A patient education program supported by staff training can reduce the rate of falls for older patients during inpatient rehabilitation

Synopsis


**Question:** Does a fall prevention patient education program in addition to staff training reduce the rate of falls in hospital rehabilitation units? **Design:** A stepped-wedge cluster randomised, controlled trial with blinding of staff collecting falls data.

**Setting:** Eight rehabilitation units in Australia. **Participants:** After enrolment of the eight inpatient rehabilitation units (clusters), patients were eligible if aged > 60 years, had a projected length of stay of at least 3 days, and had basic cognitive functioning, defined as having a Mini-Mental State Examination score of > 23/30. All multidisciplinary staff in the unit were eligible to participate. After a 10-week control phase, two of the units were randomly allocated to the intervention, with two units added at 10-week intervals until all units had crossed over to the intervention phase. During the trial 1983 patients were admitted during the control phase and 1623 patients were admitted during the intervention phase.

**Interventions:** During control and intervention phases, patients received usual care inpatient rehabilitation management from a multidisciplinary team. In addition, during the intervention period, patients received an individualised fall prevention education program based on changes to health behaviour principles. The program was delivered by a physiotherapist and included a multimedia education package with individual follow-up that included goal setting for a median of two sessions and 45 minutes. The physiotherapy educators also provided information and weekly feedback to staff at each unit for about 2 hours per week. **Outcome measures:** The primary outcomes were patient rate of falls (per 1000 patient-days), the proportion of patients who had injurious falls, and length of stay. **Results:** A total of 3606 patients were admitted to the rehabilitation units during the control phase (n = 1983) and intervention phase (n = 1623). During the intervention phase, the fall rate reduced from 13.78 to 7.80 falls per 1000 patient-days (incident rate ratio (IRR) 0.65, 95% CI 0.42 to 0.94). During the intervention phase, the rate of injurious falls reduced from 4.75 to 2.63 falls per 1000 patient-days (IRR 0.65, 95% CI 0.42 to 0.88). A planned analysis of patients with lower cognition scores (< 23 on the Mini-Mental State Examination) who did not receive the individualised intervention, showed they also had a reduced fall rate, from 16.46 to 10.70 falls per 1000 patient-days (IRR 0.65, 95% CI 0.40 to 1.05). There was no difference in length of stay between the two phases. **Conclusion:** A patient education program in addition to staff training reduced the falls rate in older patients admitted for inpatient rehabilitation.

**Provenance:** Invited. Not peer-reviewed. **Section Editor, Journal of Physiotherapy**

Commentary

Falls in older people are a major global public health challenge. Falls in hospitals occur among patients under the care of health systems that have an obligation to keep them safe. Cochrane reviews reveal less certainty about fall prevention in inpatient settings than community settings.1,2 This study makes an important contribution by showing that falls can be prevented with patient-focused intervention in rehabilitation settings. The stepped wedge methodology that is used is novel and appropriate. Masking of data collectors to the intervention schedule reduces the risk of bias. The study intervention appears to have been carefully designed and implemented.

There are clear implications for clinical practice from this study. The size of the intervention effect (40% reduction in falls) and the study’s rigour suggest that implementation of this intervention is warranted. Rehabilitation unit staff should familiarise themselves with the details of the intervention and lobby for additional resources to implement it.

The key feature of the intervention appears to be the assumption that patients can be assisted by a physiotherapist to take responsibility for their own safety. However, for such an intervention to work, nursing staff need to be willing and available to provide appropriate levels of assistance or supervision to ensure safe performance of daily tasks such as toileting. In the context of limited health resources, a patient-focused intervention is likely to be a cost-effective approach to inpatient fall prevention. Further studies should test the impact of such an intervention in acute hospital settings, where the results of previous large-scale trials have been disappointing.

An important aspect of this study is the apparent carry over of the intervention effect to fall prevention in patients with cognitive impairment who did not actually receive the intervention. This suggests that behaviour change among ward staff played a key part in intervention effectiveness.

**Provenance:** Invited. Not peer-reviewed.

References


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