Institute of Nursing Science

Characteristics of Hospital Inpatient Falls across Clinical Departments

René Schwendimann[1,2], Sabina De Geest[1,3], Koen Milisen[3]

[1]Institute of Nursing Science, University of Basel, Switzerland, [2]Stadtspital Waid Zürich, Switzerland
[3]Center for Health services and Nursing Research, Catholic University of Leuven, Belgium

BACKGROUND

- Hospital in-patient falls are common, with fall rates ranging from 2.4 to 9.1 falls per 1,000 patient days depending on hospital type.
- In up to 50% of falls result in injuries, of which 10% are major.
- Patient characteristics and the risk of falling vary across clinical settings.

OBJECTIVE

To determine inpatient fall rates in an urban public hospital and to explore associated characteristics across clinical departments

METHODS

- This 5-year retrospective study utilized data from in-patient fall incident reports and administrative patient data from 1999 to 2003.
- The studied population included 34,972 in-patients (>24 hours of stay) from departments of medicine, geriatrics, and surgery in a 300-bed urban hospital.
- Fall rates, circumstances, consequences of falls, and risk factors among fallers were calculated.
- Analysis used descriptive and inferental statistics (Chi-square and ANOVA); P-values were set at 0.05.

RESULTS

- 34,972 hospitalized patients (female: 53.6%) with a mean age of 67.3 (SD: 19.3) years, and mean length of stay of 11.9 (SD: 3.2) days.
- Patient characteristics differed between departments (see table 1).
- 2,512 Patients (7.2%) experienced a total of 3,842 in-hospital falls. The overall age-adjusted fall rate was 7.0 falls per 1,000 patient days (pd). 28.2% of the patients had two or more falls, accounting for 53% of all falls.

Table 1: Patient characteristics and falls

	MED (n=17,386)	GER (n=2,765)	SUR (n=14,821)	P-value
Female (%)	54.5	72.7	49.1	<0.001†
Age in years*	70.4	83.0	60.6	<0.001‡
Hospital days*	10.8	36.1	8.6	<0.001‡
Fallers (%)	8.8	24.8	1.9	<0.001†
Falls/1,000 pd	11.3	11.7	2.9	<0.001‡

*mean, †Chi square, ‡ANOVA

RESULTS cont.

- Of those 2,512 patients who fell, consequences, circumstances and risk factors for each department are shown in table 2.

Table 2: Circumstances, consequences & risk factors

	MED (n=1,550)	GER (n=663)	SUR (n=299)	P-value
Time of fall (%)				<0.001†
7AM - 3PM	31.4	38.6	33.4	
3PM - 11PM	27.9	34.1	24.6	
11PM - 7AM	40.6	27.3	42.1	
Location (%)				<0.001‡
Bedroom	77.7	69.5	78.6	
Bathroom	15.0	15.8	15.1	
Other place	7.1	14.3	6.0	
Outside unit	0.2	0.4	0.3	
Type of fall (%)				<0.001‡
Ambulating	43.7	41.2	39.1	
Transferring	33.0	40.4	30.4	
Out of bed/chair	20.5	16.4	27.1	
Unknown	2.8	2.0	3.3	
Severity (%)				<0.001†
Minor injuries	31.2	26.8	31.4	
Major injuries	3.8	7.7	6.0	
Risk factors (%)				
Impaired mobility	81.0	89.9	79.0	<0.001†
Impaired cognition	55.2	55.9	54.8	0.0940 †
History of falls	43.0	69.6	45.5	<0.001†
Narcotic use	37.9	41.6	35.5	0.128 †
Altered elimination	37.5	44.5	31.5	<0.005†
Impaired vision	29.2	36.0	38.8	<0.007†
Unsafe footwear	30.2	22.8	24.0	0.001 †
Psychotropic use	21.5	37.6	18.4	<0.001†

*mean, †Chi square, ‡ANOVA

CONCLUSIONS

- Patient falls in the departments of medicine and geriatrics are common. Their characteristics in relation to time, location and consequences are similar to findings of previous studies.
- While fall rates varied significantly between departments – likely due to differences in case mixes; associated injuries differed only slightly.
- One in three falls result in at least a minor injury; falls should therefore be regarded as an important safety issue in hospitals, especially for elderly patients with already diminished health status.
- Attention should be given to identification of patients at risk and effective interventions implemented to prevent falls and minimize related injuries.

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