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A randomized controlled trial of fall prevention strategies in old peoples' homes.

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Abstract

BACKGROUND: Falls are a major cause of morbidity in old age. A small number of fall prevention trials in cognitively intact community-dwelling older people have been effective. This study set out to examine the preventability of falls in older people living in institutional care.

OBJECTIVE: To evaluate the effectiveness of falls risk factor assessment/modification and seated balance exercise training in reducing falls among elderly people living in residential care.

METHODS: 133 residents with a mean age of 84+/- (SD) 6.8 years were allocated at random by home to receive either a 6-month falls risk factor assessment/modification and seated balance exercise training programme (n = 77) or 6 months of reminiscence therapy (n = 56). The risk factors targeted were postural hypotension, polypharmacy, visual acuity, and ambient lighting levels. Falls risk factor assessments and recommendation for modifications were performed at baseline in the intervention group and assessments repeated at 6 months. Functional reach, reaction time, timed up-and-go, grip strength, spinal flexibility, and Philadelphia Geriatric Centre Morale Scale and Mini-Mental State Examination scores were determined at baseline and at 6 months by a 'blind' observer. Falls and fractures were then monitored in both groups during a 7- to 12-month falls-monitoring follow-up period.

RESULTS: Only 90 of 133 (67.7%) residents completed the 6-month intervention period, and 84 (63.2%) completed the 7- to 12-month falls-monitoring follow-up period. Both prevalence of postural hypotension (p = 0.0005) and poor visual acuity (p = 0.04) were reduced in the intervention group. There was no difference between the groups in the number of falls sustained, the risk of falling [odds ratio 0.45 (95% CI 0.19-1.14)], or in the risk of recurrent falling [odds ratio 1.07 (95% CI 0.40-2.97)]. No significant differences were found between the groups with regard to change in other outcome measures.

CONCLUSIONS: The high drop-out rate reduced the power of this study to detect any effect of the interventions used. It is possible that either the exercises were not sufficiently vigorous or that to improve balance exercises must be performed standing. Further research is required to identify effective fall prevention strategies for elderly people in residential settings.

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