2020

Staff Education on Fall Reduction Strategies for Residents of a Long-Term Care Facility

Olivia C. Anaele-Nwogu
Walden University

Walden University

College of Health Sciences

This is to certify that the doctoral study by

Olivia Anaele-Nwogu

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Maria Ojeda, Committee Chairperson, Nursing Faculty
Dr. Trinity Ingram-Jones, Committee Member, Nursing Faculty
Dr. Deborah Lewis, University Reviewer, Nursing Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2020

Abstract

Staff Education on Fall Reduction Strategies for Residents of a Long-Term Care Facility

by

Olivia Anaele-Nwogu

MS, Walden University, 2016

BS, The Catholic University of America, 2010

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2020

Abstract

Fall-reduction programs are frequently ineffective in reducing falls among geriatric patients in long-term care (LTC) facilities. Multicomponent strategies have proved to be effective in reducing these falls. However, these strategies require staff education to ensure their success. The purpose of this project was to support the integration of multicomponent fall prevention strategies into practice by providing staff education focusing on the appropriateness use of hourly rounding and the 4Ps (pain, position, prompted voiding and placement) in addition to bed alarms to prevent falls among geriatric patients in the local LTC facility. The Johns Hopkins Nursing Evidence-based model was the conceptual model used to guide this project. The practice-focused question was whether the staff educational program developed for this project improved nurses' knowledge of multicomponent fall prevention strategies. An educational program was developed; the content areas covered were: the effects of falls on the organization and patient, the internal and external risk factors for falls, and multicomponent fall prevention strategies. A quantitative design was used to evaluate program. Pre and post education data was collected using the Fall Staff Survey and descriptive statistics were generated for each question. The findings indicated that after the training session, there was improvement in knowledge for all areas measured using the Fall Staff Survey. Equipping nursing and administrative staff with enough knowledge of fall reduction strategies supports social change by improving patient safety while also improving organizational performance on quality indicators and reducing costs associated with fall-related injuries among geriatric patients in long-term care.

Staff Education on Fall Reduction Strategies for Residents of a Long-Term Care Facility

by

Olivia Anaele-Nwogu

MS, Walden University, 2016

BS, The Catholic University of America, 2010

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

Walden University

May 2020

Dedication

I dedicate this work to my late parents, Boniface and Rose Edomobi, whose unwavering belief in education has been the driving force behind my success. I would also like to dedicate this work to my kids: Ikechukwu, Jennifer, Victoria, and Chukwuma. You are my life and my joy. There is nothing in this world you cannot accomplish once you set your mind to it.

Acknowledgements

I want to give thanks to God Almighty for the strength and resources to accomplish this project. I would also want to thank my committee chairpersons, Dr. Maria M. Ojeda and Dr. Trinity Ingram-Jones, for their commitment, support, and guidance throughout the entire process. I would want to thank my friends and family who contributed their time and moral support to edge me on when I felt like I had reached the end of the road. Finally, I want to thank my loving husband, Festus Anaele-Nwogu, for all the love and support that I received throughout this program, and my kids, Ikechukwu, Jennifer, Victoria, and Chukwuma, who had to endure my lack of time with them. This achievement would never have been possible without your support.

Table of Contents

List of Tables

Section 1: Nature of the Project

Introduction

Falls among the geriatric population continue to pose a serious healthcare concern. Abraham and Cimino-Fiallos (2017) reported falls as the major cause of injury among the geriatric population. According to a systematic review of studies examining fall prevention strategies conducted by Cameron et al. (2018), 30% of adults who are at least 65 years or older fall at least once each year while 50% of residents of long-term care (LTC) facilities fall at least once every year. Cameron et al. further reported that these falls bring about complications such as serious pain, functional impairment, and even death in some cases. Researchers have found that factors such as a history of falls, problems maintaining balance, reliance on walking aids, and chronic ailments increase the risk for falls among geriatric patients living in LTC facilities (Dhargave & Sendhilkumar, 2016). To address falls among the geriatric patient population, intervention measures such as the use of bed alarms, hazard mitigation, and environmental inspection programs have been recommended in the research literature (Dhargave & Sendhilkumar, 2016). Bed alarms alert nurses that patients at risk for falling are trying to get out of bed without assistance. Such alarms have been found to be ineffective because of the alarm fatigue tendency associated with constant hearing of the alarms, some of which are malfunctioning (Shorr et al., 2012).

However, bed alarms may be an effective strategy when combined with other intervention measures. To reduce the likelihood of falls, patients who are at risk need to be checked on an hourly basis to ensure that their needs are met and that their

surroundings are free of hazards (Forde-Johnston, 2014). Hourly rounding is an active means for nurses to envisage the needs of patients when using evidence-based practices (Deitrick et al., 2012). When performing hourly rounds, nurses check on their patients in a timely manner and assess the environment to promote safety and improve the quality of care (Forde-Johnston, 2014). The 4Ps (pain, position, prompted voiding, and placement) is an evidence-based outcome measures used in hourly rounding (Forde-Johnston, 2014). The components are based on national standards and standards from accrediting agencies' risk assessment tools (Forde-Johnston, 2014). Patient safety among geriatric patients may improve through the integration of bed alarms, hourly rounding, and the use of 4Ps in providing nursing care.

This project involved the creation of an education program for clinical nursing and administrative staff at the local facility. The education that the staff will received was expected to improve their knowledge and use of multicomponent fall prevention strategies, resulting in improvements to patient safety, specifically in regard to the incidence of falls. Nurses who receive the education may impart this information to nursing students whom they help to precept on a daily basis, which will expand the potential impact of this project beyond that of the local facility. The education program provided management with information they can use in planning upcoming nursing care for the residents.

Problem Statement

According to the Centers for Disease Control and Prevention (CDC; 2019a), every year, one in three patients 65 years and older fall. In 2017, an estimated 3.4 million

injuries caused by falls among older adults were treated in the emergency departments of U.S. hospitals, and the healthcare cost of falls adjusted for inflation was $40 billion (CDC, 2019a). According to the World Health Organization (WHO; 2016), falls are a serious medical concern for older adults. Approximately 30% to 40% of older adults worldwide have experienced severe fall-related injuries, placing them at high risk for mortality (WHO, 2016). Among residents in LTC facilities, falls and fall-related injuries are the chief cause of death and debility (CDC, 2019a). LTC residents may fall for many reasons, including an unstable gait, weak muscles, poor eyesight, and the effects of medications (CDC, 2017; Jensen, Lundin-Olsson, Nyberg & Gustafson, 2002). Many LTC facilities do not use other strategies as a precautionary measure to prevent falls among residents (Feinsod, Capezuti & Felix, 2005; Quigley, 2016). Yet, the current, scholarly evidence suggests that successful fall prevention programs frequently require the use of a multitude of approaches to mitigate risk factors (Cameron et al., 2018).

At the local facility, bed alarms have served as the safety measure aimed at the prevention of falls among geriatric residents since March 2016. Nonetheless, the incidence of falls among residents remains above the national benchmark of 46% per year (CDC, 2019a). Residents who are ambulatory frequently attempt to get out of the bed. If the nurse is not within reach to attend to a resident when the bed alarm goes off, the resident will get out of bed and possibly fall. According to Zaccagnini and White (2014), nurses frequently interact with patients and are in a position to assess the risk of falls and implement prevention measures. Patients within LTC facilities may feel a sense of urgency to ambulate for toileting or to reposition themselves for comfort at times when

the nurse is not readily available. By conducting hourly rounds, nurses can assess the needs of their patients and act to reduce the risk of patient falls in LTC facilities (Mitchell, Lavenberg, Trotta & Umscheid, 2014). Given evidence showing that multicomponent approaches to fall prevention yield the best results (Zhao et al., 2019), leadership at the local facility acknowledged that there is need to address this gap in practice by providing supplemental education that would support the incorporation of additional fall prevention strategies by nursing staff. The leadership decided that nurses need to be educated since they are the ones that provided care for these residents. They are the first line for these residents.

Significance to Nursing Practice

Nurses play a dynamic role in preventing residents from falling as well as keeping the surrounding safe. In addition, nurses can ascertain the importance of an evidence-based fall prevention program by applying hourly rounding to determine an outcome. The American Nurses Association (ANA) selected falls as a nurse-sensitive indicator (Quigley, 2015). Fall-related outcomes are a necessary metric to document for health care facilities in that positive outcomes signify safety and quality in comparison to other facilities (Quigley & White, 2013). Positive outcomes entail a reduction in falls and fall-related injuries as well as cost savings. As such, nurses have a role to play in bridging the gap between practice and fall-related outcomes. Their use of a fall prevention strategy such as hourly rounding may promote patient safety and quality of care.

Purpose

Gap in Nursing Practice

The purpose of this project was to address the gap in practice regarding nurses' knowledge of multicomponent approaches to fall prevention by providing a staff education program to instruct clinical nursing staff on the effective use of hourly rounding in addition to the current practice of using bed alarms in the LTC facility.

Practice-Focused Question

This practice-focused question that I sought to answer was, Will a nursing staff education program focusing on effective multicomponent fall prevention strategies, including the use of hourly rounding and the 4Ps (assessment of pain, position, prompted voiding, and placement), increased nurses' knowledge of effective fall prevention strategies? To accomplish that, I assessed the efficacy of the program in increasing nurses' awareness and knowledge of multicomponent fall prevention strategies. Project findings may provide evidence supporting the incorporation of such strategies at the local facility.

Addressing the Gap in Practice

Current fall-reduction intervention programs at U.S. LTC facilities have emphasized preventive methods that relate to enhancing patient safety such as use of bed alarms, hazard mitigation, and environmental inspection (Hill et al., 2016). However, the existing fall-prevention strategies when implemented independently in LTC facilities have either been too costly or ineffective in reducing geriatric fall incidences. As noted by Hill et al. (2016), while multicomponent interventions are more effective in mitigating

fall incidences, identifying the optimal multifactorial intervention combination has been a challenge. I attempted to bridge the gap in practice by integrating staff education alongside the use of bed alarms, hourly rounding, and the 4Ps in addressing fall incidences among geriatric patients in the project LTC facility. Providing staff education on the use of bed alarms, hourly rounding, and the 4Ps in addressing fall incidences among geriatric patients in LTC facilities is regarded as a highly effective fall-prevention measure (Hill et al., 2016). Staff education reinforces the existing fall-prevention strategies, such as the use of bed alarms, by equipping healthcare staff with the relevant knowledge on their specific responsibilities and the expected conduct in communicating fall incidences or patients' risk factors for falls. Leverenz and Lape (2018) asserted that educating nursing staff on fall-prevention measures has a demonstrated impact on mitigating fall incidences by fostering self-efficacy among staff, which reflects in improved performance among individual caregivers. As such, facility leadership at the project site including the director of nursing (DON) and the assistant director of nursing (ADON) expressed supported for this project. They view enlightened and well-equipped staff as possessing the professional competencies needed to prevent incidences of falls using the combined strategy of bed alarms, hourly rounding, and the 4Ps (pain, position, prompted voiding, and placement).

This project can address the gap in nursing practice by providing clinical staff with education that can increase their knowledge and awareness of nurses' role in improving patient safety, specifically fall prevention, within LTCs (see Heck, Gebhart, & Gaehle, 2015; Miake-Lye, Hempel, Ganz, & Shekelle, 2013; Zhao et al., 2019). Thus,

educating staff on fall prevention strategies as part of a fall prevention program is necessary to step towards ensuring residents safety. The practice of regular rounding to assess the needs of patients is a strategy that has been demonstrated to reduce the incidence of falls (Cameron et al., 2018). In this project, I sought to address the identified gap in practice regarding multicomponent approaches to fall prevention by providing a staff education program to instruct clinical nursing staff on the effective use of hourly rounding in addition to the current practice of using bed alarms in the LTC facility, with an overall goal of reducing the incidence of falls. Subsequently, the facility may realize improved outcomes and better quality of life for their patients (see American Nurses Association, 2015).

Nature of the Doctoral Project

Sources of Evidence

Sources of evidence for the project included published nursing literature and data associated with the development and distribution of staff education together with scholarly nursing journals and official websites of government and professional organizations. Specific sources included the National Database of Nursing Quality Indicators (NDNQI) and the Agency for Healthcare Research and Quality (AHRQ) and the National Quality Forum websites; medical journals such as the *Journal of the American Medical Association* and the *American Journal of Evidence Based Practice*; and nursing journals including the *Online Journal of Issues in Nursing*, the *Journal of Professional Nursing*, the *Journal of Nursing Care Quality*, and the *Advanced Practice of Nursing Journal*. I retrieved peer-reviewed journal articles from nursing and healthcare

databases such as CINAHL, Medline, and PubMed, as well as official nursing organization websites. I classified the evidence obtained using the American Association of Critical-Care Nurses (AACN) levels of evidence grading system (Terry, 2012).

Summarized Approach

The evidence obtained from these sources was helpful in developing a staff education to ensure understanding of fall prevention programs and to help sustain positive patient outcomes. This staff education was offered to nursing at the LTC facility to improve fall prevention. To assess nurses' knowledge of risk factors for falling and of fall prevention strategies, I used a pre- and posttest survey for this DNP project. The Fall Staff Survey uses open-ended questions that assess nurses' awareness of fall risk factors and the actions to take to prevent the falls (Williams, Young, Williams, & Schindel, 2011). The survey responses are then scored to allow for comparison to nurses' knowledge before and after the staff education

Anticipated Outcomes

At a local facility, existing intervention to address falls among the geriatric patient population include the use of bed alarms, hazard mitigation, and environmental inspection. However, these have been ineffective in reducing falls. I anticipated that the staff education can facilitate the prevention and reduction of falls. Furthermore, I anticipated that providing staff education to the nursing staff and leadership will empower them to work as a team to address falls prevention and increase compliance with prevention strategies, which represents the current gap in nursing practice.

Ultimately, improved compliance may lead to decreases in the rate of patients falls (Hill et al., 2016).

Significance

Identification of Stakeholders

The stakeholders include RNs, LPNs, geriatric nursing assistants (NAs), nursing administration, and leadership. Nursing staff may benefit from the education program because it may support competency and help them fulfill their responsibility in providing safely to their patients. The Agency of Healthcare Research and Quality (AHRQ; 2013) stressed the necessity of incorporating hourly rounding practice as the safest practice measure in a fall prevention strategy. A goal of this project is to equip nursing professionals at the project site with knowledge on how best to prevent falls among geriatric patients by integrating the use of hourly rounding and the 4Ps with the current practice of placing bed alarms. The project may benefit geriatric residents by improving patient safety through the implementation of more individualized approaches to fall prevention. Furthermore, this DNP project may affect positive social change through information provided to both clinical nursing staff and administrative staff at the local facility. Administrative staff may learn more about the relative effectiveness of a variety of fall prevention strategies, thus allowing for informed decisions regarding the best use of organizational assets devoted to fall prevention.

According to Nitz et al. (2014), staff education on fall prevention strategies will bring positive outcomes by improving the care environment for residents in LTC facilities through increased observation and responses to patient needs. The education

that the staff received is expected to impact their knowledge and use of multicomponent fall prevention strategies, resulting in improvements to patient safety, specifically regarding the incidence of falls. Nurses who receive the education may impart this information to nursing students whom they precept on a daily basis, expanding the potential impact of this project beyond that of the local facility. Falls and related injuries are high-cost events that can be prevented by using evidence-based guidelines. They are also a concern to health care organizations because achieving patient safety and high quality of care is of importance to federal and state governments, providers, and payers (Centers for Medicare & Medicaid Services, 2014). Thus, staff education regarding fall prevention strategies may indirectly impact the organization's reputation, rating, and performance, and compliance with federal standards may improve while decreasing the costs due to emergency room transfers and patient complications (Feinsod et al., 2005).

Contributions to Nursing Practice

According to Terry (2012), exposing nurse to evidence-based practice can help build their ability to make clinical decisions. After completion of the education program, nurses may expand their workflow and reduce the risk related to fall. The fall reduction strategies with the use of 4Ps, can also be an effective tool that will enhance patient safety. The fall reduction strategies can provide the tools and evidence-based practice knowledge that the nurses need to effectively deliver excellent care to patients.

Potential Transferability

The multicomponent fall reduction strategies included in this educational program may provide a framework to promote responsibility and safety to patients in other

organizations, healthcare organizations, and practice areas. The same idea can be rolled out to various health facilities holding patients who are likely to fall off their beds. Existing gaps in the caretaking of elderly residents with regards to the need for more individualized approaches to fall prevention may be addressed through the study. Managers of the residences may incorporate the education strategies evidence from this project to help with challenges faced by geriatric residents. However, the fall reduction strategies described in the educational program have potential transferability beyond that of geriatric care in practice settings catering to different patient populations at high risk for falling, such as pediatric and mental health facilities. Healthcare settings may also benefit from the potential transferability of this project. For instance, the pediatric sections of health facilities that may be lacking bed side support can favorably adopt the strategy used in this project. Using bed alarms, hourly rounding, and the 4Ps (pain, position, prompted voiding and placement) can also be rolled out in mental healthcare facilities. For government agencies, policy makers and other interested non-governmental organizations (NGOs), the study findings may be the basis for new policy formulations that better protect the safety of the most vulnerable patients.

Implications for Positive Social Change

This project has implications for positive social change since it has the potential to reduce falls, hospital transfers, and financial burdens. It also has the potential to impact nursing retention and well-being. Patient falls have possible consequences for the nurse's work and personal life. After experiencing a fall incident or patient death from a fall and related injuries, many nurses suffer guilt, posttraumatic stress syndrome, depression, and

blame (Seys et al. 2012). As a result, they are sometimes viewed as “secondary victims.” (Seys et al. 2012). Such states of mind can occur in nurses who work with the vulnerable older adult population. Patient falls have possible consequences for the nurse’s work and personal life. These states of mind are emphasized in nurses who work with vulnerable older adult population. To alleviate this problem and reduce the emotional consequence, healthcare establishments should continue to educate and support staff in implementing and creating mechanisms to prevent falls.

Summary

Falls among geriatric patients is an important health concern. Numerous studies have associated the occurrence of falls with a number of factors including patient characteristics and characteristics of the care environment. Multicomponent fall prevention programs have proven more effective to single strategies in the reduction of falls with LTCs and other inpatient settings. At the local facility where the project took place, there was a need to address persistently high rates of falls among geriatric patients. Thus, the goal of this project was to provide staff education on multicomponent approaches to fall reduction on the integration of hourly rounding using the 4P’s in addition to current strategies. The project should result in improved knowledge of multicomponent strategies, and ultimately improved compliance with their implementation among clinical staff. The project findings may be helpful to geriatric patients, nurses, other caregivers and family members, health care organizations and government agencies. The knowledge from the study enhance awareness across the various social classes as the population of geriatric patients in LTC is socioeconomically

diverse (Feinsod et al., 2005). Section 2 of this paper contains related literature to describe the relevance of the problem of falls and fall prevention strategies to nursing. The background for the project, and the basis for the use of specific theoretical and conceptual frameworks for the development and implementation of this staff education project will also be discussed in Section 2.

Section 2: Background and Context

Introduction

Falls constitute the leading cause of injuries and deaths among the geriatric patient population (Cooper, 2017). The Centers for Medicare and Medicaid Services (2014) described a patient fall as the accidental descent to the ground or floor with or without injuries (see also AHRQ, 2013). According to Cooper (2017), about one third of persons aged 65 and older fall every year with a significant percentage of them sustaining serious injuries. The key risk factors for geriatric falls are sensory deficits, cognitive impairment, musculoskeletal impairments, and medication use (Dhargave & Sendhilkumar, 2016). Geriatric falls have a devastating impact on the U.S. healthcare system with almost $50 billion spent every year on nonfatal falls-related injuries (CDC, 2019c). This spending will continue to rise with the growing geriatric population in the United States, which may exceed the population of children by 2040 (Vespa, 2018).

The incidence of falls within LTC facilities is an essential indicator of the quality of care and patient safety. Multiple factors, including the implementation of separate fall prevention strategies, insufficient staff education, and inadequate resources, hinder the effective management of geriatric falls (Estupina, Lord, Crumlish, & Risher, 2018). At the local LTC facility, the incidences of falls remain higher than the national standards despite the implementation of bed alarms since March 2016. The practice-focused question for this DNP project concerned whether an education program for nurses working in an LTC facility can enhance their knowledge of multicomponent fall prevention strategies, including hourly rounding with the 4Ps and bed alarms. I addressed

the practice gaps related to nurses' knowledge of multicomponent fall prevention strategies by providing staff education regarding the combination of hourly rounding, the 4Ps, and bed alarms to ensure optimal patient safety and quality care. In this section, I will describe the concepts, models, and theories relevant to the DNP project; discuss the relevance of the DNP project to the nursing practice; provide local background and context for the practice problem; and consider the roles of the DNP student and project team.

Concepts, Models, and Theories

Concepts

The major concepts interwoven throughout this project are as follows:

Environmental inspection and hazard mitigation (EIHM): The process of investigating the potential risks or threats in the surroundings of interest, compliance with the relevant policies or regulations, and implementation of measures to address the identified risks (AHRQ, 2013). In geriatric care settings, the process involves evaluating the ease of movement; accessibility of items by patients; lighting; and the status of floors, furniture, and equipment (Mitchell et al., 2014).

Hourly rounding: A proactive, evidence-based process that allows providers to anticipate and address patient needs promptly. It involves providers checking on their patients at hourly intervals to assess their care needs and safety risks (Mitchell et al., 2014). The 4Ps of pain, position, prompted voiding and placement are integral components of hourly rounding in LTC facilities for elderly residents (Mitchell et al., 2014). These 4Ps significantly affect nursing-sensitive indicators.

Multicomponent nursing intervention (MNI): An intervention that combines different strategies to ensure optimal patient outcomes over time (Goodwin et al., 2014). Different factors contribute to patient falls, and thus applying any single intervention is unlikely to lead to satisfactory outcomes (Goodwin et al., 2014). Using the multicomponent approach to fall prevention allows the providers to target different modifiable behavioral and environmental factors that increase the risks of geriatric falls.

Nursing sensitive indicators (NSIs): Measures that reflect the structure, processes and outcomes of nursing care (Jones, 2016). Among the important measures of quality outcomes in LTC facilities are patient falls and related injuries (National Database of Nursing Quality Indicators, n.d.).

Models

I used the Johns-Hopkins Nursing Evidence-based (JHNEBP) model (Melnyk & Fineout-Overholt, 2015) as a guide for the implementation of the EBP project. The model provides a framework for quickly translating research evidence into clinical, educational, and administrative practice. The core of the model includes research and non-research evidence. The model describes EBP as the integration of the best available scientific evidence with the best physician and patient experiential evidence in the care of individuals, populations, and communities (Melnyk & Fineout-Overholt, 2015). It considers the success of EBP in an organization to be dependent on both internal and external factors. The key internal factors include the environment, culture, staff education, practice standards, and patient-to-provider ratio; the key external factors include quality measures, legislation and regulations, accreditation, and practice

standards (Melnyk & Fineout-Overholt, 2015). The major components of the model are the practice question, evidence, and translation. Eighteen prescriptive steps within the three components guide the EBP process; these steps are iterative (Melnyk & Fineout-Overholt, 2015).

Theories

I grounded the DNP project in Lewin's (1947) change theory, Orem's (Masters, 2014) self-care deficit theory, and deliberative nursing process theory (Masters, 2014). Lewin identified three stages--unfreezing, movement, and refreezing--that the change process proceeds through before a change becomes part of an organization's system (Lewin, 1947). The movement stage involves the identification and implementation of strategies to change the behaviors, attitudes, values, and understanding of the staff (Masters, 2014). Sustaining effective fall prevention strategies requires behavioral changes that involve key stakeholders including the nursing staff, administration, and residents and their families. The staff education program to support the multicomponent fall prevention strategies introduced new processes, procedures, and systems that the nurses must embrace to ensure successful change. Identifying and addressing the key barriers to change and promoting a new staff culture driven by staff education will be crucial to the effective implementation of the project.

Orem's self-care deficit theory considers individuals to have self-care deficits when they cannot meet their self-care requisites effectively (Masters, 2014). These requisites include processes to maintain human structure and function (Masters, 2014). The 4Ps of fall prevention are integral in addressing the common self-care deficits among

geriatric patients (Masters, 2014). Nurses have a responsibility to use the relevant processes and systems to help persons who cannot provide for their self-care requisites meet the self-care demands (Masters, 2014). Furthermore, the nursing process should include actions to help patients avert the development of self-care deficits (Masters, 2014).

According to Masters (2014), a tenet of the deliberative nursing process theory is that nurses should apply a deliberative process to determine patients' immediate needs and implement evidence-based actions to meet those needs. Sustaining a reasonable reduction of patient falls in an LTC facility requires ongoing staff engagement and compliance with the relevant processes. A professional nurse should regularly ascertain and validate patients' immediate needs and evaluate and modify nursing processes to provide a continuously safe patient environment.

Relevance to Nursing Practice

History of the Broader Problem in Nursing

According to Weil (2015), the instances of patient falls in hospitals and other healthcare facilities in the U.S. have increased by nearly 50% in the past six decades. Several interrelated factors, including improved systems for accident reporting, the growth of the geriatric patient population, and reduced nursing hours at the bedside, have contributed to the significant increase in patient falls per 1,000 patient days. Despite the publication of hundreds of studies on patient falls and the potential preventive strategies including interdisciplinary and multicomponent prevention programs, many healthcare facilities have not attained sustained fall reductions in the long term (Weil, 2015). Nurses

play a critical role in ensuring patient safety, which includes fall prevention. In 1995, ANA's board of directors initiated the growth of quality indicators to connect nursing care and patient outcomes (Curley & Vitale, 2012). In 1999, ANA published 10 nursing-sensitive indicators to apply in acute-care settings (National Database of Nursing Quality Indicators, n.d.). Patient falls was one of the original indicators. The indicators have undergone numerous amendments and refinements over the years to accommodate emerging patient care issues. ANA asserts that nurses have a professional responsibility to design and implement care plans for reducing risks of falls, evaluate the effectiveness of fall prevention strategies and consistently report patient safety issues. Consequently, nurses are increasingly assuming active roles in systematically assessing patients' risks for falls and implementing evidence-based and population-specific interventions to prevent falls (National Database of Nursing Quality Indicators, n.d.). Hospitals safety and quality committees are increasingly recognizing the role of nurses in the implementation of long-term fall prevention approaches and their impact on outcome-based hospital payments (National Database of Nursing Quality Indicators, n.d.).

Current State of Nursing Practice and Recommendations

Various organizations have developed recommendations for preventing falls among geriatric patients. The United States Preventive Services Task Force (USPSTF; 2018) recommends the use of exercise interventions targeting gait, balance, and functional training for the at-risk persons. The organization encourages the selective use of multifactorial interventions guided by a risk-benefit analysis (USPSTF, 2018). The assessment of risk factors for falls should involve a multidisciplinary team that includes

nurses, clinicians, physical therapists, occupational therapists and other relevant professionals. The fall prevention interventions for each patient should align with his or her safety risks and can include components such as environmental modifications, education, exercise, occupational therapy and medication management.

According to CDC (2016a), geriatric care providers should use the Stopping Elderly Accidents, Deaths, and Injuries STEADI tool kit to guide a multifactorial assessment of fall risks and fall prevention interventions including patient education, balance and strength enhancement, functional mobility improvement, medication management, and environmental modifications. The local LTC facility has been using bed alarms alongside environmental inspection and hazard mitigation for fall prevention since 2016. The alarms alert the on-duty nurse(s) when at-risk patients attempt to leave their bed without assist. However, the interventions have been unsuccessful in that the incidences of falls at the facility remain above the national average. Research supports the effectiveness of the STEADI tool kit at helping providers identify and intervene on behalf of patients at- risk for falls. Eckstrom et al. (2017) incorporated STEADI into routine patient care to screen high-risk patients over a period of six months. Eighteen healthcare providers and 733 patients participated in the program. About 22 % of the screened patients had a high risk of falls. The providers intervened on 85 % of patients with gait problems, 82 % with vision issues, 75 % with foot issues and 22 % on high-risk medications. The incidences of falls and patients' quality of life improved significantly within the six months.

How the Doctoral Project Advances Nursing Practice

The DNP project will advance the nursing practice related to patient falls by educating nurses on multicomponent interventions for fall prevention that, if implemented consistently should lead to significant reduction of fall incidences over time. It will demonstrate the connection between nursing staff knowledge of fall prevention processes and systems, compliance with fall prevention strategies, ongoing modification of processes and the sustainability of fall prevention programs. The knowledge generated through the DNP project will guide the principles for fall prevention practices in different patient care settings including pediatric settings and mental health facilities.

Local Background and Context

In Maryland, the reported injuries and deaths associated with falls among persons aged 65 years and above have increased significantly in the last decade (CDC, 2019a). Currently, about 70 % of fall-related hospitalizations occur among older adults (CDC, 2019a). The annual expenditure on these hospitalizations exceeds $200 million (CDC, 2019a). The current fall prevention strategies at the local LTC facility have been unsuccessful. The facility continues to report higher incidences of falls compared to the national average. This trend has had negative implications for the facility including increased length of stay, cost of care and patient dissatisfaction. Poor performance on quality measures will deny the facility crucial Medicare reimbursements. The local LTC facility serves geriatric patients (persons aged 65 and older), and is located in Bowie, Maryland. According to the U.S Census Bureau (2019), the city has a population of about

58, 680 people. The geriatric population accounts for about 14% of the city's population. Never events are serious medical errors or adverse events that should never happen to a patient. The Centers for Medicare & Medicaid Services passed a rule in 2008 stopping Medicare payments for treating various never events including injuries associated with falls, while a patient is receiving care in a healthcare facility. Many private insurers have amended their policies to align with this rule. The Centers for Medicare & Medicaid Services' rule has encouraged many states including Maryland to implement regulations requiring the mandatory reporting of never events that cause serious injuries or death. This reporting enables the ongoing review of never events and feedback on individual reports, which supports ongoing improvement of quality of care.

Role of the DNP Student

Professional Context and Relationship to Doctoral Project

DNP Essentials describe the core competencies critical to advanced nursing practice. The American Association of Colleges of Nursing (AACN) DNP Essential II guided this DNP project. Essential II, *organizational and systems leadership for quality improvement and systems thinking*, requires DNP students to become competent in developing evidence-based care delivery methods that address the present and potential needs of patient populations (AACN, 2006). Furthermore, the AACN Essential requires DNP graduates to guarantee responsibility for excellence care and wellbeing for the populations. The occupational outlook for APRNs also influenced this project. The demand for APRNs will increase significantly between 2018 and 2028 with the growing demand for healthcare services for the older population being one of the key drivers of

this growth (U.S Bureau of Labor Statistics, 2019). Therefore, APRNs must possess adequate knowledge of geriatric care and patient safety issues to deliver effective preventive and primary care in the future.

Role in the Doctoral Project

My role in the organization is that of a clinician-provider, specifically a nurse practitioner. As such, I do not have any employees that report to me within the facility. In that role, I deliver medical services to residents by helping to prevent, diagnose, treat and manage both acute and chronic conditions. My role in the DNP project was to assess the evidence on multicomponent fall prevention strategies, integrate and disseminate the discovered knowledge, and promote change at a local LTC facility through staff education. I identified and appraised the current evidence about patient falls to ensure the application of the best evidence in designing the fall prevention education program. As a DNP nurse, I am obliged to advocate for enhanced patient care and safety. This DNP project provided an opportunity to discover and disseminate evidence to guide the development of care delivery processes, systems and standards that will promote the safety and wellbeing of geriatric patients in a local LTC facility. The number of LTC facilities will increase in the future to cater to the growing older population with multiple and complex care needs. Therefore, integrating fall prevention approaches in LTC facilities is crucial. In addition, I planned and developed the content for this educational program using evidence-based resources, I assisted in the delivery of educational program and evaluated its efficacy. I worked closely with the organization's nurse educator in planning the delivery strategy for the program and provided opportunity for

leadership to review and approve the educational materials and delivery strategy prior to implementation. My relationship with the target population of staff nurses is as a researcher-consumer. The nurses may use the information that I generated and disseminated to increase their understanding of effective fall prevention for patients in a nursing home.

Potential Biases and Ways of Addressing Them

A potential bias that may affect the validity of the DNP project is that the project team members will include the nurse educator, supervisors, and directors of the local LTC facility. This association may introduce selective interpretation and reporting of project findings to align with the expectations, needs and goals of the organization (LoBiondo-Wood & Haber, 2014). I overcame this bias by presenting the DNP project to my committee chairperson to review the research methodology and level of objectivity in the interpretation and reporting of the project results.

Role of the Project Team

The Use of a Project Team

The DNP project team will include the staff educator, supervisors, ADON and the DON. The ADON, DON will review and approve the educational materials for presentation to the nursing staff. This action will minimize the likelihood of misinterpretation of the data and presentation of wrong information to the nursing staff. I collaborated with the facility's nurse educator to develop the delivery strategy for the educational program. I collaborated with the nurse educator and supervisors to schedule the educational sessions. I worked with the facility's nurse educator to format the

educational content into the most popular information presentation formats used in the organization. I assisted the facility's nurse educator to deliver the educational content to the staff, which included the key components and processes of the multicomponent fall prevention programs and the way to integrate them with current fall prevention activities to ensure consistency of care and compliance with the developed standards of practice. The development of the education program and the staff education was completed in three months.

Presenting Information to the Expert Team Members

As the project leader, I assumed responsibility for disseminating the project's findings to the nursing staff, supervisors, leadership, and the quality improvement committee. I disseminated the project findings through team meetings and presentations. The presentations took place in the first three weeks after the publication of the project's findings. I consulted with the facility's unit supervisors to determine when their department meets and scheduled time to present the project findings to the staff. I also summarized the project's findings in PowerPoint and share the slides with the nursing staff.

Summary

Despite the various regulatory and legislative initiatives targeted at increasing the accountability of hospitals and individual providers in reducing never events including falls, geriatric falls remain a key patient safety issue in the U.S. Most healthcare facilities have had limited success with fall reduction programs in the long-term. Currently in Maryland, more than half of fall-related hospitalizations occur among the older

population. Consequently, hospitals in the state, especially LTC facilities, are facing increased cost of care associated with overall poor patient prognosis and Medicare non-reimbursement. Different factors including unique patient characteristics, inadequate resources and staff education, incomplete fall prevention interventions, staff noncompliance, and resistance to change have hampered sustained fall reductions efforts. The rising cases of patient falls in the last few decades indicate a significant gap in practice, which requires this issue to be promptly addressed. As a DNP student, I am obligated to develop and advance evidence-based care delivery processes that address the current and future needs of the geriatric patient population. In Section 3, I will delve into the current evidence relevant to demonstrating the effectiveness of multicomponent fall prevention interventions in sustaining fall reductions in a LTC facility for older adult residents, the procedures used to carry-out this project, and how the data was analyzed to answer the practice-focused question.

Section 3: Collection and Analysis of Evidence

Introduction

Falls are serious health issue, particularly for geriatric patients in LTC facilities. Falls create impediments such as acute pain, death, and functional deficiency (Cameron et al., 2018). Among the residents of U.S. LTC facilities, falls and fall-related injuries are the main reason for incapacity and death (CDC, 2019a). At the local LTC facility, there has been a high rate of falls among residents despite efforts to prevent them such as the use of bed alarms. The situation prompted me to develop this education project. I wanted to address the gap in practice concerning nurses' knowledge of multicomponent methods for fall prevention by delivering a staff education program designed to teach nursing staff how to integrate hourly rounding and the 4Ps into their current practice. I offered staff education on evidence-based fall prevention techniques to increase participants' knowledge on multicomponent strategies for fall prevention. A pre and posttest survey was used to assess nurses' knowledge of risk factors for falling and of fall prevention strategies.

In this section, I will discuss the methods that were used to implement the doctoral project including the sources of evidence used to create and evaluate the project and how the training sessions was offered. This chapter also includes details about the collection and analysis of data. I also will discuss ethical issues and the procedures I used to ensure participant confidentiality.

Practice-Focused Question

Currently, in Maryland, a large proportion of fall-related hospitalizations occur among geriatric patients (Maryland Department of Health, 2016). The situation is a result of a combination of factors including inadequate fall prevention interventions and a lack of knowledge on how to evaluate the risk for falls. In this project, I developed a program that provides education on multicomponent fall prevention strategies using evidence-based guidelines for staff nurses working in a local LTC facility. I used the JHNEBP model, which is a problem-solving approach to making decisions on patient care with a three-step process (PET) that includes the development of the practice question (P), gathering of supporting evidence (E), and its translation into practice (T; Johns Hopkins Medicine, 2017). After identifying the problem of inadequate knowledge among nurses as a contributing factor to patient falls, I devised the following practice question (P): Will a nursing staff education program focusing on effective multicomponent fall prevention strategies, including the use of hourly rounding and the 4Ps, increase nurses' knowledge of effective fall prevention strategies?

Purpose

The purpose of this project was to support the integration of multicomponent fall prevention strategies into practice by providing a staff education focusing on the appropriateness use of hourly rounding and the 4Ps in addition to bed alarms to prevent falls among geriatric patients in the local LTC facility. Based on the practice-focused question, I reviewed available EBP information for fall prevention (E). I then created an evidence-based educational program in partnership with the staff educator to improve

nurses' knowledge of multicomponent fall prevention strategies. A result of the program is that nurses in this facility may be better equipped with knowledge on how to assess the risk for falls and initiate various strategies to prevent falls among older adult patients. The fall prevention education program will focus on enhancing nurses' knowledge of multicomponent fall prevention strategies and the ability to sustain fall reductions through hourly rounding with the 4Ps and bed alarms.

Operational Definitions

Hourly rounding: A proactive evidence-based process that allows providers to anticipate and address patient needs promptly. It involves providers checking on their patients at hourly intervals to assess their care needs and safety risks (Mitchell et al., 2014). It involves hourly visits between 6 a.m. and 10 p.m. and visits every 2 hours between 10 p.m. and 6 a.m. (AHRQ, 2013).

Long-term care (LTC) facility: A facility that provides care to residents for 30 days and greater. Care includes rehabilitation, nursing home, skilled nursing facilities, assisted living facilities, and hospice for residents (CDC, 2019; Freeman et al., 2017).

Nursing staff: RNs, LPNs, NAs, and health technicians (HTs) working as frontline staff.

Patient fall: "An unplanned descent to the floor with or without injury to the patient" (AHRQ, 2013, p. 1). In patient care, a patient fall refers to loss of upright position that results in landing on the floor, ground, or an object or furniture, or a sudden, uncontrolled, unintentional, non-purposeful, downward displacement of the body to the floor/ground or hitting another object like a chair or stairs; it excludes falls resulting from

violent blows or other purposeful actions (U.S. Department of Veterans Affairs, National Center for Patient Safety, 2019).

Sources of Evidence

There is much information on the topic of multicomponent fall prevention strategies. Although this information might have been useful for the current project, it would have been overwhelming to consider all of it in supporting the EBP. Therefore, I critically appraised the sources before applying them to developing the education program. According to Peterson et al. (2014), determining the level of evidence is a vital component of evaluating the evidence. Determining that the evidence is credible requires experience in clinical research, which according to the JHNEBP model is part of EBP in patient care (Melnyk & Fineout-Overholt, 2015). As such, I determined the level of evidence and then evaluated the quality of the research articles. I gave preference to evidence from experimental studies as this evidence is considered stronger than that from non-experimental research (Peterson et al., 2014). Also, similar results from multiple studies are considered more reliable compared to evidence from single studies (Peterson et al., 2014). Although they might not give answers to all problems in clinical practice, systematic reviews of randomized control trials are known to have the strongest evidence (Peterson et al., 2014).

In order to address the practice-focused question, I carried out a literature review of the current EBP recommendations for fall risk assessment and prevention strategies. I used the STEADI tool kit and a search of the literature to develop appropriate teaching materials to address the educational program objectives and goals. Nurses were required

to attend training and had the option to participate in an anonymous pre-and posttest after giving their consent. The following sources were used to develop appropriate content for the education program: the CDC, the STEADI tool kit, a search of CINAHL, and the *Journal of Nursing Care Quality*. The evidenced-based educational program was created in partnership with the staff educator. I also used the pre-and post- knowledge survey which was used by Williams et al. (2011) to determine the effectiveness of the education.

Participants

The participants for the current project included 35 nursing staff in the local LTC facility. The nurses enabled me to answer the focused-practice question because they routinely work with the older population who are at risk for falls. Educating the nurses may help to decrease the risk of falls for these residents. The participation of the nurses in the education program was compulsory, a decision that was made by the administration since the facility has high rates of patient falls. The expectation was that participants who attended the education classes would improve their knowledge of how to implement multicomponent fall prevention strategies.

Procedures

Education was provided utilizing the evidence-based program that was created for this project. The educational program was developed by means of an iterative process in collaboration with organizational stakeholders. Throughout the process, formative evaluation aimed at improving the program was sought. During the implementation phase, the nurse educator and I reflected on our performance and adjusted, as necessary. Summative evaluation was provided via an assessment of how well the learning

objectives were met through the administration of the Falls Staff Survey; trends in Falls Staff Survey results were examined periodically throughout the implementation phase, if trends were not as expected, adjustments were made. The content for the educational program was based on the published evidence; the quality of the evidence was assessed using the JHNEBP evidence level and quality guide. The educational program covered a variety of topics including the definition, effects and causes of falls; how to perform a falls risk assessment, and multicomponent fall prevention strategies including hourly rounding using the 4P's and the use of bed alarms. The education focused on enhancing staff knowledge to ensure fall prevention in the facility. At the conclusion of the learning session, it was expected that the participants would be able to:

1. State the potential effects/consequences of patient falls for the hospital/organization,
2. State the potential effects/consequences of falls for the patient,
3. Identify the internal and external factors that place patients at risk for falling,
4. Identify interventions to prevent falls among inpatients including hourly rounding with the 4Ps as an element of multicomponent fall prevention strategies.

Following the development of the education program, nursing staff were scheduled to attend the teaching sessions. The training included four sessions per week for three weeks, with each session lasting 30 to 40 minutes. I created a PowerPoint presentation based on the research and scholarly evidence found and the nurse educator and I delivered the educational content via live classroom sessions.

After obtaining consent and before starting the classes, participants were requested to complete the Falls Staff Survey (see Appendix A). After the class, participants were asked to repeat the Falls Staff Survey. Through the survey, it was possible to collect data on changes in knowledge of fall risk factors and interventions that can be put into place to reduce falls (Williams et al., 2011). The Falls Staff Survey is a tool that was developed by Williams et al. (2011) to assess the effectiveness of a fall awareness and education program. The survey consists of 5 questions related to the effects of falls and falls risk assessment and prevention strategies. It takes approximately 20 minutes to complete. Permission to use the Falls Staff Survey was obtained from the author (see Appendix B). The questions in the Falls Staff Survey are open-ended questions, it is scored by counting the frequency and proportion of specific answers reflecting the project goals for each question (Williams et al., 2011). I scored and analyzed this data. The pre- and post-education responses were described and compared to assess for changes resulting from the staff education.

Protections

Before the start of the training sessions, participants were informed of the purpose and intention of the project, and the team explained the benefits of the educational program. Although all participants in the LTC facility were required to take part in the training sessions, completion of the pre-and post-education surveys were voluntary. As a result, all class attendees who participated in the surveys completed a consent form. No foreseeable risks were involved for participants in this project. To guarantee that the participants' anonymity was safeguarded, no names or demographic information were

collected, and results were reported in-aggregate. The paper versions of the gathered information were kept in a safely locked box which can only be accessed by the project leader. Once all of the educational sessions were completed, the data were transferred to an electronic Excel data file. The data file is password-protected and is only accessible to the project leader.

Furthermore, the project was evaluated by the Institutional Review Board (IRB) at Walden University. Since the intervention pertains to the development of EBP education program that includes human subjects, it was reviewed by the IRB to ensure that it does not breach human rights or negatively impact on their welfare. The project received Walden IRB approval on February 4, 2020. The organization did not require approval from their IRB.

Analysis and Synthesis

In this project, I analyzed and synthesized the pre- and posttest knowledge of staff nurses regarding risk factors for falling and fall prevention strategies using the Falls Staff Survey developed by Williams et al. (2011). I identified the frequency of responses to the questions in the Falls Staff Survey that are related to the project goals. I reported the frequency of each response, as well as the proportion of the responses to each question that they represent, using percentages and an Excel spreadsheet. Changes in the frequency and types of responses between pre- and post-education were examined to determine the effectiveness of the education. In the event that one or more of the participants did not respond to some of the survey questions, the frequency and proportion of missing responses were also be reported.

Summary

Falls are a major issue of concern that mainly affects the older adult population in LTC facilities, causing many deaths among people in this population. One of the factors contributing to the issue is inadequate knowledge of falls risk assessment and multicomponent fall prevention strategies. Developing an education program for fall prevention strategies will lead to improved knowledge among nurses. After a pretest, nurses were educated using the developed program and a posttest exam done to assess the change in knowledge level among nurses. Data from the 35 participants was collected using the Falls Staff Survey tool (see Appendix A), responses were scored and will be reported in aggregate using descriptive statistics (i.e. frequencies and percentages) to determine the effectiveness of the program. The results from these tests and their implications will be presented in Section 4.

Section 4: Findings and Recommendations

Introduction

In March 2016, bed alarms were instituted as the only safety measure specifically aimed for the prevention of falls among geriatric residents at the LTC local facility. Despite this measure, the fall rate among residents remained higher than the national benchmark and continued to rise posing a major threat to the lives of patients. Working in collaboration with the facility management, I saw the need for an action plan to reduce the cases of patient falls. Nurses had inadequate knowledge of multicomponent fall prevention strategies, such as the combination of alarms and hourly rounding. As such, I initiated a staff education project to address this gap in practice. The practice-focused question was, Will a nursing staff education program focusing on effective multicomponent fall prevention strategies, including the use of hourly rounding and the 4Ps, increased nurses' knowledge of effective fall prevention strategies. The purpose of the DNP project was to support the integration of multicomponent fall prevention strategies into practice by providing staff education focusing on the appropriate use of hourly rounding and the 4Ps in addition to bed alarms to prevent falls among geriatric patients in the local LTC facility.

I used a total of five research articles published between 2015 to 2019 to develop the educational content of the module. Other sources consisted of one published quality improvement project and portions of the STEADI toolkit. The content of the education module (see Appendix C) included

- possible effects of falls on acute care hospitals,

- possible effects of falls on patients,
- internal factors that may make patients prone to fall,
- external factors that may make patients prone to fall, and
- multicomponent interventions to prevent falls.

To evaluate the effectiveness of the education program, a staff survey, the Falls Staff Survey (see Appendix A), consisting of open-ended questions, was used to assess the participants' knowledge of risk factors for falling and of fall prevention strategies. The responses obtained from both tests were used to determine the impact of the education program. The Falls Staff Survey is an evidence-based test that can be used to quickly assess knowledge on falls prevention among staff (Williams et al., 2011).

Findings and Implications

Thirty-five (35) nurses participated in an education program within the LTC facility from February 11 to March 3, 2020. The program consisted of a total number of 12 educational sessions, each lasting 30 to 40 minutes. All participants agreed to participate in the survey and completed a pre- and posttest utilizing the Falls Staff Survey. The survey consisted of five open-ended questions that were the same for both tests. To maintain anonymity of the participants, no identifiable information was requested. After the posttest was completed, the tests were analyzed through the calculation of percentages for the answers provided for each question. There were no unanticipated limitations to this project.

Results

The Falls Staff Survey results (see Table 1) describes the nurses' level of knowledge on patient falls prevention practices before and after the educational sessions.

Table 1

Pre- and Posttest Responses to the Falls Staff Survey by Order of Frequency

	Pretest		Posttest	
Question	Responses	*n* (%)	Responses	*n* (%)
List three possible effects of falls on acute care hospitals	Institution reputation	20 (57.1)	Institution reputation	28 (80)
	Costs of longer stay	17 (48.6)	Increased workload	26 (74.3)
	Increased workload	10 (28.6)	Costs of longer stay	20 (57.1)
	*Litigation	8(22.9)	*Litigation	15 (42.9)
List three possible effects of falls on patients	Fractures	27 (77.1)	Fractures	30 (85.7)
	Head injuries	21 (60)	Head injuries	27 (77.1)
	Prolonged hospital stays	18 (51.4)	Prolonged hospital stays	22 (62.9)
	*Decreased functional ability	15 (42.9)	*Decreased functional ability	19 (54.3)
	*Loss of confidence in staff	10 (28.6)	*Loss of confidence in staff	17 (48.6)
List three internal factors that may make patients prone to fall	Cognitive deficits	26 (74.2)	Cognitive deficits	32 (91.4)
	Weakness	15 (42.9)	History of fall	28 (80)
	Impaired mobility	9 (25.7)	Weakness	26 (74.3)
	*Visual impairments	8 (22.9)	*Medicines	23(65.7)
			*Impaired mobility	18 (51.4)
			*Visual impairments	15 (42.9)
			*Age	10 (28.6)
			*Gender	8(22.9)

(*table continues*)

Question	Pretest		Posttest	
	Responses	*n* (%)	Responses	*n* (%)
List three external factors that may make patients prone to fall	Wet floors	27 (77.1)	Wet floors	29 (82.8)
	Poor lighting	21 (60)	Clutter and obstacles	26 (74.3)
	Inappropriate walking aids	18 (51.4)	Inappropriate walking aids	22 (62.8)
	*Inappropriate use of side rails	15 (42.9)	*Inappropriate use of side rails	17(48.5)
	*Clutter and obstacles	8 (22.9)	*Poor lighting	15 (42.9)
List five possible interventions to prevent falls	Restraints	24 (68.6)	Restraints	28 (80)
	Alarms	18 (51.4)	Alarms	20 (57.1)
	Appropriate use of side rails	10 (28.6)	Regular checks on patients	18 (51.4)
	Staff education	8(22.9)	Appropriate use of side rails	17 (48.6)
	Regular checks on patients	5 (14.3)	Staff education	12(34.2)

Note. *Additional frequent responses.

The first question sought to establish the impact of patient falls on acute care hospitals. The top four responses remained the same, pre- and post-education, and included institutional reputation, costs of longer stay, increased workload, and litigation. However, the overall proportion of the sample represented by the top four responses and the order of frequency in some responses changed. Prior to the educational program, the top four responses represented 23% to 57% of all responses; after receiving the education, the top four responses represented 43% to 80% of all responses. Increased workload rose from the position of third to second most frequent response, while costs of longer stay dropped from second most frequent response to third.

The second question focused on establishing the effect of falls on the patient. The top five responses remained the same before and after education and included fractures,

head injuries, prolonged hospital stay, decreased functional ability, and loss of confidence in staff. Also, although the order of the frequency in all responses remained the same, the overall percentage of the sample represented by the top five answers changed. Before the educational program, the top five responses represented 29% to 77% of all responses; after undertaking the education, the top five responses represented a higher proportion of all responses, specifically, 49% to 86% of the total responses.

The third question required participants to list the internal factors that may make patients prone to falls. There were changes in the types, number, order, and frequency of responses provided pre- and post-education. Prior to the education the types of responses included cognitive deficits, weakness, impaired mobility and visual impairments. After the educational program, the types of responses increased from four to eight. When compared to the types of responses provided prior to education, additional types of responses noted on posttest included, a history of falls, medicines, age, and gender. Weakness moved down to position three, impaired mobility to position 5, and visual impairment to position 6 with their initial positions being taken by history of fall, weakness, and medicines, respectively. Prior to the educational program, the top four responses represented 23% to 74% of all responses; after receiving the education, the top four responses represented 66% to 91% of all responses.

The fourth question sought to establish the external factors that may make patients prone to falls. The top five responses remained the same pre- and post-education and included wet floors, poor lighting, inappropriate use of side rails, clutter, and obstacles. However, the overall proportion of the sample represented by the top five responses and

the order of frequency in some responses changed. Before receiving education, the top five responses represented 23% to 77% of all responses; after receiving the education, the top five responses represented 43% to 83% of all responses. Clutter and obstacles rose from position five to position two, with poor lighting moving down from position two to position five.

The fifth question required the participants to list possible interventions to prevent falls. There were no changes in the top five responses before and after education, and responses included restraints, alarms, appropriate use of side rails, staff education and regular checks on patients. However, the overall proportion of the sample represented by the top five responses and the order of frequency in some responses changed. Before the education program, the top five responses represented 14% to 69% of all responses; after the education program, the top five responses represented 34% to 80% of all responses.

There were responses that the participants gave on question one and two on the pretest that they provided rationale for; however, these were not evidenced based responses, which clearly reflected lack of understanding. For the posttest, those responses were no longer there which demonstrated an improvement. The changes in response on the posttest were as a result of the education provided. The content of the education given included risk factors for falls, internal and external risk factors for falls, performing falls risk assessment, effects of patient falls, fall prevention strategies, hourly rounding using the 4Ps, and multicomponent fall prevention approach.

Implications for Practice

Initiating fall prevention strategies in healthcare facilities is essential in reducing the adverse health and emotional effects that result from patient falls. To be able to put the necessary preventive measures in place, nurses need to have knowledge of the most effective evidence-based fall prevention strategies. The findings of this project indicate that before the educational sessions nurses in the local LTC facility lacked adequate knowledge of the effects of falls, the assessment of patients for risk of falling, and evidenced-based fall prevention strategies. After the education sessions, there was evident improvement in knowledge of all of these areas of practice, indicating the success of the educational program.

Using evidence-based guidelines, I was able to develop an educational program that can be used to improve care. Incorporating this education project into nursing practice may promote the application of evidence-based research by providers, thus improving care for older adult patients. The success linked to this program in improving caregivers' knowledge of falls prevention may inspire health professionals and management to undertake more evidence-based projects in the future.

Implications for Social Change

This project may also have a positive social change. Patients who experience falls are often affected emotionally, and have their confidence in medical providers may be diminished. According to CDC (2017), falls affect the psychological, physical, and emotional state of patients, families, and caregivers. The fall prevention education program has been demonstrated to bring about positive social change as nurses have

increased knowledge of fall prevention. The information gained through the learning sessions can be used to enhance the well-being of the community by ensuring that no patient suffers any emotional or physical harm from falling. In addition, the impact of the program can improve patient-provider relationships through increased trust between both parties. The improvement in patient outcomes can enhance the facility's reputation to the public, hence encouraging more community members to seek health services.

Recommendations

The DNP project increased knowledge among nursing staff in the local LTC facility. I would recommend its expansion to other local facilities and its implementation as part of the annual competency training programs. To ensure sustainability, it would be important to identify a champion who will ensure that the elements of the program are carried on in the future. According to Miech et al., (2018), change champions are crucial in the successful implementation and sustainability of EBP. I would also recommend the use of the Falls Staff Survey because there is no instrument available to specifically measure the knowledge of fall risk among nurses working in LTC facilities.

Recommendation for Future Projects

I would recommend that further evaluation of this project occur in the future by examining its impact on fall rates in the institution. This way, it would be revealed whether the knowledge acquired through the training is being put into practice and if it has an influence on patient fall rates. Also, fall rates data should be collected and reported using the NDNQI monthly for 12 months prior to the education program and 12 months after the education program to compare the trend.

Contribution of the Doctoral Project Team

The DNP project team included the staff educator, the nurse supervisor, the assistant director of nursing and the director of nursing. The nurse educator helped with the problem identification as well as the establishment of the necessary intervention to solve the issue of patient falls. The nurse educator was responsible for teaching the nursing staff about the key components and processes fall risk assessment and the multicomponent fall prevention strategies. As the project manager, I played the role of guiding the staff education and worked in collaboration with the rest of the team members to ensure that the project was running smoothly. I evaluated the evidence, developed the educational materials, and analyzed the data; I also set up regular meetings with the project team, at least twice every week, to share the major information, evidence and project milestones. Scheduled based on urgency and importance of identified issues, the meetings provided opportunities for each team member to share ideas, opinions, and expertise relative to the DNP project.

Strengths and Limitations of the Project

Strengths

The strengths of this project emanate from the use of evidence-based research to develop the education program. EBP is one of the crucial competencies for all healthcare professionals as it offers an opportunity for providers to improve practice and add value to the patient experience (Dang & Dearholt, 2017). The project also involved a team of clinically experienced and knowledgeable nurses who were able to add their expert opinion into developing a comprehensive education program. The Nurse Educator and

Nurse Supervisor were consistently involved and available to offer guidance and showed interest in the project progress. As a result, the education program has a likelihood of being incorporated into the annual education program in the future.

Limitations

The main limitation of this DNP project was obtaining the sources of evidence-based research and analyzing them to come up with the best evidence. Specifically, the project team was unable to review every research article published on the topic in recent years because the number of articles is large, and an exhaustive review would have been prohibitive to the completion of this project. Thus, the project team chose those articles that were most relevant to the project setting and patient population. A second limitation of this DNP project is that it was carried out in one LTC facility. As a result, its findings may not be generalized to other facilities within the region or across the country. Another limitation was that there were no valid and reliable instruments to measure nurses' knowledge of fall prevention strategies among nurses working in LTCs. Therefore, the Falls Staff Survey may have been insufficient to measure the full scope of their understanding of the topic.

Section 5: Dissemination Plan

Introduction

Falls among geriatric patients are a major health issue, adding to the burden of healthcare increased cost and lengthy hospital stays. However, providing education to nurses can improve their knowledge of assessment for risk of falls and incorporation of prevention strategies. Dissemination of the EBP project findings will promote their access to a wider audience and assist in expanding nurses' awareness of fall prevention in patient care (Wilson et al., 2010).

After development of the education program, all nurses in the local LTC facility received training on risk assessment for falls and how to intervene to ensure patient safety. The nurse educator and nurse supervisor were part of the team that oversaw the delivery of the education to participants for over a period of four weeks. Results demonstrated that the education program had a positive effect on improving the nurses' knowledge level. The pretest and posttest results indicated increased understanding and awareness of multifactorial fall prevention strategies, an effect that can be fully confirmed through further research on fall rates in the facility.

Dissemination Plan

As outlined in the essentials of the DNP, dissemination of results and findings from EBP and research is vital in the improvement of health outcomes (American Association of Colleges of Nursing, 2006). Dissemination is defined as the planned and systematic process that involves the identification of target audiences and the environments in which the findings of the project will be received (Wilson et al., 2010).

Dissemination can also entail the consideration of the ways to correspond and interact with the wider community of healthcare providers and policy audiences to promote the adoption of research findings into practice. It would be crucial for healthcare professionals and the public to recognize the importance of fall prevention strategies among those at high risk of falls.

I will present the results of this DNP project to the facility nurses to enable them to see the impact of the education program on knowledge improvement. As the key stakeholders in the implementation of fall prevention strategies, the staffs need to understand the benefits linked to the adoption of the program (Pandi-Perumal et al., 2015). Other medical professional may benefit from this information as well. For example, some medications have been associated with falls (Pandi-Perumal et al., 2015), and this information would be valuable to physicians when prescribing medications to older adult patients. The project results can be presented during the weekly continuous medical education (CME) sessions and major ward rounds within the facility. Also, the findings will be presented to the supervisors and directors of the local LTC facility in a monthly performance meeting since they played an important role in overseeing project approval and are in a position to integrate the educational program in their annual education program. Additional dissemination plans include submitting abstracts for poster presentations during the annual fall prevention conferences throughout the country.

Self-Analysis

As Scholar

As a scholar, I have learned to use evidence-based research findings to enhance nursing practice and achieve improve patient care. Through my determination and perseverance in completing the DNP project, I have been able to deepen my leadership and research skills and the ability to contribute to the growing field of nursing. I believe that one of the areas of professional skills that I can strengthen is to evaluate the quality of published research studies by participating in protocol development committee in my facilities.

As Practitioner

My passion for promoting patients' wellbeing as a nurse led me to choose the topic of fall prevention for my DNP project. As an advanced nurse practitioner, one of my many practice objectives is to improve knowledge among nurses. As the project developer, one of the main challenges I faced was leading others and giving directions. Effective leadership is an important aspect of promoting staff development and ensuring the delivery of quality care for patients. Through my undertaking of this program, my experience, and knowledge have increased greatly. Therefore, I can state that the completion of this DNP program has assisted me to become a better nurse practitioner and an effective leader.

As Project Manager

As the project manager, I faced some challenges in developing and completing this project. First, I had a difficult time effectively managing the time for the various

project activities. However, I was able to come up with a written time plan that helped in resolving the time management issue effectively. The team members were very supportive, and their advice was invaluable. The Nurse supervisor and Nurse educator provided much help in project planning. Being experienced leaders and practitioners, they were able to step in and help make effective decisions where I faced challenges, especially at the beginning of the project. There was no issue with the meetings since the facility's staff lounge, was readily available.

Summary

Across the globe, falls among geriatric patients are a major issue in patient care. Falls not only decrease the quality of life among people in this population but also cause physical, mental, and emotional trauma to the victim. Within the local LTC facility, there were several cases of patient falls, linked to a lack of knowledge of multicomponent fall prevention strategies among nurses. To address this problem, I developed an education program using evidence-based research findings. The objective of the program was to train staff on the fall risk assessment and implementation of multifactorial fall prevention strategies. My goal in this project was to demonstrate that the use of an evidence-based education program on multicomponent fall prevention strategies among the elderly can improve the nurses' knowledge of the issue.

This project was effective in improving the nurses' knowledge of falls risk assessment and the implementation of a variety of interventions to prevent falls. The main challenge faced during the project was effective time management, which was successfully resolved using an activity timeline. Stakeholders within the organization,

including administrators and the nurse educator were particularly valuable in accomplishing the project objectives. I hope that the implementation of the project in other local facilities can succeed with the support of pertinent stakeholders. To promote the sustainability of this project, it would be essential for nurse educators and nurse supervisor to uphold ongoing education sessions. I would recommend an expansion of this project to investigate the impact of the knowledge acquired through the program on the reduction of fall rates within the facility over time.

References

Abraham, M., & Cimino-Fiallos, N. (2017). Falls in the geriatric patients: Causes, injuries, and management. *Medscape*. Retrieved from https://reference.medscape.com/features/slideshow/falls-in-the-geriatric patients

Agency of Healthcare Research and Quality. (2013, January). *Preventing falls in hospitals: A toolkit for improving quality of care* (AHRQ Publication No. 13-0015-EF). Retrieved from https://www.ahrq.gov/sites/default/files/publications/files/fallpxtoolkit.pdf

American Association of Colleges of Nursing. (2006). *The essentials of doctoral education for advanced nursing practice*. Retrieved from https://www.aacnnursing.org/Portals/42/Publications/DNPEssentials.pdf

American Nurses Association. (2013). *Implementing the nursing process to obtain better outcomes.* Retrieved from http://www.nursingworld.org/What-is-Nursing/ToolsYou Need/Thenursingprocess.html

Armola, R. R., Bourgault, A. M., Halm, M. A., Board, R. M., Bucher, L., Harrington, L., & Medina, J. (2009). AACN levels of evidence: What's new? *Critical Care Nurse*, *29*(4), 70-73. Doi:10.4037/ccn2009969

Boswell, C., & Cannon, S. (2015). *Introduction to nursing research*. Burlington, MA: Jones & Bartlett.

Cameron, I. D., Dyer, S. M., Panagoda, C. E., Murray, G. R., Hill, K. D., Cumming, R. G., & Kerse, N. (2018). Interventions for preventing falls in older people in care

facilities and hospitals. *Cochrane Database for Systematic Reviews, 2012*(12). doi: 10.1002/14651858.CD005465.pub3

Centers for Disease Control and Prevention (2016a). *About CDC's STEADI initiative*. Retrieved from https://www.cdc.gov/steadi/about.html

Centers for Disease Control and Prevention (2016b). *Keep them STEADI: Preventing older adult falls in hospital-based settings*. Retrieved from https://www.cdc.gov/steadi/stories/hospital.html

Centers for Disease Control and Prevention. (2017). *Important facts about falls*. Retrieved from https://www.cdc.gov/homeandrecreationalsafety/falls/adultfalls.html

Centers for Disease Control and Prevention. (2019a). *Falls data: Costs of older adult falls.* Retrieved from https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html

Centers for Disease Control and Prevention. (2019b). STEADI – *Stopping elderly accidents, deaths & injuries.* Retrieved from https://www.cdc.gov/steadi/index.html

Centers for Disease Control and Prevention. (2019c). *Falls data*. Retrieved from https://www.cdc.gov/homeandrecreationalsafety/falls/fallcost.html

Centers for Disease Control and Prevention. (2020). *Nursing homes and assisted living (long-term care facilities [LTCFs]).* Retrieved from: https://www.cdc.gov/longtermcare/index.html

Centers for Medicare and Medicaid Services. (2014). Hospital-acquired conditions present on admission indicators. Retrieved from https://www.cms.gov/Medicare/Medicare-Fee-for-Service Payment/Hospital/ind.html

Cooper, R. (2017). Reducing falls in a care home. *BMJ Quality Improvement Reports*, *6*(1), 2-6. doi: 10.1136/bmjquality. u214186.w5626.

Curley, A., & Vitale, P. (2012). *Population-based nursing: Concepts and competencies for advanced practice*. Salt Lake: Springer Publishing.

Dang, D., & Dearholt, S. (2017). *Johns Hopkins nursing evidence-based practice: Model and guidelines* (3rd ed.). Indianapolis, IN: Sigma Theta Tau International

Deitrick, L. M., Baker, K., Paxton, H., Flores, M., & Swavely, D. (2012). Hourly rounding: Challenges with implementation of an evidence-based process. *Journal of Nursing Care Quality*, *27*(1), 13-19. doi: 10.1097/NCQ.0b013e318227d7dd

Dhargave, P., & Sendhilkumar, R. (2016). Prevalence of risk factors for falls among geriatric patients' people living in long-term care homes. *Journal of Clinical Gerontology and Geriatrics*, *7*(3), 99-103. https://doi.org/10.1016/j.jcgg.2016.03.004

Eckstrom, E., Parker, E. M., Lambert, G. H., Winkler, G., Dowler, D., & Casey, C. M. (2017). Implementing STEADI in academic primary care to address older adult fall risk. *Innovation in Aging*, *1*(2). 12-18. doi: 10.1093/geroni/igx028.

Estupinan, A., Lord, M., Crumblish, H., & Risher, C. (2018). Fall prevention: A deliberative nursing process. *Journal of Gerontology & Geriatric Research*, *07*(05), 12-16 doi: 10.4172/2167-7182.1000487.

Feinsod, F. M., Capezuti, E.A., & Felix, V. (2005). Reducing fall risk in long-term care residents through the interdisciplinary approach. *Annals of Long-term Care*, *13*(7), 24–33.

Forde-Johnston, C. (2014). Intentional rounding: A review of the literature. *Nursing Standard*, *28*(32), 37-42. doi:10.7748/ns2014.04.28.32.37.e8564

Freeman, S., Bishop, K., Spirgiene, L., Koopmans, E., Botelho, F. C., Fyfe, T., ... & MacLeod, M. (2017). Factors affecting residents' transition from long term care facilities to the community: a scoping review. *BMC Health Services Research*, *17*(1), 689. https://doi.org/10.1186/s12913-017-2571-y

Goodwin, V. A., Abbott, R. A., Whear, R., Bethel, A., Ukoumunne, O. C., Thompson-Coon, J., … Stein, K. (2014). Multiple component interventions for preventing falls and fall-related injuries among older people: systematic review and meta-analysis. *BMC Geriatrics*, *14*(1), 12-18. doi: 10.1186/1471-2318-14-15.

Heck, J., Gebhart, A., & Gaehle, K. E. (2015). Accountability and teamwork: Tools for a fall-free zone. *Nursing Management*, *46*(1), 40–45. https://doi.org/10.1097/01.NUMA.0000456655.25274.64

Hill, A. M., Waldron, N., Francis-Coad, J., Haines, T., Etherton-Beer, C., Flicker, L., … & McPhail, S. M. (2016). 'It promoted a positive culture around falls prevention':

staff response to a patient education programme - A qualitative evaluation. *BMJ Open, 6*(12), e013414. doi:10.1136/bmjopen-2016-013414

Jensen, J., Lundin-Olsson, L., Nyberg, L. & Gustafson, Y. (2002). Fall and injury prevention in older people living in residential care facilities. A cluster randomized trial. *Annals of Internal Medicine 136 (*10), 733-741. https://doi.org/10.7326/0003-4819-136-10-200205210-00008

Johns Hopkins Medicine. (2017). *Johns Hopkins Nursing Evidence-Based Practice Model.* Retrieved from https://www.ijhn-education.org/node/17833

Jones, T. (2016). Outcome measurement in nursing: Imperatives, ideals, history, and challenges. *OJIN: The Online Journal of Issues in Nursing*, *21*(2). doi: 10.3912/OJIN.Vol21No02Man01

Leverenz, M. D., & Lape, J. (2018). Education on fall prevention to improve self-efficacy of nursing staff in long term care: A pilot study. *Internet Journal of Allied Health Sciences and Practice, 16*(3), 6

Lewin, K. (1947). Group decision and social change. In T. M. Newcomb, & E. L. Hartley. (Eds.), *Readings in social psychology*, pp. 330-344. New York, NY: Henry Holt.

LoBiondo-Wood, G., & Haber, J. (2014). *Nursing research: Methods and critical appraisal for evidence-based practice.* St. Louis, MO: Elsevier Health Sciences.

Maryland Department of Health, (2016). *Falls in older adults*. Retrieved from https://phpa.health.maryland.gov/ohpetup/Shared%20Documents/EIP-RESOURCE/FallsOlderAdults.pdf

Massachusetts General Hospital Patient Care Services. (2011). *Hourly safety rounds tool kit*. Retrieved from: https://www.mghpcs.org/eed_portal/Documents/SafetyRounds_Toolkit.pdf

Masters, K. (2014). *Nursing theories: A framework for professional practice*. Burlington, MA: Jones & Bartlett Learning.

Melnyk, B. M. (2007). The latest evidence on hourly rounding and rapid response teams in decreasing adverse events in hospitals, Fourth Quarter. *Worldviews on Evidence-Based Nursing. 4(4),* 220-223.

Melnyk, B. M., & Fineout-Overholt, E. (2015). *Evidence-based practice in nursing and healthcare: A guide to best practice*. Philadelphia, PA: Wolters Kluwer.

Miake-Lye, I. M., Hempel, S., Ganz, D. A., & Shekelle, P. G. (2013). Inpatient fall prevention programs as a patient safety strategy a systematic review. *Annals of Internal Medicine*, *158*(5 Part 2), 390–396. doi: 10.7326/0003-4819-158-5-201303051-00005

Miech, E. J., Rattray, N. A., Flanagan, M. E., Damschroder, L., Schmid, A. A., & Damush, T. M. (2018). Inside help: An integrative review of champions in healthcare-related implementation. *SAGE Open Medicine. 6, 2-6.* 2050312118773261. doi:10.1177/2050312118773261

Mitchell, M. D., Lavenberg, J. G., Trotta, R., & Umscheid, C. A. (2014). Hourly rounding to improve nursing responsiveness: A systematic review. *The Journal of Nursing Administration, 44*(9), 462–472.

National Center for Patient Safety. (2019). *Falls in the veterans' health administration*. Retrieved from https://www.visn8.va.gov/VISN8/PatientSafetyCenter/03072019_Neily_Falls.pdf

National Database of Nursing Quality Indicators. (n.d.). *NDNQI nursing-sensitive indicators*. Retrieved from https://nursingandndnqi.weebly.com/ndnqi-indicators.html

Nitz, J., Cyarto, E., Andrews, S., Fearn, M., Fu, S., Haines, T. …. Robinson, A. (2014). Outcomes from the implementation of a facility-specific evidence-based fall prevention intervention program in residential aged care. *Geriatric Nursing 33*, (1), 41-50. https://doi.org/10.1016/j.gerinurse.2011.11.002

Oliver, D., Britton, M., Seed, P., Martin, F. C., & Hopper, A. H. (1997). Development and evaluation of evidence-based risk assessment tool (STRATIFY) to predict which elderly inpatients will fall case-control and cohort studies. *British Medical Journal*, *315*(7115), 1049-1053.

Pandi-Perumal, S. R., Akhter, S., Zizi, F., Jean-Louis, G., Ramasubramanian, C., Edward Freeman, R., & Narasimhan, M. (2015). Project stakeholder management in the clinical research environment: How to do it right. *Frontiers in Psychiatry*, *6*, 71. doi:10.3389/fpsyt.2015.00071

Peterson, M. H., Barnason, S., Donnelly, B., Hill, K., Miley, H., Riggs, L., . . . Whiteman, K. (2014). Choosing the best evidence to guide clinical practice: Application of AACN levels of evidence. *Critical Care Nurse*, *34*(2), 58-68.

Quigley, P. A. (2016). Evidence levels: Applied to select fall and fall injury prevention practices. *Rehabilitation Nursing*, *41*(1), 5-15. https://doi.org/10.1002/rnj.253

Quigley, P. (2015). Focus on falls prevention: We've made gains in preventing falls, but more work remains. *American Nurse Today, 10*(7), 27-39. https://www.myamericannurse.com/wp-content/uploads/2015/07/ant7-Falls-630_Remains.pdf

Quigley, P., & White, S. (2013). Hospital-based fall program measurement and improvement in high reliability organizations. *The Online Journal of Issues in Nursing*, *18*(2), Manuscript 5. doi:10.3912/OJIN.Vol18No02Man05.

Saba, V. K., & McCormick, K. A. (2015). *Essentials of nursing informatics*. New York, NY: McGraw-Hill.

Seys, D., Wu, A. W., Gerven, E. V., Vleugels, A., Euwema, M., Panella, M. & Vanhaecht, K. (2012). Health care professionals as second victims after adverse events. *Evaluation & the Health Professions, 36*(2), 135-162. doi:10.1177/0163278712458918

Shorr, R. I., Chandler, A. M., Mion, L. C., Waters, T. M., Liu, M., Daniels, M. J. & Miller, S. T. (2012). Effects of an intervention to increase bed alarm use to prevent falls in hospitalized patients: a cluster randomized trial. *Annals of Internal Medicine*, *157*(10), 692-699. https://doi.org/10.7326/0003-4819-157-10-201211200-00005

Terry, A. J. (2012). *Clinical research for the Doctor of Nursing practice.* Sudbury, MA: Jones & Bartlett Learning.

U.S Bureau of Labor Statistics, (2019). *Nurse anesthetists, nurse midwives and nurse practitioners: Job outlook*. Retrieved from https://www.bls.gov/ooh/healthcare/nurse-anesthetists-nurse-midwives-and-nurse-practitioners.htm#tab-6

U.S Census Bureau, (2019). *Quick Facts: Bowie city, Maryland*. Retrieved from https://www.census.gov/quickfacts/bowiecitymaryland

U.S. Department of Veterans Affairs, National Center for Patient Safety. (2019). *Preventing falls and fall related injuries s in the Veterans' Health Administration*. Retrieved from https://www.visn8.va.gov/VISN8/PatientSafetyCenter/03072019_Neily_Falls.pdf

U.S. Prevention Services Task Force. (2018). *Falls prevention in community-dwelling older adults: Interventions*. Retrieved from https://www.uspreventiveservicestaskforce.org/Page/Document/falls-prevention-in-older-adults-interventions1

Vespa, (2018). *The U.S joins other countries with large aging populations*. U.S. Census Bureau. Retrieved from https://www.census.gov/library/stories/2018/03/graying-america.html

Weil, T. P. (2015). Patient falls in hospitals: An increasing problem. *Geriatric Nursing, 36*(5), 342–347. doi: 10.1016/j.gerinurse.2015.07.004

Williams, B., Young, S., Williams, D. & Schindel, D. (2011). Effectiveness of a fall awareness and education program in acute care. *Journal for Nurses in Staff Development, 27*(3):143-147.

World Health Organization (2016). *Falls fact sheet*. Retrieved from http://www.un.am/res/Library/PublicationsFact%20Sheets/Fact%20sheet_WHO_eng.pdf

Zaccagnini, M. E., & White, K. W. (2011). *The Doctor of Nursing practice essentials: New model for advanced practice nursing.* Sudbury, MA: Jones and Bartlett Publishers.

Zhao, Y., Bott, M., He, J., Kim, H., Park, S., and Dunton, N. (2019). Evidence on fall and injurious fall prevention interventions in acute care hospitals. *Journal Of Nursing Association, 49*(2), 86-92.

Appendix A: Falls Staff Survey

I used Williams et al.'s (2011) Falls Staff Survey in my project. The survey is as follows:

1. List three possible effects of falls on acute care hospitals

   i……...……..……...

   ii…….....……..……

   iii…….....……

2. List three possible effects of falls on patients

   i…….....…….…….……

   ii…….....……..……...

   iii…….....…….

3. List three internal factors that may make a patient prone to fall

   i…….....…….……...

   ii…….....…….....

   iii…….....…….

4. List three external factors that may make a patient prone to fall

   i…….....……...….……

   ii…….....……...…….

   iii…….....…….……..

5. List five possible interventions to prevent falls

   i.…….

   ii…….……

   iii……

   iv……

   v.....……

Appendix B: Permission to Use the Falls Staff Survey

Beverly Williams <beverly.williams@ualberta.ca>
Tue 11/5/2019 7:43 PM
Olivia Anaele-Nwogu

Hi Olivia,
Thank you for contacting me - I am now retired. Please go ahead and use the scale for your own research.
Bev.
Sent from my iPad

Olivia Anaele-Nwogu
Tue 11/5/2019 7:24 PM
beverly.williams@ualberta.ca

Dear Dr. Williams,
I am an Adult Nurse Practitioner student at Walden University Minneapolis Minnesota. I am writing to request your permission to the Fall Staff Survey (FSS) which you developed in my research study which is a requirement for the Doctor of Nursing Practice. The FSS will help me tremendously to accomplish this.

Thanks, in anticipation of your approval.

Yours truly,

Anaele-Nwogu, Olivia

Appendix C: Educational Presentation

MULTICOMPONENT FALL PREVENTION APPROACH: AN EDUCATIONAL PROGRAM

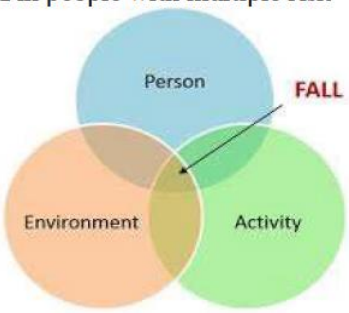
Prepared by:
Olivia Anaele-Nwogu

Definition of fall

- A patient fall is defined as an unplanned descent to the floor with or without injury to the patient (AHRQ, 2013b).
- In patient care, the term refers to loss of upright position that results in landing on the floor, ground, or an object or furniture, or a sudden, uncontrolled, unintentional, non-purposeful, downward displacement of the body to the floor or another object like a chair or stair.
- It excludes falls resulting from violent blows or other purposeful actions (National Center for Patient Safety, 2019).

RISK FACTORS FOR FALLS

- Risk factors for falls can be broadly classified into two categories: internal factors and external factors.
- However, most falls are often as a result of dynamic interaction of risks in both categories.
- The risk of fall is increased in people with multiple risk factors.



Internal Risk Factors for Falls

- **History of fall**: People with a history of fall are more likely to fall in future.
- **Cognitive deficits**: Dementia and other conditions that impair a patient's mental status increase their risk of fall.
- **Medication**: Patients on drugs like benzodiazepine, digoxin, psychotropics, diuretics, sedatives, or more than four medications are at higher risk of falls.
- **Age**: The risk of fall increases with age. Patients between 60 and 74 years are at higher risk of fall (Amatullah et al., 2016)
- **Gender**: Among the elderly, women are more likely to fall than men.
- **Impaired mobility**: Gait deficit, orthopaedic abnormality, balance deficit, decreased muscle power and the use of an assistive device
- **Medical conditions**: Cardiovascular disease, arthritis, diabetes, depression, dizziness, and incontinence.
- **Vision impairments**: Visual acuity, visual field, cataract, macular degeneration, and glaucoma all contribute to risk of falls

External Risk Factors for Falls

- The risk of fall can be increased by certain environmental factors including:
  - Poor lighting, wet/slippery floors, and uneven surfaces.
  - Inappropriate assistive devices and walking aids.
  - Inappropriate footwear and clothing

Performing Falls Risk Assessment

- Nurses should consider performing a fall risk assessment in the following situations:
- In general acute care settings on admission
- On transfer from one unit to another,
- Significant change in a patient's condition, or after a fall.
- For patients with longer lengths of hospitalization, it is advisable to perform risk assessment at regular interval (AHRQ, 2013c).

Performing Falls Risk Assessment

- **History of falls:** Does the patient have history of fall(s) in the past 3 months?
- **Mobility problems and use of assistive devices:** Does the patient have problems with gait or in need of an assistive device?
- **Medications:** Is the patient on multiple prescription drugs or medicines that could cause impaired balance, sedation, confusion, or orthostatic blood pressure changes?
- **Mental status:** Does the patient have dementia, delirium, psychosis ,agitation or confusion?
- **Continence:** Does the patient have frequent toileting needs?
- **Other patient risks:** Impaired visions, tethered to IV pole, orthostatic hypertension.
- (AHRQ, 2013b).

EFFECTS OF FALLS

- Falls result in negative outcomes both for patients and hospitals (King, 2016).
- They affect the quality of care and can have serious consequences for the institution.
- Depreciated quality of life costs estimated at $162 billion encompass diminished quality of life, days absent from work, incapability to accomplish household work and restriction in earning power.
- By 2040, economic global expenditures for fall-related injuries are projected to be approximately $240 billion (Ott, 2018).

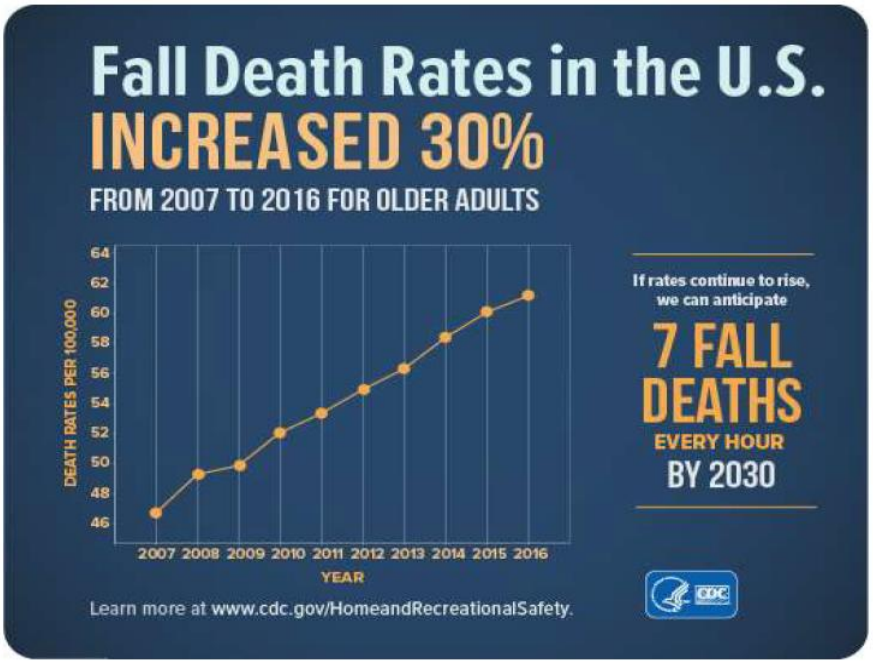
Effects of Patient Falls for The Hospital

- *Increased workload*: Falls in hospital are associated with longer length of stay, readmissions and poor outcomes.
- They increase the mean nursing care time per patient day
- *Costs of longer stay*: Longer length of stay and poor outcomes require additional resources which can be costly.
- *Lawsuits:*
- Damage to institutional reputation:

Effects of Patient Falls for The Patient

- Falls have various effects on the patient including;
- *Injuries/Fractures*: 20-30% of those who fall suffer moderate to severe physical injuries including fractures, breaks, cuts, and bruising.
- Falls often result in long-term pain and reduced mobility and independence
- They can prolong hospital stay for the patient.
- *Morbidity and mortality*: Falls involving a hip fracture lead to 10-15% reduction in life expectancy

(King, 2016; Ott, 2018; Slade et al., 2017)



FALL PREVENTION STRATEGIES

- Fall prevention may be optimized by interventions targeting multiple risk factors in each patient.
- Nurses should consider health assessment of at-risk older patients so as to initiate targeted interventions for deficit areas.
- The effectiveness of group-based exercise, pharmacological therapy, and hazard modification for fall prevention in institutional settings among patients with no history of falls is unknown (Gillespie et al., 2019).

Hourly Rounding

- Hourly rounds are an opportunity to ensure that:
  - Universal fall precautions are implemented
  - Patients' needs are being met.
- These rounds combine fall prevention activities with the rest of a patient's care.
- It involves hourly visits between 6 a.m. and 10 p.m. and visits every 2 hours between 10 p.m. and 6 a.m. (AHRQ, 2013a).

Hourly Rounding- The 4Ps

- Assess for **pain**
- Offer toileting assistance (**Potty**) and correct footwear
- Ensure patient is in comfortable **position**
  - Bed in locked position
- Ensure patients' **possessions** are within reach:
  - Call light
  - Bedside table
  - Telephone
  - TV remote control and bed light switch
  - Garbage

Hourly Rounding

- Before leaving:

1. Ask the patient:

- "Is there anything I can do for you before I leave?"

2. Tell them:

- A nurse will be back to check on them in an hour.
- (AHRQ, 2013b)

Multicomponent Fall Prevention Approach

- A **fall prevention** strategy that targets the spectrum of **risk** factors.
- Multicomponent fall prevention approach produces measurable improvement in **fall** rates and rates of patient harm (France et al., 2017).
- Multi-component interventions tailored to individual's needs have consistently been shown to reduce falls for older adults (Stubbs et al., 2015).

References

- Agency of Healthcare Research and Quality. (2013). Preventing falls in hospitals: A toolkit for improving quality of care. In making healthcare safer II. Retrieved from http://www.ahrq.gov/research/ltcfallpxtoolkit/index.htm
- AHRQ, (2013). *Preventing falls in hospitals*. Retrieved fromhttps://www.ahrq.gov/professionals/systems/hospital/fallpxtoolkit/fallpxtk-tool3c.html
- France, D., Slayton, J., Moore, S., Domenico, H., Matthews, J., Steaban, R. L., & Choma, N. (2017). A multicomponent fall prevention strategy reduces falls at an academic medical center. *The Joint Commission Journal on Quality and Patient Safety*, *43*(9), 460-470.
- King, B., Pecanac, K., Krupp, A., Liebzeit, D., & Mahoney, J. (2018). Impact of fall prevention on nurses and care of fall risk patients. *The Gerontologist*, *58*(2), 331-340.
- Ott, L. D. (2018). The impact of implementing a fall prevention educational session for community-dwelling physical therapy patients. *Nursing open*, *5*(4), 567-574.
- Slade, S. C., Carey, D. L., Hill, A. M., & Morris, M. E. (2017). Effects of falls prevention interventions on falls outcomes for hospitalised adults: protocol for a systematic review with meta-analysis. *BMJ open*, *7*(11), e017864.
- Stubbs, B., Brefka, S., & Denkinger, M. D. (2015). What works to prevent falls in community-dwelling older adults? Umbrella review of meta-analyses of randomized controlled trials. *Physical therapy*, *95*(8), 1095-1110.