score accurately distinguished multiple fallers from non-multiple fallers based on fall history. The FSST predicted future falls, and performance on the FSST was significantly correlated with performance on the BBS, TUG, and Tinetti. However, the test is not appropriate for older adults who use walkers. Overall, the FSST is a valid yet underutilized measure of balance performance and fall prediction tool that physical therapists should consider using in ambulatory community dwelling older adults.

PDF Y Endnote Y

Promoting ADL independence in vulnerable, community-dwelling older adults: a pilot RCT comparing 3-Step Workout for Life versus resistance exercise

Liu CJ, Xu H, Keith NR, Clark DO.

Clin. Interv. Aging 2017; 12: 1141-1149.

Affiliation: Indiana University School of Medicine, Indianapolis, IN, USA.

(Copyright © 2017, Dove Medical Press)

DOI 10.2147/CIA.S136678 **PMID** 28769559 **PMCID** PMC5529091

Abstract

BACKGROUND: Resistance exercise is effective to increase muscle strength for older adults; however, its effect on the outcome of activities of daily living is often limited. The purpose of this study was to examine whether 3-Step Workout for Life (which combines resistance exercise, functional exercise, and activities of daily living exercise) would be more beneficial than resistance exercise alone.

METHODS: A single-blind randomized controlled trial was conducted. Fifty-two inactive, community-dwelling older adults (mean age =73 years) with muscle weakness and difficulty in activities of daily living were randomized to receive 3-Step Workout for Life or resistance exercise only. Participants in the 3-Step Workout for Life Group performed functional movements and selected activities of daily living at home in addition to resistance exercise. Participants in the Resistance Exercise Only Group performed resistance exercise only. Both groups were comparable in exercise intensity (moderate), duration (50-60 minutes each time for 10 weeks), and frequency (three times a week). Assessment of Motor and Process Skills, a standard performance test on activities of daily living, was administered at baseline, postintervention, and 6 months after intervention completion.

RESULTS: At postintervention, the 3-Step Workout for Life Group showed improvement on the outcome measure (mean change from baseline =0.29, P=0.02), but the improvement was not greater than the Resistance Exercise Only Group (group mean difference =0.24, P=0.13). However, the Resistance Exercise Only Group showed a significant decline (mean change from baseline =-0.25, P=0.01) 6 months after the intervention completion. Meanwhile, the superior effect of 3-Step Workout for Life was observed (group mean difference =0.37, P<0.01).

CONCLUSION: Compared to resistance exercise alone, 3-Step Workout for Life improves the performance of activities of daily living and attenuates the disablement process in older adults.

PDF Y Endnote Y

Relating factors to severe injury from outdoor falls in older people

Jung HY, Kim SH, Lee SC, Kim S, Cho GC, Kim MJ, Lee JS, Han C.

Geriatr. Gerontol. Int. 2017; ePub(ePub): ePub.

Affiliation: Department of Emergency Medicine, Ewha Womans University, School of Medicine, Seoul, Korea.

(Copyright © 2017, Japan Geriatrics Society, Publisher John Wiley and Sons)

DOI 10.1111/ggi.13144 **PMID** 28776901

Abstract

AIM: The aim of the present study was to evaluate the clinical characteristics, including floor characteristics and factors, related to severe injury from outdoor falls in older adults.

METHODS: Patients were divided into two groups based on injury severity: the severe group and non-severe group. The clinical and general characteristics were compared between the two groups, and factors associated with severe injury were investigated.

RESULTS: Approximately 5% (364/7635) of older people involved in outdoor falls were classified into severe injury. The proportion of men and the rate of alcohol ingestion were higher in the severe group compared with that in the non-severe group. Falling from stairs was a more frequent mechanism of fall in the severe group compared with that in the non-severe group. Non-slippery floor condition had a higher proportion in the severe group than that in the non-severe group. Head and neck were the predominantly injured regions in both groups. Discharge was the most common

result of emergency department treatment in the non-severe group, whereas admission to intensive care unit was the main result in the severe group. Multivariate logistic analysis showed that male sex and falls from stairs rather than slipping down on the same level were associated with severe injury. CONCLUSIONS: Floor characteristics did not influence injury severity; however, the risk of severe injury from outdoor falls in older adults was high in men and those who fell from stairs.

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Rest-activity patterns and falls and fractures in older men

Rogers TS, Blackwell TL, Lane NE, Tranah G, Orwoll ES, Cauley JA, Ancoli-Israel S, Stone KL, Cummings SR, Cawthon PM.

Osteoporos. Int. 2017; 28(4): 1313-1322.

(Copyright © 2017, Springer Science+Business Media)

DOI 10.1007/s00198-016-3874-2 PMID unavailable

Abstract

SUMMARY: Dysregulated rest-activity rhythm (RAR) patterns have been associated with several health conditions in older adults. This study showed that later acrophase was associated with a modestly greater risk of falls but not fractures in elderly men. Associations between dysregulated RAR patterns and osteoporosis risk warrant further investigation.

PURPOSE: The purpose of this study was to investigate the relationship between rest-activity rhythm (RAR) patterns and risk of falls/fractures in older men. We hypothesized that dysregulated RAR would be associated with incident falls/fractures.

METHODS: We used wrist-worn actigraphy to measure RAR over 4.8 ± 0.8 24-h periods in men (≥ 67 years) enrolled in the multicenter Outcomes of Sleep Disorders in Men (MrOS Sleep) Study ($n = 3001$). Men were contacted every 4 months to report occurrence of falls/fractures. RAR parameters included amplitude (difference between peak and nadir activity in counts/minute), mesor (activity counts/minute), acrophase (time of day of peak activity), and pseudo-F statistic (rhythm robustness) and were evaluated as continuous variables with associations reported per SD increase/decrease in models adjusted for confounders. Logistic regression was used to estimate the likelihood (odds ratio, OR) of recurrent falls in the year after the visit. Proportional hazards models were used to estimate the risk (hazard ratio, HR) of fractures.

RESULTS: One year after the visit, 417 men (14%) had recurrent (≥ 2) falls. Later acrophase (OR 1.18, 95% CI 1.06-1.32) was associated with a modestly greater likelihood of falls. In 8.6 years (SD 2.6 years) of $>97\%$ complete follow-up, 256 men (8.53%) had a major osteoporotic fracture, 85 (2.8%) had a clinical spine fracture, and 110 (3.7%) had a hip fracture. No consistent, significant associations were observed between RAR patterns and fractures.

CONCLUSIONS: Later acrophase was associated with a modestly greater risk of falls; this association did not translate into a higher fracture risk in this cohort of elderly men.

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Risk factors for falls in older adults with mild cognitive impairment and mild Alzheimer disease

Ansai JH, de Andrade LP, Masse FAA, Gonçalves J, de Medeiros Takahashi AC, Vale FAC, Rebelatto JR.

J. Geriatr. Phys. Ther. 2017; ePub(ePub): ePub.

Affiliation: Department of Physical Therapy, Federal University of São Carlos, Brazil. Department of Medicine, Federal University of São Carlos, Brazil.

(Copyright © 2017, American Physical Therapy Association)

DOI 10.1519/JPT.000000000000135 PMID 28786910

Abstract

BACKGROUND AND PURPOSE: Understanding fall risk factors in people with mild cognitive impairment (MCI) and Alzheimer disease (AD) can help to establish specific plans for prevention of falls. The purpose of this study was to identify fall risk factors in older adults with MCI and mild AD.

METHODS: A prospective study was conducted with community-dwelling older adults (40 MCI; 38 mild AD). The assessments consisted of sociodemographic and health variables, caloric expenditure, functional status, functional mobility (10-m walk test, dual-task test, and transition Timed Up and Go phases), cognitive domains, and depressive symptoms. Falls were recorded for 6 months by a falls calendar and monthly telephone calls.

RESULTS: Falls were reported in 52.6% and 51.4% of people with MCI and mild AD, respectively. Among people with MCI, lower functional status, higher time spent on walk and dual task tests, and higher depressive symptom scores were associated with falls. Higher time spent on the dual-task test was independently associated with falls. Among people with mild AD, falls were associated with lower time spent on the walk test and turn-to-sit phase, and a higher visuospatial domain score. Lower time spent on the turn-to-sit phase was identified as an independent predictor of falls.

CONCLUSIONS: Careful attention should be given to dual-task and turn-to-sit activities when detecting risk of falls among older people with MCI and mild AD.

PDF Endnote Y

Risk of head and traumatic brain injuries associated with antidepressant use among community-dwelling persons with Alzheimer's disease: a nationwide matched cohort study

Taipale H, Koponen M, Tanskanen A, Lavikainen P, Sund R, Tiihonen J, Hartikainen S, Tolppanen AM. *Alzheimers Res. Ther.* 2017; 9(1): e59.

Affiliation: Research Centre for Comparative Effectiveness and Patient Safety (RECEPS), University of Eastern Finland, PO Box 1627, 70211, Kuopio, Finland.

(Copyright © 2017, BioMed Central)

DOI 10.1186/s13195-017-0285-3 **PMID** 28764750

Abstract

BACKGROUND: Antidepressant use has been associated with an increased risk of falling, but no studies have been conducted on whether antidepressant use is associated with an increased risk of head injuries which often result from falling among older persons. The objective of this study was to investigate the risk of head and brain injuries associated with antidepressant use among community-dwelling persons with Alzheimer's disease.

METHODS: A matched cohort study was conducted by comparing new antidepressant users ($n = 10,910$) with two matched nonusers ($n = 21,820$) in the MEDALZ study cohort. The MEDALZ cohort includes all community-dwelling persons newly diagnosed with Alzheimer's disease between 2005 and 2011 in Finland. Incident antidepressant users were identified based on register-based dispensing data from the Prescription register with a 1-year washout period for antidepressant use. Nonusers were matched with users based on age, gender, and time since Alzheimer's disease diagnosis. The outcome events were defined as any head injuries and traumatic brain injuries based on diagnoses in Hospital Discharge and Causes of Death registers. Propensity score adjusted Cox proportional hazard models were utilized. Sensitivity analyses with case-crossover design were conducted. All registers are linkable with unique personal identification numbers assigned for each resident.

RESULTS: Antidepressant use was associated with an increased risk of head injuries (age-adjusted event rate per 100 person-years 2.98 (95% confidence interval (CI) 2.49-3.06) during use and 2.43 (95% CI 2.06-2.35) during nonuse, adjusted hazard ratio (HR) 1.35, 95% CI 1.20-1.52) and traumatic brain injuries (age-adjusted event rate per 100 person-years 1.33 (95% CI 1.13-1.53) during use and 1.10 (95% CI 1.00-1.20) during nonuse, adjusted HR 1.26, 95% CI 1.06-1.50). The risk was highest during the first 30 days of use (HR 1.71, 95% CI 1.10-2.66 for head injuries; HR 2.06, 95% CI 1.12-3.82 for traumatic brain injuries) and remained at an elevated level for head injuries for over 2 years of use. In case-crossover analyses, antidepressant use was consistently associated with a higher risk of head injuries.

CONCLUSIONS: Antidepressant use was associated with an increased risk of the most severe

outcomes, head and brain injuries, in persons with Alzheimer's disease. Antidepressant use should be carefully considered and the association confirmed in future studies.

PDF Y Endnote Y

The effects of the pilates training method on balance and falls of older adults: a systematic review and meta-analysis of randomized controlled trials

Moreno-Segura N, Igual-Camacho C, Ballester-Gil Y, Blasco-Igual MC, Blasco JM.

J. Aging Phys. Act. 2017; ePub(ePub): ePub.

Affiliation: Faculty of Physiotherapy, University of Valencia, Valencia, Spain.

(Copyright © 2017, Human Kinetics Publishers)

DOI 10.1123/japa.2017-0078 **PMID** 28771109

Abstract

Exercising with the Pilates method may be a beneficial treatment to improve balance and decrease the number of falls. To ascertain this, our search in 7 databases included 15 randomized controlled trials in which Pilates was the primary intervention. Participants were over 60 years of age; the outcomes were related to balance and falls. The Cochrane tool and PEDro scale were used to assess risk of bias and quality of individual studies. Current evidence supported the view that exercising with the Pilates method improves the balance of older adults with a high practical effect in terms of the dynamic (SMD=0.75[0.17;1.32]), static (SMD=1.33[0.53;2.13]) and overall balance (SMD=0.96[0.00;1.91]). Pilates also produced greater improvements with a moderate effect in terms of the dynamic (SMD=0.37[-0.36;1.11]) and overall balance (SMD=0.58[0.19;0.96]) compared to other training approaches oriented to the same end. Literature evaluating the effects on falls is scarce, and results were not conclusive.

PDF Y Endnote Y

The need for an elderly centred mobility policy

Aguiar B, Macário R.

Transp. Res. Proc. 2017; 25: 4355-4369.

(Copyright © 2017, Elsevier Publications)

DOI 10.1016/j.trpro.2017.05.309 **PMID** unavailable

Abstract

This paper reflects the ageing process as a normal and universal transformation, their physical and cognitive limitations when faced with a mobility system that is not adapted to the reality of the elders and which facts must be considered in a possible restructuring of the system in order to promote the quality of life of the elderly, access to goods, opportunities and social groups providing them with the necessary empowerment to independently fulfil their needs. Improve mobility is not just a set-directive, but rather a process of multidisciplinary collaboration and coordination with other urban policies and projects, such as health, infrastructure and land use, so that it serves the objectives and needs of the population, promote security for all citizens, reflect community values, and support the activities already under development and foster community sustainability. The objectives described, will have a positive impact on economic vitality, stimulates the development of land use, and promotes a healthier lifestyle and improved interconnectivity between activities. For an approach to these issues, we need to get a better understanding about the individual needs on the public space, the transportation system in social and political context. To satisfy elderly mobility a strategy is needed covering political, educational initiatives towards empowered mobility for elderly people.

PDF Y Endnote Y

Walking modality, but not task difficulty, influences the control of dual-task walking

Wrightson JG, Smeeton NJ.

Gait Posture 2017; 58: 136-138.

Affiliation: Centre for Sport and Exercise Science and Medicine, University of Brighton, Eastbourne, United Kingdom.

(Copyright © 2017, Elsevier Publishing)

DOI 10.1016/j.gaitpost.2017.07.042 **PMID** 28778022

Abstract

During dual-task gait, changes in the stride-to-stride variability of stride time (STV) are suggested to represent the allocation of cognitive control to walking [1]. However, contrasting effects have been reported for overground and treadmill walking, which may be due to differences in the relative difficulty of the dual task. Here we compared the effect of overground and treadmill dual-task walking on STV in 18 healthy adults. Participants walked overground and on a treadmill for 120s during single-task (walking only) and dual-task (walking whilst performing serial subtractions in sevens) conditions. Dual-task effects on STV, cognitive task (serial subtraction) performance and perceived task difficulty were compared between walking modalities. STV was increased during overground dual-task walking, but was unchanged during treadmill dual-task walking. There were no differences in cognitive task performance or perceived task difficulty. These results show that gait is controlled differently during overground and treadmill dual-task walking. However, these differences are not solely due to differences in task difficulty, and may instead represent modality dependent control strategies.

PDF Y Endnote Y

Clinical and community strategies to prevent falls and fall-related injuries among community-dwelling older adults

Taylor-Piliae RE, Peterson R, Mohler MJ.

Nurs. Clin. North Am. 2017; 52(3): 489-497.

Affiliation: Arizona Center on Aging, College of Medicine, University of Arizona, 1807 East Elm Street, Tucson, AZ 85719, USA; Division of Geriatrics, General Internal Medicine, and Palliative Medicine, College of Medicine, University of Arizona, 1501 N. Campbell Avenue, Tucson, AZ 85724, USA; Mel and Enid Zuckerman College of Public Health, University of Arizona, 295 N. Martin Avenue, Tucson, AZ 85724, USA.

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DOI 10.1016/j.cnur.2017.04.004 **PMID** 28779828

Abstract

Falls in older adults are the result of several risk factors across biological and behavioral aspects of the person, along with environmental factors. Falls can trigger a downward spiral in activities of daily living, independence, and overall health outcomes. Clinicians who care for older adults should screen them annually for falls. A multifactorial comprehensive clinical fall assessment coupled with tailored interventions can result in a dramatic public health impact, while improving older adult quality of life. For community-dwelling older adults, effective fall prevention has the potential to reduce serious fall-related injuries, emergency room visits, hospitalizations, institutionalization, and functional decline.

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Development of a balance, safe mobility and falls management programme for people with multiple sclerosis

Gunn H, Endacott R, Haas B, Marsden J, Freeman

J. Disabil. Rehabil. 2017; ePub(ePub): ePub.

Affiliation: School of Health Professions , Plymouth University , Plymouth , UK.

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DOI 10.1080/09638288.2017.1362041 PMID 28783979

Abstract

PURPOSE: To utilise stakeholder input to inform the structure, format and approach of a multiple sclerosis (MS) balance, safe mobility and falls management programme.

MATERIALS AND METHODS: Using a three-round nominal group technique, participants individually rated their agreement with 20 trigger statements, followed by a facilitated group discussion and re-rating. Three mixed groups included service users (n = 15) and providers (n = 19). Quantitative analysis determined agreement, whilst qualitative responses were analysed thematically.

RESULTS: Median scores for each of the 20 trigger statements did not change significantly over sequential rounds, however, deviations around the medians indicated more agreement amongst participants over time. Key recommendations were: Aims and approach: The programme should be tailored to the needs of people with MS. Falls and participation-based outcomes are equally important. Structure and format: The programme should balance expected burden and anticipated benefit, moving away from models requiring weekly attendance and promoting and supporting self-efficacy. Optimising engagement: Support to maintain engagement and intensity of practice over the long term is essential. Sustainability: Adequate funding is necessary. Staff should have MS specific knowledge and experience.

CONCLUSIONS: Participants collaboratively identified critical components of a MS balance, safe mobility and falls management programme. They also highlighted the importance of a collaborative, user-centred, MS-specific approach. Implications for Rehabilitation People with multiple sclerosis need condition-specific interventions focussed on maximising balance and safe mobility and reducing falls. Programme design should support self-efficacy and flexible engagement. Adequate support and funding are seen as essential by both service users and providers.

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Fall-related comorbidity and health beliefs among cancer survivors participating in a community-based exercise intervention

Grote S, Modeste NN, Sealy DA, Dehom S, Tarleton HP.

Am. J. Health Behav. 2017; 41(5): 630-641.

Affiliation: Associate Professor, Department of Health and Human Sciences, Seaver College of Science and Engineering, Loyola Marymount University, Los Angeles, CA.

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DOI 10.5993/AJHB.41.5.12 PMID 28760185

Abstract

OBJECTIVES: Health beliefs (HB) and fall and balance-related outcomes were examined following a 26-week community-based exercise intervention among cancer survivors (CS).

METHODS: Fall and balance-related measures and HB were quantitatively and qualitatively examined during a 26-week intervention among CS (N = 33). Of the 33 participants, 28 consented to an interview about their physical activity (PA) behavior.

RESULTS: Participants scored high on balance efficacy (median \pm range = 8.68 ± 1.53) and reported high perception of having barriers to PA (mean \pm SD = 4.66 ± 0.59). Fall-related measures improved after the 26-week intervention ($p = .002$). Most cues to action to engage in PA were delivered by a healthcare professional (N = 18). Once enrolled in the intervention, social benefits and access to a program tailored toward CS emerged as motivating factors to engage in PA (N = 12, N = 11, respectively).

CONCLUSIONS: There is a need to design fall risk reduction programs tailored to CS and to offer these programs in an environment that fits the unique physical and social needs of CS.

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Validation of the STRATIFY falls risk assessment tool in a Japanese acute care hospital setting

Toyabe SI, Kaneko T, Suzuki A, Yasuda A.

Glob. J. Health Sci. 2017; 9(2): e60410.

Affiliation: Department of Patient Safety, Niigata University Hospital, Niigata, Japan.

toyabe@med.niigata-u.ac.jp.

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DOI 10.5539/gjhs.v9n2p277 **PMID** 27806492

Abstract

Patient falls are the most frequent adverse events that occur in a hospital. Prevention of inpatient falls is performed by a strategy to target patients at high risk for falls determined by a falls risk assessment system such as the STRATIFY tool. However, the performance of the STRATIFY tool in a Japanese hospital setting has not been determined. We tried to verify the performance of the STRATIFY tool for predicting falls in acutely hospitalized patients in Japan by a multi-center study. A total of 113,413 patients admitted to four acute cares national university hospitals during the period from April 2010 to March 2012 were studied. Inpatient falls per 1,000 patient-days varied from 1.42 to 2.92 in the four hospitals. The STRATIFY score was calculated on the basis of data extracted electronically from the hospital information system. Although the distribution of STRATIFY scores differed significantly among the four hospitals, logistic regression analysis and survival analysis showed that the proportion of high-risk patients who fell was significantly larger than the proportion of low-risk patients in all of the four hospitals. The odds ratio and hazard ratio for high-risk patients versus low-risk patients were 2.5 to 4.3 (combined estimate, 3.9 (95% confidence interval (95% CI), 2.1 to 7.6) and 1.8 to 5.1 (combined estimate, 3.1 (95% CI, 2.1 to 4.6)), respectively. The results suggest that the STRATIFY tool can be used as a screening tool to detect patients at high risk for falls in a Japanese acute care setting as used commonly in other countries.

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