Are Patients at Risk for Falling? …. Not If You Ask Them

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The purpose of this study is to explore perceptions of 30 patients in the hospital about their risk of falls, injury and fall prevention strategies. This qualitative investigation was conducted as the third case study of a PhD dissertation investigating various Performance Improvement (PI) methodologies to prevent patients from falling. Most patients do not think they are at risk for falling and feel particularly protected during their hospital stay. They do not understand the difference between what may put them at risk for falling (dizziness, weakness) versus what may put them at risk for injury (brittle bones, low platelets – thin blood, prone to head bleed). A deeper understanding of patient perceptions is necessary to enhance relationships between patient/family and hospital staff to achieve a mutual understanding of fall and injury risk.

**Practitioner Summary:** Patients do not think they will fall and feel particularly safe while staying in the hospital. There is a gap between the perception of fall risk between a nurse and their patient that must be addressed before a partnership can be successful.

**Keywords:** hospital falls, patient perceptions, qualitative interviews, participatory ergonomics, fall injury prevention strategies

1. **Introduction**

Reducing patient falls in the acute care setting continues to be a challenge. The cost of treatment increases for the facility after a fall occurs and results in a longer hospital stay for the patient (Wong et al., 2011). Reported average rates of hospital falls per 1000 patient days (PD) vary from 0.86 - 6.36 (Fischer et al., 2005).

This qualitative investigation was conducted as the third case study of a PhD dissertation investigating various Performance Improvement (PI) methodologies to prevent patients from falling during their hospital stay. The first case study used Lean techniques such as standard work for to improve fall risk assessment and intervention selection (Wolf et al., 2013). Case Study #2 used Six Sigma tools to investigate root causes of falls and developed an intervention, “Patient Partnering”, to encourage patients to call for help and participate in preventing their own falls. There were no falls with serious injury for over 12 months (Wolf, Hignett, & Costantinou, 2014). Case Study #2 established the importance of individual interventions specific for each unique patient situation; however sustainment was difficult to achieve. In order to understand the patient perspective, a qualitative study was conducted to interview patients during their hospitalization.

2. **Method**

This qualitative study followed the structure and rigour of the Grounded Theory approach. Previous case studies lead to the realization that there was a lack of understanding of the patient perspective of fall risk. Therefore the focus of this study was formed around the patient. Since the perception of the patient was unknown it was important to have a process structure that would allow flexibility for a theory to evolve as information was collected and revised. The semi-structured interview format was an appropriate tool to provide guidance to cover consistent topics yet the flexibility to allow patients to reveal any opinions and suggestions they thought important (Robson, 2011).

2.1 **Setting and Sampling Strategy**

Patients were interviewed while still in the hospital. Newly admitted inpatients on a 38 bed (26 single rooms) medical-oncology unit with an average length of stay of 5.4 days at Barnes-Jewish Hospital were recruited.
using purposive sampling. Information from the electronic medical record was used to select potential candidates based on a fall risk assessment conducted daily by the nurses.

2.2 Ethics

All participants were recorded during the interview and signed an informed consent form approved by the Siteman Cancer Center Protocol Review and Monitoring Committee for trials involving patients with cancer (Research number 14-X113: “Exploring patient perception of risks of falls and injury and fall prevention strategies”). Approval was also obtained from the Loughborough University institutional review board (which stood as approval for Human Research Protection Office at Washington University).

2.3 Recruitment

A total of 158 eligible patients were discussed with the responsible nurse to determine if all inclusion criteria were met and if timing was appropriate to make contact with the patient. Examples of inappropriate timing included devastating (typically life altering) news received earlier that day, patient was groggy from earlier sedation during a procedure, or extreme pain levels. Nursing approval was obtained for 64 patients who were given an information sheet and 24 hours to consider their willingness to participate in the bedside interview. Approval from the nurse was obtained again on the day of interview to determine if any changes overnight had occurred which may cause the interview to be inappropriate. This overnight change in status occurred frequently; indicating the dynamic conditions of this patient population. An information sheet was read to 30 voluntary participants prior to consent and they did not receive reimbursement.

<table>
<thead>
<tr>
<th>Table 1 Participant Characteristics (N=30)</th>
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<td><strong>Participant Characteristics (N=30)</strong></td>
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<tr>
<td>Length of Interview, mean (range)</td>
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<td>Length of Stay, mean (range)</td>
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<td>Low Risk</td>
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<td>Fall Risk Features - Johns Hopkins Assessment</td>
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<td>No Altered Elimination Problems, n (%)</td>
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<td>No Fall History (past 6 months), n (%)</td>
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<td>Taking 2 or more high risk fall meds, n (%)</td>
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<td>No Mobility Problems, n (%)</td>
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<td>Require Assistance, n (%)</td>
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<td>Attached to one or more tethers, n (%)</td>
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<td>Passed Get-up-and-Go test, n (%)</td>
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2.4 Data Collection and Analysis

Interview questions were compiled as a combination from consultation with fall experts, modified from a perception of Participatory Ergonomics survey (Matthews, Gallus, & Henning, 2011), and adapted from a survey instrument to capture data on perceived risk of future falls and injury (Haines, Day, Hill, Clemson, & Finch, 2014). Topics covered include:

- Perception of risk for fall & risk of injury
- Importance/priority of fall issues
- Perception of fall interventions
- Ideas about various roles (i.e. Nurse, physician, therapist) in fall prevention
- Perceptions and suggestions of fall prevention strategies

Patients were interviewed at the bedside during their hospital stay. The interview began with five Likert scale questions followed by fifteen semi-structured questions that lead to spontaneous conversation about perceptions of falls. Interviews were recorded and imported into NVivo10 for analysis.

The first phase involved open coding where categories were developed and expanded as needed according to interview data. Theoretical saturation (no further codes emerging) was achieved by the 30th participant. Phase two involved an axial coding method to investigate links between the categories (Robson, 2011). A Fall Panel consisting of a Certified Professional Ergonomist and two nursing fall experts convened to conduct axial coding and discuss the relationship/alignments between categories. Major categories were combined into larger theoretical schemes and interactive relationships between categories were considered. Consensus was reached for the final coding structure and linking of similar themes. A final down coding process was completed for all responses to ensure that a consistent coding scheme was used for every participant. Queries were run to check for inclusive coding. Selective coding was conducted in a third phase by integrating and refining the theoretical saturation (Corbin & Strauss, 1990). All categories from previous coding sessions were assembled to unify around the core category of patient perception.

3. Results

Each patient was interviewed 2-3 days after admission to the medical oncology division. The length of interviews ranged from 8 min to 53 min for a total of eleven hours of actual interview time. Results from the Likert scale questions revealed that the majority of patients did not think they were at risk for falling or injury; and that the topic of falls was not extremely important to them.

![Image](image.png)

Figure 3-1 Average rating of Likert scale question show patients do not perceive risk of falling or injury (n=30).
Many patients felt protected and safe in the hospital saying “My nurse will not let me fall” even though they often got up without calling for a nurse to be present. Even patients who had fallen within the last 6 months thought their fall was a chance occurrence and they would not be likely to fall again. Some of the common reasons that patients gave as they denied their risk of falling included:

- Having awareness of surroundings
- Using caution when walking around
- Desiring independence and denying need for help
- Feeling strong and stable while standing and walking
- Feeling protected and safe in the hospital

### 3.1 Patient Suggestions for Fall Prevention

Some participants had suggestions for each caregiver role to help prevent falls. Most thought fall prevention was primarily a nursing duty to be available when they decided they needed assistance. A few thought that Physical Therapy could help them with strengthening and balance exercises. Many patients did not think that physicians had any role in fall prevention. Some of the patients had some specific ideas to help reduce risk of falling and improving their hospital experience:

- Put IV fluid in a back pack to enable walking without the IV pole.
- Wheels on the IV pole interfere with walking so adding a handle on the IV pole extends the handle to allow foot clearance without tripping.
- Wireless technology for the telemetry machine would decrease tethers.
- Suggestions for murals that change in the hallways as they walk their laps (beach in one hallway, mountains in the next) would make their exercise more interesting.
- Leaving the IV pole outside the bathroom while using the toilet to avoid tipping across the threshold.

### 3.2 Thematic Categories

The final stage of Grounded Theory coding was to conduct selective coding in order to develop core conceptual categories that provide an understanding of the story of patient perception of falls. Descriptions from the axial coding were assessed and combined with a focus toward patient perception. The objective of selective coding is to move from the descriptive compilation of the thematic category to a core conceptual category that provides an understanding of patient perceptions of falls. This process involves condensing many aspects of the categories into a small focus that comes to a high level of abstraction (Robson, 2011).

The following themes emerged from this analysis:

### 3.3 Lack of Patient Control

Lack of Patient Control was an overarching theme that involved the patient’s frustration about their lack of control with the following three areas: 1) Space / Environment, 2) Assistance, and 3) Information.

- Space / Environment – Patients find it difficult to get where they want to go because of clutter in the room and hallway causing trip hazards. They found it difficult to push their IV pole over bathroom thresholds. Patients seemed unaware of environmental interventions that were in place for them (like low beds and fall signs on the door). However, many patients noticed a magnet that was in their room that said “Call - Don’t Fall”. This magnet is in every patient room and is not a special fall intervention for patients at risk for falling.
- Assistance – Patients want help when they say they need it; it in the way they want it. They feel they are capable of determining when they need to call for help. Several patients expressed difficulty finding and using call light. One patient demonstrated how to use the call light by picking up the phone and pushing the red light instead of the hand-held pendant with the red call light.
- Information – Patients want information at the time it is needed and when they are ready for it. Although some wanted information by video and others wanted written material, they all wanted to discuss the information with someone.
3.4 Self-Perception

Almost all patients denied their risk of falling and believed they were the best judge of their own risk. Inexperienced patients (with recent cancer diagnoses) did not think they were at risk for falling because they have been healthy and strong with no history of falling. Experienced patients (those that had received numerous chemo therapy treatments) also did not think they would fall because they have been through so many treatments and had not yet fallen. They get irritated when nurses continually remind them to call for help or check on them too often.

3.5 Patient Background

Each patient had a story about how they got to where they are today and incidents along the way that created the perceptions they had at this time. It took time to understand these stories and the implication it can have on aligning the most appropriate fall interventions.

4. Discussion

It is human nature to think that bad things will not happen to them. 50% of the participants made comments about thinking “the other guy – not me” is at risk for falling. Haines et al (2014) found this phenomenon and called it “better for others than for me”; they found between 25%-34% of elderly adults (age 70 and older) thought a fall prevention strategy was fine for someone else but not needed for themselves. Perhaps this case study had an even greater percentage because the population was younger with an average age of 56 years old.

There is a lack of connection between how patients and the hospital staff perceive risk of falling and the importance of mitigating that risk. The fact that this interaction involves two people means that each human brings their own viewpoint, personal history and personality to the interactions. For example a nurse brings pressures from the daily workload with other patients, regulatory requirements in addition to personal issues outside of work into the relationship with each patient. Nursing responsibilities are incredibly complex and they can feel very busy completing all required tasks. It is easy to see how fall risk assessment and documentation can become a checklist-type task - going through the motions without taking time for critically thinking through the meaning and beyond the immediate task (Tanner, 2006). For example, fall assessment documentation noted that every patient had “bedside table on non-exit side” and “patient exits on preferred side”. However, every patient got out of bed on the side closest to the bathroom regardless of equipment in the way or what side they were accustomed to getting out of bed at home. If nurses were attempting to explain these interventions to patients, the message was not understood by the patient.

Even the tasks and goals to be achieved in a day are different for patients and nurses. Nurses have medications, procedure preparations, patient care, documentation and numerous other tasks to perform for several patients at once. Patients feel a lack of control over their environment and find it difficult to move around their room to get personal items and use the toilet with dignity and independence. They want to be the one to determine if they need help and then when they decide they need assistance it they want the “right” kind of help within a minute or two. They also want the right information at the right time in the way they want it.

The challenge is to determine how to align caregiver and patient to make an alliance and create autonomy for partnership. Using the Participatory Ergonomics (PE) Framework (Haines & Wilson, 1998) can help align this disconnect by improving communication. Although the PE Framework doesn’t typically involve a team member as transient as a patient, some of the principles were explored in this case study. It was possible to adapt many PE concepts to the patient’s situation. For example the concept of “permanence” is revealed when the patients wanted information in an ongoing way as it was needed. Educational “involvement” was perceived more positively with conversations face to face occurring throughout the patient’s stay. “Decision Making” is one of the concepts in the PE Framework that is important for the nurse to realize how powerless the patient feels while in the hospital. The lack of control the patients feel over their ability to move around their room, the information they need and problems getting assistance as they need it all indicate that the patient has very little perception of control. This also indicates that the patient must be a
critical stakeholder in the PE framework for a partnership to be successful. Patients can’t be forced to be a partner but if the opportunity is presented on their terms, mutually beneficial team work can be achieved. When given the opportunity to be a stakeholder, patients demonstrated in the interviews that they can define problems and brainstorm possible solutions. It is essential for healthcare workers to partner with patients so they can know their patients’ needs in order to achieve a mutual understanding of fall and injury risk (Zolnierek, 2014).

![Diagram](image)

**Figure 4-1 Model of Disconnect Between Nurse and Patient Perceptions**

### 4.1 Limitations of study

Due to the nature of field research, there were some limitations to this study. Since the scope of this study was patient perceptions, it only explored the patient’s opinion of the situation. When the patient said nobody had discussed risk of falls or interventions it is impossible to determine if education actually did occur but the patient did not remember or comprehend the conversation.

Another limitation was that in order to achieve a coherent interview none of the participants were assessed to have cognitive impairment. Altered mental status is associated with risk for falling especially when combined with altered elimination issues. Only 10% of participants were assessed as having an issue with altered elimination. Only 10% were at high risk for falling (according to Johns’ Hopkins Fall Risk Assessment) and only 20% had fallen within the last 6 months. These factors may have contributed to the finding that they did not feel they were at risk for falling.

There were 29 comments made about IV poles and 73% of the participants were connected to at least one type of tether. This could be one reason for the frequent mention of fall hazards involving an IV pole.
5. Conclusion
The PE framework provided an understanding of the patient perspective that revealed an opportunity to re-examine the patient partnering process. The dynamic nature of the patient’s illness in addition to the short length of stay makes this case study a unique application of PE. A focus on listening was created by applying the PE framework to make the patient a critical stakeholder. It created an opportunity to exchange information in a way that is needed by that patient at that point in time. It is an opportunity for the nurse to understand a patient’s perception of fall risk and adjust interventions accordingly. It is critical to maintain communication throughout the hospital stay with frequent short discussions. The result may help create a sense of urgency to bring both partners’ goals into closer alignment. The partnership must strive for an equal foundation (common understanding) to work toward a common goal – not force to force the patient into submission (adherence).

“Knowing” the patient is necessary to achieve patient participation (Zolnierek, 2014). Before we can expect a true partnership each perspective must be understood and progress made to align the goals of the nurse and patient by improving communication and understanding to achieve mutual success.

6. Acknowledgements
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7. References