



KEY POINT SUMMARY

OBJECTIVES

The objective of the study was to identify the risk factors associated with falls in hospital environments.

Triangulating the extrinsic risk factors for inpatient falls from the fall incident reports and nurse's and patient's perspectives

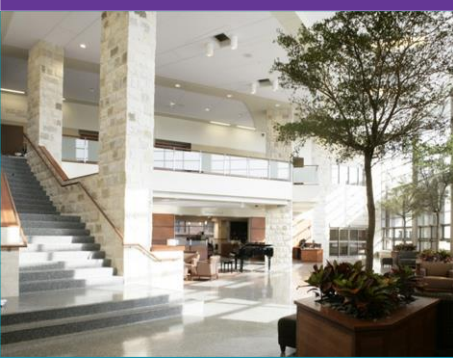
Tzeng, H. M., 2011 | *Applied Nursing Research*. Volume 24, Issue 3, Pages 161-170

Key Concepts/Context

The safety of patients in hospitals is paramount during their treatment period. Accidental falls account for the most dangerous of reported incidents for a number of reasons. According to the authors, the hospital setting increases the risk of falling when upon admission older patients are faced with new unfamiliar environments. Risk factors are either intrinsic, as being age related, having reduced vision, or mental and chronic conditions, or extrinsic, related to the environment, medication, insufficient hospital equipment, inadequate finish materials in patient rooms, and improper lighting. 79.5% of falls occur in patient rooms, 11% in bathrooms, and 9.5% in other areas of the hospital. Most studies on falls lack a detailed analysis of prevention programs, and more research work is needed. Hospital falls resulting in serious injuries increase the patient's length of stay and add additional costs. This study triangulated extrinsic risk factors from incident reports and nurse and patient perspectives to make fall prevention a priority in meeting the patient's needs.

Methods

This study was carried out at a 32-bed Michigan medical center. For this descriptive study nurses and their aides were recruited for interviews and fall incident reports were used for data accumulation. Furthermore, a survey of home care patients was completed at a Michigan home care agency associated with the study hospital. The survey used a locus-stability classification scheme and the three-dimensional typology. 104 fall incident reports for a one-year period (Jan. 2005 – Dec. 2006) were reviewed. Content analysis was used to code the fall contributing factors from the reports. For the interviews a number of questions were developed by the author that included demographics, insights, and opinions on the causes of falls. Potential risk factors such as room design, hospital equipment, and staff behavior were used



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to guide the interviews. Nine nurses and four aides who volunteered were interviewed to get their perspectives. The survey was developed with single-item scales or open-ended questions. It was validated by five experts and piloted before use during a two-month period. The study used a content and descriptive analysis method to process the data collected.

Findings

The data analysis resulted in pointing out several issues regarding the falls and their settings that were classified as follows:

- 1- Built environment – In the patients' rooms it was reported that there were insufficient wall handrails, poorly designed beds, and insufficient lighting. In addition, inadequate items were noted including beds, chairs, maintenance, and cleaning of slippery flooring. Other issues included bed height not being adjusted to be low enough and bed pressure alarms not being used on a regular basis.
- 2- Equipment and staffing – It was found that there were insufficient bed commodes, or not having armrests, and canes and walkers not being available. Moreover, unneeded equipment/clutter was not removed and was left as obstacles in room pathways. Other reported issues included insufficient staff knowledge and experience on fall prevention. The analysis further showed that patients preferred clean and safe environments and wanted assistance to be given in a timely manner.

It was concluded that most of the falls in the 104 incident reports (64%) were related to going to the toilet. The activities reported as causing the falls were getting out of bed, using commodes, going to the bathroom, getting off toilet seats, and going back to bed.

Limitations

Due to its cross-sectional research design, the study was unable to match the patients' and the nurses' perspectives on the causes of the falls. Other limitations included the participants as being volunteers out of convenience instead of being selected based on the best criteria. In addition, the study findings could not be generalized because of being limited to one medical center and a small number of participants in both the survey and the interviews.

Design Implications

The issues raised in the study can help better design safer patients' environments. Risk management and prevention can be achieved to eliminate falls through:

- 1- Built environment factors – These include careful space planning by removing obstructions and working with furniture manufacturers to improve the usability of products and assistive devices. Other patient requirements included room wall



handrails, grab bars, ceiling lifts, more adjustable beds, better lighting, wider doors, and larger shower rooms.

2- Staffing – The patients needed more staff assistance, which could be provided through better floor layouts incorporating more nurse stations for better response time, according to similar studies.

More focused information is needed to better look at these and other design problems causing falls.

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