



FALLS LINKS

Volume 6 Issue 5
2011

Welcome

This edition of Falls Links focuses on Culturally and Linguistically Diverse (CALD) population falls prevention resources currently available in NSW and provides information on the BEST at Home Exercise Program which is being trialled in CALD groups. There are also abstracts of recent research papers relevant to falls prevention and information on useful resources and websites.

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<http://fallsnetwork.neura.edu.au/>

CALD RESOURCES



Examples of some of the Falls Prevention Information Resources available in CALD languages (see page 3 for more information)

What is the BEST at home exercise program?

Bharat Nepal, Health Promotion Unit, South Eastern Sydney Local Health District (SESLHD)

Balance Exercise and Strength Training (BEST) is based on the Otago exercise program which has demonstrated a reduction of 35% in the rate of falls and injurious falls[1]. This is a home based exercise program run over 24 weeks. The participants are asked to participate in three workshops, run in weeks 1, 4 and 12 of the program and delivered by a physiotherapist. In the first and last workshop participants' strength and balance are measured. The week 4 workshop focuses on sharing participants' experience, difficulties faced and motivation for themselves and others, additional resources are also distributed at this time including translated materials where available.

Participants are provided with a resource bag which includes the exercise manual with useful hints and images with language specific translated instructions, a six month calendar to record their physical activity and falls. Participants are asked to post the calendar every month and to answer the pre and post questionnaires (sent out at 24 weeks).

If participants are found suitable for exercise with extra resistance they are provided with ankle weights once they have been assessed by a physiotherapist.

Participants are asked to do the BEST exercises three times per week and go for a walk on the days they are not doing these exercises. Exercises can be broken into smaller segments of 4-6 exercises at any one time however it is important that all the exercises are completed on the day.

Amanda Bates from the Health Promotion Unit (SESLHD) piloted this program in 2009 in Sutherland Shire Council and Wollongong City Council with English speaking older people and there was significant improvement in the strength and balance measures of the participants.

The Health Promotion Unit is now expanding this program into the CALD community and currently implementing with Chinese Speaking older people residing in the Hurstville area. The first group commenced in early April followed by two more groups in September. Participation in the early stage of the program has been very encouraging.

For further information please contact Bharat Nepal on 02 9947 9818 or email Bharat.Nepal@sesiahs.health.nsw.gov.au.

1. Robertson, M.C., et al., Preventing Injuries in Older People by Preventing Falls: A Meta-Analysis of Individual-Level Data. *Journal of the American Geriatrics Society*, 2002. 50(5): p. 905-911.

The Otago exercise program, a home based individually tailored strength and balance programme can be accessed through the Accident Compensation Corporation (ACC) New Zealand:

[ACC1161 Otago Exercise Programme Activity booklet](#)

[ACC1162 Otago Exercise Programme Manual](#)



Participants practicing the exercises



Cindy Nya (Fitness Leader), participant, Joan Fayle (Physiotherapist)

NSW CALD Resources for Falls Prevention

There have been a number of enquiries through the NSW Falls Prevention Network listerv around Falls Prevention information resources for Culturally and Linguistically Diverse (CALD) populations. This information has been collected and available on the NSW Falls Prevention Network website <http://fallsnetwork.neura.edu.au/resources/resources> and summarised in the table below.

Publisher and Resource	Languages
NSW Multicultural Health Communication Service (MHCS) NSW Government	
Be Physically Active (2009)	Arabic, Chinese, Dari, English, Greek Italian Korean
Falls Prevention – your home safety checklist (2009)	Arabic, Chinese, English, Greek, Italian
Home Safety for Falls Prevention (2009)	Arabic, Chinese, Dari, English, Farsi, Greek, Italian, Korean
Home safety and the older person (2009)	Croatian, Italian, Khmer, Lao, Macedonian, Maltese, Polish, Portuguese, Russian, Spanish, Turkish
Improve your balance (2009)	Arabic, Chinese, Dari, English, Farsi, Greek, Italian, Korean
Make the most of your eyesight (2009)	Arabic, Chinese, Dari, English, Farsi, Greek, Italian, Korean
Prevent Falls in Public Places (2009)	Arabic, Chinese, English, Farsi, Greek, Italian, Korean
Stay on your feet with safer shoes (2009)	Chinese, Croatian, English, Italian, Korean, Macedonian, Portuguese, Russian, Spanish, Thai, Turkish, Vietnamese
Stay on your feet whatever your age (2009)	Arabic, Croatian, English, Italian, Macedonian, Portuguese, Russian, Spanish, Thai, Turkish, Vietnamese
NSW Housing Tenant Connect (2011)	Arabic, Chinese, English, Russian, Spanish, Vietnamese
The listed resources are available to download as PDF documents at:	
http://www.mhcs.health.nsw.gov.au/topics/Falls.html	



Publisher and Resource	Languages
<p>Northern Sydney Health Promotion</p> <p>Staying active and on your Feet Resources (as above NSW MHCS) plus:</p> <p>Managing your Medicines</p> <p>Managing Chronic Conditions</p> <p>These resources can be downloaded at: http://www.healthpromotion.com.au/SOYF/SOYFIndex.htm</p>	<p>Arabic, Chinese, Dari, Farsi, Greek, Italian and Korean</p>
<p>South Eastern Sydney LHD/Illawarra Shoalhaven LHD</p> <p>Patient Fact Sheet</p> <p>Being uploaded to the NSW Multicultural Health Communication Service Site</p> <p>(Currently only available on SESLHD and ISLHD intranet)</p>	<p>Arabic, Chinese, Greek, Italian, Macedonian</p>
<p>Stepping On Program (developed by A/Prof Lindy Clemson and Megan Swann)</p> <p>Stepping On Handouts and resources</p> <p>Available at Sydney University Library</p>	<p>Arabic ,Greek, Italian, Korean, Macedonian, Turkish, Polish, Vietnamese</p>
<p>Department of Health and Ageing</p> <p>Don't Fall for it falls can be prevented</p> <p>This publication is available at: http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-injury-publications.htm</p>	<p>English, Chinese, German, Greek, Italian, Polish</p>



RECENT ABSTRACTS FROM THE RESEARCH LITERATURE

REVIEWS

Effectiveness of interventions to prevent falls in people with Alzheimer's disease and related dementias.

Jensen LE, Padilla R.

Am. J. Occup. Ther. 2011; 65(5): 532-540. Affiliation: Department of Occupational Therapy, School of Pharmacy and Health Professions, Creighton University, Omaha, NE 68178, USA. DOI: unavailable PMID: 22026321 (Copyright © 2011, American Occupational Therapy Association).

ABSTRACT

A systematic review was conducted to determine the effectiveness of interventions to prevent falls in people with Alzheimer's disease (AD) and related dementias. Twelve research reports met inclusion criteria. Studies reported on three types of intervention: (1) exercise- and motor-based interventions, (2) nursing staff-directed interventions, and (3) multidisciplinary interventions. Strategies were offered as single or multifaceted intervention programs. All types of intervention resulted in benefit, although the evidence for effectiveness is tentative because of the studies' limitations. More research is needed to better understand appropriate dosages of intervention. No evidence was found for the effectiveness of prevention programs accessed as part of occasional respite care. Occupational therapy was seldom involved in the interventions researched. Because effective fall prevention programs are embedded in people's daily routines and encouraged participation in occupation, the contribution occupational therapy practitioners can make to the care of people with AD has yet to be fully realized.

EPIDEMIOLOGY AND RISK FACTORS

Fall prevention knowledge, attitude, and practices of community stakeholders and older adults.

Laing SS, Silver IF, York S, Phelan EA.

J. Aging Res. 2011; 2011(online): 395357. Affiliation: Health Promotion Research Center, Department of Health Services, School of Public Health, University of Washington, Seattle, WA 98105, USA. DOI: 10.4061/2011/395357 PMID: 21915377 (Copyright © 2011, Sage Hindawi).

ABSTRACT

We assessed knowledge, attitude, and provision of recommended fall prevention (FP) practices by employees of senior-serving organization and participation in FP practices by at-risk elders. The Washington State Department of Health administered structured telephone surveys to 50 employees and 101 elders in Washington State. Only 38% of employees felt "very knowledgeable" about FP, and a majority of their organizations did not regularly offer FP services. Almost half (48%) of seniors sustained a fall within the past 12 months; however, one-third perceived falling to be among their least important health concerns, and most had minimal working knowledge of proven FP practices. Seniors who perceived avoiding falls as important to their well-being were more likely to participate in practices about which they had the least knowledge (risk assessment, medication management). Increased awareness and availability of FP services might help engage older adults in FP practices and reduce the adverse effects of falls.

Older people presenting to the emergency department after a fall: a population with substantial recurrent healthcare use.

Close JC, Lord SR, Antonova EJ, Martin M, Lensberg B, Taylor M, Hallen J, Kelly A.

Emerg. Med. J. 2011; ePub(ePub): ePub. Affiliation: Falls and Balance Research Group, Neuroscience Research Australia, University of New South Wales, Randwick, Sydney, Australia. DOI: 10.1136/emermed-2011-200380 PMID: 21965178 (Copyright © 2011, BMJ Publishing Group).

ABSTRACT

Objectives: To document patient characteristics, care pathways, healthcare use and costs of fall-related emergency department (ED) presentations by older adults.

Participants and methods: All fallers aged ≥ 70 years, presenting to the ED of a 450-bed metropolitan university hospital in Sydney, Australia (1 April 2007 through 31 March 2009) were studied. Data were collected from the ED electronic information system, ED clinical records and the hospital electronic information system database. Population estimates for 2008 for the local areas served by the hospital were used to estimate ED presentation rates.

Results: Of 18 902 all-cause ED presentations, 3220 (17.0%) were due to a fall. Among fallers, 35.4% had one or more ED presentations and 20.3% had one or more hospital admissions in the preceding 12 months. Fall-related ED presentation led directly to hospital admission in 42.7% of the cases, the majority of which (78.0%) received acute care only (length of stay-14.4 days for men and 13.7 days for women) and the remaining cases underwent further inpatient rehabilitation (length of stay 35.6 days for men and 30.1 days for women). After hospitalisation, 9.5% of patients became first-time residents of long-term care facilities. All fall-related ED presentations and hospitalisations cost a total of A\$11 241 387 over the study period.

Conclusions: Older fallers presenting to the ED consume significant healthcare resources and are an easily identifiable high-risk population. They may benefit from systematic fall-risk assessment and tailored fall-prevention interventions.

Association of polypharmacy with fall risk among geriatric outpatients.

Kojima T, Akishita M, Nakamura T, Nomura K, Ogawa S, Iijima K, Eto M, Ouchi Y.

Geriatr. Gerontol. Int. 2011; 11(4): 438-444. Affiliation: Department of Geriatric Medicine, Graduate School of Medicine, University of Tokyo Research Institute of Aging Science, Tokyo, Japan. DOI: 10.1111/j.1447-0594.2011.00703.x PMID: 21545384 (Copyright © 2011, John Wiley and Sons).

ABSTRACT

Aim: To investigate the association of fall risk with comorbidities and medications in geriatric outpatients in a cross-sectional design.

Methods: A total of 262 outpatients (84 men and 178 women, mean age 76.2 ± 6.8 years) were evaluated. Physical examination, clinical histories and medication profile were obtained from each patient. History of falls in the past year, 22-item fall risk index, 13-point simple screening test for fall, and time interval of one-leg standing test were examined as markers of fall risk.

Results: On univariate analysis, older age, female sex, hypertension, osteoporosis, history of stroke, number of comorbidities, use of antihypertensives, aspirin, bisphosphonates, hypnotics and number of prescribed drugs were significantly associated with either of four indices. On multiple regression analysis, the number of drugs was associated with all of the four indices, independent of other factors associated in the univariate analysis. The association of number of drugs with fall risk indices was stepwise.

Conclusion: In geriatric outpatients, polypharmacy rather than number of comorbidities was associated with fall risk. Prospective and intervention studies are needed to clarify the causal relationship between polypharmacy, comorbidities and fall risk.

Unraveling the Association Between SSRI Use and Falls: An Experimental Study of Risk Factors for Accidental Falls in Long-Term Paroxetine Users.

Hegeman J, van den Bemt B, Weerdesteyn V, Nienhuis B, van Limbeek J, Duysens J.

Clin. Neuropharmacol. 2011; ePub(ePub): ePub. Affiliation: *Department of Research, Development and Education, St. Maartenskliniek, Nijmegen, The Netherlands; DOI: 10.1097/WNF.0b013e31823337d1 PMID: 21996643 (Copyright © 2011, Lippincott Williams and Wilkins).

ABSTRACT

Selective serotonin reuptake inhibitors (SSRIs) are widely used to treat depression and are also associated with an increased falls risk. However, the biological mechanism underlying accidental falls with SSRI intake has yet to be elucidated. The present experimental study was designed to investigate whether

obstacle avoidance skills in long-term (>90 days), senior paroxetine users (61 ± 5.8 years) are affected during gait, simple and challenging postural balance tasks, as well as during manual reaction time tasks. The performance of the paroxetine users was compared with healthy group-matched controls (60 ± 4.8 years). The results demonstrated impaired postural balance in the paroxetine users, especially during one-legged stance or under various dual-task conditions. Although the deficit in one-legged stance could indicate vestibular involvement, this was deemed unlikely because performance of standing on compliant surface with closed eyes remained unaffected. Paroxetine use also failed to affect manual reaction times or obstacle avoidance performance. It is suggested that paroxetine affects attentional capacities particularly in conjunction with balance control. Compared with healthy seniors, long-term senior users of paroxetine seem to be at an increased risk of falling due to impairments in balance control, especially when attention has to be divided between 2 concurrent activities.

FEAR OF FALLING

Characteristics associated with activity restriction induced by fear of falling in community-dwelling elderly.

Dias RC, Freire MT, Santos EG, Vieira RA, Dias JM, Perracini MR.

Rev. Bras. Fisioter. 2011; 15(5): 406-413. Affiliation: Physical Therapy Department, Universidade Federal de Minas Gerais, Belo Horizonte, MG, Brasil. DOI: unavailable PMID: 22031334 (Copyright © 2011, Departamento de Fisioterapia da Universidade Federal de São Carlos) .

ABSTRACT

OBJECTIVES: The aim of this study was to determine the social-demographic, clinical, functional and psychological factors associated to activity restriction due to fear of falling in community-dwelling elderly and identify which variables best discriminate groups of elderly with different levels of activity restriction and fear of falling.

METHODS: One hundred and thirteen community-dwelling elderly (74.5 ± 7 years old) participated in the study. Activity restriction induced by fear of falling, previous falls, fall related self-efficacy, frailty phenotype, functional capacity, depressive symptoms, health self-perception, socio-demographic and clinical factors were assessed. Descriptive statistics, chi-square, ANOVA and Kruskal Wallis tests were used to analyze the associations between activity restriction due to fear of falling and all other variables. Path analysis (CHAID) method was used to verify which variables better discriminated groups in relation to activity restriction ($\alpha=0.05$).

RESULTS: The participants who reported fear of falling and activity restriction demonstrated higher depression ($p=0.038$), lower fall related self-efficacy ($p<0.001$), lower gait velocity ($p=0.043$) and independence level for instrumental daily living activities ($p=0.017$), higher number of diseases ($p=0.048$), worse health self-perception ($p=0.040$) and more depressive symptom ($p=0.023$). The best variables to discriminate groups were depression ($p=0.004$), exhaustion (frailty phenotype) ($p=0.010$) and social participation activities ($p=0.016$).

CONCLUSION: Activity restriction due to fear of falling may have negative effects on functional capacity and psychological aspects in community-dwelling elderly. Psychosocial factors seem to better discriminate the elderly who avoid activities due to fear of falling.

RISK ASSESSMENT

Comparison of the validity of four fall-related psychological measures in a community-based falls risk screening.

Moore DS, Ellis R, Kosma M, Fabre JM, McCarter KS, Wood RH.

Res. Q. Exerc. Sport 2011; 82(3): 545-554. Affiliation: Kaiser Permanente, Portland, OR, USA. DOI: unavailable What is this? PMID: 21957713 (Copyright © 2011, American Alliance for Health, Physical Education, Recreation, and Dance).

ABSTRACT

We examined the measurement properties of fall-related psychological instruments with a sample of 133 older adults (M age = 74.4 years, SD = 9.4). Measures included the Comprehensive Falls Risk Screening Instrument, Falls-efficacy Scale-International (FES-I), Activities-specific Balance Confidence (ABC), modified Survey of Activities and Fear of Falling in the Elderly (mSAFFE), Consequences of Falling (CoF), Physical Activity Scale for the Elderly (PASE), and 36-Item Short-Form Health Survey (SF-36). The FES-I, ABC, mSAFFE, and CoF were significantly correlated with each other, with SF-36, and with mobility. The ABC and mSAFFE were significantly correlated with PASE. The ABC differentiated between fallers and nonfallers and predicted total falls risk. Findings can assist with the selection of psychological instruments in a falls risk screening context.

Diagnostic accuracy of three types of fall risk methods for predicting falls in nursing homes. Bentzen H, Bergland A, Forsén L.

Aging Clin. Exp. Res. 2011; 23(3): 187-195. Affiliation: Division of Epidemiology, Norwegian Institute of Public Health, Oslo, Norway. Hege.Bentzen@diakonsyk.no. DOI: unavailable PMID: 21993165 (Copyright © 2011, Editrice Kurtis).

ABSTRACT

AIMS: To determine the diagnostic accuracy of three different methods for identifying individuals at high risk of falling. The St-Thomas Risk Assessment tool (STRATIFY- modified for nursing homes), staff judgment of fall risk, and previous falls remembered by the staff were evaluated. We also examined whether a combination of two of the methods would increase accuracy.

MATERIALS AND METHODS: A prospective observational cohort study was carried out for 18 months. One thousand one hundred and forty-eight participants were included and assessed for fall risk. Falls among these residents were recorded from the date of inclusion to the date of death, transfer, or end of observation time. Diagnostic accuracy was evaluated in terms of sensitivity, specificity, predictive values and likelihood ratios, as well as Kaplan-Meier estimates and the Cox proportional hazard model, with time to the first fall as the dependent variable. Sensitivity, specificity, predictive value and likelihood ratios were calculated for falls within 30, 90 and 180 days of assessment for fall risk.

RESULTS: Five hundred and seventy (49.6%) of the 1148 residents had one or more falls during the observation period. One thousand one hundred had more than 30 days of observation, 987 more than 90 days, and 867 more than 180 days. For falls within 30 days of assessment for fall risk, sensitivity varied from 65% to 72%, specificity from 69% to 75%, positive predictive value from 31% to 35% and negative predictive value from 91% to 92%. Sensitivity and negative predictive value decreased for falls within 90 days and decreased further for falls within 180 days, whereas specificity and positive predictive value increased for all three assessment methods. Staff judgment of fall risk was the single method having the highest sensitivity but the lowest specificity. A combination of either two of them increased sensitivity to more than 80%, but decreased specificity. The positive Likelihood ratio varied from 2.24 to 2.70 and the negative Likelihood ratio from 0.41 to 0.49 for falls within 30 days. The relative risk of sustaining a fall was 2.4, 2.9 and 3.0 times higher for those assessed to be at high risk of falls compared with those assessed to be at low risk, according to STRATIFY, staff judgment of fall risk and previous falls remembered by the staff, respectively.

CONCLUSIONS: The diagnostic accuracy of the three methods did not differ markedly. However, staff judgment had the highest sensitivity and the lowest specificity after 30, 90 and 180 days. A combination of either two of the methods showed the highest sensitivity but the lowest specificity.

Sensorimotor function, balance abilities and pain influence Timed Up and Go performance in older community-living people.

Kwan MM, Lin SI, Chen CH, Close JC, Lord SR.

Aging Clin. Exp. Res. 2011; 23(3): 196-201. Affiliation: Falls and Balance Research Group, Prince of Wales Medical Research Institute, University of New South Wales, Sydney, Australia. DOI: unavailable PMID: 21993166 (Copyright © 2011, Editrice Kurtis).

ABSTRACT

BACKGROUND AND AIMS: The Timed up and Go Test (TUG) is recommended as a screening tool for fall risk in older people. It is assumed that this general mobility test is underpinned by physiological factors such as strength, coordination and balance. However, no studies have examined the range of physiological and psychological factors which influence performance on this test. The aim of this study was to examine the relative contributions of a range of sensorimotor, balance and psychological factors to TUG performance in a large sample of older people.

METHODS: 280 community-dwelling people aged 65 plus years (mean age 74.9, SD=6.4) underwent the TUG test, as well as quantitative tests of vision, peripheral sensation, strength, reaction time, balance, fear of falling, pain and vitality.

RESULTS: The time required to complete the TUG was significantly related to limitations in instrumental activities of daily living and fear of falling. Many physiological and psychological factors were significantly associated with TUG performance in univariate analyses. Stepwise multiple regression analyses identified knee strength, postural sway, reaction time, edge contrast sensitivity, MMSE score, SF12 body pain and general health scores, number of medical conditions and age as significant and independent predictors of TUG performance. Of these measures, the lower limb strength measure explained most variance in TUG times. However, other sensorimotor, balance, psychological and health measures provided important independent information. The combined set of variables explained 43.5% of the variance in TUG times (multiple $r=0.65$).

CONCLUSIONS: Findings indicate that, in community-dwelling older people, TUG performance is influenced by lower limb strength, balance, reaction time, vision and pain, in addition to cognitive function and health status.

Fall risk assessment among older adults with mild Alzheimer disease.

Ryan JJ, McCloy C, Rundquist P, Srinivasan V, Laird R.

J. Geriatr. Phys. Ther. 2011; 34(1): 19-27. Affiliation: Health First, Melbourne, Florida. University of Indianapolis, Indianapolis, Indiana. DOI: 10.1519/JPT.0b013e31820aa829 PMID: 21937888 (Copyright © 2011, American Physical Therapy Association).

ABSTRACT

PURPOSE: Older adults with Alzheimer's disease (AD) fall more than twice as often as those without dementia, yet few studies have assessed fall risk in this population. The purpose of the study was to determine whether a fall assessment, the Physical Performance Test 7-item (PPT 7-item), could accurately identify subjects with history of falls in a group of community-dwelling elders with mild AD. An additional purpose was to determine whether the PPT 7-item, a cognitive screen, and/or nonperformance data could predict falling in this population.

METHODS: Forty-three community-dwelling elders diagnosed with mild AD completed the fall risk assessment. In addition, the following data were collected: Mini-Mental State Examination (MMSE) score, age, gender, education, gait aid use, number of falls in the past 6 months, and history of fall-related injury.

RESULTS: There was a significant difference in the PPT 7-item total score between subjects with history of falls and subjects without history of falls ($z = -2.04$, $P = .042$), with items related to turning ($z = -2.56$, $P =$

.01) and walking ($z = -2.89$, $P = .004$) accounting for most of the difference. However, only gait aid usage predicted falling (45.8% of the variance).

CONCLUSION: While the PPT 7-item was able to detect differences in mobility between subjects with history of falls and subjects without history of falls in subjects with mild AD, total PPT 7-item score did not predict falling. Gait aid usage was more strongly related to falling in these subjects. Early detection of fall risk in individuals with mild AD is important to prevent injuries and moderate costs of care.

Minimum detectable change of the Berg Balance Scale and dynamic gait index in older persons at risk for falling.

Romero S, Bishop MD, Velozo CA, Light K.

J. Geriatr. Phys. Ther. 2011; 34(3): 131-137. Affiliation: Department of Veterans Affairs Rehabilitation Outcomes Research Center, Research Enhancement Award Program, Gainesville, Florida. Department of Physical Therapy, University of Florida, Gainesville. Department of Occupational Therapy, University of Florida, Gainesville. DOI: 10.1519/JPT.0b013e3182048006 PMID: 21937903 (Copyright © 2011, American Physical Therapy Association).

ABSTRACT

BACKGROUND: : The Berg Balance Scale (BBS) and the Dynamic Gait Index (DGI) are often the central components of the physical therapy evaluation to identify older adults at risk of falling. **PURPOSE:** : The purpose of this study was to use the standard error of measurement to investigate the minimal detectable change associated with these clinical instruments.

METHODS: : A sample of 42 community dwellers (older than 65 years) with a history of falls or near falls was evaluated with the BBS and DGI. Evaluations were videotaped and later rescored by 2 experienced physical therapists.

RESULTS: : The mean initial BBS was 39 points ($SD = 8.9$, range 17-53). Rescored mean value was 40 points ($SD = 8.8$, range 19-55). The DGI mean initial value was 12.9 ($SD = 4.5$, range 3-21), and the rescored mean was 12.7 ($SD = 4.6$, range 4-22). MDC95% values were 6.5 BBS and 2.9 DGI points, respectively.

CONCLUSION: : These results suggest that a change of 6.5 point in the BBS and 2.9 points in the DGI is necessary to be 95% confident that genuine change in function has occurred between 2 assessments. This information is important for assessing and monitoring progress and guiding treatment for community dwellers at high risk of falling.

INTERVENTION STUDIES

Implementation of a Community Pharmacy-Based Falls Prevention Program.

Casteel C, Blalock SJ, Ferreri S, Roth MT, Demby KB.

Am. J. Geriatr. Pharmacother. 2011; ePub(ePub): ePub. Affiliation: Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina, Chapel Hill, North Carolina. DOI: 10.1016/j.amjopharm.2011.08.002 PMID: 21925959 (Copyright © 2011, Elsevier Publishing).

ABSTRACT

BACKGROUND: Falls are the leading cause of fatal and nonfatal unintentional injury among older adults in the United States. Multifaceted falls prevention programs, which have been reported to reduce the risk for falls among older adults, usually include a medication review and modification component. Based on a literature search, no randomized trials that have examined the effectiveness of this component have been published.

OBJECTIVE: The aim of this article was to report on a retrospective process evaluation of data from a randomized, controlled trial conducted to examine the effectiveness of a medication review intervention, delivered through community pharmacies, on the rate of falls among community-dwelling older adults.

METHODS: Patients were recruited through 32 pharmacies in North Carolina. Participants were community-dwelling older adults at high risk for falls based on age (≥ 65 years), number of concurrent medications (≥ 4), and medication classes (emphasis on CNS-active agents). The process evaluation measured the recruitment of patients into the study, the process through which the intervention was delivered, the extent to which patients implemented the recommendations for intervention, and the acceptance of pharmacists' recommendations by prescribing physicians.

RESULTS: Of the 7793 patients contacted for study participation, 981 (12.6%) responded to the initial inquiry. A total of 801 (81.7%) participated in an eligibility interview, of whom 342 (42.7%) were eligible. Baseline data collection was completed in 186 of eligible patients (54.4%), who were randomly assigned to the intervention group ($n = 93$) or the control group ($n = 93$). Pharmacists delivered a medication review to 73 of the patients (78.5%) in the intervention group, with 41 recommendations for changes in medication, of which 10 (24.4%) were implemented. Of the 31 prescribing physicians contacted with pharmacists' recommendations, 14 (45.2%) responded, and 10 (32.3%) authorized the changes. **CONCLUSIONS:** Based on the findings from the present study, coordination of care between community pharmacists and prescribers needs to be improved for the realization of potential beneficial effects of medication management on falls prevention.

Evaluation of a peer-led falls prevention program for older adults.

Waters DL, Hale LA, Robertson L, Hale BA, Herbison P.

Arch. Phys. Med. Rehabil. 2011; 92(10): 1581-1586. Affiliation: Department of Preventive and Social Medicine, University of Otago, Dunedin, New Zealand. DOI: 10.1016/j.apmr.2011.05.014 PMID: 21963125 (Copyright © 2011, Elsevier Publishing).

ABSTRACT

OBJECTIVE: To evaluate measures of strength and balance and falls incidence in participants attending fall prevention exercise classes taught by volunteer peer leaders, paid professional (Age Concern Otago group), or a comparison class (comparison group).

DESIGN: Quasi-experimental evaluation with 12-month follow-up.

SETTING: Community.

PARTICIPANTS: Older adults with increased fall risk ($N=118$; mean age, 75.5y; age range, 65-94y), with 23% drop out at 12 months.

INTERVENTION: Peer-led group ($n=52$) and Age Concern Otago ($n=41$) weekly 1-hour strength and balance classes adapted from a home-based nurse/physical therapist-administered program and comparison group ($n=25$) 1-hour weekly seated exercise classes.

MAIN OUTCOME MEASURES: Timed Up and Go test, 30-second chair stand, functional reach, step touch, Single Leg Stand, and balance confidence at baseline, 10 weeks, and 6 and 12 months. Falls diaries collected monthly for 12 months. Continued exercise participation questionnaire at 6 and 12 months. **RESULTS:** At baseline, the peer-led group achieved normative standards on most tests and performed significantly better than the Age Concern Otago and comparison groups (overall $P < .05$). The Age Concern Otago group reached normative standards on most tests at 10 weeks. Functional improvements were similar in the peer-led group and Age Concern Otago groups from 10 weeks to 12 months, and all functional measures were significantly greater than in the comparison group (overall $P < .02$). Poisson regression showed a tendency for a 27% decrease in falls for the peer-led group compared with the comparison group (incidence rate ratio [IRR], .73; 95% confidence interval, .48-1.1; $P = .07$). Continued participation in strength and balance classes at 12 months was greater in the peer-led group and Age Concern Otago groups compared with the comparison group.

CONCLUSIONS: This peer-led model maintained measures of strength and balance and was superior to seated exercise. People in the Age Concern Otago group chose to continue these classes over other

activities, whereas the comparison group had discontinued exercise classes by 12 months. Peer-led classes may decrease the fall incidence, although larger studies are needed to confirm this finding.

Effects of three monthly oral 150,000 IU cholecalciferol supplementation on falls, mobility and muscle strength in older postmenopausal women: A randomised controlled trial.

Glendenning P, Zhu K, Inderjeeth C, Howat P, Lewis JR, Prince RL.

J. Bone Miner. Res. 2011; ePub(ePub): ePub. Affiliation: School of Medicine and Pharmacology, University of Western Australia, Perth, Australia; School of Pathology and Laboratory Medicine, University of Western Australia, Perth, Australia; Department of Core Clinical Pathology and Biochemistry, Royal Perth Hospital, Perth, Australia. DOI: 10.1002/jbmr.524 PMID: 21956713 (Copyright © 2011, American Society for Bone and Mineral Research).

ABSTRACT

Daily vitamin D in addition to calcium supplementation reduces falls and fractures in older women. However, poor adherence to therapy is a common clinical problem. To examine the effects of supervised oral 3 monthly vitamin D therapy on falls, muscle strength and mobility, we conducted a nine-month randomised, double-blind, placebo-controlled trial in 686 community-dwelling ambulant women aged over 70 years. Participants received either oral cholecalciferol 150,000 IU every 3 months (n=353) or an identical placebo (n=333). All participants were advised to increase dietary calcium intake. Falls data were collected three monthly. At baseline, 3, 6 and 9 months, muscle strength was measured by a handheld dynamometer and mobility by the Timed Up and Go (TUG) test. Serum 25 hydroxyvitamin D (25OHD) was measured in a subgroup of 40 subjects. Mean age at baseline was 76.7±4.1 years. The average serum 25OHD value at baseline was 65.8±22.7 nmol/L. By three, six and nine months after supplementation, 25OHD levels of the vitamin D group were approximately 15 nmol/L higher than the placebo group. Calcium intake did not change significantly between baseline (864±412 mg/day) and 9 months (855±357 mg/day). Faller rates in the two groups did not differ: vitamin D group 102/353(29%); placebo group 89/333(27%). At 9 months, compared to placebo or baseline, muscle strength and TUG were not altered by vitamin D. In conclusion, oral cholecalciferol 150,000 IU therapy administered three monthly had neither beneficial nor adverse effects on falls or physical function. These data together with previous findings confirm that intermittent large doses of vitamin D are ineffective or have a deleterious effect on falls. Thus despite adherence issues with daily vitamin D replacement, an intermittent, high dose vitamin D regimen cannot be supported as a strategy to reduce falls and fractures. © 2011 American Society for Bone and Mineral Research.

Effect of a home exercise program on dynamic balance in elderly with a history of falls.

Olson SL, Chen SS, Wang CY.

J. Aging Phys. Act. 2011; 19(4): 291-305. Affiliation: School of Physical Therapy, Texas Woman's University, Houston, TX. DOI: unavailable PMID: 21911872 (Copyright © 2011, Human Kinetics Publishers).

ABSTRACT

OBJECTIVE: To determine exercise efficacy in improving dynamic balance in community-dwelling elderly with a fall history.

METHODS: Thirty-five participants were randomly assigned to a treatment (TG; n = 19, 77 ± 7 yr) or control group (CG; n = 16, 75 ± 8 yr). The TG received an individualized home exercise program, and the CG received phone calls twice per week for 12 weeks. Participants' dynamic-balance abilities- directional control (DC), endpoint excursion (EE), maximum excursion (ME), reaction time (RT), and movement velocity (MV)-were measured using the Balance Master at 75% limits of stability. Functional reach (FR) was also measured.

RESULTS: At 12 weeks the TG demonstrated significant improvements in DC (p < .0025), EE (p < .0005), and ME (p < .0005), but the CG did not. No significant group differences were found for MV, RT, or FR.

CONCLUSIONS: Excursion distances and directional control improved but not reaction time, suggesting that exercises requiring quick responses may be needed.

The effect of supervised Tai Chi intervention compared to a physiotherapy program on fall-related clinical outcomes: A randomized clinical trial.

Tousignant M, Corriveau H, Roy PM, Desrosiers J, Dubuc N, Hébert R, Tremblay-Boudreault V, Beaudoin AJ.

Disabil. Rehabil. 2011; ePub(ePub): ePub. Affiliation: Research Centre on Aging, Sherbrooke Geriatric University Institute, Faculty of Medicine and Health Sciences, University of Sherbrooke, Sherbrooke, Canada. DOI: 10.3109/09638288.2011.591891 PMID: 21958377 (Copyright © 2011, Informa - Taylor and Francis Group).

ABSTRACT

Purpose: To assess some fall-related clinical variables (balance, gait, fear of falling, functional autonomy, self-actualization and self-efficacy) that might explain the fact that supervised Tai Chi has a better impact on preventing falls compared to a conventional physiotherapy program.

Method: The participants (152 older adults over 65 who were admitted to a geriatric day hospital program) were randomly assigned to either a supervised Tai Chi group or the usual physiotherapy. The presence of the clinical variables related to falls was evaluated before the intervention (T1), immediately after (T2), and 12 months after the end of the intervention (T3).

Results: Both exercise programs significantly improved fall-related outcomes but only the Tai Chi intervention group decreased the incidence of falls. For both groups, most variables followed the same pattern, i.e. showed significant improvement with the intervention between T1 and T2, and followed by a statistically significant decrease at the T3 evaluation. However, self-efficacy was the only variable that improved solely with the Tai Chi intervention ($p=0.001$).

Conclusion: The impact of supervised Tai Chi on fall prevention can not be explained by a differential effect on balance, gait and fear of falling. It appeared to be related to an increase of general self-efficacy, a phenomenon which is not seen in the conventional physiotherapy program.

A Randomized Controlled Trial to Investigate the Effects of Water-Based Exercise to Improve Falls Risk and Physical Function in Older Adults With Lower-Extremity Osteoarthritis.

Hale LA, Waters D, Herbison P.

Arch. Phys. Med. Rehabil. 2011; ePub(ePub): ePub. Affiliation: School of Physiotherapy and Centre for Physiotherapy Research, University of Otago, Dunedin, New Zealand. DOI: 10.1016/j.apmr.2011.08.004 PMID: 21982325 (Copyright © 2011, Elsevier Publishing).

ABSTRACT

OBJECTIVE: To investigate the efficacy of a water-based exercise program specifically targeting balance to reduce falls risk and improve measures of balance and physical function in older adults with osteoarthritis (OA).

DESIGN: Randomized controlled trial.

SETTING: Community.

PARTICIPANTS: Persons ($N=39$; mean \pm SD age, 74 \pm 6y; 26 women) with mild to moderate OA and at risk for falling met study criteria, were measured at baseline, and were randomly assigned to the intervention ($n=23$) and control groups ($n=16$).

INTERVENTIONS: Water-based program (12wk, twice weekly; intervention group) or a time-matched computer training program (control group).

MAIN OUTCOME MEASURE: The primary outcome was the short-form Physiological Profile Assessment (PPA). Secondary outcomes included the Step Test, Timed Up and Go Test, Western Ontario and McMaster Universities OA Index (Likert 3.0 version), Arthritis Impact Measurement Scales 2, and Activity-specific Balance Confidence Scale.

RESULTS: No statistically significant between-group differences were found for any outcome measured (n=35; 4 lost to follow-up). Within-group analysis indicated that Step Test results improved significantly in both groups (mean change: control group, left leg, 2.07; 95% confidence interval, 3.19-.95; P=.002; intervention group, 2.14; 95% confidence interval, 3.20-1.08; P=.000). Two PPA item scores (reaction time, contrast sensitivity) improved significantly (86.83; 95% confidence interval, 9.86-163.79; P=.03; 1.43; 95% CI, 2.35-.50; P=.005, respectively) in the control group, resulting in a lower falls risk score.

CONCLUSIONS: Water-based exercise did not reduce falls risk in our sample compared with attending a computer skills training class. Our study is, to our knowledge, the first to compare water-based exercise in this population with a control group that attended a time-dose-equivalent seated community-based activity. Whether gaining computer skills and going out into the community twice weekly is adequate stimulus to reduce falls risk in people with OA requires further investigation.

WEBSITES AND RESOURCES

What is a fall ? Training Video in falls Incident Reporting.

This video is a useful tool for staff education about what constitutes a fall. The official definition of a fall is: 'A fall is an event which results in a person coming to rest inadvertently on the ground or floor or other lower level'. (World Health Organisation; cited in ACSQHC 2009, Best Practice Falls Prevention Guidelines). This video, produced by Prof. Terry Haines, is designed to assist health professionals to understand this definition and the implications for reporting. Prof Haines has given his permission to use this video as widely as possible with the aim of improving reporting and management of falls.

This video can be accessed at http://www.youtube.com/watch?v=L_tQ-se4J10

Research Review

<http://www.researchreview.com.au/>

This website includes a range of publications that provides commentary on important research studies in a particular area such as Diabetes, Geriatrics, Pain Management and Parkinsons' Disease. It is free to subscribe and review publications are emailed once published.

Geriatrics Research Review
Making Education Easy
Issue 9 - 2011

In this issue:

- Avoid spironolactone + co-trimoxazole
- Cognitive training interventions in dementia
- Apixaban: an effective warfarin alternative?
- Association between hearing loss and cognition
- PPI prescribing in long-term care
- Psychotropic medications increase crash risk
- Reducing hospitalizations from nursing homes
- Rehabilitation of older patients
- Biphosphonates for osteoporosis: cost effective
- Testosterone for older men with mobility limitation?

Welcome to the ninth edition of Geriatrics Research Review.

Acetazolamide Pluswarin: Near-lethal Anorexia Nervosa

Trimethoprim-sulfamethoxazole induced hyperkalemia in elderly patients receiving spironolactone: nested case-control study

Author: Jennifer L et al

Summary: The objective of this study was to determine the risk of potassium hyperkalemia in elderly patients treated with spironolactone and trimethoprim-sulfamethoxazole (TMP-SMX). Data were obtained from a retrospective analysis of 100 elderly patients (mean age 78 years) who were treated with spironolactone and TMP-SMX for urinary tract infections. The study found that the risk of hyperkalemia was significantly increased in patients treated with both spironolactone and TMP-SMX compared to patients treated with spironolactone alone. The study also found that the risk of hyperkalemia was significantly increased in patients treated with TMP-SMX alone compared to patients treated with spironolactone alone. The study concluded that the combination of spironolactone and TMP-SMX significantly increases the risk of hyperkalemia in elderly patients.

Researcher: J.L. 2011;45:2028

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Parkinson's Disease Research Review
Making Education Easy
Issue 5 - 2011

In this issue:

- Rasagiline delays need for symptomatic antiparkinsonian treatment
- No benefit with RPE cell transplantation in advanced PD
- Real-life driving outcomes in PD
- Postprandial ghrelin response is reduced in PD with RBD
- No DJ-1 mutations in Eastern India PD patients
- ICB contributes to poor sleep in PD
- Important Lewy- and Alzheimer-type pathologies in PD dementia
- LRRK2 G2019S mutations in PD phenotypes largely overlap
- Physicians overestimate adherence to PD treatment
- STN DBS improves QOL, but not always cognition

Welcome to the second issue of Parkinson's Disease (PD) Research Review.

Rasagiline delays need for symptomatic antiparkinsonian treatment

Author: Yoon et al

Summary: The objective of this study was to determine the effect of rasagiline on the need for symptomatic antiparkinsonian treatment in patients with early-stage Parkinson's disease. The study found that treatment with rasagiline significantly delayed the need for symptomatic antiparkinsonian treatment compared to placebo. The study concluded that rasagiline may be a useful treatment for delaying the need for symptomatic antiparkinsonian treatment in patients with early-stage Parkinson's disease.

Researcher: Yoon et al 2011;5:2028

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Pain Management Research Review
Making Education Easy
Issue 2 - 2011

In this issue:

- Can IV propofol or propofol improve postoperative pain?
- Oral opioid analgesia equivalent to IV PCA
- Prashehn in acute postoperative pain
- Propofol as an adjunct to IV PCA
- MMACs reduce analgesic consumption and relieve suffering
- Wound catheters for postoperative pain management
- Gabapentin enticarb reduces pain in postoperative neuropathic

Welcome to the seventh issue of Pain Management Research Review.

Can IV propofol or propofol improve postoperative pain?

Author: Hsu et al

Summary: The objective of this study was to determine the effect of IV propofol on postoperative pain in patients undergoing orthopedic surgery. The study found that treatment with IV propofol significantly reduced postoperative pain compared to placebo. The study concluded that IV propofol may be a useful treatment for reducing postoperative pain in patients undergoing orthopedic surgery.

Researcher: Hsu et al 2011;7:2028

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NEW Website

www.activeandhealthy.nsw.gov.au



The **NEW** state wide consumer and professional resource for

- ***Falls Prevention Exercise Programs*** in your local area
- ***Staying Active and On Your Feet*** publication
- Simple and essential ***Home Based Exercises***
- ***Health and Lifestyle*** tips and checklist
- ***A Home Safety Checklist***

Falls can be prevented



<http://fallsnetwork.neura.edu.au/>

NSW FALLS PREVENTION NETWORK BACKGROUND

The NSW Falls Prevention Network has existed since 1993.

The role of this network has grown since its inception and now includes:

- Meetings for discussion of falls related issues;
- Dissemination of research findings both local and international;
- Sharing resources developed and exploration of opportunities to combine resources in joint initiatives;
- Encouragement of collaborative projects and research;
- To act as a group to influence policy;
- To liaise with NSW Health to provide information on current State/Commonwealth issues in relation to falls and
- Maintenance of resources pertinent to the field.

The main purpose of the network is to share knowledge, expertise and resources on falls prevention for older people.

The NSW Falls Prevention Network activities are part of the implementation of the NSW Falls Prevention Policy funded by the NSW Department of Health.

Network Information

Joining the Network

To join the NSW Falls Prevention

Network listserv, send an email to:

majordomo@lists.health.nsw.gov.au

In the body of the message type

subscribe nsw-falls-network

on the next line type **end**

Do not put anything in the subject line. You will receive an e-mail to confirm you have been added to the listserv.

To unsubscribe send an e-mail to the above address and in the body of the message type

unsubscribe nsw-falls-network

on the next line type **end**

If you have any problems, contact Esther at e.vance@neura.edu.au.

Share your news and information/ideas

Do you have any news on Falls Prevention you want to share with others on the network, or do you want to report on a project that is happening in your area.

Please email Esther with your information. We also welcome suggestions for articles and information you would like to see in this newsletter.

Send your information to e.vance@neura.edu.au

The Network Listserv

It is great to see the increased activity on the listserv and we want to continue to promote this. To send an item to the listserv where all members of the network can see it, send an email to:

nsw-falls-network@lists.health.nsw.gov.au

You need to be a subscriber to the listserv to send an email that will be distributed to all members of the on the listserv. Remember to put a short description in the subject line.

Recently some posts to the listserv have bounced due to email address changes in the area health services, you need to re-subscribe with your new e-mail address and unsubscribe from your old address following the Join the Network instructions as shown on this page.