

Multimedia Patient Education to Prevent Falls Among Hospitalized Elders

Haines TP, Hill AM, Hill KD, et al. Patient education to prevent falls among older hospital inpatients: a randomized controlled trial. *Arch Intern Med* 2011;117:516–24.

Study Overview

Objective. To examine the impact of 2 types of patient education to prevent falls in the hospital among elderly patients.

Design. Randomized controlled trial.

Setting and participants. Study participants were 1206 elderly patients admitted to acute and subacute hospital wards at 2 Australian hospitals between January 2008 and April 2009. Study subjects were randomized to 1 of 3 groups: (1) the complete program, which involved written materials, videos, and 1-on-1 follow-up with a trained health professional; (2) the materials-only group (multimedia patient education materials alone); or (3) the control group (usual care). Data on in-hospital falls were collected by research assistants through the review of hospital incident reports, medical record review, and weekly patient interviews. The cognitive impairment of study participants was assessed at baseline using the Short Portable Mental Status Questionnaire (SPMSQ). Analyses examined mean SPMSQ score among the 3 groups as well as falls among cognitively intact participants in each group (SPMSQ \geq 8).

Main outcome measure. In-hospital falls.

Main results. There was no difference in the rate of falls per 1000 patient-days among the 3 groups (control, 9.27; materials only, 8.61; complete program, 7.63). Patient cognitive im-

pairment was significantly associated with the rate of falls. The fall rate for cognitively intact patients enrolled in the complete group was 4.01 falls per 1000 patient-days compared with 8.18 falls per 1000 patient-days in the materials-only group (adjusted hazard ratio, 0.51 [95% confidence interval {CI}, 0.28–0.93]) and 8.72 falls per 1000 patient-days in the control group (adjusted hazard ratio, 0.43 [95% CI, 0.248–0.78]). However, among patients who were cognitively impaired, those who received the complete program actually had higher rates of falls. **Conclusion.** The combination of trained health professional follow-up and multimedia patient education decreased in-hospital patient falls among cognitively intact elderly patients but increased inpatient falls among elderly patients who were not cognitively intact.

Commentary

In-hospital falls are a leading safety concern and a common cause of morbidity and mortality for elderly patients. Yet despite the known hazards, we have little information about how to prevent falls [1]. In this context, the study by Haines et al provides helpful insights. They found that cognitively intact patients who were provided a detailed intervention that included written materials, a video, and in-person visits by a specialist had fewer falls than other

Outcomes Research in Review SECTION EDITORS

Ashish K. Jha, MD, MPH
Brigham and Women's Hospital
Boston, MA

Ula Hwang, MD, MPH
Mount Sinai School of Medicine
New York, NY

Jason P. Block, MD, MPH
Brigham and Women's Hospital
Boston, MA

Maya Vijayaraghavan, MD
University of California, San Francisco
San Francisco, CA

William Hung, MD, MPH
Mount Sinai School of Medicine
New York, NY

Asaf Bitton, MD, MPH
Brigham and Women's Hospital
Boston, MA

Melanie Jay, MD, MS
NYU School of Medicine
New York, NY

patients. However, they also found that patients who were cognitively impaired and received the same intervention actually had a higher number of falls. While the results of the study are startling, several factors must be taken into account.

First, although this was a randomized trial, patients and the clinicians who cared for them were likely aware of which arm of the trial they were in. Therefore, patients who were in the complete program arm might have received somewhat different treatment, potentially leading to some of the effects. Second, the study was done at 2 institutions in Australia. Although the written and video material is likely easily reproducible, the specifics of the in-person intervention are not. It is unclear exactly what the study personnel did in the patient follow-up sessions. The study needs to be replicated before its generalizability is clear.

Applications for Clinical Practice

While the study by Haines et al provides provocative results about the potential benefits of their multifaceted intervention, its efficacy needs to be retested in a larger population of cognitively intact patients in multiple settings. Preventing falls is critically important, but as this study has shown, interventions can potentially cause harm as well as good. Understanding which interventions work, and in which contexts, is important to reducing falls among elderly hospitalized patients.

—Review by Ashish K. Jha, MD, MPH

Reference

1. Cameron ID, Murray GR, Gillespie LD, et al. Interventions for preventing falls in older people in nursing care facilities and hospitals. *Cochrane Database Syst Rev* 2010(1):CD005465.

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