Nurses’ Perceptions of Barriers and Facilitators to Fall Prevention in the Acute Care Setting: Preliminary Findings

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Abstract

Falls within the inpatient setting are still occurring at alarming rates, despite numerous fall prevention protocols and policies set in place. To determine why current policies have not led to a sustained reduction in fall rates and to explore opportunities for improvement, the nurses’ perspective on fall prevention protocols must be understood. The purpose of this project was to gain knowledge about nurses’ decision-making process for implementation of fall prevention protocols and to recognize facilitators and barriers to fall prevention. This study employed Grounded Theory methodology. Three medical-surgical nurses were interviewed, using a semi-structured format, to better understand their decision-making process for fall prevention. The interviews were then transcribed verbatim. Transcripts were coded and major themes determined through data analysis. Several themes regarding facilitators and barriers to fall prevention were identified from the preliminary findings, including patient characteristics, family engagement, communication, staffing, and technology. These findings suggest that the decision-making process for fall prevention is not linear, but rather is situational and patient specific. Further investigation needs to be conducted as data collection is ongoing.

Keywords: falls, decision-making, barriers, facilitators, nurses’ perspective, fall prevention, Grounded Theory (GT)
Introduction

Patient falls during a hospital admission are a common adverse event, leading to negative patient outcomes and increased burdens. Fall injuries are costly, with $31.3 billion spent on non-fatal fall injuries and $637.5 million on fatal fall injuries in 2015 alone (Burns, Stevens, & Lee, 2016). In the United States, rates of patient falls range from 3.3 to 11.5 falls per 1,000 patient days. About 25% of falls result in injury and 2% result in fractures which result in increased costs and increased length of patient stays in the hospital (Bouldin et al., 2013). Inpatient falls account for 85% of all hospital acquired conditions, signifying the extent of this problem and the need for it to be addressed (Attenello et al., 2015).

The implication of a patient fall is both detrimental to the patient and the organization, so it is important that policies and interventions are in place to try to lessen the rate of falls within the hospital setting. These protocols include fall risk identification, alarms, sitters, intentional rounding, patient education, environmental modifications, physical restraints, and non-slip socks. LeLaurin and Shorr (2019) conducted a review of the literature analyzing each of these fall prevention protocols and concluded that more research needs to be conducted to analyze their true effectiveness. For example, LeLaurin and Shorr (2019) found that alarms did not reduce fall rates in the randomized control trials analyzed, but new technology is promising. The research on intentional rounding was weak, as many articles were QI studies indicating the need for more rigorous studies. Patient education was shown to be an effective intervention for fall prevention; however, the effectiveness of patient education as a single variable needs to be studied further. Additionally, evidence on non-slip socks in regard to preventing falls is limited, and there is a possibility of spreading infection. All of these findings highlight the need for further research in the topic area of fall prevention protocols and the effectiveness of each protocol.
Morris & O’Riordan (2017) also conducted a review of the literature of fall prevention strategies. They found that front-line staff, leadership, and doctors all must be involved to promote positive attitudes on fall prevention and to engage in continuous education on fall prevention strategies. It is important that a safety-conscious culture is implemented with the use of safety huddles, as evidence suggests that fall rates are decreased with the use of safety huddles. Other aspects of a safety-conscious culture include intentional rounding and improved patient handover so that discussions and exchanges occur regarding fall interventions.

In addition to these interventions, video monitoring is a newer protocol being implemented in some hospitals with hopes of reducing the number of patient falls. Cournan, Fusco-Gessick, & Wright (2018) conducted a cohort study analyzing fall rates prior to and after implementing a video monitoring system. Fall rates decreased from 6.34 per 1,000 patient days to 5.099 per 1,000 patient days, and this decrease was statistically significant, signaling that video monitoring could be a promising, cost-effective intervention to reduce patient falls, that warrants further study.

Many of the studies analyzing fall prevention interventions fail to recognize the nurses’ perspective, indicating a gap in the literature. The nurses’ perspective is invaluable as they are the individuals implementing the protocols and seeing first-hand the potential barriers and facilitators to fall prevention. Wilson et al. (2016) is one study that analyzed nurses’ perceptions on fall prevention strategies and implementation of these interventions. The nurses stated that the fall prevention strategies used are patient-specific, and it is important to emphasize mobility, elimination, and medications. Additionally, nurses believed that change champions, outreach, implementation tools, coaching and positive reinforcement, and staff education were valuable implementation strategies. The nurses also indicated a few challenges about implementation of
fall prevention interventions including competing demands, post fall huddles, instability of change champion role, and float pool nurses. This study provides beneficial insight into the nurses’ perspective regarding fall prevention interventions; however, more needs to be done. A limitation to this study is that a parent study was conducted to increase awareness to fall prevention interventions prior to conducting the interviews which reveals that these perspectives are not generalizable to other nurses or hospitals (Wilson et al., 2016).

**Purpose**

The research shows that changes need to be implemented concerning fall prevention interventions as falls are a major concern in the health care industry. Current interventions still need to be researched further to evaluate effectiveness, and new fall prevention strategies may need to be created to help decrease fall rates. Nurses are the ones who implement the fall prevention interventions for each patient. Therefore, before implementing new interventions or creating a new fall risk assessment scale, it is important to understand the nurses’ perspective on this issue. There is a gap in the literature regarding nurses’ clinical decision making about fall prevention strategies indicating a need for a project about their perceptions of barriers and facilitators to fall prevention. This project will advance knowledge surrounding the effectiveness, challenges, and quality of fall prevention interventions currently utilized. These findings will help researchers improve current practices as well as possibly emphasize the need for new protocols.

The purpose of this project is to gain a deeper understanding regarding the decision-making process that nurses employ to prevent inpatient falls. It is necessary to learn which current fall prevention interventions work well for limiting the number of patient falls as well as which interventions may need to be reevaluated. Additionally, patient characteristics can play a
role in the implementation and effectiveness of interventions, so it is important to gain knowledge surrounding the aspects of patients that nurses are most concerned about. Another key objective in this project is to learn how nurses engage both patients and their families in fall prevention and how they combat challenging patients and family members. It is essential to understand this decision-making process in order to improve implementation of existing interventions or develop new ones that will reduce the number of inpatient falls.

This project outlined preliminary findings for a larger study taking place. This project included three interviews with registered nurses, and the larger study has a goal of conducting approximately thirty interviews to determine common themes in regard to fall prevention clinical decision making.

**Project Narrative**

**Project Methods**

*Design.* This was a qualitative study employing Grounded Theory methodology. Grounded Theory (GT) is a type of research methodology involving the development of a theory that has been generated through the collection and analysis of data (Noble & Mitchell, 2016).

*Sample and Setting.* This study was conducted in medical-surgical units at UF Health Shands Hospital. The patient population and type of medical care varied by each medical-surgical unit, including general medicine, neurology, oncology, cardiology, and trauma. The participants were registered nurses on these units.

This study applied for and received IRB approval prior to me joining the research team. This was a necessary step as human subjects are utilized in this study and it is important to ensure their rights are protected. All information will be de-identified following transcription of the interviews to protect participants.
**Participant Selection.** Participants were purposively sampled from medical-surgical units at UF Health Shands Hospital. Eligibility requirements included being a registered nurse, employed by UF Health for one year or more, and employed on an inpatient medical-surgical unit. One research assistant emailed the nurse managers of all of the medical-surgical units at UF Health Shands to provide information regarding the study and if their unit would be interested in participating. Ten medical-surgical units agreed to participate in the study. Participants were recruited through email, flyer distribution (See Appendix B), and from morning and evening huddle presentations on the medical-surgical units. Research assistants went to all of the ten participating units weekly to hand out flyers and inform nurses on the purpose of the study. The research assistants were also available to answer any questions potential participants had regarding the study. Participants were offered a $30 gift card for their time. In this project, three registered nurses participated in interviews that were utilized for data collection and analysis, and in the larger study, the goal is to interview approximately thirty registered nurses with an even distribution between the participating units.

**Procedure.** Registered nurses who were interested in participating and met the eligibility requirements emailed a research assistant to arrange a date and time for an interview. During the interview, a semi-structured interview guide was followed allowing for probing questions. In the larger study, the interviews will be transcribed and coded to determine common themes in regard to nurses’ decision making on fall prevention protocols. Due to time constraints and the narrow scope of this project, common themes were developed by highlighting the facilitators and barriers mentioned in each of the three interviews. The research assistants conducted an analytical meeting to discuss each individual interview and go through the transcriptions to find major themes emphasized in the interviews and examples that we all agreed upon.
Data Collection Process. In this study, due to COVID-19, Zoom was utilized to conduct one-on-one interviews with registered nurses from ten medical-surgical units at UF Health Shands Hospital, lasting approximately thirty to forty-five minutes. The Zoom interviews were audio and video recorded. The interviews followed a semi-structured design allowing for probing questions to gain as much knowledge and data as possible while still utilizing an interview guide to gather data on set conceptual framework variables such as system factors (nurse, hospital, and unit), interventions, client context, outcomes, and closing (See Appendix A). Three research assistants conducted one interview each for the purpose of this project.

For this project, I was an active participant in the data collection process. Prior to conducting the semi-structured interviews, I participated in video trainings about the overall purpose of the project and how to conduct semi-structured interviews provided by Dr. Ragnhildur Bjarnadottir and Kimberly Martinez. Additionally, we went through practice interviews during a meeting so that the research assistants would feel confident in their role as interviewer and to receive constructive feedback on their performance.

For the purpose of this project, I conducted one interview via Zoom with a registered nurse. I used the interview guide to help keep my interview focused throughout, but ensured I asked probing questions to get as much information out of my interviewee as possible. For example, one probing question I asked during the interview was “What would you do for an impulsive patient versus a non-impulsive one?” as the interviewee had mentioned this was a key patient characteristic that she considered when implementing fall interventions, and I believed it was important to know the difference in her decision making between these two types of patients. The other two research assistants each conducted one interview that was included in this project as well, and all of our interviews lasted between thirty and forty-five minutes. Once
all three interviews were conducted, the two other research assistants and I analyzed our data with the support of Dr. Ragnhildur Bjarnadottir.

**Data Analysis.** With the limited amount of data collected for this project, the two other research assistants and I scheduled a meeting to discuss our findings from each of our interviews. There was not enough data or time to fully transcribe the interviews, code the data, develop themes, and examine the data through dimensional analysis as these steps will be taken in the larger study. We each summarized our transcription provided by Zoom onto a Google Doc to review all three interviews. Following the creation of the summary, we then highlighted terms and phrases we deemed as facilitators and barriers to fall prevention. For example, patient and family education was coded as a facilitator whereas lack of communication between other nurses, patient care assistants, and support techs was coded as barriers to fall prevention. With our coded information, we created a table with examples of facilitators and barriers to fall prevention throughout the three interviews. Later on, we met with Dr. Ragnhildur Bjarnadottir to discuss our preliminary findings, and she helped us create overarching themes based on our table of facilitators and barriers. We reached consensus about five major themes, 1) patient characteristics, 2) family engagement, 3) communication, 4) staffing, and 5) technology, as each of these aspects influenced a nurse’s decision on the implementation of fall prevention interventions.

**Stakeholder Involvement**

There were several stakeholders involved in this project including floor nurses, charge nurses, and nurse managers of the ten medical-surgical units that participated in the study. Nurse managers were informed of the purpose of the study via email and elected for their unit to participate. Floor nurses and charge nurses are stakeholders in this project as well because they
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were engaged through recruitment and participation in the study. Findings from this study can directly impact the future of their patient care and the implementation of fall interventions and the possibility of implementing new interventions. Additionally, patients are important stakeholders in this project as they are the ones most impacted by falls.

Other key stakeholders were Clinical Leader Kimberly Martinez as she was the Principal Investigator of the study and Dr. Ragnhildur Bjarnadottir as she was our mentor for this project. They want to develop findings from this research to fill the gap in the literature and determine facilitators and barriers to fall prevention. From these findings, they possibly want to create a new fall risk assessment or new fall interventions.

**Project Barriers**

There were some identified barriers to both this project and the larger study. A major barrier to this project was the time constraint. We had just begun recruiting participants in February, and the poster was set to be completed in March. We only had time to include three interviews in our preliminary findings, but since then, we have been able to complete three more interviews. The ultimate goal of the study is to include approximately thirty interviews, so our results are very narrow in scope, and may not be generalized to the entire study.

One unanticipated barrier to this study was that recruitment has been quite challenging. At first, the other research assistants and I presented at huddles introducing the project and its purpose prior to having IRB approval for the flyers. The nurses had no real way of contacting us to participate until the flyer was approved. Once the flyers were approved, we attended more huddles and posted flyers around the units, but still only had one nurse contact us to participate. The research assistants and I decided that it would be more beneficial if we went up to nurses individually to hand them a flyer, inform them of the study, and to answer any questions they
may have. After we changed our recruitment strategy, we were able to conduct two more interviews.

We met with Dr. Ragnhildur Bjarnadottir for her input on recruitment, and she decided to send out a mass email to the nurses who were eligible to participate. From that email, we were able to conduct three more interviews. Ultimately, a multiterminal approach was the key to success for recruitment including huddle participation, individual engagement with nurses, and a large-scale email.

In the beginning phases of this study, the interviews were originally intended to be conducted in person. However, due to COVID-19, the interviews were conducted remotely via Zoom making it more challenging to observe body language and non-verbal cues. To combat this problem, the research assistants and I pay close attention to the interviewee and focus on fluctuations in tone, pauses, and other cues.

Results

This project concentrated on the preliminary findings for the overarching study as only three registered nurse interviews were included. Five pertinent themes relating to nurses’ decision-making on fall prevention, as well as facilitators and barriers to implementation of fall interventions, were identified in the data analysis phase of this project. These themes included patient characteristics, family engagement, communication, staffing, and technology. From the interviews, descriptions of each theme were also identified (See Table 1). These descriptions were summarized from quotes during the interview, and they include both barriers and facilitators to fall prevention. These themes highlight the important factors that nurses consider when implementing certain fall interventions.
Table 1

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Characteristics</td>
<td>• Patients tend to overestimate their abilities while hospitalized</td>
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<tr>
<td></td>
<td>• High patient turnover can result in misinformation leading to a patient fall</td>
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<tr>
<td></td>
<td>• Paying attention to CBC lab values can help detect conditions, such as anemia, that might increase risk of falling</td>
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<tr>
<td></td>
<td>• For impulsive patients, rounding more often, charting outside the patient room, and communicating with staff</td>
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<tr>
<td>Family Engagement</td>
<td>• Patients and family members can turn off bed alarms</td>
</tr>
<tr>
<td></td>
<td>• Educating both patients and their family members can help prevent falls during and after admission</td>
</tr>
<tr>
<td>Communication</td>
<td>• Lack of communication between nurses and patient care assistants/support techs hinders fall prevention</td>
</tr>
<tr>
<td></td>
<td>• Excellent communication between staff members is essential</td>
</tr>
<tr>
<td>Staffing</td>
<td>• The more eyes on a patient, the better</td>
</tr>
<tr>
<td></td>
<td>• Inadequate staffing is a barrier to fall prevention</td>
</tr>
<tr>
<td>Technology</td>
<td>• Virtual sitters seem promising as one person can monitor several patients</td>
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<tr>
<td></td>
<td>• Bed alarms alert nurses to patients who are already out of bed</td>
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</tbody>
</table>

**Theme 1: Patient Characteristics**

There were several patient characteristics identified that influence a nurse’s decision when implementing fall interventions. These characteristics included CBC lab values, level of impulsivity, tendency to overestimate abilities, and level of consciousness. Participants noted the level of difficulty in preventing falls for patients who are impulsive and/or confused signifying the need for new policies.

**Theme 2: Family Engagement**

Participants emphasized the importance of educating family members on calling for help when the patient needs to get out of bed instead of helping themselves. Additionally, a barrier to fall prevention was noted in that family members had a tendency to turn off the bed alarms, so it is essential for family members to be educated on the use of the bed alarm.
Theme 3: Communication

Communication was mentioned as both a facilitator and barrier to fall prevention in participant interviews. Excellent communication between nurses and other nurses, patient care assistants, and support techs was noted as being essential to fall prevention. Nurses found it beneficial when other staff members were aware of a patient with a high fall risk and who may be confused or impulsive so that they could be more attentive to that patient’s bed alarm. On the other hand, lack of communication between staff members was highlighted as a barrier to preventing patient falls.

Theme 4: Staffing

Participants stated that with patients who are a high fall risk, it helps having them closer to the nurses’ station so that more staff can “have more eyes on them.” Having staff aware of the patients to watch out for in terms of fall risk was mentioned as being beneficial. Additionally, inadequate staffing was noted as a barrier to fall prevention because it increases the difficulty in implementing all essential fall prevention interventions and the ability to respond to bed alarms and call lights in a timely manner.

Theme 5: Technology

The use of bed alarms is a common intervention for fall prevention, however, participants noted bed alarms as being useful in knowing when a patient was already out of bed or had potentially already fallen. It is important to ensure that the bed alarm is plugged in and turned on, and this can be checked during rounding. Staff are typically timely in response to all bed alarms. Another form of technology mentioned in Interview 1 was the use of virtual sitters, where one person could monitor several patients. This seems promising, especially when staffing is inadequate; however, more research is necessary.
**Current Literature**

These findings support the current literature on nurses’ decision making in regard to fall prevention while highlighting new themes as well. Fehlberg et al. (2020) examined registered nurses’ fall prevention decision making by conducting semi structured interviews, similar to this current project. The researchers found nine themes affecting fall prevention including policy compliance, fear, adequate staffing, bed alarms, trust, preserving independence, risk versus benefit, nurse judgement, and fall prevention interventions. The staffing and technology themes identified in this study overlap with themes found in Fehlberg et al. (2020). In this current project, nurses highlighted the burden of inadequate staffing and the how it makes preventing a patient fall more challenging. Additionally, bed alarms are a key intervention that nurses utilize to prevent falls, however, there are challenges with bed alarms in that family members can turn them off, and it alerts nurses once the patient is already out of bed. Similarly, in Fehlberg et al. (2020), they found that nurses needed adequate staffing to implement all prevention strategies and that there were conflicting views on the importance of bed alarms in preventing falls.

**Discussion**

The purpose of this study was to determine factors that influence nurses’ decision making in regard to fall prevention and possible facilitators and barriers to implementation of fall prevention strategies through semi structured interviews with registered nurses. The preliminary findings from this project suggest that from the nurses’ perspective, there are several facilitators and barriers to fall prevention fulfilling the objectives of this project. Common themes that arose in the interviews included patient characteristics, family engagement, communication, staffing, and technology. Data collection is ongoing as the goal is to complete approximately thirty interviews. In this project, three interviews were included.
The preliminary findings from this study indicate that there are several factors that nurses consider when implementing fall prevention strategies, and it tends to be patient specific. This suggests that nurses’ decision making relating to fall prevention is not linear; it’s situational and everchanging based upon both a patient’s condition and unit supplies/staffing. Additionally, these findings help researchers better understand which fall prevention strategies tend to work best and which strategies may need improvements from the nurses’ perspective. This perspective is invaluable as nurses are the ones implementing the fall prevention strategies. For example, fall risk assessment signs can be useful; however, with high patient turnover signs may be left over from previous patients leading to misinformation. Also, bed alarms are useful in alerting nurses for when a patient is already out of bed, but not really useful in preventing them from getting up. More research needs to be done relating to fall prevention strategies and nurses’ perceptions as this project is very limited in scope and since data collection is still ongoing.

Following the completion of the larger study, a literature review may need to be conducted on the current fall prevention strategies as well as on the current fall risk assessments. This will help determine the need for further research on changing current interventions and fall risk assessments.

There were some limitations identified in this study. The participants in this study were medical-surgical nurses limiting the generalizability of the results to other departments as each type of unit operates differently and sees a different patient population. Additionally, interviews were only conducted at one hospital, and each hospital has different fall prevention policies and procedures. Another identified limitation was that a convenience sampling technique was implemented leading to the possibility of biased results due to participants’ reasoning behind joining the study or not. In this project specifically, only three nurses participated decreasing the...
generalizability of the results. However, this limitation was due to time constraints and difficulty with recruitment and will not be an issue with the larger study. These preliminary findings may not fully reflect the findings of the larger study; however, these findings support the current, limited literature indicating that the results will be similar to the findings of the larger study.

This project directly relates to the profession of nursing as the objective of this project was to understand the nurses’ perspective on fall prevention. Nurses are the healthcare professionals that implement fall prevention strategies and are the ones at the bedside actively attempting to prevent patient falls. Their perspective is vital in gaining knowledge about which fall interventions are best and which interventions need changes, along with the possibility for the development of new fall interventions. Additionally, this research directly impacts patients in that the overall goal is to decrease patient falls improving patient outcomes. The first step in decreasing patient fall rates, which are still alarmingly high despite numerous interventions, is to gain knowledge from the source: nurses. We must understand their perspective before changing the current interventions or lobbying for change of hospital policies.

In my own professional development, being a part of this research study has furthered my knowledge of the rigorous nature of the research process. I have been with this research team since July, which has allowed for me to help with the recruitment and data collection phases of this study. I really got to see first-hand how unanticipated challenges can arise, like with recruitment. We were not anticipating having trouble with recruiting nurses; however, only a few nurses have reached out to participate and some nurses have failed to show up for interviews. Additionally, being a part of this study helped improve my communication skills as I had the opportunity to have conversations with nurses regarding the study along with interviewing nurses. I was placed in a new role as I had only ever been an interviewee, not an
interviewer, building my confidence in leading conversations. I am eager to participate in research in the future as I start my nursing career and further my education.
References


Appendix A

Interview guide on fall prevention clinical decision making

1. Can you describe the type of patients in your care during an average shift?

2. What is most important for you to know about your patient when deciding what fall prevention methods to use?

3. What are some interventions you use to prevent falls?

4. How do you engage your patients and families in fall prevention?

5. Can you tell me about the fall prevention protocols utilized at your hospital?

6. What do you think about the fall prevention protocols that are in place on your unit?

7. Tell me about falls in your unit?

8. How do you think fall prevention protocols impact falls?

9. Is there anything else you would like to add that we haven’t discussed?
Appendix B

Are you interested in making an impact on fall prevention?

Study for nurses who can help us understand how they prevent falls

We’re looking for nurses who work on a medical-surgical unit to better understand their decision making in preventing patient falls.

Falls in hospitals represent a major issue. Despite hospital fall prevention programs, research shows weak evidence that these initiatives reduce falls. The purpose of this study is to examine fall prevention decision-making processes, including barriers and facilitators, among nurses in the medical/surgical setting.

Participants will be asked to participate in:

- One in-person interview ranging from 60-90 minutes

Location
- Interviews will be conducted over Zoom

Are you eligible?
- Registered Nurse
- Employed by UF Health for at least one year
- Employed on an inpatient medical-surgical unit

Gift Card
- $30 gift card to thank you for your participation

For more information or to join this study, please email:

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