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Staff Education to Improve Nursing Knowledge on Fall Prevention

Mary Del Riffe
Walden University

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College of Nursing

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Mary Del Riffe

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Dr. Robert McWhirt, Committee Member, Nursing Faculty

Chief Academic Officer and Provost

Sue Subocz, Ph.D.

Walden University

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Executive Summary: Staff Education Project
Staff Education to Improve Nursing Knowledge on Fall Prevention

by
Mary Del Riffe

MSN, Walden University, 2021

BSN, Eastern Kentucky University, 1999

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Summary

Falls in health care facilities constitute the most prevalent incidents among all safety-related mishaps. If unaddressed, falls can result in severe consequences and perhaps fatal outcomes for patients. The Doctor of Nursing practice (DNP) project was developed to address the issue of patient falls in a long-term acute care hospital (LTACH). The DNP project aimed to provide an evidence-based staff education program on fall prevention. The practice-focused question was the following: Will implementation of an educational evidence-based staff fall prevention program improve nurses' knowledge on fall prevention? Numerous sources of evidence-based research indicated that falls pose a significant issue for patients and health care professionals, resulting in financial losses, diminished quality of life, and patient distress. The 1-hour staff education program was created based on review of recent evidence. Twelve nurses attended the staff education program. A pre- and posttest were used to evaluate knowledge gained. Statistical analysis indicated an improvement in posttest mean score of 87.5 relative to the pretest mean of 55.8. A normalized learning gain between the pretest and posttest scores of 71.72% indicated that the education program was effective in improving staff knowledge about fall risk prevention. Recommendations included evidence-based initiatives and annual employee updates on fall prevention strategies in the LTACH. The educational practice change may facilitate positive social change by enhancing the health care personnel's knowledge and awareness of fall prevention. This may empower health care staff to mitigate adverse effects related to patient falls. The results of the DNP project underscore the significance of collaborative relationships to develop staff education aimed at reducing falls to foster positive patient outcomes.

Background

The Centers for Medicare and Medicaid Services (2024) continues to exert pressure on health care institutions to attain “zero fall goal” despite the ongoing prevalence of patient falls. This pressure has heightened stress among nurses, many of whom lack the expertise to maintain continuous safety during patient care procedures. Fall audits in the project site facility revealed that numerous nurses were not up to date on fall prevention techniques for patients. The assessment findings validated a gap in practice including the necessity for updated teaching on evidence-based fall education, which is important to address in the context of nursing. In a meeting with the project mentor and faculty advisor, we deliberated on these findings and determined that this was the optimal approach to address the practice gap. We concluded that implementing a staff education program to improve nurses’ awareness of fall prevention measures was a suitable strategy to address the practice issue.

Project Question and Purpose

The purpose of the DNP project was to create a staff education focused on evidence-based practices. The goal was to enhance nursing knowledge, abilities, skills, and methodologies for ensuring fall prevention for patients in the LTACH. The question guiding the project was the following: Will implementation of an evidence-based staff education program improve nurses’ knowledge and skills to prevent falls in an LTACH facility?

Evidence That Supports the Project Change or Gap in Practice

I performed an extensive literature review to address the practice gap on educational evidence-based interventions for fall prevention in hospitals. Keywords and

phrases for source identification included patient falls, preventative fall measures, and nursing. I examined sources published between 2020 and 2024. I evaluated 10 peer-reviewed sources, examining them for strength and evidence level (see Dang et al., 2021). Numerous evidence-based sources indicated that falls pose a significant issue for patients and health care providers, resulting in financial losses, diminished quality of life, and patient distress (Mi-Young & Sun, 2020). The literature review provided evidence to substantiate the gap in practice.

Evidence Supporting the Change

The literature review revealed that there is a lack of nursing knowledge regarding evidence-based fall prevention that contributes to patient falls. Evidence-based research indicated that nurses lack knowledge of fall prevention, and educators must collaborate with nurses to create robust educational programs aimed at fall prevention in the workplace to create change. Mi-Young and Sun (2020) recognized that nurses' perceptions on fall prevention were influenced by their education on the subject. Shaw et al. (2021) and Shaw et al. (2020) demonstrated that a high-quality education program based on a stringent quality framework enhanced health professionals' understanding of evidence-based fall prevention. Cho and Jang (2020) emphasized the significance of continuing education in mitigating falls in the hospital setting. Schoberer et al. (2022) revealed that nurses require access to well-prepared fall prevention education that is comprehensible and summarizes evidence on fall prevention to deliver optimal care. Providing quality education to nurses mitigates falls in health care settings.

Multiple sources presented evidence regarding strategies to prevent patient falls. Shaw et al. (2020) and Montejano-Lozoya et al. (2020) recognized that educating nurses

would promote ongoing evaluation of knowledge regarding fall prevention techniques. Ojo and Thiamwong (2022) discovered that research indicated instructional fall prevention programs enhance outcomes for older adults in the hospital. Staff education programs on evidence-based assessment and skill preventative techniques have the potential to improve nurses' knowledge in evaluating patient fall risk. According to Rogers and Irving (2023), numerous fall risk assessments tools, such as the Morse Fall Risk Scale, have been utilized for years; nonetheless, educating nursing staff on fall prevention has demonstrated greater efficacy than other costly interventions.

I assigned levels of evidence to evaluate the robustness of the evidence collected to address the practice question. I assigned levels of evidence to rate the strength of sources of evidence. Following the framework of Dang et al. (2021), I categorized the sources of evidence for this literature review as Level I and Level III. I utilized two systematic literature reviews as sources of evidence, and assigned them the highest degree of evidence (see Ojo & Thiamwong, 2022; Schoberer et al., 2022). The Morris et al. (2022) study constituted a systematic review with a meta-analysis and was designated a Level III. Three mixed-method studies were classified as Level III: Hakvoot et al. (2021) Shaw et al. (2020), and Shaw et al. (2021). A randomized control trial with a quasi-experimental design (Montejano-Lozoya, 2021) was classified as Level I, whereas two randomized control trials were categorized as Level III (Rogers & Irving, 2023; Shaw et al., 2020) . Additional sources were designated as Level III and classified as either qualitative or quantitative studies (Cho & Jang, 2020; Mi-Young & Sun, 2020; Shaw et al., 2020).

Staff Education Project Development

Following the analysis, design, development, implementation, and evaluation framework, I executed the project using an organizational readiness tool, along with stakeholder and strengths, weaknesses, opportunities, and threats analysis. The facility's administration granted site approval. I consulted with my faculty advisor and project mentor for further insights in formulating the practice-focused question. I used the Walden University Library to obtain the most relevant literature sources to address my practice-focused question. The university approved my online ethics pledge upon its completion. The staff education program was developed using recent evidence and supported by feedback from my project mentor and faculty advisor (see Appendix). The kickoff meeting was initiated by my project mentor and faculty advisor. Nurses and health care professionals were subsequently notified about the staff education program.

The staff education program included the staff nurses employed in the LTACH facility for at least 1 year. A total of 12 participants attended the staff education program including eight registered nurses and four licensed practical nurses. Using a pretest/posttest approach, I evaluated each participant's knowledge in implementing safe fall prevention strategies. The staff education program required participants to attend either a day or night shift session lasting 1 hour. The training was available on various days of the week to suit work schedules. The participants received copies of the pretest. After the pretest, they were given an informational educational handout to review and then took a posttest.

Collection and Analysis of Evidence

The staff education program was created based on the collection and analysis of evidence in the literature review. I employed descriptive statistics to analyze the pretest and posttest data. The method involved computing the range, mean, and standard deviation to assess the efficacy of the educational intervention. In addition, I calculated the normalized learning gain.

Results

I calculated the pretest and posttest scores by measuring the variable (knowledge) prior to and following the intervention. The pretest mean of 55.8 and posttest mean of 87.5 indicated that, on average, the scores improved after the educational intervention demonstrating that the intervention had a positive impact on the scores. The pretest standard deviation of 9.5379 indicated that the pretest scores exhibited considerable dispersion. The posttest standard deviation of 7.2168 indicated that the posttest scores were more clustered around the average posttest scores compared to the pretest scores. The decrease in standard deviation from pretest to posttest (9.5379 to 7.2168) showed that the scores became less spread out or more consistent after the intervention. Table 1 shows the results.

Table 1

Pretest and Posttest Exams: Descriptive Statistics

Exam	<i>N</i>	Range	<i>M</i>	<i>SD</i>
Pretest exam scores	12	40–70	55.8333	9.5379
Posttest exam scores	12	80–100	87.5	7.2168

I also used the normalized learning gain formula to further describe the change in knowledge:

$$\text{Normalized Learning Gain} = \frac{\text{Post Test Score} - \text{Pretest Score}}{100\% - \text{Pretest Score}} \times 100\%$$

$$NLG = \frac{87.5 - 55.8}{100 - 55.8} \times 100\%$$

Results were $31.7 / 44.2 \times 100 = 71.72\%$. A normalized learning gain of 71.72% indicated that the education program was effective in improving staff knowledge about fall prevention risks prevention. Enhancing professional knowledge about fall prevention risks positively impacted the nurses by altering their attitudes, increasing resilience, and fostering drive to achieve zero falls. Nurses indicated they would persist in implementing existing strategies to avert patient falls, utilizing knowledge gained from the educational program.

Impact on the Organization

In addition to promoting team collaboration on fall prevention and individual development, the facility instituted fall risk bracelets, monitored camera rooms, added fall risk signage, and implemented yellow fall risk socks and gowns for patients as strategies to decrease the incidence of falls. The knowledge acquired from the staff education presentation may enhance the competencies of the nurses and health care workers, thereby empowering them to take ownership of their practice, which may improve patient outcomes for the LTACH in preventing patient falls.

Limitations and How They Impacted Results

The limitations of the DNP project included a limited sample size. Another limitation was that the project was confined to a single practice setting. Additionally,

there was no longitudinal evaluation about the implications of the data produced by this project. Although higher posttest scores than pretest scores showed improvement in knowledge and exam outcomes, caution should be exercised when generalizing findings from this project to other practice settings.

Why the Project Is Important Beyond the Local Site

The findings of the DNP research project are essential for nurses and health care practitioners to mitigate injury resulting from patient falls. Educating and training nurses is essential for effecting transformational change in nursing practice. Furthermore, comprehending evidence-based interventions are crucial for delivering quality patient care. Nursing education enhances nurses' knowledge and proficiency in evidence-based interventions necessary for improving patient care outcomes. Regular educational sessions will be essential to enlighten newly employed nurses who are unfamiliar with the most effective fall prevention strategies in the facility. Continuous nursing education will enhance staff expertise, resulting in a reduction in fall rates to zero, thereby affirming the necessity of a comprehensive grasp of evidence-based interventions and innovative strategies for fall prevention.

Conclusions

The project's primary accomplishment was the educational change of nurses' attitudes regarding fall prevention. When nurses acquire knowledge, proficiency, and confidence in caregiving, they can minimize unnecessary patient falls, thereby enhancing the quality of life for patients. The advancement of knowledge emphasizes proficiency in resource utilization, degree of engagement, and problem-solving abilities. Further quality enhancement initiatives should be implemented to assess the efficacy of the interventions

in institutions that include nursing homes and long-term care centers. This DNP project included a singular design that requires professional teamwork. Collaborative efforts to develop staff education create avenues for reducing falls, promoting patient safety, and improving patient outcomes such as reduced injury and mortality among patients.

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Appendix: Education Presentation

Implementation of an educational evidence-based fall prevention program in a Long-term Acute Care Hospital

Educational Slides

Mary Riffe

Learning Objectives

1. At the end of the educational teaching session nurses should understand why falls are an important safety issue as evidenced by knowledge on pretests.
2. Nurses will understand the risk factors for falls as evidenced by the Morse Fall Risk Score.
3. By the end of the educational teaching session nurses will understand which patients are at high risk for falls.





All of the following are true for falls intervention program:

- Falls have a multifactorial etiology, so fall prevention programs should comprise multifaceted interventions.
- Regular review of medication can help to prevent falls.
- The risk of falling will be lessened when a patient's toileting needs are met.
- The use of anti-psychotic medications is associated with an increase risk of falls in older adults



A multifaceted intervention program should include all of the following:

- Individually-tailored fall prevention strategies.
- Education to patient family and health care workers.
- Environmental Safety
- Safe patient Handling



Risk factors for falls in the acute hospital include the following:

- Dizziness/vertigo
- Previous fall history
- Impaired mobility from stroke disease

Falls Education



- All of the following statements are true about falls.
 - The cause of a fall is often an interaction between patient's risk, the environment and patient risk factor.
 - Increase in hazardous environments increases the risk of falls.
 - The use of patient identifier (e.g., identification bracelet) helps to highlight to staff those patients at risk for falls.
 - A fall risk assessment should include review of history of falls, mobility problems, medications, mental status, continence, and other patient risks.



- All of the following are true about patients with impaired mobility.
- Encouraged to mobilize with assistance
- Assisted with transfers
- Referred for exercise program or prescription of walking aids as appropriate



- The management of the acutely confused patient should include of of the following:
- Involving family members to sit with the patients.
- Orienting patients to the hospital environment.
- Reinforcing activity limits to patients and their families.



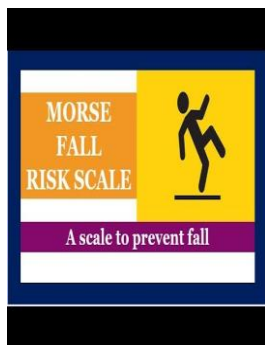
All the statements below are true about falls:

- A patient who is taking four or more oral medications is at risk for falling.
- A patient who is taking psychotropic medication is at higher risk for falling.
- Testing or treatment for osteoporosis should be considered in patients who are at high risk for falls and fractures.



In the hospital setting intervention programs should include all of the following:

- Staff education on fall precautions.
- Provision and maintenance of mobility aids.
- Postfall analysis and problem-solving strategy.



Assessment of patients includes all of the following:

- All patients should be assessed for fall risk factors at admission, at a change of status, after a fall, and at regular intervals.
- Medication review should be included in the assessment.
- All patients should have their activities of daily living and mobility assessed.



All of the Following are risk factors for falls:

- Parkinson's Disease
- Incontinence
- Previous history of falls
- Delirium



Exercise programs for ambulatory adults should include the following;

- Be ongoing
- Include individualized strength and balance training.



All of the following statements on education in fall prevention is true:

- Education programs should target primarily health care providers, patients and caregivers.
- Education programs for staff should include the importance of fall prevention, risk factors for falls, strategies to reduce falls, and transfer techniques.
- Instruction on safe mobility, with emphasis on high fall risk patients, should be provided to both patients and families.



All of the following is recommended to improve patient safety.

- Locking wheeled furniture when it is stationary.
- Having nonslip flooring
- Placing frequently used items (including call bell, telephone and remote control) within reach of patient.
- Rounding hourly to address patient needs.

References

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