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# Staff Education on Fall Prevention for Inpatient, Geriatric, Psychiatric Patients

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# Walden University

College of Nursing

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Shannon Hampton

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Walden University
2021

Abstract

Staff Education on Fall Prevention for Inpatient, Geriatric, Psychiatric Patients

by

Shannon Hampton

MSN, William Carey University, 2013

BSN, University of Southern Mississippi, 2010

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

November 2021

## Abstract

Falls among hospitalized, geriatric patients are a leading cause of injury. Geriatric patients with psychiatric illnesses are at an even greater risk of falls. The project site was experiencing an increase in the number of patient falls and identified a need for staff education on fall risk assessment and implementation of interventions specific to the hospitalized, geriatric, psychiatric patient. Thus, the practice-focused question for this project was whether an educational program on evidence-based assessment and fall prevention strategies would improve nurses' knowledge and skills to assess risk for falls and implement appropriate interventions for inpatient, geriatric, psychiatric patients. Knowles's adult learning theory and the analysis, design, development, implementation, evaluation model were used as the theoretical foundation for this project. Fourteen psychiatric registered nurses participated in an educational program on identifying fall risk factors and implementing interventions specific to the geriatric psychiatric population. A pre- and posttest design was used to determine whether the educational session was effective. Results of a paired-samples *t* test showed a statistically significant improvement ($p < .001$) in staff knowledge in fall risk assessment and intervention for geriatric, psychiatric patients. This project has the potential to impact nursing practice by improving nurses' knowledge of fall risk assessment and fall prevention for hospitalized, geriatric, psychiatric patients. Positive social change will occur through improved staff competency in fall mitigation, which may potentially lead to decreased patient falls.

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# Section 1: Nature of the Project

An estimated 2% to 3% of patients hospitalized in the United States fall (Turner et al., 2020). Falls are the most frequently reported patient-safety incident in geriatric psychiatric settings (Wong & Pang, 2019). For health care facilities, falls lead to increased health care costs and decreased reimbursement (Fehlberg et al., 2017). For patients and families, falls can impair quality of life. Although evidence is limited on fall interventions in mental health settings, Bunn et al. (2014) suggested that patients in mental health settings should be offered a multifactorial approach to the prevention and management of falls.

Approximately one third of falls can be prevented (Agency for Healthcare Research and Quality, n.d.). Regulatory agencies require provisions for staff education and monitor the effectiveness of fall reduction activities (Abraham, 2016a). In this project, I addressed the issue of geriatric patient falls at the project site by providing an educational program that addressed assessment and fall prevention.

## Problem Statement

The setting for this project was a community health center that was a part of a larger mental health organization that provides inpatient and outpatient services at multiple sites throughout the southern United States. This organization had seen an increase in the number of patient falls on their inpatient units. The project site had a fall prevention program in place; however, the program did not include interventions specific to the geriatric psychiatric population.

Patient falls resulting in severe temporary harm continue as one of the most reviewed Joint Commission (2019) sentinel events. Patient falls are among the costliest and the most sensitive quality challenges (Abraham, 2016a). Reducing and mitigating the number of patient falls through fall prevention programs should be a priority of health care leadership (Abraham, 2016a). Although all falls may not be preventable, an evidence-based educational program on fall prevention and reduction can decrease the incidence of falls (McKenzie et al., 2016).

Nurses at the practice site were instructed on fall prevention strategies during orientation, and they are provided refresher courses throughout employment. However, the training failed to include interventions that addressed the risks associated with advanced age. For this project, I used evidence-based information to educate nurses on assessing fall risks and implementing interventions for the inpatient, geriatric, psychiatric population with the intent to improve nurses' knowledge and reduce the incidence of falls.

## Purpose Statement

The project site aims to administer mental health treatment while preventing patient falls through evidence-based practices. A gap in knowledge related to fall prevention for geriatric patients on inpatient units was identified by leadership. In this project, I addressed the gap by using the analysis, design, development, implementation, evaluation (ADDIE) model (Branch, 2009) to develop an evidence-based educational program for nurses on the assessment and prevention of falls amongst geriatric patients receiving care. The practice-focused question answered in this project was: Will an

educational program on evidence-based assessment and fall prevention strategies improve nurses' knowledge and skills to assess risk for falls and implement appropriate interventions for inpatient, geriatric, psychiatric patients? I developed an educational program that used current evidence that is more specific to the needs of the geriatric patient in psychiatric settings to prevent falls that currently is not present in staff nurse training.

## Nature of the Doctoral Project

This doctoral project was an evidence-based educational program focusing on fall mitigation and prevention for geriatric, psychiatric inpatients. Sources of evidence for the development of the educational program included peer-reviewed research literature and evidence-based clinical practice guidelines published in the last 5 years. I used pre- and postintervention survey analysis of data using IBM Statistical Product and Service Solutions Version 27 with descriptive and inferential statistics to determine the effectiveness of the educational program.

The purpose of the educational program was to address the gap in practice by increasing nurses' knowledge of patient fall prevention for geriatric, psychiatric patients. The overall goal of this project was to reduce the number of falls in hospitalized, geriatric patients.

## Significance

Nurses strive to preserve patient safety and prevent harm during the provision of health care. Gained awareness of contributive factors and preventative measures for falls in geriatric, psychiatric patients will assist nurses in improving patient outcomes. Nurses

can also use the knowledge gained from this staff education project in their role as an educator by teaching patients, families, and other staff members about fall prevention.

Stakeholders for this project include the psychiatrist, psychiatric nurse practitioner, staff, patients, families, and administrative personnel at the project site. Although this project focused on geriatric patients admitted for inpatient psychiatric services, the educational program may apply to other health care organizations that provide care to geriatric patients with mental health disorders. By learning strategies to prevent and decrease falls in geriatric, behavioral health patients, nurses can effect positive social change by implementing fall prevention measures to improve health outcomes, decrease health care utilization, and improve revenue for organizations (Wong & Pang, 2019).

## Summary

Patient falls lead to increased health care costs and negatively affect the safety and outcomes of patients. Few studies are available on fall prevention for geriatric patients with behavioral health problems. The project site, like many other health care organizations, has seen an increase in the number of falls in geriatric patients. The educational program developed as the project provided education to nurses on the prevention and mitigation of falls in the geriatric psychiatric population with the overall goal of decreasing the number of falls. In the next section, I will discuss the theoretical foundations that guided this project, identify the broader concepts and topics specific to the local relevance of the project question, and describe my role as the doctor of nursing practice (DNP) student.

## Section 2: Background and Context

The practice problem identified for this DNP project was a lack of fall prevention training specific to the geriatric psychiatric population. The practice-focused question that guided this project was: Will an educational program on evidence-based assessment and fall prevention strategies targeted to geriatric, psychiatric patients improve nurses' knowledge and skills to assess risk for falls and implement appropriate interventions for this patient population? I developed an educational program on fall prevention and mitigation for nurses caring for geriatric, psychiatric patients that aimed to improve nurses' knowledge of preventative measures to reduce fall risks in the assigned patient population and potentially reduce the number of falls on the geriatric psychiatric unit.

Section 2 of this paper includes a discussion of models and theories that informed this project and the relevance of fall prevention in geriatric, psychiatric patients to nursing practice. In Section 2, I also provide background information to justify the necessity of the proposed educational program as well as describe my role as the DNP student and the role of the project team.

### Concepts, Models, and Theories

For this DNP project, I used Knowles's adult learning theory (i.e., andragogy) and the ADDIE model to guide the development of the educational program. I chose Knowles's theory for this project because it describes the self-directed learning style of adult learners (see Cosejo, 2018). In the theory, Knowles posited that adult learners are problem centered and rely on experience as a foundation for learning (Cosejo, 2018). I developed the educational program specifically for adult learners and to address a

problem that is relevant to their job. The ADDIE model was a suitable framework because it has clearly defined stages for instructional design that focus on reflection and provide feedback for improvement (see Jeffery et al., 2015).

**Knowles' Adult Learning Theory**

I used concepts from Knowles's adult learning theory to guide the development of an educational program on fall prevention for geriatric, psychiatric patients. The essential principles of Knowles's theory are:

- Adults must understand the rationale behind what is being taught (Aljohani & Alajlan, 2020; Cosejo, 2018). Each lesson must be explained because adults need to know why they need to learn something. The "why" in the context of this doctoral project was to address the increase in falls in the geriatric, behavioral health unit.
- Adults learn experientially (Aljohani & Alajlan, 2020; Cosejo, 2018). Good or bad, experience is the best teacher. Adult learners come to a learning activity with different experiences. In nursing, the learned experience is vital in the application of new knowledge (Cosejo, 2018).
- Adults are problem-oriented learners (Cosejo, 2018). Instruction for adult learners should focus on the problem and less on content. I acknowledged the prior experience of the nurses participating in the educational program and focused the teaching on new concepts and processes.
- Adults focus more on instruction that immediately affects their personal life or career (Cosejo, 2018). As life-centered learners, adults learn best when the

topic is of immediate worth. The information is provided in the educational program can be applied to tasks the nurses typically perform.

**The ADDIE Model**

I used the ADDIE model as the framework for designing an educational program for fall prevention in geriatric, psychiatric patients. The five steps of the ADDIE process are:

1. Analysis: During the analysis phase, the current situation is assessed to determine the root cause of the problem and determine the who, what, where, when, and why (Jeffery et al., 2015).
2. Design: In the design phase, data obtained during the analysis phase are used to strategize details of the educational program, such as structure, delivery method, assessment, and feedback (Jeffery et al., 2015).
3. Development: The educational program is created in the development phase using the core content (Jeffery et al., 2015).
4. Implementation: The educational program goes live via the chosen delivery method, and learners have full access to the program in the implementation phase (Jeffery et al., 2015).
5. Evaluation: Goals of the educational program are assessed during the evaluation phase. Additional feedback for actionable changes is also obtained, often through surveys, during the evaluation phase (Jeffery et al., 2015).

### Application of the Theories

Knowles's adult learning theory has been successfully used to educate health care staff on fall prevention strategies. Reich et al. (2017) used Knowles's theory to create and implement a standardized fall prevention program on a medical-surgical unit in an acute care facility that resulted in a significant decrease in the rate of falls. The ADDIE model of instructional design has been successfully used in nursing education and health care practice (Ab Latif & Mat Nor, 2020; Jeffery et al., 2015). Accordingly, I applied the philosophy of Knowles's adult learning theory to the ADDIE model of instructional design to develop the educational program on fall prevention project.

### Definitions

The terms used in this project are defined in this subsection.

*Fall:* "A sudden, unintentional change in position causing an individual to land at a lower level, on an object, the floor, or the ground, than as a consequence of a sudden onset of paralysis, epileptic seizure, or overwhelming external force" (Centers for Medicare and Medicaid Services, 2020).

*Geriatric*: Adults aged 65 or older. This is the minimum age requirement for admission to the geriatric, behavioral health unit at the project site.

*Geriatric psychiatric patient*. Adults aged 65 or older who are hospitalized with psychiatric diagnoses on a psychiatric unit.

## Relevance to Nursing Practice

To locate literature to review to support the relevance of this DNP project, I used the following databases and websites: Agency for Healthcare Research and Quality, The

Joint Commission, MEDLINE, CINAHL, PubMed, and Google Scholar. The following keywords and Boolean operators were used to complete the literature search: *behavioral health*, *education*, *elderly*, *falls, falling*, *geriatric, hospital, inpatient, mental health, professional development, psychiatric, psychiatry, training,* and *ward.* The literature search was limited to peer-reviewed articles and reputable sources published within the last 5 years unless otherwise deemed pertinent. A review of the evidence pertinent to this project follows.

**Psychiatric Patient Falls**

According to the National Database of Nursing Quality Indicators, the rate of falls on medical-surgical units is 3 to 5 per 1,000 patient days (Abraham, 2016a; Turner et al., 2020). The rate of patient falls on psychiatric units is 13 to 25 per 1,000 patient days (Abraham, 2016a). Despite the higher reported incidence of falls and psychiatric patients being at a greater risk of falls due to multiple factors, psychiatric units have received less attention in research addressing fall prevention strategies, with research on falls in inpatient psychiatric units also being limited (Turner et al., 2020). Studies specific to falls in the inpatient, geriatric, psychiatric population are even more limited. In a systematic review of fall prevention interventions for geriatric patients with mental health conditions, Bunn et al. (2014) reported that no studies were undertaken in an inpatient hospital setting. In a review of the literature, I found only two studies (i.e., Blair & Grumman, 2006; Draper et al. 2004) identifying risk factors and estimating fall rates in psychiatric care settings that are over a decade old (Struble-Fitzsimmons et al., 2018; Turner et al., 2020). Draper et al. (2004) identified risk factors and described outcomes

associated with falls on a geriatric psychiatric unit. Blair and Gruman (2006) quantified the number and types of falls and identified risk factors for inpatient, geriatric, psychiatric patients.

**Risk Factors for Patient Falls**

Multiple factors contribute to a higher risk of falls for adult patients in psychiatric care compared to other inpatients. Cognitive impairment and the use of antipsychotic medications increase fall risks (Abraham, 2016a; Bunn et al., 2014; Turner et al., 2020). Frequent medication changes and multiple medications also increase fall risks (Turner et al., 2020). The environment of psychiatric units themselves also increases the risk of falls because, unlike other inpatient units, ambulation and independent self-care are encouraged (Mathew et al., 2020). When factoring in the physical and mental constraints of advanced age, geriatric patients on psychiatric units are at even greater risk of falls.

**Nursing Education and Patient Falls**

Inpatient psychiatric patients are predisposed to high fall risks (Abraham, 2016a). Proper assessment and initiation of appropriate interventions are key to mitigating the number of falls (Abraham, 2016a). Educating nurses on evidence-based fall assessment and prevention can decrease the incidence of falls (Abraham, 2016a). Research has indicated that there is a decrease in the risk of falling when a registered nurse (RN) provides specific patient education (Fehlberg et al., 2017). McKenzie et al., (2017) reported that an educational session on fall reduction can reduce falls in an inpatient setting. Thus, education is essential to the reduction of falls.

The increased incidence of falls and the risk factors for falls among geriatric psychiatric patients as well as the effectiveness of nurse staff education to reduce falls in general have been well established. However, a gap in evidence that supports nurse education targeted to reduce falls for geriatric, psychiatric patients, the focus of this DNP project, still exists.

## Local Background and Context

The project site was a community health center in the southern United States. Reducing the number of falls has become a priority for the facility. Currently, the facility uses a single-fall risk assessment tool throughout all units. Nurses receive education and training on the use of the assessment tool; however, they lack knowledge about more specific risks to consider when assessing geriatric psychiatric patients. Site leadership identified a lack of knowledge of fall mitigation strategies specific to the geriatric psychiatric population among the nursing staff and the need to provide a tailored education program to them to address the increase in falls.

### Institutional Context

This DNP project took place in the inpatient units of a community mental health center located in the southern United States. The center provides physician-supervised inpatient and outpatient programs to those requiring mental health treatment and support.

### State and Federal Contexts

The project site is accredited by the Commission on Accreditation of Rehabilitation Facilities and the state Department of Mental Health. To receive payment for patient services from state and federally funded Medicare and Medicaid programs, the

project site is required to maintain safety standards and show evidence of continual safety improvements.

## Role of the DNP Student

The professional context for this DNP project was to develop a staff education program and present the program to the project stakeholders with the intention of full implementation and assessment of results. Development of a staff education program aligns with the American Association of Colleges of Nursing's (2006) DNP Essential III: Clinical Scholarship and Analytical Methods. DNP Essential III involves critically appraising literature and applying relevant findings to address practice gaps and improve nursing practice (American Association of Colleges of Nursing, 2006).

As the DNP student, my motivation for this doctoral project was to improve outcomes for the geriatric, psychiatric, inpatient population that is being served by increasing the knowledge of the nurses providing psychiatric care. A potential bias I had was having predetermined ideas on what I believed should be included in the nursing education program based on my experience. The steps that I took to address this bias was to ensure that all interventions and educational materials were fully grounded in evidence-based practice.

## Role of the Project Team

The project team included the site's director of adult services, director of nursing, psychiatric nurse practitioner, and me. The psychiatric nurse practitioner and the director of nursing served as content experts for the educational program. The director of nursing reviewed the material and assisted in determining the format for delivery of the program.

The director of adult services provided support and assisted with implementation. I sent the team members project materials via email with requests for feedback as the project progressed. The timeline for the project was communicated with the team weekly.

## Summary

I used current evidence from the literature to establish the risk factors for falls in geriatric, psychiatric patients and that educating nurses on fall prevention can reduce their incidence. The practice problem addressed with this project was the lack of a comprehensive educational program specific to reducing falls for geriatric patients with behavioral health needs. The ADDIE model and Knowles's adult learning theory were used to develop an educational program for fall reduction to address the identified practice gap. In the next section, I will discuss the data collection and analysis methods used in this project.

## Section 3: Collection and Analysis of Evidence

Falls among geriatric patients in hospitals are a serious safety challenge. Falls among geriatric, psychiatric patients are an even greater challenge due to mental health issues and comorbid, chronic health conditions (Abraham, 2016a). At the project site, there had been an increase in the number of falls in the geriatric patient population over the past 2 years. I developed this staff education project to address the issue of falls by providing evidence-based educational training on fall prevention to the nurses on the unit. In Section 3, I discuss the practice-focused question, outline the sources of evidence that I used to develop the educational program, and describe the systems I used to analyze and synthesize the evidence collected.

### Practice-Focused Question

The project site has experienced an increase in the number of falls in the geriatric psychiatric population. Facility leadership identified a lack of knowledge of fall mitigation strategies specific to geriatric, psychiatric patients as a causative factor of the increase in falls. The purpose of this project was to provide an educational program on fall risk assessment and prevention tailored to the specific needs of geriatric patients in a psychiatric unit. The practice-focused question was: Will an educational program on evidence-based assessment and fall prevention strategies improve nurses' knowledge and skills to assess risk for falls and implement appropriate interventions for inpatient, geriatric, psychiatric patients?

## Sources of Evidence

As sources of evidence for this doctoral project, I relied on evidence-based practice and the most up-to-date research on fall risk assessment and mitigation. Journals and professional organization publications with current information on fall reduction in the geriatric psychiatric population were reviewed. I developed an educational program following the completion of the literature review. Members of the project team assessed the educational program before implementation. As part of the education program, participants anonymously completed the pre- and posttest assessments.

### Published Outcomes and Research

I conducted a literature search through electronic databases, including CINAHL, Google Scholar, MEDLINE, and PubMed. The following keyword search terms were used: *behavioral health*, *education, elderly*, *falls*, *falling*, *geriatric*, *hospital*, *inpatient*, *mental health*, *professional development*, *psychiatric*, *psychiatry*, *training*, and *ward.* Boolean operators were used to refine the search.

I limited the literature search to peer-reviewed journal articles published between 2016 and 2021 available in English. Cohort studies, descriptive qualitative and quantitative studies, quasi-experimental studies, and systematic reviews were included. To be eligible and included, studies had to focus on patients aged 65 or older that were hospitalized for mental health conditions.

## Evidence Generated for the Doctoral Project

### *Participants*

Serving as content experts, the director of nursing and the psychiatric nurse practitioner reviewed the educational program for accuracy. The director of adult services assisted with organizing the delivery of the educational program. Participants who completed the training and evaluation were RNs caring for geriatric, psychiatric patients. Participation in the educational program and completion of the pre- and posttest assessments were voluntary.

### *Procedures*

Upon completion of the literature search, I analyzed and synthesized the data to develop an educational program with measurable learning objectives. I also developed the pre- and posttest assessment for the program and presented it to the project team for their review and feedback. Results from the review of the project team required no changes to the learning materials.

Project participants were RNs who provide care to inpatient, geriatric, psychiatric patients. Participants completed a pretest to assess their knowledge before the educational intervention. I presented an evidence-based, PowerPoint educational program followed by an open discussion with project participants. Participants then completed a posttest to determine the knowledge gained. I analyzed de-identified data from the pre- and posttest questionnaires using IBM SPSS Version 27 with descriptive statistics to determine the effectiveness of the educational program.

### *Protections*

Before implementation, I obtained Walden University Institutional Review Board approval following the guidelines of the Walden University *DNP Staff Education Manual*. Walden University Institutional Review Board approval number for this study is 07-28-21-0763051. Project participants were provided with a consent form and gave their consent before participation. They had the option to withdraw their consent at any time without the threat of reprisal. No risks were involved for project participants. This project was solely intended for education and used de-identified data to maintain the anonymity of participants and minimize the risk of a confidentiality breach. I will keep the data collected in a locked drawer and on a password-protected computer for 5 years before deleting it. Only I had access to the data collected in the study.

## Analysis and Synthesis

The purpose of the educational program was to provide nurses with evidence-based knowledge and skills to mitigate falls in the geriatric, psychiatric population. I carried out a quantitative comparison of the pre- and posttest data using a paired samples *t* test to evaluate the effectiveness of the educational program. All data were analyzed using IBM SPSS Version 27.

## Summary

The purpose of this DNP project was to develop an educational program to address the issue of falls in geriatric, psychiatric patients. In this section, the sources of evidence that were used to support the development of the project were described. I also

presented the systems for analysis and synthesis of data obtained from the project. The next section will include a presentation of the findings of the DNP project.

## Section 4: Findings and Recommendations

The project site had noted an increase in the number of falls for the inpatient facilities over the past year. The site had a generalized falls prevention program that was used for all patient populations; however, I identified a gap in practice due to the current fall prevention program not having assessments and interventions specifically targeted to the needs of the geriatric, psychiatric population. The purpose of this project was to develop an evidence-based educational program to increase nurses' knowledge of fall prevention specific to geriatric, psychiatric patients. The practice-focused question guiding this project was: Will an educational program on evidence-based assessment and fall prevention strategies improve nurses' knowledge and skills to assess risk for falls and implement appropriate interventions for inpatient, geriatric, psychiatric patients?

Sources of evidence to support the development and implementation of this project included a literature review, conversations with nurses currently providing care to the identified population, and content experts. Evidence-based practice indicated that an educational program on fall prevention and reduction could decrease the incidence of falls (McKenzie et al., 2017). The use of a single-fall risk assessment tool for all patients regardless of specialty may label large percentages of patients as high risk, which may reduce interventions for actual high-risk patients (Abraham, 2016b). Fall risk assessment tools should be tailored to the population served (Abraham, 2016b). The summary of the literature reviewed for this project is displayed in a literature review matrix table (see Appendix A). The application of the evidence to the development of the educational program is illustrated in the curricular plan in Appendix B.

## Findings and Implications

I had three mental health experts review the educational program materials using the provided review form and asking them to recommend changes if they deemed any necessary. The educational session was offered once. Seating was limited to 14 staff members due to COVID-19 social distancing requirements. The 14 participants were at a minimum bachelor's prepared RNs as required for employment at the project site. I did not collect demographic data from the participants.

I presented the educational session via PowerPoint, and an open discussion was held afterward. Ten-item pre- and posttests were given to project participants (see Appendix C). The pre- and posttests were comprised of questions related to the objectives of the lesson; the questions were the same for both tests. Participants chose a random number for data collection to retain anonymity, and I used no other identifying information during the collection, analysis, or reporting of the data. Participants were asked to complete the tests and place them in an envelope. I then analyzed the pre- and posttest scores to determine whether the educational session was effective. Each test question was worth 10 points. The total score was based on the percent of correctly answered items. I entered the participant scores into SPSS Version 27 for analysis.

### Content Expert Review

The three reviewers examined the educational program materials and used the rating tool to indicate changes needed (see Appendix D). There was 100% agreement with the content and presentation of the program materials, so the expert panel

recommended no changes. I sent invitations to participate in the educational program via email to all RNs working on the inpatient adult units at the project site.

**Pre- and Posttest Results**

The pre- and posttests were completed by 14 participants. I calculated a paired-samples *t* test using SPSS Version 27 to compare the mean pretest score to the mean posttest score to determine the impact of the educational program. The mean on the pretest was 65.00 (*SD* = 12.86), and the mean on the posttest was 94.29 (*SD* = 7.56; see Table 1). This represents a mean increase in scores of 29.29, suggesting that learning had occurred. The pre- and posttest scores were positively correlated ($r = 0.633$). The mean difference of posttest scores was 29.29 points higher than the pretest scores ([*M* = 35.04, *M* = 23.53, respectively]; see Table 2). The findings were statistically significant with ($p < .001$) with a 95% confidence interval (see Table 2).

**Table 1**

*Descriptive Statistics*

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Posttest | 14 | 80.00 | 100.00 | 94.2857 | 7.55929 |
| Pretest | 14 | 40.00 | 80.00 | 65.0000 | 12.86019 |
| Valid N (listwise) | 14 | | | | |

**Table 2**

*Paired Samples Test*

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | Lower | Upper | | | |
| Pair 1 | Posttest - Pretest | 29.28571 | 9.97249 | 2.66526 | 23.52777 | 35.04366 | 10.988 | 13 | .000 |

The results of the data analysis indicated an improvement of staff knowledge in fall risk assessment and intervention for geriatric, psychiatric patients. This project has the potential to bring about a positive social change for the organization, nurses, patients, and families. Nurses completing the educational program gained insight into the multiple factors that increase geriatric patients' risk for falls and how nursing judgment is an important factor in fall reduction. Evidence-based training on fall prevention can lead to improved provision of care for geriatric patients as suggested by McKenzie et al. (2017) and Wong and Pang (2019). Nurses can apply gained knowledge to providing patient care, training staff, and educating patients and their families. This project filled a training need for the project site where an increase in falls put a growing number of geriatric, psychiatric patients at risk for fall-related health consequences.

The implications of this project include an effective, evidence-based educational program to increase knowledge and promote the use of evidence-based practice. The program can be used to educate staff to effectively evaluate geriatric, psychiatric patients at risk for falls and prompt implementation of appropriate interventions. Early

identification and intervention can ensure patients at high risk receive appropriate interventions, thereby decreasing falls and related injuries (Abraham, 2016b).

## Recommendations

Results of the staff education program indicated an increase in knowledge among psychiatric nurses. My recommendation is to implement the educational program as an annual competency for all inpatient psychiatric nurses. Because the program focuses on geriatric patients, an alert should be added to the electronic medical record to indicate to all staff that the older adult, geriatric patient may require specific interventions to reduce falls.

Another recommendation, following discussions with project participants, is to offer staff a refresher course on conducting physical assessments and review of routine laboratory tests and findings. Some participants suggested that they were less likely to review certain lab work or perform orthostatic blood pressure screenings because they were not common practice on psychiatric units. Management should consider providing reference materials on physical assessment and laboratory findings.

## Contribution of the Doctoral Project Team

The doctoral project team consisted of the site's director of adult services, the psychiatric nurse practitioner, and the director of nursing, all of whom provided support and assistance throughout the development and implementation of the educational project. All team members were responsible for ensuring the content of the educational program was accurate and applicable to both the target population and the overall facility. The director of adult services provided access to necessary data and facilitated the

delivery of the educational program. The project team will continue to evaluate the impact of the educational program with the possibility of following my recommendation to include the program as an annual competency.

## Strengths and Limitations of the Project

The doctoral project met the objective of increasing the knowledge of nurses in fall prevention and mitigation for hospitalized, geriatric, psychiatric patients. The strengths of the doctoral project include having support from executive leadership and the multidisciplinary validation of the educational materials. Content for the educational program was validated through face validity by the three experts. Another strength of the project was the methodical rigor used to ensure the intervention was tailored to address fall prevention in geriatric psychiatric hospitalized patients, an underrecognized group (see Wong & Pang, 2019).

Limitations of the project include a small sample size of participants for the education. Initially, the educational program was to be presented in multiple sessions to a larger audience; however, COVID-19 pandemic restrictions limited the number of participants. Another limitation was the background of the participants. Demographic data were not collected on the background of project participants, so their nursing experience and number of years in nursing may have significantly impacted pretest scores. A future recommendation is to include a demographic survey and a written participant program evaluation, which would likely provide insights and suggestions for improvement.

## Section 5: Dissemination Plan

The results of this project have been presented to leadership at the project site. A result of the presentation is that the program will be used in new nursing staff onboarding, and leadership supported my recommendation to include the educational program as an annual competency following further review of the project's impact.

The ongoing goal of the project will be to decrease falls in hospitalized, geriatric, psychiatric patients. This goal does not limit the dissemination of the educational program to other psychiatric units. Older patients with mental illness are often hospitalized for non-psychiatric-related issues (Handley et al., 2017). Knowledge from this educational program can also be applied to geriatric patients with mental illnesses receiving care in emergency rooms and various other inpatient medical-surgical units.

### Analysis of Self

This project has allowed me to grow as a practitioner, scholar, and project manager. My role as the project manager was to develop and implement an educational program to increase staff knowledge on assessing and mitigating falls in geriatric, psychiatric patients. At the beginning of this project, I was not an employee of the project site. Preparing to present my project idea to people who were unfamiliar with my work ethic and abilities improved my confidence and communication skills. Knowing that I had no prior history with the project site, I was aware that my project pitch would also be leadership's first impression of me. I have since accepted a job offer from the project site.

This project also improved my skills in scholarly research and as a practitioner. Ensuring that the data used to develop the educational program were the most current

available and evidence based was vital in the development of the project. Accuracy was imperative because the work I completed and presented could have a profound effect on patient outcomes.

Completion of this project was met with many challenges. A corporate buyout forced me to change the project site. Inclement weather and the COVID-19 pandemic posed additional challenges. From the challenges faced during this project, I learned the importance of focusing on intended outcomes. The completion of this project and the DNP coursework allowed me to expand upon my leadership and research skills and will assist me in achieving my aspiration of a career in nursing leadership.

## Summary

The purpose of this DNP project was to determine if an evidence-based educational program would improve nurses' knowledge of fall assessment and intervention for hospitalized, geriatric, psychiatric patients. Analysis of pre- and posttest data indicated that all project participants met the objectives of the educational session and increased their knowledge on the topic covered. This project has the potential to improve the outcomes of hospitalized, geriatric, psychiatric patients. I am also confident that the educational program could successfully be implemented in other types of nursing units.

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Appendix A: Literature Review Summary Matrix Table

| **Author/Date** | **Title** | **Target Population** | **Analysis/Results** | **Implications for Practice** |
|---|---|---|---|---|
| Abraham, S (2016a) | Factors contributing to psychiatric patient falls | Inpatient psychiatry | Common risk factors for fall risk are multiple medications, confusion, fall history, and unsteady gait | Nursing is not solely responsible for reducing inpatient falls. Hospitals can reduce falls through comprehensive assessment and team interventions. Intrinsic and extrinsic barriers must be identified for a falls prevention program to be successful |
| Evans, A, Underwood, B (2016) | Never let a stumble be the end of your journey: The road to decreasing falls on a gero-psych unit | Geriatric inpatient psychiatry | Falls may occur when staff does not turn on bed alarms for patients identified as high fall risk. | Bed and chair alarms should be activated on all patients regardless of fall risk. |

| | | | | |
|---|---|---|---|---|
| Marcus, et al. (2020) | Defining patient safety events in inpatient psychiatry | Inpatient psychiatry | Psychiatry was not mentioned in the 2001 IOM report and the 2015 NPSF evaluation.<br>Developed a framework for characterizing patient safety in inpatient psychiatry. | Specifying patient safety events specific to psychiatry may improve the development of patient safety interventions. |
| Mathew, et al (2020) | Making fall risk assessment clinically relevant in an adult psychiatric setting | Inpatient psychiatry | The use of psychotropic medications and encouragement of independent self-care and ambulation increases the risk of falls in inpatient psychiatry.<br>Nurses' perceptions about using the Edmonson Psychiatric Falls Risk Assessment Tool© (EPFRAT) compared to the Morse Fall Scale (MFS) and the effectiveness of the EPFRAT in reducing falls. | The use of an evidence-based fall assessment tool specific to psychiatry may decrease falls and fall injury rates in psychiatric patients.<br>Nurses preferred EPFRAT.<br>The EPFRAT tool may reduce fall rates. |

| | | | | |
|---|---|---|---|---|
| Struble-Fitzsimmons, Oswald, DiPersia (2019) | Patient location and mobility factors associated with falls on an inpatient geriatric psychiatry unit | Geriatric inpatient psychiatry | Active therapeutic milieu increases fall risk.<br>Only two published studies address location concerning falls for this population.<br>Females are more likely to fall. | Interdisciplinary support can help maintain a clutter-free environment. Educate patients on the operation of lights, footwear safety, and in-room safety features.<br>Multi-surface assessments may reduce transfer-related falls.<br>Comprehensive gait and balance assessments and strengthening exercises can reduce falls during ambulation. |
| Turner, et al. (2020) | Patient falls and injuries in the U.S.: Incidence and trends | Adult and geriatric inpatient psychiatry | Falls in psychiatric care may not differ much from falls in other inpatient units. Falls in geriatric psychiatric units versus adult psychiatric units were expectedly higher.<br>A greater number of falls were assisted on other inpatient units as opposed to psychiatric units.<br>Unassisted falls have a higher likelihood of injury. | Improving fall prevention practices on psychiatric units may increase staff assistance during falls. |

| | | | | |
|---|---|---|---|---|
| Wong & Pang (2019) | Factors associated with falls in psychogeriatric inpatients and comparison of two fall risk assessment tools | Geriatric inpatient psychiatry | Mixed ward settings increased the incidence of falls in elderly patients.<br>Falls were more common in patients with dementia.<br>Falls were more common at night when staffing was low. | Geropsychiatric patients may benefit from additional fall risk interventions in hospitals using fall risk instruments that have not been validated in psychiatric settings.<br>Providers should monitor drug titration and side effects in psychogeriatric patients.<br>Bed alarms and bedpans should be used when suitable.<br>Staff-to-patient ratio should be higher in ambulatory psychogeriatric patients. |

Appendix B: Curricular Plan

Learning Objectives:

- Identify intrinsic and extrinsic barriers to falls prevention
- Specify patient safety events specific to inpatient psychiatry
- Identify how interdisciplinary teamwork can assist in fall prevention
- Describe interventions targeted to geriatric psychiatric patients
- Describe patient education activities

| Learning Objective | Detailed Content Outlined | Source of Evidence | Method of Presentation | Method of Evaluation |
|---|---|---|---|---|
| **Participants will be able to identify intrinsic and extrinsic barriers to falls prevention** | Intrinsic factors include fall history, unsteady gait, multiple medications, incontinence, and cognitive status<br><br>Extrinsic factors include poor lighting, loose shoes, rooms away from nurses' station, and leaving the patient alone | Abraham, S (2016) | PowerPoint | Pretest/Posttest Item #1, #7 |
| **Participants will be able to specify patient safety events specific to inpatient psychiatry** | The use of psychotropic medications and encouragement of independent self-care and ambulation increases the risk of falls<br><br>The use of an evidence-based fall assessment tool specific to psychiatry may decrease falls and fall injury rates | Marcus, et al. (2020)<br><br>Mathew, et al (2020) | PowerPoint | Pretest/Posttest Item #4, #8 |

| | | | | |
|---|---|---|---|---|
| | Definition of falls should exclude falls secondary to a medical event such as a heart attack | | | |
| **Participants will be able to identify how interdisciplinary teamwork can assist in fall prevention** | Interdisciplinary support can help maintain safety and reduce falls<br><br>Comprehensive gait assessments and consulting physical therapy can reduce falls<br><br>Consulting pharmacy for polypharmacy review can reduce falls | Struble-Fitzsimmons, Oswald, DiPersia (2019) | PowerPoint | Pretest/Posttest Item #3, #6, #10 |
| **Participants will be able to describe interventions targeted to geriatric psychiatric patients** | Geropsychiatric patients may benefit from additional fall risk interventions in hospitals using fall risk instruments that have not been validated in psychiatric settings.<br><br>Bed alarms should be used on all patients<br><br>Staff-to-patient ratio should be higher | Evans, A, Underwood, B (2016)<br><br>Wong, Pang (2019) | PowerPoint | Pretest/Posttest Item #2, #9 |
| **Participants will be able to describe patient education activities** | Patient education activities include call light use, communicating needs to staff, being mindful of items left on the floor, and do not bend down to retrieve them | Turner, et al. (2020) | PowerPoint | Pretest/Posttest Item #5 |

# Appendix C: Pre-/Posttest

1. Intrinsic factors associated with patient falls include all the following *except*:

    a. History of falls
    b. Loose shoes
    c. Polypharmacy
    d. Incontinence

2. Interventions specific to gero-psych patients include: *Select all that apply*

    a. Higher staff-to-patient ratios
    b. Bed alarms on all patients
    c. Confinement to bed
    d. Having nonslip flooring

3. Prazosin was recently prescribed to a gero-psych patient to treat nightmares. The patient also takes antihypertensives. Which action by the nurse is correct?

    a. Ask the provider to change the route of the antihypertensive.
    b. Collaborate with the pharmacy to ensure the medications are given at least 6 hours apart.
    c. Check the patient's blood pressure and hold the prazosin if the patient is hypotensive.
    d. Give the medications as prescribed and monitor the patient for side effects.

4. Patients on gero-psych units are at greater risk of falls because: *Select all that apply*

    a. They can easily trip on IV tubing.
    b. Ambulation on the unit is encouraged.
    c. Independent self-care is encouraged
    d. The beds are usually lower to the floor.

5. Patient teaching for gero-psych patients and their families should include: *Select all that apply*
    a. Operation of lights
    b. Do not bend down to retrieve items on the floor
    c. Footwear safety
    d. How to use in-room safety features

6. **True or False**. A dietician should be consulted at admission and if there is a noted change in the nutritional status of a patient.

7. Extrinsic factors associated with patient falls include: *Select all that apply*

    a. Poor lighting
    b. Rooms near the nurses' station
    c. Unsteady gait
    d. Inadequate staffing levels

8. The fall risk assessment completed on admission of a gero-psych patient indicated minimal fall risk. Since admission, the patient has had multiple medication changes. Which action by the nurse is correct? *Select all that apply*

    a. Re-evaluate fall risk with each medication change
    b. Monitor fall risk for a few days after upward titration
    c. Confine the patient to their room until side effects lessen
    d. Have the patient use a wheelchair to prevent falls

9. A patient with dementia has been sleeping for 4 to 5 hours per night and awakens early every morning. Which action by the nurse is correct?

    a. Hold bedtime medications until later in the evening
    b. Use restraints to keep the patient in the bed
    c. Consider exercise and social activities during the day
    d. Allow the patient to sleep in the daytime if needed

10. Which interventions would reduce patient falls during shift change on a gero-psych unit? *Select all that apply*

    a. Ensure all patients with high fall risks are wearing diapers prior to shift change.
    b. Toileting patients one hour before shift change
    c. Walking rounds during shift change
    d. Using soft wrist restraints for patients with high fall risks.

**ANSWER KEY**

1. B
2. A, B, D
3. B
4. B, C
5. A, B, C, D
6. TRUE
7. A, B, D
8. A, B
9. C
10. B, C

# Appendix D: Review of Educational Program Materials

| Expert Information |
|---|
| Date |
| Name |
| Organization |
| Position |

| Material | Like | Dislike | Change | Comments |
|---|---|---|---|---|
| Curricular Plan | | | | |
| PowerPoint | | | | |
| Pre/Posttest | | | | |

| **Additional Comments:** |
|---|
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Signature