

SafetyLit March 11, 2018

Body mass index, falls and hip fractures among nursing home residents

Zhang N, Zhou Y, Zhang B, Lu SF, Copeland L, Gurwitz JH.

J. Gerontol. A Biol. Sci. Med. Sci. 2018; ePub(ePub): ePub.

Affiliation: Meyers Primary Care Institute, a joint endeavor of University of Massachusetts Medical School, Reliant Medical Group, and Fallon Health, Worcester, Massachusetts; Division of Geriatric medicine, University of Massachusetts Medical School.

(Copyright © 2018, Gerontological Society of America)

DOI 10.1093/gerona/gly039 **PMID** 29506037

Abstract

BACKGROUND: To examine the association between body mass index (BMI) and the risk for falls and hip fractures among nursing home (NH) residents.

METHODS: A cohort study of newly admitted NH residents, excluding those with a prior history of hip fracture. Using the Minimum Data Set 2.0 (2006-2010), we determined the occurrence of new falls and hip fractures among NH residents during their first three months of stay. Residents were categorized as underweight (BMI < 18.5), normal-to-overweight (18.5 ≤ BMI < 30), mildly obese (30 ≤ BMI < 35), and moderately-to-severely obese (BMI ≥ 35).

RESULTS: Among newly admitted NH residents over the first 3 months, 51.1% of underweight residents, 53.1% of normal-to-overweight residents, 49.1% of residents with mild obesity, and 43.1% of residents with moderate-to-severe obesity experienced a fall; 3.1% of underweight residents, 2.5% of normal-to-overweight residents, 1.5% of residents with mild obesity, and 1.1% of residents with moderate-to-severe obesity experienced a hip fracture. In comparison with normal-to-overweight residents, after adjustment for resident-level and facility-level characteristics, mildly obese residents (OR = 0.94 [95% CI, 0.91-0.93]), and moderately-to-severely obese residents (OR = 0.84 [0.83-0.85]) were less likely to experience a fall; Mildly obese residents (OR = 0.65 [0.63-0.68]), and moderately-to-severely obese residents (OR = 0.84 [0.83-0.85]) were less likely, and underweight residents were more likely (OR=1.22 [(1.18-1.26)]) to experience a hip fracture.

CONCLUSION: Obesity is associated with reduced risks for falls and hip fractures among newly admitted NH residents. Future studies are needed to explore possible explanations for these associations.

PDF Y Endnote Y

Community readiness for the promotion of physical activity in older adults-a cross-sectional comparison of rural and urban communities

Gansefort D, Brand T, Princk C, Zeeb H.

Int. J. Environ. Res. Public Health 2018; 15(3): e15030453.

Affiliation: Research Focus Health Sciences Bremen, University of Bremen, 28359 Bremen, Germany. zeeb@leibniz-bips.de.

(Copyright © 2018, Multidisciplinary Digital Publishing Institute)

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Abstract

Communities can play an important role in delivering public health programs to older adults, but they differ in the provision of local structures and resources. The community readiness (CR) approach applies a stage model of change to the community level and analyzes structures and the degree of willingness to take action on a health issue. This study compared the CR regarding the

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promotion of physical activity as part of healthy ageing for older adults among urban and rural communities in North-West Germany. A cross-sectional CR assessment with key respondents in 23 municipalities (11 urban and 12 rural communities) was conducted using a semi-structured interview. Interviews were scored across the five CR dimensions and global CR score was calculated (scores between 1 = no awareness and 9 = professionalization). Wilcoxon rank-sum test and hierarchical regression models were used to compare urban and rural communities. In total, 118 interviews were conducted (response rate 69.8%). On average, the communities showed moderate CR scores (4.9 ± 0.3 ; Range: 4.3-5.4; preplanning or preparation phase). The global CR score was slightly higher in rural than in urban communities (regression coefficient = 0.29, 95% confidence interval (CI): -0.02-0.59). The rural communities showed significantly higher CR scores in the 'Knowledge of efforts' dimension (0.70, 95% CI: 0.26-1.14) and in the 'Knowledge of the issue' (0.37, 95% CI: 0.04-0.70). Rural communities display a slightly higher CR level than urban communities. In the next step, targeted capacity building activities will be initiated among communities with low CR levels.

PDF Y Endnote Y

Cross-cultural adaptation and measurement properties testing of the Iconographical Falls Efficacy Scale (Icon-FES)

Franco MR, Pinto RZ, Delbaere K, Eto BY, Faria MS, Aoyagi GA, Steffens D, Pastre CM.

Rev. Bras. Fisioter. 2018; ePub(ePub): ePub.

Affiliation: Departamento de Fisioterapia, Faculdade de Ciências e Tecnologia, Universidade Estadual Paulista UNESP, Presidente Prudente, SP, Brazil.

(Copyright © 2018, Departamento de Fisioterapia da Universidade Federal de São Carlos)

DOI 10.1016/j.bjpt.2018.01.003 **PMID** 29486980

Abstract

BACKGROUND: The Iconographical Falls Efficacy Scale (Icon-FES) is an innovative tool to assess concern of falling that uses pictures as visual cues to provide more complete environmental contexts. Advantages of Icon-FES over previous scales include the addition of more demanding balance-related activities, ability to assess concern about falling in highly functioning older people, and its normal distribution.

OBJECTIVE: To perform a cross-cultural adaptation and to assess the measurement properties of the 30-item and 10-item Icon-FES in a community-dwelling Brazilian older population.

METHODS: The cross-cultural adaptation followed the recommendations of international guidelines. We evaluated the measurement properties (i.e. internal consistency, test-retest reproducibility, standard error of the measurement, minimal detectable change, construct validity, ceiling/floor effect, data distribution and discriminative validity), in 100 community-dwelling people aged ≥ 60 years.

RESULTS: The 30-item and 10-item Icon-FES-Brazil showed good internal consistency (alpha and omega > 0.70) and excellent intra-rater reproducibility ($ICC_{2,1} = 0.96$ and 0.93 , respectively). According to the standard error of the measurement and minimal detectable change, the magnitude of change needed to exceed the measurement error and variability were 7.2 and 3.4 points for the 30-item and 10-item Icon-FES, respectively. We observed an excellent correlation between both versions of the Icon-FES and Falls Efficacy Scale - International ($\rho = 0.83$, $p < 0.001$ [30-item version]; 0.76 , $p < 0.001$ [10-item version]). Icon-FES versions showed normal distribution, no floor/ceiling effects and were

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able to discriminate between groups relating to fall risk factors.

CONCLUSION: Icon-FES-Brazil is a semantically and linguistically appropriate tool with acceptable measurement properties to evaluate concern about falling among the community-dwelling older population.

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PDF Y Endnote Y

Differences between moderate to severely cognitively impaired fallers versus nonfallers in nursing homes

Galik E, Holmes S, Resnick B.

Am. J. Alzheimers Dis. Other Demen. 2018; ePub(ePub): ePub.

Affiliation: University of Maryland School of Nursing, Baltimore, MD, USA.

(Copyright © 2018, Sage Publications)

DOI 10.1177/1533317518761856 **PMID**29490466

Abstract

INTRODUCTION: The purpose of this study was to test differences in psychotropic medication, function, physical activity, agitation, resistiveness to care, comorbidities, and depression among moderate to severely cognitively impaired nursing home residents who were fallers versus nonfallers.

METHODS: This was a secondary data analysis using baseline data from a randomized controlled trial testing the Function and Behavior Focused Care intervention across 12 nursing homes. The sample included 336 older adults, the majority of whom were female and white.

RESULTS: There was a significant difference in the total number of comorbidities, agitation, the total number of psychotropic medications, depressive symptoms, and physical activity between those who fell and those who did not fall (Pillai-Bartlett trace = 4.91; $P < .001$).

DISCUSSION: Findings support prior work except with regard to medication use, cognition, and function. Due to inconsistent findings, additional research is recommended particularly with regard to the use of specific drug groups and medications.

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Fall determinants and home modifications by occupational therapists to prevent falls

Maggi P, de Almeida Mello J, Delye S, Cès S, Macq J, Gosset C, Declercq A.

Can. J. Occup. Ther. 2018; 85(1): 79-87.

(Copyright © 2018, Canadian Association of Occupational Therapists)

DOI 10.1177/0008417417714284 **PMID**29506411

Abstract

BACKGROUND: Approximately one third of older people over 65 years fall each year. Home modifications may decrease occurrence of falls.

PURPOSE: This study aims to determine the risk factors of falls for frail older persons and to evaluate the impact of home modifications by an occupational therapist on the occurrence of falls.

METHOD: We conducted a longitudinal study using a quasiexperimental design to examine occurrence of falls. All participants 65 years of age and older and were assessed at baseline and 6 months after the intervention. Bivariate analysis and logistic regression models were used to study

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the risk factors of falls and the effect of home modifications on the incidence of falls.

FINDINGS: The main predictors of falls were vision problems, distress of informal caregiver, and insufficient informal support. Home modifications provided by an occupational therapist showed a significant reduction of falls.

IMPLICATIONS: Informal caregivers and their health status had an impact on the fall risk of frail older persons. Home modifications by an occupational therapist reduced the fall risk of frail older persons at 6-months follow-up.

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Fall prevention strategy in an emergency department

Muray M, Bélanger CH, Razmak J.

Int. J. Health Care Qual. Assur. 2018; 31(1): 2-9.

Affiliation: College of Business Administration, Al-ain University of Science and Technology, Abu Dhabi, United Arab Emirates.

(Copyright © 2018, MCB University Press)

DOI 10.1108/IJHCQA-09-2016-0122 **PMID** 29504842

Abstract

PURPOSE The purpose of this paper is to document the need for implementing a fall prevention strategy in an emergency department (ED). The paper also spells out the research process that led to approving an assessment tool for use in hospital outpatient services.

DESIGN/METHODOLOGY/APPROACH The fall risk assessment tool was based on the Morse Fall Scale. Gender mix and age above 65 and 80 years were assessed on six risk assessment variables using χ^2 analyses. A logistic regression analysis and model were used to test predictor strength and relationships among variables.

FINDINGS In total, 5,371 (56.5 percent) geriatric outpatients were deemed to be at fall risk during the study. Women have a higher falls incidence in young and old age categories. Being on medications for patients above 80 years exposed both genders to equal fall risks. Regression analysis explained 73-98 percent of the variance in the six-variable tool.

ORIGINALITY/VALUE Canadian quality and safe healthcare accreditation standards require that hospital staff develop and adhere to fall prevention policies. Anticipated physiological falls can be prevented by healthcare interventions, particularly with older people known to bear higher risk factors. An aging population is increasing healthcare volumes and medical challenges. Precautionary measures for patients with a vulnerable cognitive and physical status are essential for quality care.

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Falls among older adults in the South of Brazil: prevalence and determinants

Vieira LS, Gomes AP, Bierhals IO, Fariás-Antúnez S, Ribeiro CG, Miranda VIA, Lutz BH, Barbosa-Silva TG, Lima NP, Bertoldi AD, Tomasi E.

Rev. Saude Publica 2018; 52: 22.

Affiliation: Departamento de Medicina Social, Faculdade de Medicina, Universidade Federal de Pelotas, Pelotas, RS, Brasil.

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DOI 10.11606/s1518-8787.2018052000103 **PMID** 29489998



SafetyLit 11th March 2018**Abstract**

OBJECTIVE Evaluate the prevalence and the factors associated with the occurrence of falls among older adults.

METHODS A cross-sectional study with a representative sample of 1,451 elderly residents in the urban area of Pelotas, RS, in 2014. A descriptive analysis of the data was performed and the prevalence of falls in the last year was presented. The analysis of demographic, socioeconomic, behavioral and health factors associated with the outcome was performed using Poisson regression with adjustment for robust variance according to the hierarchical model. The variables were adjusted to each other within each level and for the higher level. Those with $p \leq 0.20$ were maintained in the model for confounding control and those with $p < 0.05$ were considered to be associated with the outcome.

RESULTS The prevalence of falls among older adults in the last year was 28.1% (95%CI 25.9-30.5), and most occurred in the person's own residence. Among the older adults who fell, 51.5% (95%CI 46.6-56.4) had a single fall and 12.1% (95%CI 8.9-15.3) had a fracture as a consequence, usually in the lower limbs. The prevalence of falls was higher in women, adults of advanced age, with lower income and schooling level, with functional incapacity for instrumental activities, and patients with diseases such as diabetes, heart disease, and arthritis.

CONCLUSIONS The occurrence of falls reached almost a third of the older adults, and the prevalence was higher in specific segments of the population in question. About 12% of the older adults who fell fractured some bone. The factors associated with the occurrence of falls identified in this study may guide measures aimed at prevention in the older adult population.

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Falls and social isolation of older adults in the National Health and Aging Trends Study

Pohl JS, Cochrane BB, Schepp KG, Woods NF.

Res. Gerontol. Nurs. 2018; ePub(ePub): ePub.

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DOI 10.3928/19404921-20180216-02 **PMID** 29498749

Abstract

A longitudinal secondary analysis of 2 years of data from the National Health and Aging Trends Study was undertaken to determine the extent to which social isolation predicts falls in older adults. Social isolation during Year 1 (baseline) was operationalized as a multiple-indicator measure based on Social Network Index participation domains. Falling during the previous year was self-reported using Year 2 data. Logistic regression models revealed social isolation significantly predicted falls (odds ratio [OR] = 1.11; 95% confidence interval [CI] [1.05, 1.17]). The relationship remained significant after adjusting for age, gender, and education (OR = 1.08; 95% CI [1.02, 1.14]). The relationship weakened after adjusting for self-reported general health, depression risk, and worry about falling (OR = 1.02; 95% CI [0.96, 1.08]). Adjusting for Short Physical Performance Battery (SPPB), assistive mobility device, and activities of daily living further weakened the relationship (OR = 0.99; 95% CI [0.94, 1.04]). SPPB demonstrated the strongest correlation with social isolation ($r = -0.42$; $p < 0.01$). Fall prevention intervention studies specifically targeting social isolation may incorporate physical performance as a shorter-term and cost-effective proxy outcome for falls. Copyright 2018, SLACK Incorporated.

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Fear of falling in acute stroke: the Fall Study of Gothenburg (FallsGOT)

Larén A, Odqvist A, Hansson PO, Persson CU.

Top. Stroke Rehabil. 2018; ePub(ePub): ePub.

Affiliation: Department of Clinical Neuroscience, Rehabilitation Medicine, Institute of Neuroscience and Physiology, Sahlgrenska Academy at the University of Gothenburg, Gothenburg, Sweden.

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DOI 10.1080/10749357.2018.1443876 **PMID** 29493399

Abstract

OBJECTIVE Little is known about which factors are associated with a patient's fear of falling (FoF) after acute stroke. The aim of this study was to investigate baseline variables and their association with FoF during rehabilitation in acute stroke. **Patients and methods** The study population consisted of the 462 patients with acute stroke who were admitted to a stroke unit, included in the observational study "The Fall Study in Gothenburg (FallsGOT)" and were able to answer a single question: "Are you afraid of falling?" (Yes/No). To analyze any association between FoF and clinical variables, univariable and multivariable stepwise multiple logistic regression analyses were performed.

RESULTS In the stepwise multivariable regression analysis, only female sex (OR = 2.25 [95% confidence interval (CI) 1.46-3.46, $p = 0.0002$]), the use of a walking aid (OR 3.40, [95% CI 2.12-5.43, $p < 0.0001$]), and postural control as assessed with the SwePASS total score were statistically significant associated with FoF. Among patients with a SwePASS score of 24 or less, the OR was 9.41 [95% CI 5.13-17.25, $p < 0.0001$] for FoF compared to patients with a SwePASS score of 31 or above; among the patients with a SwePASS score of 25-30, the OR was 2.29 [95% CI = 1.36-3.83, $p = 0.0017$].

CONCLUSIONS Our findings provide valuable insight for those involved in stroke rehabilitation during the acute phase after stroke. FoF is associated with poor postural control, female sex and the use of a walking aid.

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High and odd impact exercise training improved physical function and fall risk factors in community-dwelling older men

Allison SJ, Brooke-Wavell K, Folland J.

J. Musculoskelet. Neuronal. Interact. 2018; 18(1): 100-107.

Affiliation: Department of Nutritional Sciences, University of Surrey, Guildford, United Kingdom.

(Copyright © 2018, International Society of Musculoskeletal and Neuronal Interactions)

DOI unavailable **PMID** 29504585

Abstract

High impact exercise programmes can improve bone strength, but little is known about whether this type of training further benefits fracture risk by improving physical function in older people.

OBJECTIVES: This study investigated the influence of high impact exercise on balance, muscle function and morphology in older men.

METHODS: Fifty, healthy men (65-80 years) were assigned to a 6-month multidirectional hopping programme (TG) and twenty age and physical activity matched volunteers served as controls (CG). Before and after training, muscle function (hop performance, leg press and plantar- and dorsiflexion

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strength) and physiological determinants (muscle thickness and architecture) as well as balance control (sway path, one leg stance duration) were measured. Resting gastrocnemius medialis (GM) muscle thickness and architecture were assessed using ultrasonography.

RESULTS: Significant improvements in hop impulse (+12%), isometric leg-press strength (+4%) and ankle plantarflexion strength (+11%), dorsiflexor strength (+20%) were found in the TG compared to the CG (ANOVA interaction, $P < 0.05$) and unilateral stance time improved over time for TG. GM muscle thickness indicated modest hypertrophy (+4%), but muscle architecture was unchanged.

CONCLUSION: The positive changes in strength and balance after high impact and odd impact training would be expected to improve physical function in older adults.

PDF Y Endnote Y**Medical costs of fatal and nonfatal falls in older adults**

Florence CS, Bergen G, Atherly A, Burns E, Stevens J, Drake C.

J. Am. Geriatr. Soc. 2018; ePub(ePub): ePub.

Affiliation: Anschutz Medical Campus, University of Colorado Denver, Denver, Colorado.

(Copyright © 2018, John Wiley and Sons)

DOI 10.1111/jgs.15304 **PMID** 29512120

Abstract

OBJECTIVES: To estimate medical expenditures attributable to older adult falls using a methodology that can be updated annually to track these expenditures over time.

DESIGN: Population data from the National Vital Statistics System (NVSS) and cost estimates from the Web-based Injury Statistics Query and Reporting System (WISQARS) for fatal falls, quasi-experimental regression analysis of data from the Medicare Current Beneficiaries Survey (MCBS) for nonfatal falls.

SETTING: U.S. population aged 65 and older during 2015.

PARTICIPANTS: Fatal falls from the 2015 NVSS (N=28,486); respondents to the 2011 MCBS (N=3,460).

MEASUREMENTS: Total spending attributable to older adult falls in the United States in 2015, in dollars.

RESULTS: In 2015, the estimated medical costs attributable to fatal and nonfatal falls was approximately \$50.0 billion. For nonfatal falls, Medicare paid approximately \$28.9 billion, Medicaid \$8.7 billion, and private and other payers \$12.0 billion. Overall medical spending for fatal falls was estimated to be \$754 million.

CONCLUSION: Older adult falls result in substantial medical costs. Measuring medical costs attributable to falls will provide vital information about the magnitude of the problem and the potential financial effect of effective prevention strategies.

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PDF Y Endnote Y**More action needed: psychotropic prescribing in Australian residential aged care**

Westbury J, Gee P, Ling T, Kitsos A, Peterson G.

Aust. N. Zeal. J. Psychiatry 2018; ePub(ePub): 4867418758919.

Affiliation: Health Services Innovation Tasmania, School of Medicine, College of Health and Medicine, University of Tasmania, Hobart, TAS, Australia.

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Taylor and Francis Group)

DOI 10.1177/0004867418758919 **PMID**29488403**Abstract**

OBJECTIVE: For at least two decades, concerns have been raised about inappropriate psychotropic prescribing in Australian residential aged care facilities, due to their modest therapeutic benefit and increased risk of falls and mortality. To date, the majority of prevalence data has been collected in Sydney exclusively and it is not known if recent initiatives to promote appropriate psychotropic prescribing have impacted utilisation. Thus, we aimed to comprehensively analyse psychotropic use in a large national sample of residential aged care facility residents.

METHOD: A cross-sectional, retrospective cohort study of residents from 150 residential aged care facilities distributed nationally during April 2014-October 2015. Antipsychotic, anxiolytic/hypnotic and antidepressant utilisation was assessed, along with anticonvulsant and anti-dementia drug use. Negative binomial regression analysis was used to examine variation in psychotropic use.

RESULTS: Full psychotropic prescribing data was available from 11,368 residents. Nearly two-thirds (61%) were taking psychotropic agents regularly, with over 41% prescribed antidepressants, 22% antipsychotics and 22% of residents taking benzodiazepines. Over 30% and 11% were charted for 'prn' (as required) benzodiazepines and antipsychotics, respectively. More than 16% of the residents were taking sedating antidepressants, predominantly mirtazapine. South Australian residents were more likely to be taking benzodiazepines ($p < 0.05$) and residents from New South Wales/Australian Capital Territory less likely to be taking them ($p < 0.01$), after adjustment for rurality and size of residential aged care facility. Residents located in New South Wales/Australian Capital Territory were also significantly less likely to take antidepressants ($p < 0.01$), as were residents from outer regional residential aged care facilities ($p < 0.01$). Antipsychotic use was not associated with State, rurality or residential aged care facility size.

CONCLUSION: Regular antipsychotic use appears to have decreased in residential aged care facilities but benzodiazepine prevalence is higher, particularly in South Australian residential aged care facilities. Sedating antidepressant and 'prn' psychotropic prescribing is widespread. Effective interventions to reduce the continued reliance on psychotropic management, in conjunction with active promotion of non-pharmacological strategies, are urgently required.

PDF Y Endnote Y**Predictive validity of the Brazilian version of the Tilburg Frailty Indicator for adverse health outcomes in older adults**

Santiago LM, Gobbens RJJ, van Assen MALM, Carmo CN, Ferreira DB, Mattos IE.

Arch. Gerontol. Geriatr. 2018; 76: 114-119.

Affiliation: National School of Public Health/Oswaldo Cruz Foundation, Department of Epidemiology and Quantitative Methods, Rua Leopoldo Bulhões, 1480/room 817b, Manguinhos, Zip Code 21041-210, Rio de Janeiro, RJ, Brazil. Electronic address: imattos@ensp.fiocruz.br.

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DOI 10.1016/j.archger.2018.02.013 **PMID** 29494871**Abstract**

PURPOSE: This study aimed to determine the predictive value of the Brazilian Tilburg Frailty Indicator (TFI) for adverse health outcomes (falls, hospitalization, disability and death), in a follow-up period of twelve months.



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METHODS: This longitudinal study was carried out with a sample of people using primary health care services in Rio de Janeiro, Brazil. At baseline the sample consisted of 963 people aged 60 years and older. A subset of all respondents participated again one year later (n = 640, 66.6% response rate). We used the TFI, the Katz's scale for assessing ADL disability and the Lawton Scale for assessing IADL disability. Falls, hospitalization and death were also assessed using a questionnaire.

RESULTS: The prevalence of frailty was 44.2% and the mean score of the TFI was 4.4 (SD = 3.0). There was a higher risk of loss in functional capacity in ADL (OR = 3.03, CI95% 1.45-6.29) and in IADL (OR = 1.51, CI95% 1.05-2.17), falls (OR = 2.08, CI95% 1.21-3.58), hospitalization (OR = 1.83, CI95% 1.10-3.06), and death (HR = 2.73, CI95% 1.04-7.19) for frail when compared to non-frail elderly, in the bivariate analyses. Controlling for the sociodemographic variables, the frailty domains together improved the prediction of hospitalization, falls and loss in functional capacity in ADL, but not loss in functional capacity in IADL.

CONCLUSION: The TFI is a good predictor of adverse health outcomes among elderly users of primary care services in Brazil and appears an adequate and easy to administer tool for monitoring their health conditions.

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PDF Endnote

The associations between area deprivation and objectively measured older adults' outdoor walking levels

Zandieh R, Martinez J, Flacke J, Maarseveen M.

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(Copyright © 2017, Sage Publications)

DOI 10.1177/2158244017740172 PMID unavailable

Abstract

Outdoor walking has positive impacts on older adults' health. It is crucial to identify less active older adults and to encourage them to take outdoor walks. Previous studies have shown that physical activity levels vary according to socioeconomic deprivation. However, knowledge on objectively measured older adults' outdoor walking levels is limited. This study investigated associations between area (socioeconomic) deprivation and older adults' objectively (geographic positioning system [GPS]) measured outdoor walking levels (i.e., walking durations and frequencies) in Birmingham, United Kingdom. It used a multilevel approach. The final sample included 173 participants (65 years and above). A questionnaire was used to collect data on personal characteristics (e.g., educational attainment as a proxy of individual deprivation, age, and marital status). The results show that independent of personal characteristics, area deprivation associates with outdoor walking durations. Participants from high-deprivation areas spend less time for outdoor walking than those from low-deprivation areas. Associations between area deprivation and outdoor walking frequencies were nonsignificant. Future research needs to investigate how attributes (e.g., environmental attributes) of low- and high-deprivation areas drive disparities in outdoor walking durations among older residents of low- and high-deprivation areas.

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SafetyLit 11th March 2018**The walk ratio: investigation of invariance across walking conditions and gender in community-dwelling older people**

Bogen B, Moe-Nilssen R, Ranhoff AH, Aaslund MK.

Gait Posture 2018; 61: 479-482.

Affiliation: Department of Global Public Health and Primary Care, University of Bergen, Kalfarveien 31, 5018 Bergen, Norway. Electronic address: mona.aaslund@uib.no.

(Copyright © 2018, Elsevier Publishing)

DOI 10.1016/j.gaitpost.2018.02.019 **PMID** 29494821

Abstract

BACKGROUND: The step length-cadence ratio, also called the walk ratio (WR; cm/steps/min) is a measure of cautious gait, poor balance control or impaired gait, but has not been investigated for both genders in a general population of older adults across different speeds and conditions.

METHOD: The participants were community-dwelling volunteers between 70 and 81 years. They walked 6.5 m under four different conditions: At preferred speed, fast speed, during a dual task condition and on an uneven surface. Step length (cm) and cadence (steps/minute) was captured using a body-worn sensor. Both cadence and step lengths were adjusted for body height.

ESULTS: 70 older adults participated (mean age 75.5 (SD 3.4), 60 percent women). The WR was 0.60 cm/steps/min (SD 0.07) during preferred speed walking, 0.58 cm/steps/min (SD 0.07) during fast walking, 0.68 cm/steps/min (SD 0.18) during dual task-walking and 0.59 cm/steps/min (0.07) during uneven surface-walking. In planned pairwise comparisons, the WR during dual task was significantly different from preferred speed walking (mean difference -0.087 cm/steps/min, 95% CI -0.140, -0.033), from fast speed walking (mean difference -0.098 cm/steps/min, 95% CI -0.154, -0.041) and uneven surface walking (mean difference 0.092 cm/steps/min, 95% CI 0.040, 0.145). There were no gender differences except during the fast walking condition, where women had a significantly lower WR than the men (0.56 cm/steps/min vs 0.61 cm/steps/min, $p = 0.002$).

DISCUSSION: We found that the WR is invariant during different speeds, and during an uneven surface condition, but is affected during a dual task-condition, when attention must be divided between a cognitive and a motor task.

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PDF Y Endnote Y**Trends in use of antipsychotics in elderly patients with dementia: impact of national safety warnings**

Gallini A, Andrieu S, Donohue JM, Oumouhou N, Lapeyre-Mestre M, Gardette V.

Eur. Neuropsychopharmacol. 2014; 24(1): 95-104.

Affiliation: Université Paul Sabatier, Toulouse III, Faculté de médecine, Département d'épidémiologie, économie de la santé et santé publique, F-31073, Toulouse, France; INSERM, UMR 1027 Epidémiologie et analyses en santé publique, F-31073, Toulouse, France; CHU de Toulouse, Service d'épidémiologie, F-31073, Toulouse, France.

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DOI 10.1016/j.euroneuro.2013.09.003 **PMID** 24126116 **PMCID** PMC4094113

Abstract

Based on evidence of an increased risk of death, drug agencies issued safety warnings about the use of second generation antipsychotics (SGAs) in the elderly with dementia. The French agency issued a

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warning in 2004. which was extended to all antipsychotics in 2008. Little is known about the impact of these warnings on use. We conducted a quasi-experimental study (interrupted time-series) in France, for 2003-2011, including subjects aged ≥ 65 with dementia and subjects aged ≥ 65 without dementia in the EGB database (1/97th representative random sample of claims from the main Health Insurance scheme). Outcomes were monthly rates of use of antipsychotics (by class and agent) and of five comparison drug classes (antidepressants, benzodiazepines, dermatologicals, antidiabetics, antiasthmatics). Trends were analyzed by joinpoint regression, impact of warnings by linear segmented regression. In patients with dementia ($n=7169$), there was a 40% reduction in antipsychotic use from 14.2% in 2003 to 10.2% in 2011. The reduction began before 2004 and was unaffected by the warnings. Use of first generation antipsychotics declined over the period, while use of SGAs increased and leveled off from 2007. Use of the five comparison drug classes increased on the period. In subjects without dementia ($n=91,942$), rates of overall antipsychotic use decreased from 2.3% in 2003 to 1.8% in 2011 with no effect of the warnings. Meanwhile, use of SGAs continuously increased from 0.37% to 0.64%. Antipsychotic use decreased in the elderly between 2003 and 2011, especially in dementia. The timing of the decrease, however, did not coincide with safety warnings.

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Using the Hendrich II inpatient fall risk screen to predict outpatient falls after emergency department visits

Patterson BW, Repplinger MD, Pulia MS, Batt RJ, Svenson JE, Trinh A, Mendonça EA, Smith MA, Hamedani AG, Shah MN.

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Affiliation: Division of Geriatrics, Department of Medicine, School of Medicine and Public Health, University of Wisconsin, Madison, Wisconsin.

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Abstract

OBJECTIVES: To evaluate the utility of routinely collected Hendrich II fall scores in predicting returns to the emergency department (ED) for falls within 6 months.

DESIGN: Retrospective electronic record review.

SETTING: Academic medical center ED. **PARTICIPANTS:** Individuals aged 65 and older seen in the ED from January 1, 2013, through September 30, 2015.

MEASUREMENTS: We evaluated the utility of routinely collected Hendrich II fall risk scores in predicting ED visits for a fall within 6 months of an all-cause index ED visit.

RESULTS: For in-network patient visits resulting in discharge with a completed Hendrich II score ($N = 4,366$), the return rate for a fall within 6 months was 8.3%. When applying the score alone to predict revisit for falls among the study population the resultant receiver operating characteristic (ROC) plot had an area under the curve (AUC) of 0.64. In a univariate model, the odds of returning to the ED for a fall in 6 months were 1.23 times as high for every 1-point increase in Hendrich II score (odds ratio (OR)=1.23 (95% confidence interval (CI)=1.19-1.28). When included in a model with other potential confounders or predictors of falls, the Hendrich II score is a significant predictor of a return ED visit for fall (adjusted OR=1.15, 95% CI=1.10-1.20, AUC=0.75).



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CONCLUSION: Routinely collected Hendrich II scores were correlated with outpatient falls, but it is likely that they would have little utility as a stand-alone fall risk screen. When combined with easily extractable covariates, the screen performs much better. These results highlight the potential for secondary use of electronic health record data for risk stratification of individuals in the ED. Using data already routinely collected, individuals at high risk of falls after discharge could be identified for referral without requiring additional screening resources.

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Effects of a single-session stance-slip perturbation training program on reducing risk of slip-related falls

Yang F, Saucedo F, Qiao M.

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Affiliation: Joint Department of Biomedical Engineering, University of North Carolina at Chapel Hill, Chapel Hill, USA.

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Abstract

The purpose of this pilot study was to establish the efficacy and feasibility of a single-session treadmill-based stance-slip perturbation program on preventing slip-related falls while walking over the ground among young adults. Two groups (training vs. control) of healthy young participants were respectively exposed to a treadmill-based stance-slip perturbation training protocol and a placebo training protocol. Post training, both groups experienced an unexpected overground gait-slip. Our results indicated that 28.6% of individuals in the training group and 55.0% of controls fell when responding to the overground slip. In comparison with the control group, the training group exhibited better control over the compensatory step and dynamic stability at the instant immediately prior to recovery touchdown. The improved dynamic stability control in the training group likely resulted from the enhanced capability of harnessing the slip kinematics of the base of support. Dynamic stability did not display any significant group-associated difference at slipping foot touchdown and recovery foot liftoff. This implies that a stance-slip perturbation training protocol with eight slips may not provide enough and very task-specific incentive to the Central Nervous System to form the capability of sufficiently modifying regular gait pattern after an unexpected gait slip. However, given its ease of use, stance-perturbation could be a practical option to train individuals in clinical settings as a simple push or pull could exert a perturbation to a standing individual. The findings from this study provide information for developing future studies based on large-scale samples.

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Physical and occupational therapy practice improvement following interprofessional evidence-based falls prevention training

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Affiliation: Dep. of Physical Therapy, Virginia Commonwealth University, 1200 East Broad Street, Richmond, VA 23298-0224, USA. Tel 804-828-0234, fax 804-828-8111. ewheeler@vcu.edu.
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Abstract

AIMS: Evaluate changes in physical therapy (PT) and occupational therapy (OT) practice following evidence-based practice (EBP) interprofessional modules that teach assessments and interventions to reduce falls in community-dwelling older adults.

METHODS: Medical records of post-fall patients in three Programs of All-Inclusive Care for the Elderly (PACE) sites were analyzed to assess differences in documented falls and the OT and PT use of EBP assessment and interventions implemented following fall prevention training.

RESULTS: In training year 1, PT demonstrated a 34.6% practice improvement in risk assessments performed ($z=3.0$, $p<0.005$). In training year 2, PT demonstrated a 66.7% practice change in the implementation of EBP interventions ($z=2.1$, $p<0.05$) and OT demonstrated a 22.2% practice improvement in the implementation of recommended EBP interventions ($z=2.0$, $p<0.05$). In training year 3, OT achieved a 6.8% increase in the execution of home environment modifications ($z=2.0$, $p<0.05$), and PT demonstrated a 23.3% practice improvement in the implementation of recommended EBP interventions ($z=3.1$, $p<0.005$).

CONCLUSION: The delivery of EBP assessment and intervention training modules for falls prevention resulted in PT and OT practice changes and improved adherence to published guidelines.

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