A multifactorial intervention reduced the mean number of falls but not the proportion who fell in older people with recurrent falls

Davison J, Bond J, Dawson P, *et al.* Patients with recurrent falls attending Accident & Emergency benefit from multifactorial intervention—a randomised controlled trial. *Age Ageing* 2005;**34**:162–8.

Q What is the effectiveness of a multifactorial intervention to prevent falls in older people with recurrent falls?

METHODS

Design: randomised controlled trial.

Allocation: concealed.

Blinding: blinded (data collectors).

Follow up period: 1 year.

Setting: accident and emergency departments (EDs) in a university teaching hospital and an affiliated district general hospital in the UK.

Patients: 313 patients >65 years of age (mean age 77 y, 72% women) who presented to an ED with a fall or fall related injury and had ≥1 previous fall in the preceding year. Exclusion criteria included cognitive impairment (Mini Mental State Examination score <24), >1 previous episode of syncope, immobility, and clear medical explanation for falling.

Intervention: a multifactorial intervention comprising hospital based medical assessment, home based physiotherapy and occupational therapy assessment, and prioritised individualised intervention for fall risk factors (n = 159); or conventional care by primary care and ED physicians (n = 154).

Outcomes: number of falls, proportion of patients continuing to fall, and proportion of patients with fall related hospital admissions. A 'fall' was defined as inadvertently coming to rest on the ground or other lower level with or without loss of consciousness or injury.

Patient follow up: 90% (intention to treat analysis).

MAIN RESULTS

The multifactorial intervention group had a lower mean number of falls per year than the conventional care group (mean 3.3 v 5.1;

relative risk 0.64, 95% CI 0.46 to 0.90). The 2 groups did not differ for proportion of patients continuing to fall or proportion of patients with fall related hospital admissions (table).

CONCLUSION

In older people with recurrent falls, a multifactorial intervention reduced the mean number of falls but not the proportion of patients continuing to fall or fall related hospital admissions.

Commentary

A high quality systematic review suggests that multifactorial interventions reduce the proportion of people who fall,¹ whereas the study by Davison *et al* found only a reduction in the number of falls per year.

Several points might explain this finding. Firstly, the mean age of patients was 77 years. Similar studies have reported mean ages >80 years.^{1,2} As well, the proportion of frail older adults was unknown. It is possible that the sample in the study by Davison *et al* included a lower proportion of frail older adults than previous studies. Secondly, 20% of the conventional care group visited a falls clinic and received some of the same treatment as the intervention group, which may have masked any beneficial effect of the intervention. Patients who received treatment from the falls clinic were likely those assessed as potentially benefiting most from intervention. Thirdly, the multidisciplinary team did not include nurses, whereas many previous studies did.¹

Nevertheless, the findings of Davison *et al* have implications for nurses. Despite its differences from previous studies, this research confirms the benefits of multifactorial interventions in reducing the number of subsequent falls. It also reminds us that the assessment of people who fall is complex. A fall may indicate presentation of a new illness or worsening of a chronic illness. With these points in mind, discharge planning from the ED should include occupational therapy and physiotherapy assessments and assistance with personal care if function has been lost because of injury.

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- 1 Gillespie LD, Gillespie WJ, Robertson MC, *et al.* Interventions for preventing falls in elderly people. *Cochrane Database Syst Rev* 2003;(4):CD000340.
- 2 Robertson MC, Campbell AJ, Gardner MM, *et al.* Preventing injuries in older people by preventing falls: a meta-analysis of individual-level data. *J Am Geriatr Soc* 2002;**50**:905–11.

Multifactorial intervention v conventional care in older people with recurrent falls*

Outcomes at 1 y	Multifactorial intervention	Conventional care	RRR (95% CI)	NNT
Continuing to fall	65%	68%	5% (–12 to 19)	Not significant
Fall related hospital admissions	9%	11%	20% (–54 to 59)	Not significant

*Abbreviations defined in glossary; RRR, NNT, and CI calculated from data in article.