DNP Scholarly Projects   Nursing Student Work

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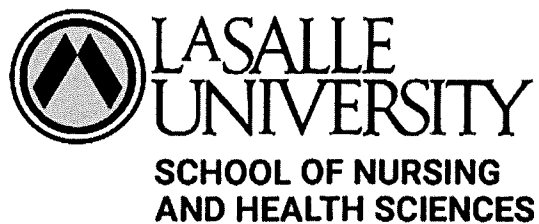# Effectiveness of an Instructional Program on Decreasing Fall Incidents in Geriatric Patients with Psychiatric Disorders

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Title of Doctor of Nursing Practice Project:

Effectiveness of an Instructional Program on Decreasing Fall Incidents in Geriatric Patients with Psychiatric Disorders

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Submitted in partial fulfillment of the requirements for the Degree of Doctor of Nursing Practice.

EFFECTIVENESS OF AN INSTRUCTIONAL PROGRAM

ON DECREASING FALL INCIDENTS IN GERIATRIC

PATIENTS WITH PSYCHIATRIC DISORDERS

A Doctor of Nursing Practice Project

Presented to the Faculty of the

School of Nursing and Health Sciences

La Salle University

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Doctor of Nursing Practice

By

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Abstract

Falls occur in 25% of older adults, resulting in over 8 million fatal and nonfatal injuries. In addition to the human suffering, associated medical and legal costs amount to over 50 billion dollars a year. This study examines the impact on fall rates of an evidence-based fall prevention program provided to a multidisciplinary staff on a psychogeriatric unit in Philadelphia, Pennsylvania. Staff knowledge of effective fall prevention interventions was measured before and after their participation in an evidence-based instructional workshop provided by the Project Director using the Falls Prevention Knowledge Test by Dykes et al. (2019). While there were not statistically significant differences in levels of knowledge about fall prevention, the actual number of falls decreased. Implications of findings for discipline-specific and future fall prevention efforts are discussed.

Keywords: falls, older psychiatric patients, staff education, instructional program

EFFECTIVENESS OF AN INSTRUCTIONAL PROGRAM ON DECREASING FALL INCIDENTS IN GERIATRIC PATIENTS WITH PSYCHIATRIC DISORDERS

Background and Local Problem

Falls in the elderly are a public concern related to the rate in which falls occur in this population. In the United States it is estimated that one out of every four citizens above the age of 65 will have a fall incident (CDC, 2020). Of those fall incidents it is estimated that 8 million will result in injury (CDC, 2020). Falls in the elderly are the most prevalent reason for emergency department visits with more than half of those who present having the likelihood of another fall within 12 months (Morris et al., 2019). Individuals over the age of 65 are the fastest growing population in the United States and are expected to make up 23% of the population by 2050 (Fountouk et al., 2021). Falls in individuals over the age of 65 also have extensive cost associated with these incidents. It is estimated that an average of 50 billion dollars is spent on medical costs associated with non-fatal falls, and 754 million dollars on fatal falls (CDC, 2020). This population is at a higher risk for serious injury or death after a fall when compared to younger patients with a higher percentage of injuries requiring hospitalization in the elderly (Payne et. al, 2013). Falls that occur while hospitalized in an inpatient acute setting are more prevalent than falls that occur in a general acute facility (Wong et al., 2021). The estimated falls rate per 1000 inpatient days for inpatient behavioral health is 13.1 to 25 fall incidents when compared to 3 to 5 for the general acute population (Wong et al., 2021).

Falls in a psychogeriatric inpatient setting are of great importance because of the increased likelihood for falls given multiple endogenous and exogenous contributory risk factors, including physical environment where the fall occurs, age, gender, physical capabilities, and the use of multiple medications (Fountouk et al., 2021). In a study by Blair and Szarek (2008), the relationship between falls and psychotropic medications in the psychogeriatric population was investigated. The authors found that patients over the age of 70 years were five times more likely to fall and those who were prescribed psychotropic medications were at an even higher risk (Blair & Szarek, 2008). The Beers Criteria is utilized as a guide to alert practitioners to the potential for unfavorable outcomes associated with the use of certain medications in patients sixty-five and older (Inocian et al., 2021). Specific to patients who have a history of falling, the Beers criteria suggest practitioners avoid using such medications as benzodiazepines and serotonin-norepinephrine reuptake inhibitors; which are both commonly used in psychiatry (Inocian et al. 2021).

Psychotropic medications such as benzodiazepines are consistently associated with falls in the elderly (Huang et al., 2012). In a study conducted by Park et al. (2015), several classes of psychotropic medications were deemed to be related to increased risk for falls in the elderly population. Antidepressants and hypnotics were the two classes of medications with the highest association with an increased risk for falls (Park et al., 2015).

Patients admitted to a psychogeriatric unit have a high risk for falls. Consequently, a comprehensive fall prevention program is required in order to have a reduction in incidents and decreased injury resulting from falls. For example, Feng-Rong

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et al. (2009) examined incidents of falls in an inpatient psychiatric facility and identified several interventions that could be utilized in a fall prevention program. The researchers described the interventions as follows; proactively identifying and being increasingly vigilant with patients found to be at increased risk for falls, providing a high-quality orientation for patients on the physical space of the unit, and educating patients on how to safely change positions and transition from sitting to standing (Feng-Rong et al., 2009). These interventions could be helpful in this environment as the study also identified that 89.7% of the falls that occurred during the study were related to patients attempting to stand up, get out of bed, or walk (Feng-Rong et al., 2009). Geriatric inpatient psychiatric patients may be the most vulnerable populations for falls and injuries related to falls given their diagnoses and other prevalent risk factors. In a study conducted by Beh et al (2019), the author discussed patient's insights and experience when dealing with a fear of falling. The author reported that older adults perceived their risk factors for fall as balance problems, breathlessness, reduced lower limb strength and a history of falls (Beh et al. 2019). In a study conducted by Shurman et al (2016), the author concluded that healthcare providers need to educate patients on fall prevention interventions and risk factors as an overall intervention to assist in reducing fall during hospitalization. Having an indication of what perceived factors are most important for this population will help create an intervention specific to their needs and create patient and family specific education material.

Problem Statement

The risk for falls becomes substantially greater for geriatric patients in an inpatient psychiatric setting, as older psychiatric patients have high-risk factors associated with falls (Wong et al., 2021). Developing a comprehensive fall prevention program may be vital to preventing falls and making the psychiatric milieu safer for patients (Kruscke, 2017).

Needs Assessment

The current falls prevention program may be inadequate for the needs of this vulnerable population. The facility's leadership team is exploring ways to enhance the program with the goal of decreasing the total number of fall incidents per year. Facility leadership reviews fall data monthly and discusses ways to decrease risk. In 2020 the facility had a total of 101 falls, with 28 resulting in injury. The injuries ranged from minor abrasions to fractures that required immediate medical intervention. From January 2020 to January 2021, the facility saw a decrease in the overall falls rate; however, the current administrators and clinical team members believe they can have a more robust impact by completing an in-depth review of their current plan and adding selected evidence-based strategies. The 2022 facility falls data shows that the facility had a total of 126 falls from January 2022 to December 2022. This is a 24 percent increase in the incidence of falls when compared to 2020.

The facility leaders recently conducted an analysis of institutional data related to falls and found a few trends that could be helpful in creating an evidence based psychiatric milieu-specific fall prevention plan. The analysis showed that most of the

falls occurred between the hours of 6pm to midnight. The leaders also found that patients' bedrooms were the most vulnerable location for a fall, with patients' bathrooms and hallways being the second most vulnerable locations.

Falls and injuries related to falls are reviewed by numerous healthcare regulatory agencies, including The Pennsylvania Department of Health, the Centers for Medicare and Medicaid Services, and The Joint Commission. In 2015 The Joint Commission (TJC) published a Sentinel Event Alert that pertained directly to this clinical problem. The alert was entitled "Preventing falls and fall-related injuries in health care facilities.". The purpose of the alert was to bring increased attention and awareness to falls and injuries associated with falls and educate clinicians on effective methods of prevention (TJC, 2015). Given the risk for patient harm and the regulatory and legal risk to the facility in the event of patient injury or death, it is critical for this facility to have an evidence- and theoretically-based falls prevention program that demonstrates efficacy by substantially decreasing the number of incidents over a year following the implementation of the program.

Purpose

The purpose of this project was to create an evidence- and theoretically-based falls prevention instructional program for both clinical and nursing staff in a geriatric inpatient psychiatric setting. The project utilized evidence and theoretically-based literature to create an instructional program for registered nurses, licensed practical nurses, mental health technicians, social workers, and therapists that will increase

knowledge of fall risks and prevention strategies and subsequently result in a decreased fall rate.

Project Questions

1. Is there a difference in knowledge of staff before and after an evidenced-based educational falls prevention program?

2. Does the implementation of a falls prevention educational program impact the monthly falls rate and total number of fall incidents?

Conceptual Definitions

The following definitions orient this doctoral project:

- Fall: "an unexpected event in which the participant comes to rest on the ground, floor, or lower level" (Hauer et al., 2006, p. 6). Falls are multi-factorial based on the perspective of the individual experiencing the incident. In a study by Hauer et al. (2006), multiple studies on falls were reviewed. They found multiple variations on what the definition of a fall was. Some definitions were either inclusive of all possible categories of falls or exclusive, meaning falls that *near misses* were not considered (Hauer et al., 2006).

- Instructional program: an educational intervention presenting facts, theories, and principles on risk of falls for psychogeriatric patients, causes of falls, and fall prevention and injury prevention strategies. The program is called the "Fall Awareness and Prevention Plan."

- Educational intervention: a teaching session that is structured by a teaching plan or blueprint that includes the following components: "behavioral objectives, instructional content, teaching methods and tools, time frame for teaching, and methods of evaluation" (Bastable, 2019, p. 672) that fit and are oriented in a purpose and goal.

- Interdisciplinary team: registered nurses, licensed practical nurses, mental health technicians, social workers, and therapists that will receive the education.

- Psychogeriatric Unit: Acute inpatient level of care specifically for the acute treatment of psychiatric disorders for patients typically above the age of 65 (Wong & Pang, 2019).

- Knowledge of fall prevention: The level of understanding a clinician possesses that helps to prevent or reduce damages or injuries related to falls through the utilization of evidence-based interventions (de Freitas et al., 2018).

<center>**Review of Literature**</center>

Theoretical Framework

The theoretical framework utilized to guide this DNP project initiative is the adult learning theory created by Knowles (1978). The theory proposes four principles that can be applied when considering the science of adult education (Knowles, 1978). These four principles consist of self- concept, adult learner experience, readiness to learn, and orientation to learning (Knowles, 1978). The basis of the model is to create an environment in which adult learners can process material optimally and retain the information being taught given the intricacies that come with being an adult student (Knowles, 1978).

This theory is most suitable for this research initiative because the proposed intervention is educational with the primary audience being adult clinical staff. Creating a milieu with a heightened level of falls awareness and prevention will rely heavily on the staff's ability to comprehend and utilize the evidence- and theoretically based information being taught. Creating an environment that is conducive to adult learning is paramount is ensuring that the information being presented will be utilized in the clinical setting, which in theory will result in a decrease in the falls rate for the facility.

Older adult patients in an inpatient psychiatric setting are at an increased risk for falls related to multiple risk factors inherent in this very specific patient population. The best outcomes of falls prevention strategies, according to literature, occur when a comprehensive, patient specific, and evidence- and theoretically based fall prevention program is in place in an organization. The short-term objective of this Doctor of

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Nursing Practice project is to create an instructional program structured by a teaching plan. The long-term objective of the project is to compare the fall rates for older adult patients in an acute inpatient psychiatric unit pre and post an instructional intervention with the goal of increasing awareness and knowledge about fall prevention.

Systematized Review

The initial literature review found research articles related to the conceptual definitions that were utilized. There were approximately 18,122 articles that were produced based on the keywords. The three databases utilized for the search included CINAHL, Medline, and PubMed. Keywords for the search included fall, instructional program, educational intervention, interdisciplinary team, inpatient psychiatric unit, and falls prevention program. The search criteria included peer reviewed articles between 2017 and 2022, in the English language, and in full text. There was one article that was identified and included in 2001 because of its direct correlation to this project. Seven total articles were selected based on the relevance to the project and they were appraised utilizing the Johns Hopkins Nursing Evidence Level (I-V) and Quality (A-B-C) Guide. Literature review for this project will need to be ongoing as more recent evidence and new literature becomes available.

Appraised Literature

De Carle & Kohn (2001) conducted a retrospective cohort study that was aimed at identifying risk factors associated with falls in the geriatric inpatient population. The setting of the study was a psychogeriatric inpatient unit at a Brown University's affiliated psychiatric hospital. The study looked at a total of 1894 geriatric patients between 1992

and 1995 and examined a total of 175 falls that had occurred in this population (De Carle & Kohn, 2001). The study identified several risk factors associated with falls in this population that included, female gender, electroconvulsive therapy (ECT), the use of mood stabilizers, history of cardiac arrhythmias, history of Parkinson's Syndrome, and a dementia diagnosis (De Carle & Kohn, 2001). Some of the strengths identified in this study included the sample size which included a total of 1834 men and women. The limitation to the study was that the results were specific to the psychogeriatric population and could not be applied broadly. The study also relied on incident reports as a means of tracking falls, which could mean that falls that were not reported were not counted (De Carle & Kohn, 2001).

In a study conducted by Davenport et al (2020) the authors sought to look at the knowledge, attitudes, and behaviors of emergency providers on the topic of falls prevention in geriatric patients that present to the emergency department. A survey was conducted of emergency physicians, residents, and physician assistants at a level 1 trauma center in the United States on their perceptions of fall risk and fall prevention. It was found that that most providers felt that geriatric patients should be screened for falls, should have an intervention put in place to help prevent falls, and believed that falls prevention was important; however, it was also noted that providers were not willing to spend adequate time screening patients for falls nor were they willing to spend 2-5 minutes completing a falls risk assessment (Davenport, 2020). This lack of knowledge around the importance of assessing patients for falls could be a contributing factor in growing number of fall incidents in the geriatric population. Flint et al (2020) looked at the importance of fall prevent knowledge from the perspective of the patient. The authors

conducted a study on the effectiveness of Fall Prevention Bingo to increase the knowledge of older adult patients on fall prevention. The authors determined that knowledge of falls risk behaviors increased after participating in fall prevention bingo with older adult community-based individuals (Flint et al. 2020). These types of interventions could be utilized to help educate patients on falls prevention while also creating an environment where older adults are engaged in meaningful activities. This particular intervention could be utilized in an inpatient psychogeriatric setting as a means of providing psych-educational group material that is embedded within the active treatment program.

Tiedemann et al (2021) conducted a Randomized control trial that looked at the impact of a falls prevention education program for health and exercise professionals. The study assessed 200 health and exercise professions and the impact of a 1-day educational intervention on exercise as a means to reduce falls in the elderly (Tiedemann et al., 2021). The 200 health and exercise professionals were recruited from New South Wales Australia. The study consisted of an intervention group and a waitlist group (Control group) where some participants received the intervention and others received it three months after following up was conducted with the intervention group (Tiedemann et al., 2021). The results of the study showed there was significant improvement in the knowledge, confidence, and behavior in health and exercise professionals in utilizing exercise to help reduce falls (Tiedemann et al., 2021). The strength of the study identified by the author was that the study followed strict guidelines and protocols that helped validate the results of the study (Tiedemann et al., 2021). The limitations of the study included the self-report outcome measures which the author felt could have led to

response bias. The participants in the study were more than 80% female which the author felt was also a limitation of the study (Tiedemann et al., 2021). In a similar study Thomas et al (2018) conducted a systematic review of scientific literature on the efficacy of exercise programs on reducing falls in the elderly. The review included articles that were noted to be randomized control trial studies. The study looked at multiple forms of exercise programs that were aimed at improving strength and balance (Thomas et al., 2018). The author was able to review 8 articles that met the criteria for the study and concluded that balance could be increased by utilizing different exercise programs (Thomas et al., 2018). The biggest limitation that was noted by the author included the relatively small sample sizes of some of the studies which would make it hard to apply the findings to the general community (Thomas et al., 2018).

Wong & Pang (2019) conducted a two-part study that included a retrospective review of falls data from 2016, and a comparison on 30 psychogeriatric patients and the type of falls risk assessment utilized. The setting of the study was an inpatient psychogeriatric unit at Unites Christian Hospital utilizing patient data from 2016. The study showed that patients with a dementia diagnosis and patient who were female are at an increased risk for falls (Wong & Pang, 2019). The limitation of the study included its small sample size; thus, the results could not be applied to the general community (Wong & Pang, 2019). The strength of the study included the clinical implications and recommendations that could be utilized by clinicians treating this specific population (Wong & Pang, 2019). Wong et al (2021) did a follow up study where the author compared the Morse Fall scale and the Wilson Sims Fall Risk assessment. The study looked at a total of 183 psychogeriatric patients who had all been assessed using both

tools. The Wilson Sims Fall Risk assessment tool demonstrated higher sensitivity in the psychogeriatric population. The study concluded that the Wilson tool should replace the Morse Fall Scale in the psychiatric setting (Wong et al., 2021). The strength of the study was the utilization of two evidence-based and scientifically validated tools which added to the validity of the results. The limitation of the study noted by the author was that the prevalence of fall was noted to be lower than expected. The author felt that this could have been from the use of two falls assessment tools and the increased number of interventions that could have been put in place related to increased information gathered from the patients (Wong et al., 2021).

Kruschke (2017) published and evidence based practice guideline for fall prevention in older adults. The study was not specific to psychogeriatric patients; however, it did provide several interventions that can be applied to this population when developing an educational program. The guideline included a 10-step protocol which included interventions that could be utilized to help reduce falls in the elderly (Kruscke, 2017). These steps included ensuring that all older adults are assessed for falls by a clinician at the time of admission including the utilization of an evidence-based fall assessment tool. The next steps involve analyzing the results of the assessment and a review of the patient's recent history of falling. An assessment of the patient's gait and gait abnormalities is also included and determining patient specific interventions to help prevent falls. The final step is frequent re-assessment of fall risk to ensure the plan is still working and up to date (Kruscke, 2017).

Ojo & Thiamwong (2022) conducted a systematic review of the effects of nurse led falls prevention programs on older adults. The study looked at 11 different studies

and found that nurse led falls prevention programs had a positive impact on patient outcomes (Ojo & Thiamwong, 2022). The authors found that in five of the studies both fall rates and incidents had decreased (Ojo & Thiamwong, 2022). The authors indicated several limitations to the study that included the inability to apply the findings to the general population related to the higher educational level of the majority of the participants in the included studies. The author also noted that studies not published in the English language were excluded which could have left out relevant articles (Ojo & Thiamwong, 2022).

Method

Design

The research design of this DNP scholarly project is a pre -test post-test design aimed at increasing falls knowledge among inpatient psychiatric clinical staff; as well as decreasing the falls rate and number of falls incidents on an inpatient psychogeriatric unit. The independent variable in this study will be the educational intervention administered to all participating clinical staff. The educational intervention is a 2-hour long in-person educational session to provide staff with up-to-date falls data and evidence-based information on falls prevention specific to the psychogeriatric population. The dependent variable will be the self-reported knowledge level, and the subsequent falls rate and falls incidents post intervention. A Pretest/ Posttest design was utilized to assess the self-reported knowledge level of falls prevention programs in psychogeriatric clinical staff.

Sample and Setting

The setting for this DNP scholarly project is an inpatient acute psychogeriatric unit in Southeastern Pennsylvania. The unit consist of both male and female psychiatric patients at or above the age of 55. All patients at this facility have met criteria for inpatient admission though an acute exacerbation of mental illness.

The sample included clinical staff in the facility who were invited to receive the intervention. The disciplines of the staff included registered nurses, licensed practical nurses, behavioral health technicians, social workers, allied therapist, physicians, and administrative staff. Staff who will be excluded from this project will be all non-clinical staff and facility vendors. All staff will be offered the educational intervention as a means of professional development, however those who do not wish to participate in the study will not be obligated to complete the pre and posttest. Participating staff will be provided with a numbered pre and posttest questionnaire. There are currently 94 employed staff with a status of full-time, part-time, and per diem. The goal for the project is to administer the intervention to all clinical staff during multiple 2-hour long sessions held over the period of 1 month. The primary author will be the one conducting the sessions.

Ethical Considerations

Prior to the initiation of this scholarly project, permission to conduct this research project was ascertained from both the facility leadership and corporate leadership. The facility does not have a formal IRB. After permission was granted the proposal for the DNP project was submitted to the La Salle University IRB for review and approval. All staff were invited to participate in the study with the intervention as a professional

development opportunity; however, actual participation in the study was not mandatory. Participants will be given the option to complete the pre and posttest and will be provided with a consent form should they decide to participate in the project. The pre and posttest shall be individually coded with a matching alpha-numeric code that is created by the participants. They will be asked to place this unique code on both the pre and posttest. The posttest shall be collected by the author and provided back to the participants at the conclusion of the educational program.

There is no risk for harm to patients or staff who participate in the project. There may be a perceived risk in terms of the perception of the CEO, who is also the primary author, however this will be mitigated by making the survey anonymous and participants will be able to drop out at any time. The benefit of participation is increased knowledge about evidence-based fall prevention interventions. There will be no solicitation of identifying information on the pre and posttest, thus the anonymity of the participants shall stay constant throughout the study. No patients were utilized in the study and no patient information was utilized. There is no incentive for participation in the study and no facility disciplinary action for non-participation. As the pre and posttest are anonymous only the researcher and committee chair shall have access to the data, and the actual completed surveys shall be destroyed if requested.

Instrumentation

This project utilized an evidence- based fall prevention knowledge test developed by Dykes et al (2019). This tool was developed after a systematized review was conducted to find a reliable and validated tool to test for falls prevention knowledge

(Dykes et al., 2019). The subjects completed an expert developed and reviewed fall prevention knowledge test questions (Dykes et al., 2019). Dykes et al. instrument includes 11 items on fall prevention knowledge. The exam was both statistically reliable and valid (Dykes et al., 2019). The reliability of the tool was assessed utilizing the tetrachoric coefficient and achieved a score of 0.73. The validity of each individual item was assessed and there was a significant score increase when comparing pre and posttest scores. The validation sample consisted of 105 participants and a paired t-test was conducted which yielded a t score of 7.44 and a $p<.001$. Permission for the utilization of the exam in this project was obtained from Dr. Patricia C. Dykes.

The Dykes et al. (2019) instrument is scored 1= correct and 0 = incorrect. Total scores are calculated on knowledge of fall prevention. Cronbach's Alpha coefficient was calculated in this sample on pretest and posttest.

Procedures for Data Collection

The data source for this DNP scholarly project is information gathered and analyzed from a self-report of falls prevention knowledge of multidisciplinary clinical staff in one psychogeriatric facility. The pre and posttest was administered by the author to ensure consistency. The instrument was administered before and after the educational intervention. The educational intervention was only be administered by the author to ensure consistency in the education being provided to the participants.

Responses were not linked to specific participants as the study did not ascertain any names or respective disciplines of the staff who participated. The pre and posttest shall be destroyed at the conclusion of the project.

The data collection for the second portion of this project will be direct observation through the assessment of the facility's overall fall rate and number of fall incidents for 3 consecutive months post intervention. The study compared the facility's fall rate and total number of fall incidents for April 2023 and May 2023. The project concluded in April 2023.The falls rate and number of falls incidents pre and post interventions will then be compared through direct observation of facility data from their incident reporting system.

Data Analysis

Descriptive Statistics

IBM SPSS version 28 was used to calculate statistics on knowledge items. Frequencies and percentages will be computed. The Mean, Standard Deviation, and the Min-Max will be calculated on the total scores of the pretest and posttest knowledge of participants, measured by the Fall Prevention Knowledge Test developed by Dykes et al. (2019). Cronbach's alpha coefficient will be calculated on pretest and posttest items.

April and May 2023 fall data for the facility was compared. Data was obtained from the Director of Performance Improvement.

Inferential Statistics

Pretest and posttest scores of participants' knowledge of fall prevention were compared. The statistical test utilized is the paired t-test (See table 4). This statistical test is used when the comparisons are within the same group. For this research project, only 1 group of participants has received the intervention.

The paired t-test compares total knowledge test scores before and after receiving the intervention. The efficacy of the instructional program and the determination of statistical significance will be examined by reviewing the change in pre and post test scores of the Fall Prevention Knowledge Test.

Results

Descriptive Statistics

See table 3 for the means, standard deviations, frequencies, and percentages for pretest and posttest items. In review of the posttest scores the following items reflect the 3 questions that participants got correct most often after the administration of the educational intervention:

1. A common reason why hospitalized individuals fall is that their fall prevention plan is not followed.

2. A fall risk screening scale identifies individuals who are likely to fall because they have one or more physiological problems.

3. When nurses communicate with patients about their risk of injury if they fall, this improves the likelihood that patients will follow their personalized fall prevention plan.

The following items reflect the 3 questions that participants got incorrect most often after the administration of the educational intervention:

1. Falls can be prevented in patients who are susceptible to falling because of physiological problems by providing a safe environment (e.g. clear path to bathroom, room free of clutter, good footwear).

2. The 3-step fall prevention process comprises 1) screening for fall risks, 2) developing a customized fall prevention plan, 3) completing fall prevention documentation.

3. Patient engagement in fall prevention means that the nurse completes the fall risk assessment and prevention plan and then teaches the patient about their personal fall risk factors and prevention plan.

The following 3 items reflect the questions that participants scored higher on in the posttest when compared to the pretest:

1. A common reason why hospitalized individuals fall is that their fall prevention plan is not followed.

2. A fall risk screening scale identifies individuals who are likely to fall because they have one or more physiological problems.

3. Bed and chair alarms should be activated for all patients who screen positive for being at a high risk of falling.

The following 2 items reflect the questions that participants scored lower or had no change on in the posttest when compared to the pretest:

1. Falls can be prevented in patients who are susceptible to falling because of physiological problems by providing a safe environment (e.g., clear path to bathroom, room free of clutter, good footwear).

2. Patient engagement in fall prevention means that the nurse completes the fall risk assessment and prevention plan and then teaches the patient about their personal fall risk factors and prevention plan.

See table 4 for the descriptive statistics for the total scores for the pretests and posttest. The Cronbach's Alpha score for the pretest was 0.018, and the Cronbach's Alpha score for the posttest was 0.392. The typical range for Cronbach's Alpha is 0 to 1; the closer the score is to one is indicative of the consistency within the items measured. The scores indicate that the items are not consistent.

When comparing the facilities April 2023 and May 2023 fall rates and number of incidents there was a decrease in both after the conclusion of the educational intervention. Aprils fall rate was 17.63 and the total number of fall incidents was 19. Mays fall rate was 6.82 and the total number of incidents was 8. Fall Rates are calculated by dividing the number of falls incidents by the number of patient days within a month and multiplying by one thousand. There were no facility policy changes nor practice changes that could have impacted this change in falls rate and fall incidents.

Inferential Statistics

Refer to Table 4 for Paired T-Test results. The P- value was calculated to be 0.302. This result implies that the hypothesis was not supported as the P- value was not significant. The scores for the test could be explained related to the exam being an all multiple true-false exam. Simbak et al. (2014) noted that single best answer questions are encouraged in place of multiple true-false test formats. It was also determined that the teaching plan may not have encompassed all the knowledge points from the Dykes et al. instrument as

the education tool was created utilizing the evidence-based practice guideline for fall prevention in older adults created by Kruschke and Butcher (2017).

Discussion

Overview of Project

Although the study concluded that the hypothesis that an increase in knowledge would occur after completing an educational intervention was not supported, it is the belief that education specific to fall prevention is still needed within the inpatient psychogeriatric setting. The total scores on both the pre and post exam did not show that clinicians had a good understanding of fall prevention interventions. Many of the staff scored poorly on both the pre and posttest, which perhaps indicates they did not fully comprehend the questions being asked. There was a noted decrease in the facility's fall rate and number of incidents when comparing April to May which indicates that the staff possibly understood the information that was presented and in turn utilized the interventions which yielded a safer environment for patients. This could also indicate that there is a difference between increased knowledge and changed behavior. The resulting decrease in the falls rate and number of falls incidents could indicate that the information presented refreshed previously reviewed policy, thus leading to an immediate change in clinician behavior. The educational intervention reiterated milieu and discipline specific interventions which perhaps were initiated post the intervention. The inconsistencies in the information presented and the content of the actual exam may have been contributory to the low scores achieved by the participants.

Limitations

A limitation for this study was the inability to ascertain demographic information from the participants. Given the diverse educational backgrounds of the clinical staff that participated it is unclear as to whether or not their area of expertise played a role in the comprehension of the information presented. The educational background of the participants ranged from high school diploma or equivalent to doctoral prepared clinicians. Another limitation was the educational intervention not being derived from the Falls Prevention Knowledge test created by Dykes et al. (2017). The educational intervention was created utilizing information from Kruschke and Butcher (2017). It is possible that the information presented did not encompass all of the material that is represented within the exam. This could explain why participants scored poorly on the posttest or potentially misunderstood the questions being asked. Kruschke and Butcher (2017) was chosen for this project because the contents were specific to the older adult population and more relevant for geriatric practitioners. Utilizing an exam that was specific to the information presented may have yielded more positive results.

Implications

Although the goal of this project was to increase staff knowledge, the primary reason the project came to fruition in making the milieu safer for patients. The scoring of the exams did not show a statistically significant increase in knowledge, however the immediate decrease in fall rate and incidents should be sufficient evidence to show that staff were positively impacted by attending the intervention. Also of note, there were no facility policy changes nor practice changes that could have impacted this change in falls rate and

fall incidents. The facilities Director of Nursing requested more training for the staff as he believed that staff truly benefitted from the educational session. Staff stated that information presented was relevant to their practice and thanked the presenter for increasing their awareness of this clinical concern.

Future Projects

The creation of a pre and posttest that is specific to the information provided from the educational intervention may yield different results. Also creating an exam that is not all true-false items may allow for staff to get a deeper understanding of the information presented. It would also be beneficial to collect participant demographic data to assist in identifying discipline specific knowledge deficits.

Conclusion

The creation of an evidence-based education intervention on falls prevention did not statistically increase the knowledge of the clinicians that participated. This was believed to be caused by the style of the test provided and the incongruence between the exam and the material presented during the educational intervention. Although the results did not support the hypothesis, the tangible decrease in fall incidents and fall rate could sufficient clinical evidence that the educational intervention had a positive impact on clinician behavior which in turn created a safer environment for patients. Continued education refreshers for staff on this topic will be important for the facility to keep clinicians abreast of new interventions and serve as a frequent reminder of facility policy and practice expectations.

This project will be utilized for future professional development at the facility and perhaps throughout the company. The current plan is to adapt the existing PowerPoint so that it can be utilized for initial staff orientation and annual staff compliance training. The DON of the facility felt that the intervention provided vital knowledge to staff and provides the opportunity for meaningful leadership and staff interaction. Staff were very receptive to the education and participation during the session was high. The ability to clinically connect with staff and allow for face-to-face dialogue is invaluable for facility leadership as it allows for real time problem solving and relationship building. Continuing to administer this education as an annual or semi-annual training may yield positive results for the facility and the patients they serve.

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Table 1

Search Process Results

Database	Total Articles	Articles Remaining After Title Review	Articles Remaining After Abstract Review	Articles Retrieved and Examined	Articles that fit Inclusion Criteria
CINAHL	4820	2	2	2	2
Medline	2271	0	0	0	0
PubMed	11571	5	5	5	5

Table 2

Evidence Table for Systematized Review

Database # Article	Purpose of Study	Theory / Conceptual Framework	Design	Measurement major variables	Data Analysis	Findings	Level of Research Strength
CINAHL #1 Ojo, 2022	To study the efficacy of nurse-led fall prevention programs for older adults	None	Systematic Review	The review included 6 randomized controlled trial, 2 non-randomized controlled trials, and 3 quasi-experimental designs	The Preferred Reporting Items for Systematic Review (PRISMA)	The study concluded fall prevention programs with an education component might be effective for older adults.	Level II- B
CINAHL #2 Wong, 2021	The Purpose of this study was to compare the predictive validity of the Wilson Sims Falls Risk Assessment and the Morse Fall Scale	None	The study looked at determining the predictive validity of each tool utilizing sensitivity, specificity, and positive and negative predictive values with a 95% confidence interval	The study looked 183 (90 male and 93 female) psychogeriatric patients who had fall incidents. Each was assessed utilizing both Fall risk assessment tools	The author utilized a 2x2 table as a means for comparing the data	Of the 183 patients in the study, 4 had sustained a fall while in the hospital which yielded a 2.19% prevalence. All 4 patients were classified as high risk with	Level II- B

						the WSFRAT, whereas only 2 were classified as high risk by the MFS. It was concluded that the WSFRAT is a better tool to use for psychiatric patients.	
PubMed #1 De Carle, 2001	The purpose of this study was to identify risk factors for falling in a psychogeriatric unit	None	Retrospective cohort study	All patients admitted to the Psychogeriatric between January 1992 and December 1995.	The authors utilized the Logistic regression model. Variables were entered into a stepwise logistic regression analysis if they were found to be associated with falls	A total of 1834 patients were admitted. There were 175 recorded falls yielding a fall rate of 9.5%. Using the logistic regression model that author found 6 variables that could be independently associate	Level II- A

						d with falls.	
PubMed # 2 Tiedemann, 2021	The Purpose of this study was to evaluate the effect of a fall prevention education program, compared with a waitlist control group, on health and exercise professionals fall prevention knowledge and behavior, and their confidence to prescribe exercises for older people.	None	Randomized Controlled trial	Primary outcomes were self-reported fall prevention knowledge, and change in prescribing behavior for fall prevention exercises	Data was analyzed using analysis of covariance models for continuously scored outcomes and the difference in proportions between groups	The intervention significantly improved knowledge, perceived clinical behavior, and proportion of evidence based exercise prescribed.	Level I- B
PubMed # 3 Wong, 2019	The purpose of this study was to examine factors associated with	None	Retrospective review	The study looks at 46 women and 47 men who were admitted to a psych ward. Demographi	The data was analyzed and variables were noted as being	The study showed that patients with dementia and women had a	Level II- B

	falls in psychoge riatric inpatients and to compare 2 falls risk assessme nt tools.			c data was reviewed after a fall incident.	associated with falls	higher risk for falls.	
PubMed # 4 Thomas, 2019	The purpose of this study is to conduct a systemati c review of scientific literature to identify physical activity programs aimed at increasin g balance in the elderly.	None	Systematic Review	The study included 8 manuscripts in the qualitative synthesis In the qualitative synthesis the comparison of the intervention effect between the exercise and control groups was analyzed for each study.	The Preferred Reporting Items for Systemati c Review (PRISMA)	The study assessed multiple forms of exercise programs and conclude d that balance measures in the study showed improve ment between 16% and 42% when compared to baseline assessme nts	Level I-A
PubMed # 5 Kruschke, 2017	The purpose of this article was to relay an evidence- based practice guideline \for fall	None	Evidence- based practice guideline	This practice guideline was created with the intent on decreasing falls in the elderly population. The full version of	None	The developm ent of a falls preventio n program in any setting is crucial for	Level IV- A

	prevention in older adults			the guideline is available from the Csomay Center for Gerontological excellence.		preventing falls and injuries from falls in the elderly population	

Table 3

Descriptive Statistics on Fall Prevention Knowledge Test Pre-test and Post-test Items (N = 29)

Fall Prevention Knowledge Test Items	Pretest				Posttest			
	M	*SD*	*n*	*%*	*M*	*SD*	*n*	*%*
Bedside nurses know their patients and are better than a standardized screening scale at identifying patients likely to fall. **False**	.79	.412	29	79.3	.83	.384	29	82.8
The 3-step fall prevention process comprises 1) screening for fall risks, 2) developing a customized fall prevention plan, 3) completing fall prevention documentation. **False**	.03	.186	29	3.4	.14	.351	29	13.8
A 75-year-old man with a history of recent falls and osteoporosis is admitted for severe abdominal pain. He is at greater risk for injury if he falls because of his age. **False**	.24	.435	29	24.1	.28	.455	29	27.6
A common reason why hospitalized individuals fall is that their fall prevention plan is not followed. **True**	.79	.412	29	79.3	.97	.186	29	96.6
Falls can be prevented in patients who are susceptible to falling because of physiological problems by providing a safe environment (e.g., clear path to bathroom, room free of clutter, good footwear). **False**	.07	.258	29	6.9	.03	.186	29	3.4
Patient engagement in fall prevention means that the nurse completes the fall risk assessment and prevention plan and then teaches the patient about their personal fall risk factors and prevention plan. **False**	.21	.412	29	20.7	.21	.412	29	20.7
All hospitals are different, so they should develop their own fall risk assessment forms. **False**	.48	.509	29	48.3	.59	.501	29	58.6
A fall risk screening scale identifies individuals who are likely to fall because they have one or more physiological problems. **True**	.79	.412	29	79.3	.97	.186	29	96.6
When nurses communicate with patients about their risk of injury if they fall, this improves the likelihood that patients will follow their personalized fall prevention plan. **True**	.90	.310	29	89.7	.97	.186	29	96.6

Patients at low risk for falls do not require a fall prevention plan. **False**	.76	.435	29	75.9	.79	.412	29	79.3
Bed and chair alarms should be activated for all patients who screen positive for being at a high risk of falling. **False**	.17	.384	29	17.2	.34	.484	29	34.5

Table 4

Paired T-Test Results on Pretest versus Posttest Fall Prevention Knowledge Test and Cronbach's Alpha score (N = 29)

	Mean(SD)	Min-Max	T-value	df	p	CI 95%
Pretest	5.2414 (1.29987)	0-1	.310	28	.302	LOWER -.58112
Posttest	5.1379 (1.52887)	0-1				UPPER .78802
Cronbach's Alpha Score						
Pretest: 0.018			Posttest: 0.392			

Note: CI = confidence interval

Table 5

Facility Fall rate and Incident number Comparison		
Month	**Falls Rate**	**# of Falls Incidents**
April 2023	17.63	19
May 2023	6.82	8
Fall Rates are calculated by dividing the number of falls incidents by the number of patient days within a month and multiplying by one thousand.		

Appendix A

Permission Letter

Dr. Miguel Aguilo-Seara
Chief Medical Officer
Haven Behavioral Health of Philadelphia
3300 Henry Ave
Philadelphia PA, 19129
Maguiloseara@havenllc.com

La Salle University IRB
1900 W. Olney Ave
Philadelphia Pa, 19141

To whom it may concern,

Please use this letter as my expressed written permission for La Salle University Doctoral student, Maurice Washington to complete his Quality Improvement study here at Haven Behavioral Health of Philadelphia. We just ask that Haven not be mentioned in any published material and that no staff be identified in the study.

Thank You,

Dr. Miguel Aguilo-Seara

Appendix B

Informed Consent

INFORMED CONSENT DOCUMENT TO PARTICIPATE IN RESEARCH

TITLE FOR THE INVESTIGATION: Effectiveness of an Instructional Program on Decreasing Fall Incidents in Geriatric Patients with Psychiatric Disorders

NAMES, ROLES, AND CONTACT INFORMATION OF EACH INVESTIGATOR:

Maurice Washington
Primary Investigator
Washingtonm4@lasalle.edu
267-619-6145

INDICATE FUNDING SOURCE: This Study is Unfunded

You are being asked to participate in a research study. For you to decide if you want to volunteer for this project, you should make an informed decision based on an understanding of what this research is about and the possible risks and benefits. This process is known as Informed Consent. This document describes the purpose, procedures, possible benefits, and risks, as well as how your personal information will be used and protected. Once you have read this form and your questions about the study are answered, you will be asked if you want to take part in the study; if so, you will be asked to sign this consent form. This will allow your participation in this study. You will receive a copy of this document to take with you.

We invite you to participate in a research study to better understand clinician knowledge of falls intervention in an inpatient psychogeriatric setting. If you are interested in taking part in this study, you must be at least 18 years old, be able to read and understand English, and be employed by Haven Behavioral health in one of the following roles:

- Nurse (RN and LPN)
- Behavioral health technician
- Therapist
- Physician
- Social Worker
- Administrator

If you agree to participate in this study, we will ask you to participate in a 60-minute instructional program on falls prevention and complete a pre and posttest assessment with other staff members of Haven Behavioral Health. The instructional program will take place around a table in a conference room

at Haven Behavioral Health. Before the instructional program we will ask you questions about your understanding of falls prevention. We will ask the same questions at the end of the instructional program. The pre and posttest shall not contain any personal identifiers and participants shall not have their identity revealed in any fashion.

Although there may be no direct benefit to you, results from this study will contribute to knowledge about falls prevention strategies, which may relate to improvements in how institutions improve patient safety.

Risks or discomforts that you might experience from participating in this study are minimal. Although unlikely, you may feel uncomfortable when answering questions that may be considered personal in nature. If you feel uneasy or want to discuss any issues that concerned you about the study, you may contact the principal investigator, (Maurice Washington, 267-619-6145). You may also seek information from Human Resources by Contacting Rhonda O'Shea at 215-475-3406

We will not ask you for your name or any other identifying information. Your anonymity is protected through the design of the pre and posttest. Data will be stored on the principal investigator's password-protected computer in the locked office of Maurice Washington, and only this investigator will have access to the data. Electronic records will be stored for seven years after the completion of the study and then will be permanently erased.

If you would like to know the overall findings of this study, you may contact Maurice Washington at washingtonm4@lasalle.edu; otherwise, you will not be informed of the results.

Your participation in this study is completely voluntary. You do not have to participate. If you do decide to participate, you are free to withdraw your consent and remove yourself from participation in this study at any time without penalty, and this will not affect your care or relationship with any provider.

It will not cost you to participate in this study, and you will not be compensated for your participation.

If you have questions, concerns, or complaints; need to report an injury related to the research; or would like to know the results of the study, please contact the investigator:

Maurice Washington
3300 Henry Ave
Philadelphia PA, 19129
267-619-6145
Washingtom4@lasalle.edu

The Institutional Review Board (IRB) of La Salle University is responsible for protecting individuals participating in this research project. If you have any questions or concerns regarding your rights as a research participant or any complaints about the research, please contact Sonni Rose Mazzone, Graduate Assistant at 267-902-3449 or irb@lasalle.edu. You may also write to the IRB Chair, Dr. Susan Borkowski, at the Department of Accounting, La Salle University, 1900 W. Olney Avenue, Philadelphia, PA 19141.

CONSENT STATEMENT: I have read and understand the statements about this study and have received a copy of the consent form. My signature below indicates that the procedure has been explained to me and that I agree to participate in this research. I understand that I may withdraw my permission and

may discontinue participation at any time without penalty or loss of benefits. I understand that I will receive no compensation for this study.
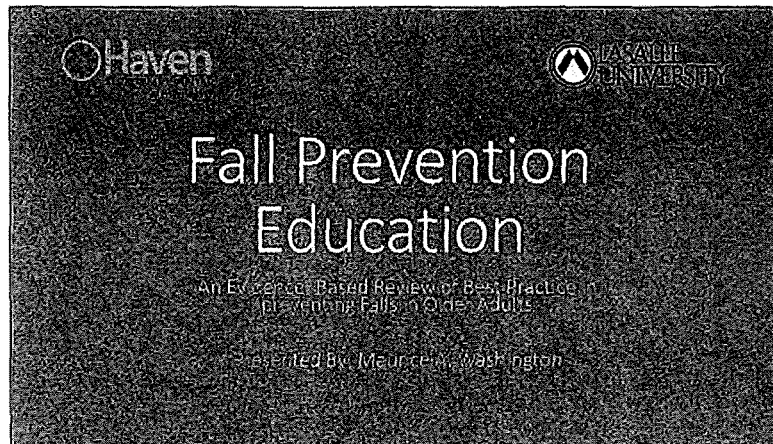
Participant's Name (Please print): _____

Participant's Signature: _____ Date: _____

Investigator's Name: _____

Appendix C

PowerPoint Slides

Fall Prevention Education

An Evidence Based Review of Best Practice in preventing Falls in Older Adults

Presented By: Maurice A. Washington

Purpose of this Education

Upon Completion of this training we will look to see if:

•Fall rate decreases

•Number of Incidents Decreases

•If increased knowledge of Falls Prevention increased amongst clinical staff

•Review clinician developed discipline specific interventions

Learning Objectives

1. *Participants will be able to articulate all components of an evidence-based fall prevention program.*

2. *Participants will be able to identify risk factors for falls in the psychogeriatric population.*

3. *Participants will be able to articulate discipline specific interventions for falls.*

WHAT WILL I LEARN?
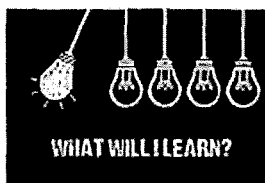
What is a "Fall"?

•The estimated falls rate per 1000 Inpatient days for inpatient behavioral health is 13.1 to 25 fall incidents when compared to 3 to 5 for the general acute population (Wong et al, 2021).

• An average of 50 billion dollars is spent on medical cost associated with non-fatal falls, and 754 million dollars on fatal falls (CDC, 2020)

Fall: "an unexpected event in which the participant comes to rest on the ground, floor, or lower level" (Hauer et al., 2006, p. 6). Falls are multi-factorial based on the perspective of the individual experiencing the incident.

Lets Review Some Data!

- Falls in the elderly are the most prevalent reason for emergency department visits with more than half of those who present having the likelihood of another fall within 12 months (Morris et al, 2019).

- It is estimated that an average of 50 billion dollars is spent on medical cost associated with non-fatal falls, and 754 million dollars on fatal falls (CDC, 2020)

- The estimated falls rate per 1000 inpatient days for inpatient behavioral health is 13.1 to 25 fall incidents when compared to 3 to 5 for the general acute population (Wong et al, 2021).
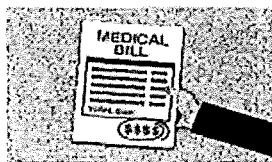
Lets Review Some Data!
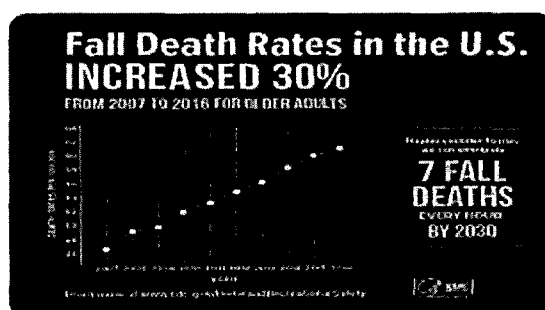
Does Being in an Inpatient Psychiatric Facility increase the Risk for Falls in the Elderly?

- Patients over the age of 70 years were five times more likely to fall and those who were prescribed psychotropic medications were at an even higher risk (Blair & Szarek, 2008)

- The Beers Criteria is utilized as a guide to alert practitioners on the potential for unfavorable outcomes associated with the use of certain medications in patients sixty-five and older (Inocian et al, 2021)

  Specific to patients who have a history of falling, the Beers criteria suggest practitioners avoid using such medications as benzodiazepines (Xanax, Klonopin, Ativan) and serotonin-norepinephrine reuptake inhibitors (Cymbalta, Pristiq, Effexor); which are both commonly used in psychiatry (Inocian et al, 2021).

- Several classes of psychotropic medications were deemed to be related to increased risk for falls in the elderly population. Antidepressants (Celexa, Lexapro, Prozac, Zoloft) and hypnotics (Ambien,) were the two classes of medications with the highest association with an increased risk for falls (Park et al., 2015).

How are We doing with Falls Prevention?

1. January- 13
2. February- 13
3. March- 5
4. April- 12
5. May- 8
6. June- 7
7. July- 9
8. August- 13
9. September - 12
10. October - 14
11. November - 11
12. December - 9

2022 facility falls data shows that the facility had a total of 126 falls from January 2022 to December 2022. This is a 24 percent increase in the incidence of falls when compared to 2020.

How are We doing with Falls Prevention?

Falls Trend
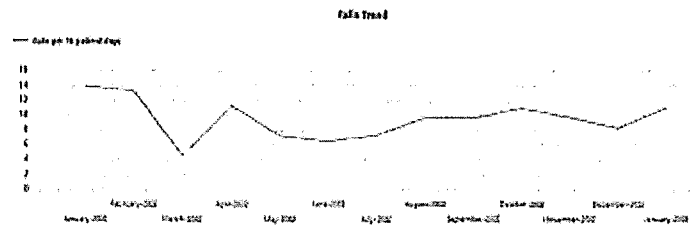
Lets do some Critical Thinking?

1. Why do you think rates are down in the summer?
2. Is there any difference in facility or clients that could explain 24% increase?

How Can We Be Better?

By Utilizing an

Evidence-Based Practice Guideline for Fall Prevention in Older Adults catered to our population

Step 1: Older Adult Meets with Healthcare provider

1. What does initial clinical contact (For each discipline) look like here at Haven?
2. Who has the first interaction?
3. How can each discipline contributes to falls assessment and prevention?

Step 2: Fall Screening

1. What tool do we use for fall screening?

2. How are the results of the screening communicated?

3. Which discipline typically completes the falls risk screening?

4. Who needs to know the results of this screening?

Variables		Score
History of Falling	No	0
	Yes	25
Secondary Diagnosis	No	0
	Yes	15
Ambulatory Aid	None/bed rest/nurse assist	0
	Crutches/cane/walker	15
	Furniture	30
IV or IV Access	No	0
	Yes	20
Gait	Normal/bed rest/immobile	0
	Weak	10
	Impaired	20
Mental Status	Oriented to own ability	0
	Overestimates or forgets limitations	15
	Total	

Step 2: Fall Screening

•Analysis of Fall Risk
  What does this mean?

•Determination of a fall in the past year
  Why is this important?

•Evaluation of Gait and Balance
  How does this get completed?
  What is the "Get-Up and Go" Test?

•*Determination of Abnormal Gait and or Balance* *This is completed if the evaluation shows a gait or balance problem and completed in step 3.*

Step 3: Comprehensive Fall Assessment
(If Screening is Positive)

If the screening results yielded any concern for fall risk a comprehensive fall assessment should be conducted inclusive of:

1. *Completing a full history of falls*

2. *Medical History inclusive of previous Physical exams and previous cognitive assessments*

3. *Review of Medications*

4. *Gait, Balance, and Mobility*

5. *Visual Acuity and other Neurological Impairments*

6. *Muscle Strength*

Step 4: Indications for additional Interventions

In this step based on Screening and Assessment findings the clinician decides whether or not additional interventions are required.

1. *What would be some findings that would require additional Interventions?*
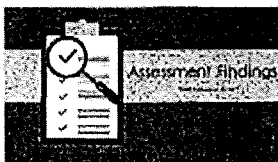
Step 5: Development of an Individualized Multifactorial Treatment Plan

INDIVIDUALIZED MULTIFACTORIAL INTERVENTION PROGRAM
Minimize medications/reduce polypharmacy/avoid psychotropic medications
Pain management
Provide individually tailored exercise program
Treat vision impairment (including cataract)
Manage postural hypotension
Manage heart rate and rhythm abnormalities
Supplement vitamin D
Manage feet and footwear problems
Modify the home environment/environmental factors
Provide education and information (Panel on Prevention of Falls in Older Persons, American Geriatrics Society, & British Geriatrics Society, 2011)

Kruschke, C., & Butcher, H. K. (2017). Evidence-based practice guideline: Fall prevention for older adults. *Journal of Gerontological Nursing, 43*(11), 15-21. doi:http://doi.org.libproxy.seattle.edu/10.3928/00989134-20171016-01


Step 5: Development of an Individualized Multifactorial Treatment Plan

1. *What are some interventions from your respective disciplines that are specific to inpatient psych?*

2. *How can these interventions be implemented?*

3. *How can we communicate these interventions so that all disciplines are aware?*

Step 6: Reassess for Falls

1. Who should be reassessing for fall risk?

2. Where should we discuss/ document the effectiveness of the interventions?

3. When should we change/update the interventions?
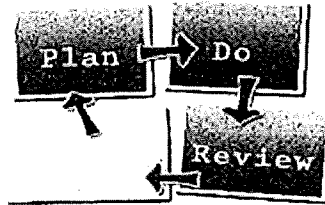
CONCLUSION!

1. Who's responsibility is it to prevent falls at Haven?

2. How should we assess for and communicate environmental risks & hazards?

3. Who is responsible to developing individualized plans of care related to falls?

4. How should we document a fall incident if witnessed vs. Unwitnessed?

Thank You

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Appendix D

Fall Prevention Knowledge Test

1. Bedside nurses know their patients and are better than a standardized screening scale at identifying patients likely to fall.

   a. **False**, because nurses' clinical judgment depends on individual experience and expertise, and bedside nurses have different levels of nursing expertise, which leads to variation in clinical judgement and decision-making. The use of a validated fall risk assessment combined with clinical judgment is the most accurate way to predict fall risks. Therefore, a standardized screening scale would work better at identifying patients likely to fall.

2. The 3-step fall prevention process comprises 1) screening for fall risks, 2) developing a customized fall prevention plan, 3) completing fall prevention documentation.

   a. **False**, because all 3 phases require patient involvement versus "documenting." The 3-step fall prevention process comprises 1) screening for fall risks in collaboration with the patient, 2) engaging the patient in developing a customized fall prevention plan, and 3) implementing the plan consistently with the patient and family. Patients fall when not everyone follows the customized fall prevention plan.

3. A 75-year-old man with a history of recent falls and osteoporosis is admitted for severe abdominal pain. He is at greater risk of injury if he falls because of his age.

    a. **False**, because the factor for greater risk for injury because of age is for patients aged 85 and older, according to the Institute for Healthcare Improvement ABCS of harm, although this man is at greater risk of injury because of his history of osteoporosis.

4. A common reason why hospitalized individuals fall is that their fall prevention plan is not followed.

    a. **True**, because in a randomized controlled clinical trial, 3 when patients in the intervention arm fell, it was because their fall prevention plan was not followed.

5. Falls can be prevented in patients who are susceptible to falling because of physiological problems by providing a safe environment (e.g., clear path to bathroom, room free of clutter, good footwear).

    a. **False**, because negative consequences of identified physiological problems that predispose to falling can be ameliorated using targeted interventions (in addition to universal precautions)

6. Patient engagement in fall prevention means that the nurse completes the fall risk assessment and prevention plan and then teaches the patient about their personal fall risk factors and prevention plan.

    a. **False**, because research has found that engaging patients after completing the first 2 steps of the fall prevention process is inadequate. Patients must be engaged from the beginning of the process to improve the likelihood that they will follow their plan.

7. All hospitals are different, so they should develop their own fall risk assessment forms.

    a. **False**, because risk assessment tool development requires a rigorous, scientific approach. It is better to use a standardized assessment form15 than to "reinvent the wheel." There are thoroughly researched fall risk assessment tools with adequate reliability, specificity, and sensitivity.

8. A fall risk screening scale identifies individuals who are likely to fall because they have one or more physiological problems.

    a. **True**, because there are 3 types of falls: 1) accidental, 2) anticipated physiological, and 3) unanticipated physiological. Taking universal fall precautions can prevent accidental falls. A fall risk assessment scale is completed to identify physiological problems that can lead to a fall. Once fall risks due to physiological problems are identified, they are "anticipated" and can be prevented using a customized prevention plan. Fall risk screening scales are used to identify patient-specific physiological factors that are the most common risks for falls.

9. When nurses communicate with patients about their risk of injury if they fall, this improves the likelihood that patients will follow their personalized fall prevention plan.

    a. **True**, because research has shown that, if people believe that they could be injured in a fall, they will be more likely to follow the fall prevention plan while hospitalized. Through our research with implementing Fall

TIPS, we found that people are more likely to follow their fall prevention plans if they are aware that they are at greater risk of injury if they fall.

10. Patients at low risk for falls do not require a fall prevention plan.

   a. **False**, because even patients at low risk of falling can fall. Low risk does not mean no risk. Patients with any risk factor for falling require a preventative intervention to mitigate that risk.

11. Bed and chair alarms should be activated for all patients who screen positive for being at a high risk of falling.

   a. **False**, because not all patients who are at risk of falling need bed alarms, and they should not be used indiscriminately. Bed and chair alarms are ineffective at preventing falls in patients who do not have a mental status risk factor (e.g., confused or will not reliably call for help when needed) and only serve to contribute noise to the environment.

Appendix E

Permission for use of Fall Prevention Knowledge Test

RE: Fall Prevention Knowledge Test Tool Permission

Dykes, Patricia C. <PDYKES@BWH.HARVARD.EDU>
Fri 6/16/2023 11:00 AM
To:Maurice Washington <washingtonm4@lasalle.edu>
Sure that's fine Maurice. Good luck w/your project.
Best

Patricia C. Dykes, PhD, RN, FAAN, FACMI
Program Director Research
Center for Patient Safety, Research, and Practice
Brigham and Women's Hospital
Associate Professor of Medicine
Harvard Medical School

Office: 617-525-6654 | Mobile: 617-850-5748
pdykes@bwh.harvard.edu
brighamandwomens.org

From: Maurice Washington <washingtonm4@lasalle.edu>
Sent: Friday, June 16, 2023 10:58 AM
To: Dykes, Patricia C. <PDYKES@BWH.HARVARD.EDU>
Subject: Fall Prevention Knowledge Test Tool Permission

External Email - Use Caution

Good Morning Dr. Dykes,

My Name is Maurice Washington. I am a DNP student at La Salle University in Philadelphia PA in my last semester. I obtained your article entitled "Development and Validation of a Fall Prevention Knowledge Test" from the FALL T.I.P.S website. I utilized the test for my DNP scholarly project. My committee has asked that I reach out to you to get your permission to utilize the tool to add as an appendix to my paper. It would be greatly appreciated if you would respond to this email indicating that I may use your tool.

Appendix E

La Salle IRB Approval

LASALLE UNIVERSITY

INSTITUTIONAL REVIEW BOARD
FWA #00023562
1900 W. Olney Avenue, Philadelphia, PA 19141
E-mail: IRB@lasalle.edu

IRB NUMBER: 23-01-004
(Reference this # on all future correspondence to the IRB)

Name of Investigator: **Maureen Donohue-Smith, Maurice Washington**

Address of Investigator: **Department of Nursing**

Protocol Title: **Effectiveness of an Instructional Program on Decreasing Fall Incidents in Geriatric Patients with Psychiatric Disorders.**

This is to certify that the above-referenced protocol, which does propose research activities involving human participants, was reviewed in accordance with La Salle University Institutional Review Board (IRB) guidelines for the protection for human participants.

PROTOCOL INFORMATION:

Application Type: **Initial Review**
Review Category: **Expedited review, under 45 CFR 46.110 Category 10**
Protocol Action & Date: **Approved with the Modifications on February 20, 2023**
Protocol Expiration Date: **N.A.**

The IRB reviewed and approved your research protocol, with the following modifications:

1) In the application:
   a) Section 10.a explains what is going to be done AFTER recruitment. However, what is needed is exactly how they are going to first recruit these participants.
   b) Section 9.g. mentions being "invited to receive the intervention". However, more detailed is necessary explaining how are they going to be invited? The recruitment process needs to be explained here in detail.
   c) Appendices:
      i) There is no recruitment script in the appendix, even though this is checked. (This MAY also affect D.4, changing from NO to YES depending on recruiting is done)

2) For the purpose of IRB electronic archives, you are required to e-mail the final reversion of this protocol with ALL required documents (including the original protocol and decision letter) as a single PDF to mazzones2@lasalle.edu; title the file as follows (no spaces):
   a) 23-01-004_ARCHIVE_Donohue-Smith_Washington

3) E-mail the updated version of the protocol to mazzones2@lasalle.edu and include the archive title in the subject line.

4) Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB in writing using the Amendment Request Form. You must receive IRB approval prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the participants.

5) Investigators are required to report within 5 business days to the IRB any injuries or other unanticipated or adverse events or problems involving risks or harms to human research participants or others that are discovered during the course of the research. Use the Unanticipated Event

IRB Action Letter   Revised 3/5-17   p. 1

IRB # 23-01-004

Report Form

6) When you complete or discontinue the project, you must submit the IRB Closure Report Form.

Susan Borkowski

Susan Borkowski, PhD IRB Chair