A Retrospective Study of Patient Falls in a Psychiatric Hospital

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While falls on medical-surgical units are the focus of extensive research, falls on inpatient psychiatric units are an understudied critical event. Medical-surgical patients at risk to fall have been identified and assessment tools to predict risk have been developed. The interrelationships of age, medications, disease states, emotional states, and environmental factors have been associated with an increased incidence of falls in people hospitalized on medical-surgical units. Although some of the trends identified in this article are unique to patients with medical-surgical problems, some findings also apply to patients on psychiatric units.

Only two articles about falls in a general psychiatric population were found (Jones, 1991; Poster, 1991). Most of the literature on falls in psychiatric settings focuses on geropsychiatric patients. This geropsychiatric focus limits the application of findings to the general psychiatric population. A further dilemma for psychiatric nurses is that no instrument to assess fall risk for psychiatric inpatients has been developed.

The purposes of this study were to identify the variables associated with psychiatric patient falls and to use that information to assess risk and, therefore, prevent falls in this population. The researchers hypothesized that advanced age, polydrug therapy, and medical condition were the major patient characteristics associated with falls on psychiatric units. The research question was, “What demographic, diagnostic, treatment, and situational variables are associated with falls on psychiatric inpatient units?”

Review of Literature

Reports about falls in nonpsychiatric settings identify characteristics of patients at risk for falling. Macirowoski and colleagues (1988) stated that 70% to 80% of all incident reports in acute care settings are related to patient falls, with 20% to 30% resulting in injury. Most articles identified environmental factors as playing a part in the incidence of falls. These environmental factors included slippery floors, poor lighting, and inappropriate placement of furniture (Macirowoski, 1988).

In an article describing 494 falls in a psychiatric setting, Poster and associates (1991) found that 14% of all incident reports were fall related, with 2% resulting in injury and 20% involving more than one fall. A review of the literature revealed conflicting information about which psychiatric patients are identified as at risk to fall.

Several sources indicate that the presence of a psychiatric diagnosis increases the risk of falling (Hernandez, 1986; Janken, 1986; Mion, 1989; Spar, 1987). Macirowski and colleagues (1988) noted that patients who were depressed fell more frequently than other patients. Poster and associates (1991) found that depressed and psychotic patients were more likely to fall, and patients with dementia and bipolar disorder were less likely to fall. Affective disorders and substance abuse were the diagnoses related to the highest number of falls in one study (Jones, 1991). Davie and co-investigators (1981) reported that unipolar depression and organic brain syndrome were the most common diagnoses of patients who fell.

Many articles described characteristics of patients at risk to fall, such as age, difficulties with mobility, orthosta-
Cognitive and emotional states;  
- History of previous falls;  
- Length of stay; and  
- Specific descriptors related to the fall  
  (e.g., time, location, circumstances, and  
  environmental factors).

**Procedure**

In a pilot test of the instrument, all  
the investigators used the instrument to  
retrieve data from the same three pa-  
tient records. This experience resulted  
in minor changes in the instrument to  
enhance its usability. When interrater  
reliability of data retrieval approached  
100%, the investigators were confident  
that the needed information was being  
gathered accurately. All data collection  
was performed by one person.

**Analysis**

All data were analyzed using the Sta-  
tistical Package for the Social Sciences  
(SPSS) software program (Norusis, 1990).  
Descriptive statistics were used to define  
patterns of responses in the data.

**Results**

During the study period there were  
968 admissions on the two psychiatric  
units, equalling 14,059 patient days. Fifty-  
two falls involving 37 patients occurred,  
for an incidence rate of 3.7 falls per  
1,000 patient days. The repeat fall rate  
was 29%. Patient falls constituted 18%  
of total incidents with an injury rate of  
17% (8 lacerations and 1 fracture). Pa-  
tients who experienced the highest num-  
ber of falls had a diagnosis of depression  
(Figure 1). Females (62%) fell more  
often than males (38%) (Figure 2). On  
admission 2% of the patients who fell  
had a medical diagnosis documented—  
78% of those same patients had at least  
one and often multiple medical diagnos-  
oses at discharge (Figure 3).

Patients under age 65 constituted 56%  
of patient falls. Forty-two percent of  
the patients who fell were hospitalized invol-  
untarily. Other characteristics of patients  
who fell are identified in Figures 4, 5,  
and 7. Sixty-eight percent of the patients  
had a previous history of falls. Patients  
fell in a community area of the unit  
(42%), a patient room (36%), or an area  
off the unit (22%). Additionally, patients  
who fell were anxious (86%) and agi-  
tated (81%), and experienced orthostatic  
hypotension (41%), dizziness (32%), and  
syncope (16%). Nurses documented that
68% of patients who fell did not need assistance with ambulation, while 32% did require assistance. Of those patients deemed to require assistance, 49% had refused assistance.

Forty-six percent of the patients fell during the day shift, 43% during the night shift, and 11% during evening shift. Most falls occurred on Thursdays (26%) with the least number of falls occurring on Sundays and Wednesdays (7% each). Thirty percent of patients fell within the first 2 days of hospitalization and 58% fell within the first 7 days of hospitalization. One fall occurred on the 57th day of hospitalization—the longest length of stay associated with a fall. Medications being taken by these patients were sedatives (76%), major tranquilizers (65%), laxatives (65%), antidepressants (46%), and lithium (32%) (Figure 6).

**Discussion**

Of all the variables examined in this study, anxiety and agitation were present in the highest percentage of patients who fell, 86% and 81% respectively. One possible explanation for this finding is that anxiety and agitation directly contribute to falls. Alternatively, it may be that anxiety and agitation impair psychiatric patients' ability to identify environmental hazards—resulting in a failure to take the necessary steps to reduce the risk of falling.

The number of involuntarily hospitalized patients who fell also was disproportionately high compared with the general population of the institution. Forty-two percent of the patients who fell were involuntarily admitted; the general population was composed of 21% involuntary admissions. The apparent overlap of involuntary status and high anxiety/agitation suggests that involuntary status patients experience greater anxiety and agitation, which may place them at greater risk for falls.

The majority of patients who fell did not have a medical diagnosis documented on admission, but did at discharge. This may be an artifact of the admission process in which the psychiatric condition of the patient may impair the ability to provide a complete medical history. However, the lack of medical diagnoses on admission may be a contributing factor to the 30% rate of falls in the first 2 days of hospitalization. If there are unknown medical diagnoses, the assessment for risk of falling may be incomplete.

Further study is required to determine if the medical diagnoses are overlooked on admission and more fully identified at discharge, or whether the hospitalization has an iatrogenic effect. For example, psychotropic medications prescribed during hospitalization could cause orthostatic hypotension. This finding indicates the importance of a complete and accurate medical assessment on admission and as part of a fall risk assessment.

The medications taken most frequently by patients who fell were antidepressants, major tranquilizers, sedatives, laxatives.
and the antianxiety drug lithium. These medications can cause orthostatic hypotension, dizziness, and syncope. In addition, patients over age 65 were represented disproportionately higher in the population who fell, as compared with the general population of the institution. Patients over age 65 constitute approximately 13% of the total population admitted during this same period; however, they were the group to fall most frequently at a rate of 44%. This indicates a high risk for falling in this age group. This may be due to an increased likelihood of adverse reactions to psychiatric medications—and to their having more concomitant medical diagnoses and mobility problems.

In contrast to patient falls on medical-surgical units, these psychiatric patients fell more frequently during the day and night shifts, and in community areas or off the unit rather than in their rooms. This difference could reflect a philosophic treatment perspective—and a trend specific to psychiatric hospitals—in which the staff tries to ensure that patients are out of their rooms and actively involved in treatment programs.

A similarity with patient falls on medical-surgical units is that psychiatric patients also deny physical limitations and tend to refuse assistance with ambulation. Because psychiatric nurses value a high level of independence, patients who do request assistance may be viewed as not participating fully in their treatment by attempting to get others to do tasks for them. Thus, psychiatric nurses may not respond as quickly when patients request assistance.

The psychiatric diagnoses of patients who fell were similar to those of the general population of the institution. This finding suggests that the use of psychiatric diagnosis as a predictor of fall risk may not be particularly helpful. Previous studies have indicated that polydrug therapy increases the risk for falls; however, further study of psychiatric patients is required. The rate of repeat falls and history of falls are consistent with previous studies and indicate the importance of gathering this information when assessing current risk of falls.

Chart audit data were used for this study. Reliance upon the accuracy and completeness of the documentation on

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**Figure 3.** Few patients who fell had a documented medical diagnosis on admission.

**Figure 4.** Identifying characteristics of patients who fell.
Figure 5. Additional identifying characteristics of patients who fell.

Figure 6. All patients who fell were taking at least one of these medications; most were taking multiple medications. The antimania drug lithium is listed as a separate category.
Patient Falls

KEY POINTS


1. While falls on medical-surgical units are the focus of extensive research, falls on inpatient psychiatric units are an understudied critical event.

2. The purposes of this study were to identify the variables associated with psychiatric patient falls and to use that information to assess risk and, therefore, prevent falls in this population.

3. The psychiatric patient at risk for falling is described as a woman with a prior history of falls; less than 65 years of age; experiencing anxiety and agitation; and receiving a sedative, a tranquilizer, and a laxative. Additionally, this patient is more likely to fall in a community area.

Figure 7. The largest percentage of falls occurred in community areas.

Patient Falls

Patient Falls are a significant problem in psychiatric hospitals. The incidence and risk factors for falls among psychiatric patients have been studied extensively. This paper presents a retrospective study of patient falls in a psychiatric hospital and identifies key factors associated with falls in this population.

Medical records are a definite limitation to a retrospective design. Although some comparisons with the hospital population were made, the lack of a cohort limits the use of these findings. However, the study does provide a beginning knowledge base for assessing psychiatric patients at risk for falling.

From these findings, the psychiatric patient at risk for falling is described as a woman less than 65 years old, with a prior history of falls, anxiety, and agitation, and who is receiving a sedative, a tranquilizer, and a laxative.

The findings also indicate that this patient is more likely to fall in a community area. Future studies must compare psychiatric patients who fall with a cohort of nonfallers. Another focus is the subpopulation of psychiatric patients who fall repeatedly. A goal of future research is the refinement of an instrument to identify psychiatric patients at risk for falling and to design a fall-prevention program for psychiatric patients.

References


