Factors Associated with Inpatient Injurious Falls in Acute Care Hospitals

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BACKGROUND

- Falls among patients is serious concern in acute care settings
- Consequences of falls: injuries, reduced functional ability & quality of life, and extra financial burden to patients, families & healthcare facilities

PURPOSE

To examine the associations of fall-related injuries with multilevel factors (i.e., hospital and unit organizational factors, unit nursing process factors, and patient-specific factors) in acute care hospitals

METHODS

Design. Cross-sectional, exploratory descriptive, correlational study using secondary data analysis

Primary data. 2013-2014 National Database of Nursing Quality Indicators®

Variables:
- DV: The annual total number of injurious falls at the unit level
- Structure factors
  - hospital: bed size, teaching status and Magnet® status
  - unit: type (medical, surgical, med-surgical, and stepdown) & nurse staffing (total nursing hours per patient day [TNHPPD], RN hours per patient day [RNHPPD], RN skill mix, & turnover rate of RN and Advanced Practice Registered Nurse [APRN])
- Process factors
  - fall risk assessment, fall prevention protocol implementation, employee assisted falls, & physical restraint(s) use
- Patient factors
  - gender & fall risk status

Data Analysis: Descriptive & mixed effect negative binominal regression analyses using STATA®14, alpha = 0.05

RESULTS

Multilevel Mixed Effects Regression Analysis: Fixed effects
- Hospital structure characteristics
  - Teaching hospitals were 12% less likely to have injurious falls (p = 0.001).
- Unit structure characteristics
  - Falls on surgical units were 8% more likely to be injurious falls than those on other units (p = 0.028).
  - RNHPPD had a significant non-linear association with injurious falls (p<0.001).
- Nursing process factors
  - Unassisted falls by employees were 50% more likely to be injurious falls than those on other units (p = 0.004).
  - Falls on the unit with high proportion of ‘at fall risk patients’ were 21% less likely to be injurious falls (p = 0.015).

Multilevel Mixed Effects Regression Analysis: Random effects
- Injurious fall rate for an individual hospital might vary from 19% lower to 24% higher than the average injurious fall rate of all hospitals.

CONCLUSIONS

- Fall prevention programs should ensure appropriate nurse staffing and emphasize nursing process that include:
  - identifying at fall risk patients through fall risk assessment
  - providing assistance to patients at fall risk
- Future longitudinal prospective studies can be developed to examine the associations between injurious falls and unit staffing and processing characteristics.