Perceptions and Knowledge of Patients and Care Providers: Recommendations for Prevention of Injurious Falls

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Call for collaborative initiatives to improve patient outcomes (AACN- AONE, 2012; IOM, 2010).

Our partnership: faculty from academia, health care leaders, and graduate students.

Meet a need for a mid-west health care system experiencing an increase in fall rates.

Problem – Inpatient Falls

- Billions of healthcare dollars spent related to falls (CDC, 2015).
- Unassisted falls have the potential to cause the greatest injury (Skaggs, Mion & Shoor, 2014).
- Despite all the regulatory requirements, processes, and tools that are available, falls continue to occur on a daily basis (Dempsey, 2009; Fortinsky, et al., 2004; Hughes et al., 2008; Skaggs, Mion, & Shoor, 2014; Tzeng, H.M, 2011).
- Need to capture how both patient and nursing knowledge and perception of barriers together may affect patient falls.
Relevant Literature

- Evidence based interventions specific to the patient can be effective by using a team approach (Godlock, Christianson, Feider, 2016).

- Care processes and fall intervention tools to help reduce the rate of falls in the acute care setting is extensive (Dempsey, 2008 & 2009, Tzeng et. al, 2011, 2013, 2015; Wilson et al., 2016; Yardley et al., 2006).

- While fall risk assessment tools are beneficial, specific interventions that are individualized to the patient’s risk may decrease the incidence of injurious falls (Barker, 2014).

- Model to include patients as active contributors to fall prevention plans (Tzeng & Yin, 2015).
Study Purpose:

- Identify what patient factors influence nurses’ decisions about hospitalized patients’ fall risk for injury.

- Identify factors that influence the patient’s perspective of their own risk for experiencing a fall or injurious fall.

- Identify barriers recognized by the nurses and patients to prevent a fall.
Research Questions

1. What are the staff perceptions of the patient being at risk for injurious falls?

2. What are the staff and patient perceived barriers to preventing injurious falls in the hospital setting?

3. Does the knowledge of heightened risk for injury cause implementation of fall precautions?
DESIGN – MIXED METHOD

Setting: Four hospitals in rural and urban settings in the Midwest
IRB approval granted from study site and university
Pilot Study 150 vignettes
Design - Instruments

1. Factorial survey – computer generated randomized vignettes.

2. Patient Interview tool - Older Adults’ Perceptions of Fall Prevention (Miller 2010) [with permission].

3. Focus group interview tool - Researcher created questionnaire.
Survey/Vignettes

FACTORIAL SURVEY
Part A of Survey – Last Case

- Qualitative section of the survey
- Asked nurses to recall the last time a patient fell who was under their care.
- 26 out of the 93 nurses reported no falls.
- Nurses described similar patient characteristics in their patient fall experiences.
Part B of the Survey

- Part B of each survey contains six unique, randomly generated vignettes, including a control.
- Each scenario includes a combination of six variables.
- Likert scale-RN assessment of the scenario about:
  - 1) the patient’s risk for a fall
  - 2) a risk for fall with an injury, and
  - 3) likelihood to initiate a fall risk strategy.
Vignettes using six independent variables [AHRQ Guideline NGC-9096]

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Levels</th>
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<tbody>
<tr>
<td>Age (6 levels)</td>
<td>45,55,65,75,85,95</td>
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<tr>
<td>Medical Problem (5 levels)</td>
<td>Fluid and electrolyte imbalance, urinary frequency, abdominal surgery, bleeding disorder, orthopedic surgery</td>
</tr>
<tr>
<td>Cognition (3 levels)</td>
<td>Agitated, alert and oriented, confused</td>
</tr>
<tr>
<td>Fall History (2 levels)</td>
<td>History, no history</td>
</tr>
<tr>
<td>Medications (8 levels)</td>
<td>Antidepressant, benzodiazepine, digoxin, sedative/hypnotic, multiple meds, no meds, opiate, diuretic</td>
</tr>
<tr>
<td>Mobility</td>
<td>Ambulates with a cane, ambulates with a walker, bedfast, ambulates with help, needs no help ambulating</td>
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Sample Vignette

The patient is 65 years old and admitted to the nursing unit for orthopedic surgery. The patient is alert and oriented, has a history of falls, and is currently on a sedative/hypnotic. The patient identifies the need to use the bathroom. The chart indicates the patient ambulates with help.
Part C of Survey

- Demographic information on RN participants:

- 465 surveys were distributed to nurses in 4 urban and rural hospitals in the Midwest. **93 surveys were returned (20%) with 558 vignettes completed.**

- Degrees held: AAS(28); Diploma(5); BSN(52); BS(1); MSN(5); MS(2)

- Practice sites: Medical/Surgical Units and ICUs

- Shift: 7AM - 7 PM (44); 7PM-7AM(44); 7AM-3PM(3); 2 other
Question 1: What is the perceived risk for this patient falling?

<table>
<thead>
<tr>
<th>0-No risk</th>
<th>10-Highest Risk</th>
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</table>

Significant variables to nurses $p < .05$

- **Age** = ($p = .000$); ANOVA Age 65 ($p = .026$)
- **History of a fall** ($p = .000$)
- **Mobility** ($p = .030$) ANOVA not significant
- **Cognition** – confused ($p = .002$)
- **Diagnosis**– Urinary frequency ($p = .061$)
- **Medications**– ($p = .006$) digoxin; sedative/hypnotic; multiple meds; opiate; diuretic
Question 2: What is the perceived risk for this patient to experience an injury if they fell?

0-No injury 10-Highest risk for injury

Age- (p=.000); ANOVA; Age 65 and 75
Meds- ANOVA; multiple meds and opiates
History of a fall-(p=.009)
Medical problem-(p=.000) ANOVA; Urinary frequency, bleeding disorder and orthopedic surgery
Cognition-(p=.016) ANOVA; agitated and confused
Question 3: How likely would you be to implement a fall risk strategy for this patient?

| 0 - not likely | 10 - very likely |

**Age** - (p=0.000)

**History of Fall** - (p=0.000)

**Meds** – ANOVA; antidepressants; benzodiazepines; digoxin; sedatives/hypnotics; opiates
General Discussion

Cognition was significant in nurses’ perceptions of fall risks and injuries related to falls, however cognition was not a factor in the nurses’ likelihood to implement fall risk interventions.
Focus Groups and Patient Interviews
Focus Groups & Interviews

Focus Groups
- 3-5 people per group
- 4 RN groups; 1 NA group; 1 mixed group
- Open ended questions- patient fall risk, barriers to prevention
- 20 RNs, 4 NAs

Patient interviews
- One- on- one interviews
- 30 minutes each
- 25 patients from each hospital; 75 total interviews.
- Patient perceptions about falls, fall risk and prevention

Data analysis – identify common phrases; constant comparative analysis
Focus Group Questionnaire

- Developed by the researchers
- Asked participants to “consider the most recent fall event that you were involved in”.
- Open ended questions about
  - how the fall occurred
  - interventions that were in place
  - the barriers that interfered with preventing the fall
  - actions by others including health care providers and hospital leadership
  - opinions about resources and why falls occur despite risk assessment and prevention
General Discussion: Focus Groups

1. Contributing factors to falls noted by RNs & NAs
   ◦ Medications
   ◦ Changes in medications, mental status, physical condition of patient
   ◦ Room environment issues
   ◦ Patient did not request assistance
   ◦ Patients still fall with interventions in place

2. Barriers to fall prevention noted by RNs
   ◦ Patient room too far from nurses station;
   ◦ Lack of follow through with established interventions
   ◦ Lack of communication between health care workers
   ◦ Lack of staffing, lack of available sitters

3. Need for additional or enhanced Interventions
   ◦ More frequent re/assessment
   ◦ Educate and communicate so that patients understand their risk
   ◦ Use judgement over and above existing data
# 4 Themes – Focus Groups

<table>
<thead>
<tr>
<th>Themes</th>
<th>Statements</th>
</tr>
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<tbody>
<tr>
<td><strong>Environmental Issues Contribute to Falls</strong></td>
<td>“I believe that transferring a patient in the middle of the night from a neuro floor to our floor kind of made him a little more combative and we could have gone around that better. Could have transferred him at a different part of the day that would have been better for his cognitive status at that point.”</td>
</tr>
<tr>
<td><strong>Communication/Education Needed to Prevent Falls</strong></td>
<td>“I am not sure we are using those key words that ‘this is to keep you safe’ so it may not be sinking in to the patient. I mean they are not interpreting the things that we are doing as safety measures.”</td>
</tr>
<tr>
<td><strong>Change in Patient Condition Requires Action</strong></td>
<td>“I think sometimes you can’t go by the Morse Fall Risk Assessment, If you really have it in your gut that they should be on a bed alarm, put them on a bed alarm.”</td>
</tr>
<tr>
<td><strong>Lack of Staffing and Staffing Patterns Contribute to Falls</strong></td>
<td>“...... I think that we all, when we do our initial assessment in the beginning, the fall prevention protocols are all in place. You check everything but as the day goes on and things get busier, it is harder to keep track of all of that.”</td>
</tr>
</tbody>
</table>
“People are out of their element when they are here. It’s not their home, things aren’t where they think they should be, we need to especially at night, keep anything clutter, things out of the way that will make them trip or fall, education for staff, education for the patient and of course family, but you do all that and you are still going to have falls but maybe not as many......you just do your best.”

- RN
### One-on-One Interviews - Demographics

<table>
<thead>
<tr>
<th>Demographic</th>
<th>N= 75</th>
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<tbody>
<tr>
<td>Age 61-74 years</td>
<td>26</td>
</tr>
<tr>
<td>Age 74 -94 years</td>
<td>49</td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
</tr>
<tr>
<td>Female</td>
<td>53</td>
</tr>
<tr>
<td>Hx of Falls No</td>
<td>15</td>
</tr>
<tr>
<td>Hx of Falls Yes 1 Fall</td>
<td>29</td>
</tr>
<tr>
<td>Hx of Falls Yes 2 or more Falls</td>
<td>27</td>
</tr>
<tr>
<td>Hx of Falls no response</td>
<td>4</td>
</tr>
<tr>
<td>Injury yes</td>
<td>25</td>
</tr>
<tr>
<td>Injury no</td>
<td>27</td>
</tr>
<tr>
<td>Injury no response</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75</strong></td>
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</tbody>
</table>
One-on-one Patient Interview Questionnaire

- *Older Adults’ Perceptions of Fall Prevention* (Miller 2010)
- 75 patients; English speaking, over age 60 years, alert and oriented
- 7 opened ended questions:
  - Fall history
  - Knowledge of falls
  - Fall risk
  - Prevention actions
  - Need for more information
General Discussion: One-on-One Patient Interviews

Patients:

- report education via TV commercials.
- report advice about falling from family members.
- unsure of their risk even in the presence of a risk bracelet or a fall risk sign.
- have ideas about decreasing risk about the home environment.
- majority report a history of multiple falls – mostly at home.
- associate injurious falls with broken bones – hips and knees.
## 3 Themes

<table>
<thead>
<tr>
<th>Themes</th>
<th>patient Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the Potential for Falls through Education</td>
<td>“No throw rugs, no cords around, A night light ; I read about it.” - 90 year old lives at home, no falls</td>
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<td></td>
<td>“… [haven't learned] uh, not so much prevention of falling. But more of, uh, the rescue of someone falling. With, uh, the Life Alert and all that stuff.”</td>
</tr>
<tr>
<td>Lifestyle Alterations with Advancing Age</td>
<td>“I live alone. I have one of those things that you wear around your neck and press a button.” -73 female has fallen at home</td>
</tr>
<tr>
<td></td>
<td>“I just don’t do some of the things I used to do” - 79 year old male fell twice at home at home</td>
</tr>
<tr>
<td>Fall Risk Denial/Ambivalence Despite Education</td>
<td>When asked if a healthcare provider spoke to them about falling after discussing the Call Don’t Fall sign in the patient’s room: “no not really... just that sign” Interviewer – do you think its helpful? Patient – “yeah, I think.”  Interviewer – do you try to do anything so you don’t fall? Patient – “Yeah – I’ll hold onto something.” 69 year old female with history of falls at home</td>
</tr>
</tbody>
</table>
Quote to Sum It Up

80 year old female “oh there is always something on TV about falling.... Oh you see stuff in magazines, but I usually don’t pay attention to it. I haven’t [fallen] except once when I was in the rehab center... and I wasn’t supposed to get up by myself, but I called twice and nobody came and I had to go to the bathroom so I got up and took my walker and went to the bathroom. And was getting up to leave the bathroom and I just quietly slid right down on the floor. I mean I really didn’t really fall, I didn’t hurt..... No, I wasn’t injured at all. “
Recommendations
Recommendation #1

1. Evaluate use of current fall risk assessment tool.
   ◦ Add critical thinking component to fall risk assessment tool to individualize care.
   ◦ Add a tool to identify risk for injury.
   ◦ Scale the level of risk.
   ◦ More frequent fall risk assessments.
   ◦ A change in diagnosis, addition of a new medication should trigger additional assessment.
   ◦ Add best practice alerts for additional fall risk assessments to current electronic health record.
Recommendation #2

2. Reframe patient education.
   ◦ Change the verbiage to be specific to the individual patient needs.
   ◦ Be clear to the patient about what a fall risk indicates.
   ◦ Engage the patient and family in the fall risk plan.
   ◦ Encourage teach back of concepts presented to patient.
Recommendation #3

3. Reinforce education of nurses.
   ◦ Include concepts listed in recommendations #1 and #2.
   ◦ Provide patient scenarios that indicate a change in fall risk level.
   ◦ A change in fall risk level indicates a need for additional or different interventions.
   ◦ Stress the need to include patient input in the plan of care.
Limitations in the Study

- Low response rate on the survey.
- Less units available due to changes in the health care organization.
- Responses of focus groups may be unique to the practice setting.
Implications of the Study

Provides opportunity to develop a comprehensive plan for the health care organization which may:

- prevent or remove barriers related to falls and fall risks.
- decrease injuries related to falls.
- impact patient outcomes and decrease healthcare costs long term.
Thank-you

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Marisol Strelow
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Madonna University
Northern Kentucky University
References


Questions?

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