Development and Implementation of a Patient Education Tool to Increase Fall Risk Awareness

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Fall Risk Awareness

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Abstract

This paper will discuss the problem of patient falls on an inpatient unit at an urban hospital, referred to as Hospital Y and Unit A, and the implementation of a patient education tool. An assessment of the microsystem, capacity for change, cost analysis, and evaluation of the patient education tool will be discussed. The foundation for this project is Gary Mitchell’s (2013) analysis of change theories as they relate to the nursing process. Kurt Lewin’s (1951) change model consists of three phases: unfreezing, moving, and refreezing, which are similar to the nursing process of assessment, planning, implementation, and evaluation (See Appendix A for an explanation and table comparing the two). The results of the patient education tool and delivery revealed mixed results and suggest the need for further evaluation.
Development and Implementation of a Patient Education Tool to Increase Fall Risk Awareness

Assessment

Patient falls continue to be the largest reported hospital-acquired injury across the United States and are a significant problem in hospitals (Carroll, Dykes, & Hurley, 2010). In 2012, the Centers for Disease Control and Prevention (CDC) estimated the total direct medical cost for people aged 65 and older was $30 billion. Additionally, the CDC projects that the direct and indirect cost of fall injuries will reach $67 billion by 2020 (Centers for Disease Control and Prevention [CDC], 2012). The Joint Commission’s updated National Patient Safety Goals includes NPSG.09.02.01 ‘Reduce the Risk of Falls’, effective January 1, 2014 (Joint Commission, 2014). The prevalence of patient falls continues to be a challenge that has eluded healthcare for many years.

Hospital Y’s internal policy states that a fall is “an unplanned descent to the floor (or extension of the floor, e.g., trash can or other equipment) with or without injury to the patient”. Hospital Y further states that a fall with injury is “a fall categorized as moderate, major/serious harm, or impact to the patient or resulting in death of the patient”. Further discussion of the categorization of falls with injury will be discussed in the cost analysis.

Unit A is a 45-bed cardiothoracic surgery unit that includes heart/lung transplant, vascular surgery, and cardiology services. The average daily census is 39.9 patients. The staff consists of a patient care manager, an assistant patient care manager, administrative assistant, registered nurses (RN’s), PCA’s, telemetry technicians, and unit service coordinators. Care is delivered by RN’s, PCA’s, and other members of an interdisciplinary team including case managers, social workers, dieticians, rehabilitation
services staff, respiratory therapists, pharmacists and chaplains. Medical staff includes services comprised of attending physicians, residents, interns, medical students, and nurse practitioners.

The incidence of falls for Unit A was 34 for fiscal year 2014, where 7 (20.5%) of those resulted in injury. Unit A is known for being a high-risk floor due to the specific patient population (heart/lung transplant, vascular surgery, cardiology services), high patient acuity, and fast-paced environment, this was evident when an assessment of the microsystem was done by the author. When management was asked what the top concerns of the floor were, they stated that falls were an ongoing issue and a priority. A review of the literature supports that falls are not only an issue nationally, but an issue across the globe in countries like Australia, Great Britain, and Singapore (Stern, & Jayasekara, 2009; Carroll, Dykes, & Hurley, 2010; Ang, Mordiffi, & Wong, 2011; Oliver, 2007; Johnson, George, & Tran, 2011; Tzeng & Yin, 2012; Tzeng, 2010).

When 15 nurses were interviewed by the author, they all reported that falls were an important safety concern of theirs on Unit A. They also addressed the many barriers they felt were present on Unit A that prevent them from addressing patient falls. A common barrier discussed was the lack of support staff and shortage of nursing staff present on the unit. Multiple nurses believed that a main reason patients were falling was the high acuity of patients and not enough time to meet their needs. Nurses noted that they felt they only had time to enter the patients’ rooms when they needed to pass medications, take vitals, and take care of emerging issues. It became apparent through these interviews that nurses’ perceived lack of time and their focus on all the tasks were a barrier to implementing interventions that might reduce falls on Unit A.
Lewin (1951) explains that it is important to address driving forces and restraining forces, as they apply to group change. Once it became apparent that staff on Unit A were a restraining force of reducing falls, the author decided to shift the focus of the project to what patients’ knowledge was regarding the risk of falling. In the initial assessment, 20 patients who were identified by nurses on Unit A as being a “fall risk” were interviewed. The interview consisted of a casual conversation where 4 questions were asked (See Appendix B). The results of the initial patient interviews revealed that 18 (90%) patients did not know why they were wearing a yellow “risk of falling” wristband, that they were identified for being at risk for falling, or a type of fall education was not given during their hospitalization. The remaining 2 (10%) patients were identified as “maybe” because although they did not know why they were wearing a yellow wristband, they guessed that they were being identified as possibly falling due to their diagnosis or condition. The results of the patient interviews were a clear indication that patient education was a reasonable and appropriate step to begin reducing falls on Unit A.

In the root cause analysis (See Appendix C) of why patients are falling on Unit A, three factors were identified in addition to patient acuity, lack of time and support perceived by nurses, and lack of patient awareness as discussed above. The additional factors are environment, communication, and unit culture. Patients fall in acute care settings in part because they are prone to quickly becoming deconditioned, they are in an unfamiliar environment, and are commonly on medications they do not usually take at home, which often have physiological effects on the body (Huang, Mallet, Rochefort, Eguale, Buckeridge, and Tamblyn, 2012). Communication was observed to be lacking
among staff on Unit A. Prolonged call light responses were a persistent problem due to nurses expecting Patient Care Assistants (PCA’s) to respond and PCA’s thinking the nurse would respond. A more critical problem in Unit A’s staff communication was the lack of shared understanding around current falls prevention interventions between nurses and management. The author noted in all conversations and interactions that the unit culture was a contributing factor to falls. Most nurses felt that previous interventions to reduce falls were never successful, leaving them to feel disempowered to make change; nurses felt unsupported to make the necessary changes that were expected of them. Lastly, management currently expects nurses to make change based on a 30 minute in-service without the utilization of change theory. It is apparent that the concerns of the nursing staff were not taken into account when the 30 minute in-service was provided, given the amount of falls has not decreased since the in-service occurred in February 2014. Deitrick, Baker, Paxton, Flores, and Swavely (2012) concluded that an “Implementation must be carefully planned and carried out with the needs of the frontline staff as a major consideration” (p. 19).

**Planning**

An extensive literature review using the CINAHL database supports that falls do not occur because of a singular reason, rather, falls that occur in an acute care setting are caused by a combination of intrinsic and extrinsic factors (Oliver, 2007; Johnson, George, & Tran, 2011; Tzeng & Yin, 2012; Tzeng, 2010). Furthermore, there has not been a successful intervention to reduce the incidence of falls. Research by Ang, Mordiffi, and Wong (2011) supports the use of a targeted multiple intervention approach to reducing falls stating, “Individualized targeted multiple intervention strategy, in addition to usual
care, seems to be more effective than usual care alone, in reducing the number of falls in patients hospitalized” (p. 1991). One of the interventions used in research by Ang et al. (2011) was a patient education session lasting no more than 30 minutes, the rationale for this was “to increase the participants’ awareness of their specific risk of falling during hospitalization and to give strategies to reduce the specific risk” (p. 1987). Given this review of the literature, assessment of the need for patient education on Unit A and the time constraint of one academic semester, the author decided the purpose of this project was to present the best available evidence regarding the effectiveness of patient education that aimed to increase patient awareness and patient safety.

Twenty-one post fall huddle sheets were reviewed and analyzed on Unit A to determine why falls were occurring on the floor. This data helped to determine the baseline for falls on Unit A such as, when falls were occurring, where falls were occurring, the types of medications patients were taking, etc. The results of the huddle sheets revealed that 12 (57%) falls were due to toileting, 4 (19%) occurred when the patient was independently walking in their room, 2 (9%) occurred during a transfer with assistance, 1 (5%) fall occurred during a independent transfer from the bed or the chair, 1 (5%) fall during an AMS transfer (the patient had been discharged and was being transferred home via ambulance), and 1 (5%) fall described as other (See Appendix D).

All patients who agreed to participate in the study were included. Patients who were not identified by nurses as a “fall risk” were also included in the study; the youngest patient to fall on Unit A was a 24 year old female who was considered independent and not at risk for falling. This is supported by Currie (2008) who states, “Screening needs to
include injury risk, not just fall risk. The most effective interventions are multimodal ones that address specific areas of risk” (p. 214).

**Implementation**

This project was structured with Mitchell’s (2013) change theory and this paper will follow that same structure, a timeline of the project was written and followed (See Appendix E). Patients were given a pre-test to assess their knowledge of being at risk for falling (See Appendix F). Once questions were answered, the patient and their family (if they were present at the time of teaching) were given a “tips sheet” that included information about why patients might be at risk for falling or injury during hospitalization. Also included were tips to prevent falls and information to help families become more aware of potential injury to the patient (See Appendix G). The patient and family were encouraged to read the information and were informed that the author would return to discuss any questions or concerns that might have arisen. The author then returned to the patient’s room to follow up with verbal education about why patients are at risk for injury. Verbal education included a summary of the tips sheet and focused strongly on making sure the patient knew their safety was the number one priority of Unit A, so they should not hesitate to call nursing staff for any type of help. Finally, the post-test was given to evaluate the effectiveness of the education provided (See Appendix H).

**Evaluation**

As previously mentioned, the CDC estimates that healthcare costs related to falls will reach $67 billion by the year 2020. In a study by Wong et al. (2011) patients who suffered serious injury from falling had operational costs of $13,316 more and averaged a length of stay (LOS) of 6.3 days longer than patients who did not fall during their
hospitalization. Given that Unit A had a total of 7 falls with injury during fiscal year 2014 and the average operational cost of a fall is $13,316, Hospital Y has the potential to save $93,212 per year. The Clinical Nurse II (CNII) on Unit A would continue piloting the patient education intervention for 6 hours a week for three months. The cost of the CNII piloting the intervention for three additional months would be $5,449.68. The author also noted a slight variation in Wong et al. definition of a “serious fall injury” and Hospital Y’s definition of a “fall with injury” (See Appendix I).

A total of 18 patients were randomly selected and surveyed using the pre and post-tests. Of these, 18 (100%) patients had not received any type of fall education during their hospitalization on Unit A. Quantitative analysis of the pre-test revealed mixed results. When patients were asked how likely they were to call for help, 8 (44%) responded ‘very likely’, 3 (17%) responded ‘somewhat likely’, and 7 (39%) responded ‘not likely’ (See Appendix J). When asked if they felt they were at risk for falling or injury, 8 (45%) responded ‘yes’, 6 (33%) responded ‘no’, 2 responded ‘somewhat’ (11%), and 2 (11%) responded ‘not sure’ (See Appendix K). Quantitative analysis of post-test also revealed mixed results. After the tips sheet and verbal education were given patients were asked a number of questions, which included their satisfaction after education received, their feeling of safety, calling for help, etc. Satisfaction scores showed that 5 (28%) patients were ‘very satisfied’ with the education provided, and 13 (72%) were ‘satisfied’ with the education provided (See Appendix L). When asked if they felt safer after the fall education, 2 (11%) patients said ‘yes’, 7 (39%) said ‘no’, 2 (11%) said ‘somewhat’, and 7 (39%) responded ‘I don’t know’ (See Appendix M). Patients were also asked again how likely there were to call for help since receiving the education, 9
(50%) responded ‘very likely’, 5 (28%) responded ‘somewhat likely’, and 4 (22%) responded ‘not likely’ (See Appendix N). The survey concluded with asking patients what they were interested in learning more about, 6 (33%) were interested in knowing more about their risk for injury, 3 (17%) wanted to know more about their risk for falling, 6 (33%) were interested in the consequences of falling, and 3 (17%) were not interested in learning more (See Appendix O).

This project demonstrated that patients are receptive to fall education and appreciate that time is given to increase their awareness and possible safety. Patients were also interested in receiving further information regarding falls after education was given. Additionally, the post-test revealed an increase in how likely patients were to call for help. Results of the post-test also demonstrated that patients did not feel safer after education.

The purpose of this project was to see if patients’ awareness of falls increased and if they felt safer as a result. The author found that although 70% of patients were satisfied with the education provided, 39% patients did not feel safer. These findings suggest that further implementation of the patient education is warranted. A change agent on Unit A was identified to continue with the intervention for the next three months. It is recommended that the change agent continue to pilot patient education with some revisions to the surveys. If possible, the change agent should track the patients who responded ‘no’ to feeling safer after patient education and ask what Unit A could do to make the patient feel safer. A patient’s feeling of safety is subjective so it is imperative to take that into account moving forward with the intervention. Furthermore, an individualized plan of care, as well as targeted interventions, should be used in conjunction with patient education. This is supported by Stern and Jayasekera’s (2009)
systematic review, which studied seven interventions to reduce falls in acute care settings and concluded “There is some evidence to suggest that certain multifactorial interventions are more effective that others and that increasing patient education or targeting fall risk factors may be of benefit” (p. 243).

In a study by Johnson et al. (2011) results showed that nurses knowledge increased through the use of a combined patient and nurse education intervention and a 23% reduction in falls (which did not reach significance) and concluded with the following, “Falls remain a difficult patient safety issue to address” (p. 65). Although the intervention had mixed results, it is apparent that nurses are a critical element to reducing patient falls. Nurses serve many roles but perhaps none is more important than patient advocate; it is imperative that the nurses on Unit A serve as a liaison between patient education and reducing injury and falls.

Through the process of this project the author was able to see how patient education can positively impact patient awareness and safety. The author projects that the patient education tool will become more effective and with time will incorporate a nurse training in-service on how to incorporate falls education into daily practice. In addition to bringing awareness to the potential risk for falling while in the hospital the author was also able to demonstrate competency in the following Clinical Nurse Leader roles: patient advocate, system analyst, risk anticipation, systems leadership, quality improvement and safety, and educator. Most importantly, this project has provided a unique opportunity for the author to gain an immeasurable amount of knowledge and experience. The author is eager to incorporate her knowledge into her daily nursing practice.
References


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Appendix A

Lewin’s change model consists of three stages. The unfreezing stage consists of examining the status quo and increasing the driving forces for change. The moving stage requires taking action, making changes, and involving people. The last stage recommends making changes permanent, establishing new ways of things changed, and rewarding desired outcomes.

Below is a table illustrating how the nursing process correlates with Lewin’s change model.

Table A1

<table>
<thead>
<tr>
<th>Nursing Process elements</th>
<th>Lewin’s change model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>Lewin’s unfreezing stage</td>
</tr>
<tr>
<td>Planning/Implementation</td>
<td>Lewin’s moving stage</td>
</tr>
<tr>
<td>Implementation/Evaluation</td>
<td>Lewin’s refreezing stage</td>
</tr>
</tbody>
</table>
Appendix B

Patient Questionnaire

1. How do you feel about your stay here at Hospital Y?

2. Have you felt an overall feeling of safety since your admittance?

3. Has anyone explained why you are wearing a yellow wristband?

4. Have you asked why you are wearing a yellow wristband?
Appendix C

Root Cause Analysis

Environment
- Pt’s may become deconditioned
- Pt’s on high risk meds
- Pt’s in unfamiliar environment, which may cause anxiety and stress, and lack of sleep
- Equipment: IV pole, O2, scd’s, chest tubes, multiples IV lines

Communication
- Prolonged call light response
- Lack of communication between RN’s & PCA’s
- Lack of shared understanding around current falls prevention between RN’s & Mgmt

Patient acuity/RN perceptions
- High Acuity Unit
- Amount of patient beds
- RN’s feel too busy to provide falls education
- History of unsuccessful interventions leaving RN’s feeling disempowered to make change
- Mgmt currently expects RN’s to change practice (hourly rounding) based on 30 min in-service and has not utilized change theory

Patient Falls
- RN’s feel unsupported to complete job as expected
- Patient acuity/RN perceptions

Patient Knowledge
- Pt’s are unaware that they are at risk for falling AND pt’s not at risk for falling are not given falls education to provide awareness

Unit Culture
Appendix D
Patient activity at time of fall

- Toileting: 57%
- AD Lib: 19%
- Transfer Self Bed/Chair: 5%
- AMS Transfer: 5%
- Transfer c Assist: 9%
- Other: 5%
Appendix E

Timeline

August 2014 (Assessment)
- Meet with Unit A Manager
- Begin Microsystem Assessment

September 2014 (Assessment and planning)
- Continue with Microsystem Assessment
- Determine unit problem for project
- Post Collaboration/Communication Board
- Interview staff
- Literature Review

October 2014 (Planning)
- Falls on Unit A is foundation of project
- Continue literature review on falls
- Interview patients
- Review and analyze Unit A falls data (post fall huddle sheets)
- Begin developing intervention

November 2014 (implementation and Evaluation)
- Complete intervention tool
- Begin implementation of intervention
- Complete implementation of intervention
- Analyze intervention data (use text coding)
- Begin project summary
- Complete project summary
- Identify change agent on Unit A to continue with proposed change

December 2014 (Evaluation and Conclusion of change relationship)
- Give final results of intervention to Unit A change agent
- Terminate helping relationship with Unit A
- Complete Project Poster
Appendix F

Pre Education Test

Please answer the following questions to the best of your ability.

1. Have you received fall education on Unit A?
   a. Yes
   b. No

2. If so, when was education received?
   a. On admission
   b. At discharge
   c. Throughout hospitalization (on this unit only)
   d. Whenever a new nurse is caring for me
   e. N/A

3. How satisfied are you with the fall education given?
   a. Very satisfied
   b. Somewhat satisfied
   c. Dissatisfied
   d. N/A – never received fall education

4. How likely are you to call for help when you need to get out of bed?
   a. Very likely
   b. Likely
   c. Somewhat likely
   d. Not likely
   e. Does not apply

5. Do you feel you are at risk for falling or injury?
   a. Yes
   b. No
   c. Somewhat
   d. I am not sure

Thank you for your feedback.
Appendix G

Tips to Prevent Falls in the Hospital

Your Safety is important to us. Everyone is at risk for a fall in the hospital, at any age. Patients aged 51 years and older are at significantly higher risk of falling. Here are some tips to help keep you from falling while you are in the hospital. If you have had a fall before coming to the hospital, please let your doctor or nurse know.

Why am I at risk of Falling in the Hospital?

Medications
- Many medications can make you dizzy or drowsy when you sit or stand up, or can cause a sudden need to go to the bathroom. Always ask for help.

Change in your physical condition
- You may be weak or unsteady because of your illness, medical tests, or being without food or water.

Unfamiliar Environment
- Your hospital room may be unfamiliar to you, especially when you wake up at night.
- There are many activities happening during the day and staff are entering and leaving your room at all hours of the day and night.

Unfamiliar equipment and surroundings
- You may become connected to an IV or other tubing (such as oxygen) that can cause to trip and fall.
- There might be other pieces of equipment (other than your bed) in your room that may make it difficult to get around your room independently.

How Can You Keep From Falling?
- Use the call button by your bed if you need help to get to the bathroom or the call button in the bathroom to get back to bed from the bathroom.
- Let your nurse know if you feel dizzy or weak before getting out of the bed or chair.
- You may feel faint or dizzy after lying in bed for a long period of time. Sit on the side of the bed and move your ankles and squeeze your fists before standing.
- Stay lying or seated while waiting for help.
- Do not lean on the rolling carts, IV poles, or bedside tables.
- Remember to use your cane or walker.
- Wear non-skid slippers or rubber soled shoes whenever walking.
- Your nurse will talk with you about your activity orders. Please follow our instructions about having help to get out of bed.
- We may use special equipment like a bed alarm to help remind you to ask for help before getting up.
Tips for Family or Visitors

- If you notice that the patient is weak, dizzy, or seems confused, please tell the nurse.
- Staying with the patient may help stop falls. Confused patients may need more help when you are not in the room. Please tell staff when you are leaving.
- Having the call light and the beside table within reach can prevent a fall please make sure the patient can reach these things if you are leaving, or let staff know so we can make sure your loved one has these items close by.
- If the patient needs to use the bathroom or needs help to move around the room, your helping them may cause them harm. Please have the nurse or a trained health professional assist the patient.
Appendix H

Post Education Test

Please answer the following questions to the best of your ability.

1. How satisfied are you with the fall education given?
   a. Very satisfied
   b. Satisfied
   c. Somewhat satisfied
   d. Dissatisfied

2. Do you feel safer after receiving the fall education?
   a. Yes
   b. No
   c. Somewhat
   d. I don’t know

3. How likely are you to call for help when getting out of bed?
   a. Very likely
   b. Likely
   c. Somewhat likely
   d. Not likely
   e. Does not apply

4. Would you be interested in more information about fall education and prevention strategies?
   a. Yes
   b. No

5. What information would you like to learn more about? (select all that apply)
   a. Your risk for injury
   b. Why you are at risk for falling
   c. Consequence of falling
   d. None

6. How do you learn best?
   a. Visually
   b. Verbally
   c. A combination of both
   d. Repeating back information

7. What could nurses and staff do better to promote your safety from falls?
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Thank you for your feedback.
Appendix I

Wong et al. serious fall injuries consisted of hip or pelvic fractures, upper extremity fractures, lower extremity fractures, deaths, subdural hematomas, facial fractures, hip or pelvic fractures with upper extremity fracture, vertebral fracture, and other injury requiring surgical intervention.

Hospital Y’s fall with injury includes three categories: moderate, major/serious, and death.

Moderate – resulted in muscle or joint strain and/or required suturing, application of steri-strips/skin glue, or splinting.

Major/Serious – resulted in surgery, casting, traction, or required consultation for neurological or internal injury.

Death – patient has died as a result of injuries sustained from the fall (not from the physiological events causing the fall).
Appendix J
How likely are you to call for help?

- Very Likely: 44%
- Somewhat Likely: 17%
- Not Likely: 39%
Appendix K
Do you feel you are at risk for falling or injury?

- Yes: 45%
- No: 33%
- Not Sure: 11%
- Somewhat: 11%
Appendix L
How satisfied are you with the education provided?

- Very Satisfied: 28%
- Satisfied: 72%
Appendix M
Do you feel safer after receiving falls education?

Yes 11%
No 39%
Don't know 39%
Somewhat 11%
Appendix N
How likely are you to call for help?

- Very Likely: 50%
- Somewhat Likely: 30%
- Not Likely: 20%
Appendix O
What information would you like to learn more about?

None 17%
Risk for injury 33%
Consequence of falling 33%
Risk for falling 17%