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Increasing Staff Knowledge Regarding the Use of Nonpharmacological Interventions With Long-Term Care Residents Diagnosed With Dementia

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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MSN, Walden University, 2017

BSN, Darton State College, 2014

Project Submitted in Partial Fulfillment

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Abstract

Dementia is an umbrella term that describes a clinical syndrome of progressive cognitive decline. The prevalence of a dementia diagnosis increases with age, making it a common occurrence within the older population. In long-term care facilities, where 5% of the older population reside, antipsychotic medications are the first line of defense and the choice of treatment among patients diagnosed with dementia. Recently, the Center for Medicare and Medicaid Services (CMS) announced a new goal of decreasing antipsychotic medication usage by 15% by the end of 2019. Guided by Watson's Theory of Caring, this project was conducted to determine if an educational intervention geared towards nonpharmacological interventions increased knowledge among nurses working in a long-term care facility with the hope that the increased knowledge would be translated into practice and in lieu of use of antipsychotic medications, the nurses would implement nonpharmacological interventions when caring for residents with dementia who display challenging behaviors. Nurses working on a dementia unit were targeted for this project, and 10 nurses volunteered to participate in the educational intervention. The average age of the nurses in attendance was 47.20 years of age (SD = 9.79) with 80% (n = 8) of the participants being female. A Wilcoxon Signed Ranked test showed a statistically significant difference between the pre- and posttest scores, with the posttest scores being higher that the pretest score (z = -2.83, p < 0.01), indicating an increase in knowledge among the participants. It is hoped that the increased knowledge among the nurses will be translated into practice and, as a result, will enhance positive patient and organizational outcomes as well as positive social change.

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Dedication

This project is dedicated to my wonderful son (Landon Anderson) and my mother (Wanda Ashley) for supporting me throughout this journey. Son, you mean the world to me. Mother, by having faith in me, you gave me the motivation to complete this momentous milestone. Additionally, I want to thank my sister for encouraging me to follow through with my goal of completing my doctoral degree. Lastly, I want to thank my aunt (the late Shelia Martin) who supported me throughout most of this project by looking after my son to allow me time to complete imperative project tasks. I accomplished my goal with the help of the Almighty God and my wonderful support system. With God, anything is possible.

Acknowledgments

I would like to acknowledge the members of the DNP project committee. I would like to give a huge thanks to Dr. Marilyn Losty for guiding me throughout the completion of my project. Your mentoring has promoted me to this point in completing my project.

Table of Contents

List of Tables

Section 1: Nature of the Project

Antipsychotic medication usage in older dementia patients has been a topic of discussion for many long-term care facilities. In fact, the Centers for Medicare and Medicaid Services (CMS) (CMS, 2020) has identified antipsychotic medication usage in long-term care residents as a quality metric that should be monitored in all long-term care organizations. Antipsychotic medications are often used to address behavioral and psychological symptoms in the older population (Lee et al., 2019) and are known to cause sedation, delusions, and disorganized thoughts, which, in turn, can cause residents to be less alert and less interactive with their environment (Malone et al., 2007).

Lee et al. (2019) posited that several nonpharmacological interventions have been demonstrated to be equally effective as antipsychotic medications and more beneficial because they carry fewer risks and adverse effects. Furthermore, it is often recommended that nonpharmacological interventions be used as the first line of treatment in lieu of antipsychotic medication for dementia patients to promote positive patient and organizational outcomes (Lee et al., 2019). Addressing the implementation of nonpharmacological interventions in older dementia patients through an educational intervention allows nurses to become more educated in the uses of nonpharmacological approaches with these patients with dementia and could increase the use of such approaches with this patient population, which would promote positive patient outcomes.

Problem Statement

Dementia is a clinical diagnosis necessitating cognitive and functioning dependence due to progressive cognitive decline (Cunningham et al., 2015). The term

"dementia" is an umbrella term that describes a clinical syndrome of progressive cognitive decline (Duong et al., 2017). The prevalence of a dementia diagnosis increases with age, making it a common occurrence within the older population (Cunningham et al., 2015). Such a diagnosis places a tremendous burden on patients as well as those who care for them (Duong et al., 2017). The nature of the symptoms result in individuals with dementia becoming more reliant on others as they become more vulnerable in a social, physical, and mental sense, which may lead to reoccurring challenges with the care of the individual (Cunningham et al., 2015). As a result, dementia is progressively becoming a tremendous source of disease burden in the United States and worldwide (Fishman, 2017).

In the long-term care facility, antipsychotic medications are the first line of defense and the choice of treatment for patients diagnosed with dementia (Malone et al., 2007). Recently, the CMS (2020) announced a new goal of decreasing antipsychotic medication usage by 15% by the end of 2019. To decrease antipsychotic medication usage, CMS partnered with federal and state agencies to improve dementia care through promoting the use of nonpharmacological interventions (Malone et al., 2007).

Interestingly, the project site facility's leadership, chief nurse of geriatrics and extended care (GEC), the nurse manager of the LTC unit, the chief of GEC, and LTC nurse educator identified a knowledge deficit among nurses related to providing nonpharmacological interventions for patients diagnosed with dementia. In the past, there was no annual training conducted for nursing staff regarding dementia care and the use of nonpharmacological interventions. As a result, the facility's leadership team

acknowledged a gap in knowledge and nursing practice regarding this important topic and agreed there needed to be annual training to improve the knowledge of staff related to nonpharmacological intervention use among patients with dementia. Through the implementation of an educational program, it was hoped that the nursing staff would increase their knowledge of nonpharmacological interventions for patients diagnosed with dementia, and with this increase in knowledge, increase their use of nonpharmacological interventions, which will ultimately improve patient and organizational outcomes.

Doctors of Nursing Practice (DNPs) are educated to use their knowledge and professional experience to develop and implement structured educational programs that will increase nursing knowledge with the hope of translating that knowledge into practice. Given that nursing education represents the "combination of theory, application, and practice" (Gatti-Petito et al., 2013, p. 273), DNPs are positioned to identify areas of concern in an organization and implement educational interventions to improve nursing knowledge. With the additional education and knowledge, it was hoped that the nurses would recognize the benefits of nonpharmacological approaches in patients with dementia and implement these approaches to minimize the use of antipsychotic medication among this older population.

Purpose Statement

The purpose of this DNP project was to determine if a staff education intervention increased the knowledge of nurses working in a long-term facility with the hope that the educational intervention would result in an increase in the implementation of

nonpharmacological approaches among patients diagnosed with dementia. It was anticipated that the educational intervention would have a positive effect on improving staff knowledge because the intervention would enhance the knowledge of the staff regarding the use of alternatives to address challenging behaviors among patients diagnosed with dementia. Educating staff plays an imperative role in accomplishing patient and organizational goals (Chaghari et al., 2017) and should continuously be updated annually (Eslamian et al., 2015). Furthermore, continuing education among nurses is essential for a nurse's competency in patient care (Eslamian et al., 2015). It was hoped that this educational intervention would provide a foundation of knowledge for the nurses as well as establish learning criteria for staff on a continuous basis to effectively address the identified gap in practice.

Nature of the Doctoral Project

Many long-term care dementia residents receive antipsychotic medications as a treatment for behavioral symptoms associated with dementia, such as aggression, anger, and agitation (Nerius et al., 2018). Behavioral symptoms tend to appear in up to 90% of persons with dementia and can lead to serious complications, such as loss of ability to function, loss of ability to care for one's self, loss of ability to interact with others, and reduced lifespan (Caspar et al., 2018). A clear association has been established between antipsychotic medication treatments and increased morbidity and mortality in patients with dementia; therefore, implementing initiatives targeted at decreasing the use of antipsychotic medications for residents with dementia has become a priority in the healthcare field around the world (Caspar et al., 2018). A central feature of these

initiatives is the development of guidelines that mandate the use of nonpharmacological interventions prior to initiating antipsychotic medications to manage behavioral symptoms (Caspar et al., 2018). A recent systematic review of nonpharmacological interventions to reduce the inappropriate prescribing of antipsychotic medications suggested that most interventions focus mainly on staff education (Caspar et al., 2018).

Using the current literature and the specific needs of the organization, I developed an educational intervention that was used to educate the staff. To determine if there was an increase in the nursing staff's knowledge, a pretest was created and given to the participants prior to the intervention. Following the intervention, a posttest, using the same questions as the pretest, was given to the individuals. A team of experts from the facility was created to review the educational intervention and pre- and posttests and establish its content validity (Polit & Beck, 2006). My first approach was to create an advisory team composed of executive leadership. I used inferential statistics determine if there was a difference in staff knowledge before the educational program as opposed to after the educational program.

Significance

The World Alzheimer Report (2016) indicated that 47 million people are diagnosed with the dementia that requires roughly $818 billion in treatment and care (Shiltz et al., 2018). In the United States, approximately 5.7 million people have dementia and the number is projected to triple to 16 million by 2050. Of those diagnosed with dementia, the prescription rates for antipsychotics vary between 20% and 50% (Wetzels et al., 2011). In most cases, once a patient is started on an antipsychotic, they continue to

receive antipsychotics at an increasing rate. In addition, individuals with dementia who live in a skilled facility tend to have a significantly higher rate of antipsychotic use as compared to those individuals living in the community (Maguire, 2013).

Antipsychotics are commonly used to manage behavioral and psychological symptoms of dementia (Carnahan et al., 2017). Research has shown that antipsychotic medication usage in older patients with dementia can lead to detrimental effects, including a disconnection from society. Research has demonstrated that all antipsychotic medications will cause sedation, and if residents are sedated, they are less connected to the world around them (Stroup & Gray, 2018). Walden University has a mission of implementing positive social change. I hoped that this project would positively impact social change by increasing the knowledge of nonpharmacological interventions among nurses working in a long-term facility with the hope that they would use such approaches with the residents diagnosed with dementia.

On the 30-bed unit at the project site, it was estimated that 85% to 90% of the residents have a diagnosis of dementia, and of those with a diagnosis of dementia, most of the patients received medication to manage their dementia. As a result, the leadership team members, specifically the LTC nurse educator, chief nurse of GEC, the nurse manager of the LTC unit, and the chief of GEC determined that the staff nurses are in a prime position to identify those patients with dementia who may benefit from nonpharmacological interventions that may minimize the effects of antipsychotics and, ultimately, may reduce the use of antipsychotics. While staff nurses did not have

prescriptive authority, it was within their scope of practice to observe, monitor, and make recommendations to providers regarding possible side effects of medication.

Through the acquired knowledge of nonpharmacological interventions, it was hoped that the educational program would improve the facility's quality metrics and outcomes. The provision of necessary opportunities for staff to increase their knowledge may be expanded to other units within the facility and other hospitals located in the organization's network to significantly improve the knowledge of staff not only at the unit level but also at the national level.

Summary

In conclusion, it was hoped that the use of nonpharmacological interventions would increase as a result of the knowledge gained from the educational intervention. There is evidence to suggest that nonpharmacological interventions, such as improving communication skills and increasing staff knowledge, will reduce the chances of residents experiencing challenging behaviors (CITE). The methodology used in the project and the practice-focused question were aligned with the common goal of implementing an educational session to staff on nonpharmacological interventions. I assessed the educational interventions and approaches with a pre- and posttest of staff knowledge. The approaches addressed the practice-focused problem by showing the effect that staff education on nonpharmacological interventions had on residents' behavior and the reduction of antipsychotic medication use.

Section 2: Background and Context

The lack of knowledge staff at the project site had regarding nonpharmacological interventions was causing residents to receive an abundance of antipsychotic medications. An abundance of antipsychotic medications puts the residents at risk for a decrease in lifespan caused by the side effects of these medications (Stroup & Gray, 2018). The purpose of this project was to determine if staff education on nonpharmacological interventions would increase the knowledge of nurses and, in turn, increase the use of nonpharmacological interventions with patients diagnosed with dementia.

In this section, I discuss the concepts, models, and theories relevant to the project. The project was undertaken to increase quality care. The project setting and local background are also described. Lastly, the roles of the DNP student are provided.

Concepts, Models, and Theories

Watson's Theory of Human Caring has been used worldwide to guide nursing education, practice, and research (Pajnkihar et al., 2017). Interventions that are implemented according to human caring theory have showed promise in promoting patients' psychological health and the satisfaction nurses seek in their job as well as improved staff-resident engagement (Wei & Watson, 2018). I chose Watson's Human Caring Theory because it aligns well with the purpose of the project. According to Pajnkihar et al. (2017), nurses should be caring as well as able to build a foundation of personal contact, communication, and an interpersonal relationship with their patients. Interventions should reflect care for individual problems and professionalism (Pajnkihar,

et al., 2017). Having the knowledge of nonpharmacological interventions when caring for residents with dementia will help staff care for residents and meet their physical and emotional needs. It was hoped that with an increase in education and knowledge, the nurses would be able to use their knowledge to increase the use of nonpharmacological interventions and assist in maintaining the patient's ability to function, care for themself, and interact with others, all actions that display the caring trait of the nursing profession.

To clarify reader understanding, I have provided definitions for the following terms.

Dementia: A progressive disorder of cognitive loss and impaired thinking ability (Scott & Barrett, 2007).

Behavioral and psychological symptoms of dementia (BPSD): The diverse group of signs and symptoms of disturbed perception, thought content, and behavior that often occur in patients with dementia (Tible et al., 2017).

Antipsychotic medications: Medications used to treat patients with schizophrenia in efforts to calm them (Read & Williams, 2019).

Nonpharmacological interventions: Science-based and noninvasive interventions for human health aimed to prevent, care, or cure health problems and may consist of products, methods, programs, or services whose contents are known by users (CITE).

Relevance to Nursing Practice

Nearly 6 million Americans aged 65 and older are living with some form of dementia (Alzheimer's Association, 2020). Alzheimer's disease, a specific type of

dementia, accounts for 50% to 70% of dementia cases. As the older population continues to increase in numbers, the population of individuals living with some form of dementia is projected to be 13.8 million by 2050 (Herbert et al., 2013). It is estimated that the average cost of care for a person with dementia was approximately $41,689 to $56,290 per year (Hurd et al., 2013). With the aging population, the number of older individuals with dementia is likely to increase in the coming years, which represents a clinical as well as a financial challenge for caregivers and providers (Fishman, 2017).

For most older residents living with dementia, the use of antipsychotic medications may relieve symptoms related to memory, thinking, language, and other thought processes (CITE). These symptoms are often what trigger the start of antipsychotic medication use (de Oliveira et al., 2015). However, research has demonstrated that the use of antipsychotic medications may have detrimental effects. For example, the use of antipsychotic medications increases the risk for death, cerebrovascular adverse events, Parkinsonism, sedation, gait disturbance, cognitive decline, and pneumonia in older patients (Tampi et al., 2016). Moreover, antipsychotic medications are associated with increased mortality in older adults with dementia, and thus far, their absolute effect on risk related to no treatment or a substitute psychotropic is unclear (Maust et al., 2015). Given these risks, the U.S. Food and Drug Administration, the European Medicines Agency, and the U.K. Medicines and Healthcare Products Regulatory Agency have issued warnings regarding their use in individuals with dementia (Tampi et al., 2016).

The use of antipsychotic medications in nursing home residents in the United States continues to be an increasing problem and has been associated with increased risk of hospitalization, cerebrovascular adverse events, falls resulting in hip fractures, and mortality (Cioltan et al., 2017). The Food and Drug Administration has placed a black box warning on these drugs, specifying that they are not to be used for residents with dementia, and health care providers have been summoned to review health care plans (Cioltan et al., 2017). Because antipsychotic medication usage in older dementia residents is a problem, surveying bodies and the CMS monitor the rate of antipsychotic medication resident receive quarterly, yearly, and as needed.

Antipsychotic medication usage is a quality metric that is monitored by the identified facility. Specifically, the criteria that is monitored includes gradual dose reductions of antipsychotic medications and nonpharmacological interventions performed prior to administering medications. Staff training has been proven as an effective intervention to reduce challenging behaviors in long-term dementia residents and result in a change of practice (Reis et al., 2013). Reis et al. (2013) suggested a standardized educational program be developed worldwide to aid in reducing antipsychotic medication usage.

Despite the warnings of U.S., U.K., and European health care authorities, there is an increase in antipsychotic medication usage in persons with dementia (Kirkham et al., 2017). However, one plausible solution to reduce the use of antipsychotic medication for dementia in the older population is nonpharmacological interventions. Nonpharmacological treatments have been proven to have a positive effect in reducing

behavioral and psychological symptoms of dementia (Calsolaro et al., 2019). Interventions such as music therapy (Shilitz, 2018), physical exercise (Chalfont et al., 2020), and dance therapy (Ho et al., 2015) have been successful in reducing the behavioral and psychological symptoms of dementia.

Doody et al. (2001) concluded that educating staff in long-term care facilities about alternative therapies reduced the usage of antipsychotic medications. However, there was a lack of knowledge among staff nurses at the project site regarding these important interventions. Therefore, the purpose of this project was to determine if an educational intervention geared towards the use of nonpharmacological interventions with patients with dementia increased knowledge among nurses working in a long-term care facility.

Local Background and Context

Nonpharmacological strategies include interventions to manage behaviors and staff education. These strategies have been recommended to take precedence over pharmacological therapies (Barton et al., 2016). The intended goal for using nonpharmacological strategies includes prevention of challenging behaviors, behavior symptom relief, and decreasing the burden caregivers face when caring for residents with dementia (Barton et al., 2016). Several health care organizations have suggested drug therapy should be used only after the failure nonpharmacological interventions (Barton et al., 2016). The CMS (2020) has targeted dementia care as a high priority area in need of quality improvement. Historically, behavior management practices rely on chemical and physical restraints, but now there is interest in nonpharmacological

approaches due to medications resulting in adverse reactions (Wong & Leland, 2016). A nonpharmacological approach to manage behaviors of dementia residents uses activities to engage residents and improve their quality of life by enhancing positive affect (Wong & Leland, 2016).

Antipsychotic medications have been mainly used in nursing homes to manage behavioral and psychological symptoms of dementia, despite increasing the patient's mortality risk (Crystal et al, 2020). A national campaign for safer dementia care in U.S. nursing homes was launched in the beginning of 2012, with public reporting of quality measures, increased regulatory scrutiny, and accompanying state and facility initiatives (Crystal et al., 2020). The CMS, state agencies, nursing homes, and other imperative stakeholders jointly launched the Partnership to Improve Dementia Care in Nursing Homes aiming to enhance the quality of life for people with dementia; protect them from overuse of antipsychotic medications; and promote goal-directed, person-centered care for every nursing home resident by implementing nonpharmacological interventions (Crystal et al., 2020).

The setting for this project was on a locked-down, dementia unit in Georgia that houses veterans between the ages of 55 to 92. There are 30 beds on the unit, and the unit is staffed with 10 registered nurses (RNs), eight licensed practical nurses (LPNs), and 18 nursing assistants. The nurse manager of the unit determined that this project was appropriate and feasible for the unit. By providing staff with education on nonpharmacological interventions, it was hoped that the knowledge gained by nurses of nonpharmacological interventions would increase their use of nonpharmacological

interventions with residents diagnosed with dementia with the hope of improving the quality of the residents' lives and promoting positive patient and organizational outcomes.

Definition of Terms

Alzheimer's disease: The most common cause of dementia across the world, with the prevalence continuing to grow because of the increase aging of the population (Weller & Budson, 2018).

Dementia: A clinical syndrome characterized by progressive decline in two or more cognitive domains, including memory, language, executive and visuospatial function, personality, and behavior (Weller & Budson, 2018).

Nonpharmacological interventions: Interventions to improve or maintain an individual at optimal cognitive function, aide the resident in continuing to perform activities of daily living, and address challenging behaviors related to dementia (Berg-Weger & Stewart, 2017).

Role of the DNP Student

I played a significant role as the DNP student in this project. I created the education program as well as the pre- and posttests for this project. Professionally, I am a nurse manager and have found that staff lack the knowledge of nonpharmacological interventions when attempting to manage the challenging behaviors of residents with dementia. My role in the doctoral project was to evaluate the effectiveness of the education program on staff knowledge and the use of nonpharmacological interventions. My motivation for conducting this project was to improve the quality of care dementia

residents receive by using the less invasive interventions to manage their challenging behaviors.

Being that antipsychotic medication usage may have a detrimental effect on older residents and is monitored closely by surveyors, it was imperative to seek resolutions. I have possessed the knowledge regarding the best nonpharmacological interventions to use when managing challenging behaviors and shared my knowledge with other health care professionals. By creating a staff education program on nonpharmacological interventions, I have closed the knowledge gap staff have regarding caring for residents with dementia who display BPSD and have fostered a culture of continuous learning throughout the LTC neighborhoods.

Biases can be intentionally or unintentionally introduced into a project, so it is imperative for the researcher to have a detailed understanding of biases and how they can affect project results (Pannucci & Wilkins, 2010). I have worked in LTC for 11 years and believe I have a wealth of knowledge regarding the quality care of residents in this population. However, because research and evidence-based practice are the driving forces of nursing, I developed the staff education program according to research as opposed to what I personally believe. Additionally, I evaluated the results of the education program according to the data collected from the pre- and posttest.

Role of the Project Team

Not only did I play a role in the project, but the project team was instrumental as well. The development of an educational program requires that all disciplines are involved in the program criteria and educational material. The project team consisted of

the LTC nurse educator, chief nurse of GEC, the nurse manager of the LTC unit, and the chief of GEC. There was continuous collaboration between the project team and the executive leadership of the organization. I met every Wednesday with each member for follow up and to give the project team an opportunity to provide input on the development, implementation, and evaluation of the educational program. I collaborated with the chief of GEC and the chief nurse of GEC to review and approve the educational material before presenting it. Collaborating with the leadership team familiar to the LTC alleviated the presentation of incorrect information and the misunderstanding of data. Next, I collaborated with the LTC nurse educator and LTC unit manager to develop a schedule to deliver the education and determine the best possible delivery method. At the end of Week 2, all members of the project team provided me with their final input regarding the educational material and program.

Ultimately, it was my responsibility to disseminate the information. I disseminated the information to leadership, the project team, and staff via Microsoft Teams using a PowerPoint presentation. When presenting information, it is imperative to ensure there is time available to do so; therefore, I presented the information to all stakeholders during staff meetings and huddles.

Summary

When conducting the project, I stayed focused on the gap in practice. The identified gap was the lack of staff knowledge related to nonpharmacological interventions for dementia residents. Identifying the relevance to nursing practice and

theories helped guide the outcomes of the project. In the following section, I discuss the sources of evidence and the plan for data collection and analysis.

Section 3: Collection and Analysis of Evidence

Because staff working with residents who have dementia lacked the knowledge of nonpharmacological interventions, patients were at a higher risk of receiving antipsychotic medications. By conducting this project, I was able to develop an educational program that educated staff on the use of nonpharmacological interventions when residents are presenting challenging behaviors. The setting for this project was appropriate being that it was the only unit that houses dementia residents who present challenging behaviors at the project site. The unit houses up to 30 residents, and there was a total of 36 staff consisting of RNs, LPNs, and nursing assistants.

In Section 3, I discuss the knowledge gap staff had regarding the use of nonpharmacological interventions. Additionally, I presented the sources of evidence used. Next, I describe the educational program as well as the analysis and synthesis of the data collected from the pre- and posttest. Lastly, I discuss any ethical issues that could have arose and how I maintained participant and project site confidentiality throughout the project.

Practice-Focused Question

Currently, in LTC facilities, antipsychotic medications are used as opposed to nonpharmacological interventions. CMS has partnered with local, state, and federal agencies to monitor LTC facilities and the use of antipsychotic medications (CITE). CMS stresses the use of nonpharmacological interventions before the administration of antipsychotic medications. At the project facility, there was a knowledge gap staff had regarding the use of nonpharmacological interventions. I developed an educational

program to answer the following practice-focused question: Does an educational intervention geared towards the use of non-pharmacological interventions with patients with dementia increase knowledge among nurses working in a long-term-care facility? Conducting this project aligned directly with the goal of implementing an educational program to increase staff knowledge with the hope of increasing their use of nonpharmacological interventions with patients with dementia. The project will aid the staff in providing nonpharmacological interventions, such as music therapy (see Shilitz, 2018), physical exercise (see Chalfont et al., 2020), and dance therapy (see Ho et al., 2015).

Sources of Evidence

Dementia is a common and a progressive neurologic disease that affects approximately a quarter of a million people worldwide (Mayeux & Stern, 2012). Dementia is the common diagnosis of half of all nursing home/long-term care residents. Verbal and physical aggression, agitation, restlessness, wandering, and inappropriate behaviors are just a few symptoms associated with dementia (Liperoti et al., 2008). The management of challenging behaviors in nursing homes has been controversial considering the prevalence of the off-label use of antipsychotics in residents with dementia (Azemai, 2015). Research shows that antipsychotics have a mild benefit when used to control a resident's behavior, while it has an increased risk of causing stroke and death (Liperoti et al., 2008).

To address the practice-focused question, I conducted electronic searches of several databases accessed through the Walden University Library, including CINAHL

and MEDLINE. The three key terms used to locate literature were *Alzheimer's disease*, *dementia*, and *non-pharmacological interventions.* I used the word "and" to expand the searches. The articles reviewed for evidence had publication dates ranging from 2006 to 2020. I utilized the CMS's Hand in Hand dementia toolkit and evidence from the literature to develop appropriate teaching materials for the educational program. CMS developed the Hand in Hand dementia training, consisting of five modules to reduce the abuse of nursing home residents. Nursing home initiatives, such as those created through the CMS National Partnership, Hand in Hand Training Programs, and Music and Memory Programs, have been successfully implemented to decrease the use of antipsychotics and have been reported as best practices (Lapane, 2018).

The focus of this project was to educate nurses on nonpharmacological interventions for residents with dementia. I conducted a literature review to identify appropriate articles, and articles that were selected for inclusion describe interventions that have been demonstrated to be safe and effective and within the scope of nursing practice. All articles were rated, graded, and presented in a literature matrix. A majority of the identified articles focused on nonpharmacological interventions related to music therapy (see Shilitz, 2018), physical exercise (see Chalfont et al., 2020), and dance therapy (see Ho et al., 2015) as well as staff education and knowledge and the detrimental effects antipsychotic medication usage has on the older population with dementia.

Cunningham et al., (2015) showed that due to the progression and nature of dementia, residents are more susceptible to displaying challenging behaviors. At times,

challenging behaviors negotiate the need for antipsychotic medication administration. By producing an educational program for staff to increase their knowledge on the use of nonpharmacological interventions, antipsychotic medication usage will be reduced. Furthermore, de Oliveira et al. (2015) discussed BPSD that trigger the use of antipsychotic medication and the detrimental effects it may have on the older population.

Because antipsychotic medication usage may be harmful to dementia residents, CMS (2020) has given a mandate for surveying regulatory bodies to monitor long-term care facilities' use of antipsychotic medications. Furthermore, CMS has suggested that all facilities have an established educational program to improve staff knowledge regarding the use of antipsychotic medication and methods to reduce the use of antipsychotic medications (Calsolaro et al., 2019).

Evidence Generated for the Doctoral Project

Prior to beginning the project, I obtained approval from the Walden University Institutional Review Board (IRB) and the facility to conduct the project. Once IRB approval was granted, the identified stakeholders, LTC nurse educator, chief nurse of GEC, the nurse manager of the LTC unit, and the chief of GEC were contacted and informed of the project's commencement. Once developed, I presented an outline of the educational program using evidence collected from research and literature reviews and the pre- and posttest. The stakeholders reviewed and approved the educational intervention and pre- and posttest prior to the start of the project.

Participants

Following IRB approval and approval from the stakeholder group, I invited a convenience sample of RNs and LPNs working in the project site long-term care facilit to attend an educational intervention to determine if the educational intervention increased nurses' knowledge of nonpharmacological interventions for residents with dementia.

Procedures

First, I developed an educational intervention to meet the needs of the organization based on the current literature. Along with the educational program, a pre- and posttest were created to match the content of the educational intervention. Once completed, the stakeholders for the project reviewed and established the item-level content validity index and scale-level content validity index of the educational program and pre- and post-test (Polit & Beck, 2006). Because validity was established and achieved, the process was not repeated.

Once content validity had been established, I used flyers to advertise the educational intervention for the RNs and LPNs working in the long-term care facility. Each participant was asked to create a unique identifier for their pretest that was only known to the individual. Prior the intervention, the pretest, which included five demographic questions (i.e., on age, gender, years in nursing, years in current position, and education) to describe the sample and 10 questions regarding the use of nonpharmacological interventions with residents diagnosed with dementia, was given to the participants. Following the completion of the pretest, the educational intervention was presented.

Following the educational intervention, I gave the posttest to the participants. The posttest contained the same 10 questions as the pretest regarding the use of nonpharmacological interventions with residents diagnosed with dementia. Participants were asked to use their unique identifier on both the pre- and posttest so the pretest could be matched to the posttest to determine the difference in scores between the tests, which served as a proxy for increased knowledge. No identifying information, such as the participant's name, was collected, and all data were reported in the aggregate.

Protections

Participation in the educational intervention was voluntary. To ensure participants did not feel pressured to participate, the flyers stated that staff should only participate in the spirit of their own free will. On the flyer, I described the project and its goals as well as the potential benefits of attending the educational session. Walden IRB approval was obtained prior to starting the project. No identifying information regarding the participants was asked for, collected, or recorded. All the participants created and used their own unique identifier that was not recorded to label the pre- and post-test. I reported all data related to this project in the aggregate. Therefore, this project had minimal risk to the participants.

Analysis and Synthesis

I collected data from the participants via the pre- and posttest and entered it into a Microsoft Excel spreadsheet and then moved it to SPSS. Descriptive statistics were used to describe the sample, and inferential statistics were used to determine if there is a difference in pre- and posttest scores, which served as a proxy for increased knowledge.

The pre- and posttest responses were based on the correct number of questions answered. All data were reported cumulatively, and no identifying information was collected or reported. In the case where an individual completed the pretest and did not complete the posttest, the pretest data were discarded from the data set. In the circumstance that one or more of the participants did not respond to a specific question, the missing data were reported.

Summary

When conducting a project to implement change, all evidence collected should be relevant (CITE). For the project to be relevant, there should be no bias attached to any stage of the project. All participants should be protected and be comfortable in participating in the project. The purpose of this project was to increase nurses' knowledge of nonpharmacological interventions when working with older residents with dementia. The hope was that by increasing the use of nonpharmacological interventions, the residents would have improved quality of care, which, in turn, would promote improved quality of life. Research has demonstrated that staff working with dementia patients tend to lack appropriate knowledge of nonpharmacological interventions when residents present challenging behaviors; therefore, by educating staff, the knowledge can be transferred to their nursing practice.

Section 4: Findings and Recommendations

Health care providers often resort to antipsychotic medication usage when residents diagnosed with dementia display challenging behaviors (CITE). A lack of knowledge regarding the use of nonpharmacological interventions is often the rationale for the use of antipsychotic medications with this vulnerable population. The purpose of this DNP project was to determine if an educational intervention geared towards the use of non-pharmacological interventions with patients with dementia increased knowledge among nurses working in a long-term-care facility. The project was conducted to address the knowledge gap staff may have had related to the use of nonpharmacological interventions to care for residents who exhibit challenging behaviors with the hope that the increased knowledge would be translated into practice and, ultimately, reduce the use of antipsychotic medication for this population.

I retrieved the relevant literature from the CINAHL and MEDLINE databases, accessed through the Walden University Library. Using the evidence as a basis, a PowerPoint presentation was created to describe three nonpharmacological interventions to use when caring for dementia residents who exhibit challenging behaviors in the LTC facility (see Appendix A). The three specific interventions presented were dance therapy, music therapy, and physical exercise. Additionally, I created a pre- and a posttest to match the content delivered in the educational intervention. The stakeholder group reviewed the educational intervention and the pre- and posttest to establish the content validity of the materials prior to use.

Following approval from the stakeholders, I placed a flyer advertising the educational invitation on the staff communication board because this is standard practice for the unit. The purpose of the educational intervention was shared on the flyer along with dates and times that it would be delivered. The educational intervention was offered at two different times to accommodate both dayshift and nightshift staff. A total of 10 of the 13 available nurses (i.e., 77% of the nursing staff) attended one of the two presentations. Attendance of the educational intervention was voluntary, and the participants did not receive any compensation or incentive for doing so. Before the educational intervention began, all participants received a packet with a pre- and a posttest. Each pre- and posttest was marked with a letter combination in order to safeguard each nurses' identity and provide the ability to match the pretest with the posttest after completion. I shuffled the packets prior to distribution to the nurses to further mask participants' identities.

Prior to the educational intervention, I asked the participants to complete the pretest questionnaire, which included five demographic questions (i.e., on age, gender, educational level, years of experience as a nurse, and years of experience working in the dementia population) along with 10 true/false questions related to the use of nonpharmacological interventions with patients with dementia. Following completion, the pretest was collected. The educational intervention began and lasted approximately 30 minutes. Following the completion of the educational intervention, I gave the participants the opportunity to ask questions or to provide feedback. After discussion, the participants were asked to complete the posttest, which reflected the same 10 true/false questions as

presented on the pretest. Once the participant completed the posttest, they were asked to return it to the presenter and were free to leave the room.

Findings and Implications

Findings

A total of 10 of the 13 nurses on the unit attended the educational intervention for a 77% response rate. The average age of the nurses in attendance was 47.20 years of age (*SD* = 9.79) with 80% (*n* = 8) of the participants being female. Most of the participants were LPNs (*n* = 4) or AA-prepared RNs (*n* = 4) with one individual being a BSN-prepared RN and one individual having a master's degree in nursing. The average years of nursing experience was 9.3 years (*SD* = 9.69) with the average years in their current position being 5.0 years (*SD* = 4.61). The average pretest score was 51.0 (*SD* = 15.95), and the average posttest score was 88.0 (*SD* = 7.88; see Table 1). Using a Wilcoxon Signed Ranked test, there was a statistically significant difference between the pre- and posttest scores, with the posttest scores being higher that the pretest score ($z = -2.83$, $p < 0.01$), indicating an increase in knowledge among the participants (see Table 2).

Table 1

Demographic Descriptive Statistics and Pretest and Posttest

	n	Frequency (%)	*M* (*SD*)	Range
Age	10		47.20 (9.79)	30.0 to 60.0
Gender				
Male	2	20%		
Female	8	80%		
Education level				
LPN	4	40%		
AA_RN	4	40%		
BSN_RN	1	10%		
MS_RN	1	10%		
Years	10		9.30 (9.69)	1.0 to 30.0
Years CP	10		5.00 (4.61)	1.0 to 15.0
Pretest score	10		51.00 (15.95)	30.0 to 80.0
Posttest score	10		88.00 (7.88)	80.0 to 100.0

Table 2

Wilcoxon Signed Rank test (rank)

	PosttestScore-PretestScore
Z	-2.831
Asymp.Sig	0.005

Implications

The results of this DNP project indicated that the staff education increased the nurses' knowledge of three nonpharmacological interventions that may be implemented as a strategy for patients diagnosed with dementia. Today, there is nearly half of a million people living with dementia, and in 2015, the average cost to care for persons with dementia reached nearly $900 billion (Nickel et al., 2018). The projected increase in the number of people who will have dementia poses a challenge for health and social care (Nickel et al., 2018). Nonpharmacological interventions are important options because

they are cost effective and pose less side effects as compared to antipsychotic medications (Nickle et al., 2018). As part of the National Partnership to Improve Dementia Care in Long-Term Care facilities, CMS (2020) has partnered with federal and state agencies in implementing survey guidelines to assist in reducing the use of antipsychotic medications among this vulnerable population.

Initiating education related to the use of nonpharmacological interventions for the dementia population is imperative to improve a resident's quality of life, the organization's quality measures, and to potentially maximize reimbursement. For nurses to implement nonpharmacological interventions, it is important for them to have the necessary education on a continuous basis. Before conducting the project, the findings indicated that nurses lacked knowledge of nonpharmacological interventions. After the education was completed, the findings showed nurses had an improvement in knowledge regarding nonpharmacological interventions. It is hoped that this increased knowledge is translated and implemented into practice, which would reduce the use of antipsychotic medication, resulting in positive patient and organizational outcomes and, in turn, positive social change.

Recommendations

The DNP project increased staff knowledge regarding the use of nonpharmacological interventions in a LTC for residents who are living with dementia. I recommend providing this staff training regarding the use of nonpharmacological interventions annually. To ensure sustainment, it would be imperative for the facility to identify a champion or lead from the education department to ensure staff are educated

annually. The identification of a champion is crucial to implementation science and sustainability (Miech et al., 2018). I would also recommend for the staff education to be disseminated to other LTC units within the facility that house dementia residents who present with challenging behaviors.

Contribution of the Doctoral Project Team

Collectively, the DNP project team consisted of the LTC nurse educator, chief nurse of GEC, chief of GEC, LTC nurse manager, and me. The LTC nurse educator and nurse manager assisted by coordinating with me on a schedule for presenting information and finding the most appropriate method with which to deliver the training. The chief nurse of GEC and chief of GEC collaborated with me to review the educational material. As the project manager, I developed the education program and the pre- and posttest. I evaluated and analyzed the collected data to review the effectiveness of the educational intervention. Lastly, I met with the members of the project team once weekly for 2 weeks to retrieve their input on the development, implementation, and evaluation of the educational program. Meeting with the team allowed each member to share their expertise related to the DNP project.

Strengths and Limitations of the Project

A major strength of this project was found in the 10 nurses that attended the educational intervention. Given that the intervention was voluntary, these nurses took the time to attend the intervention solely for the purpose of enhancing their knowledge. Additionally, the support and dedication of the stakeholders added to the success of the

intervention. It was through their guidance and dedication that the educational intervention was able to be completed.

Despite these strengths, there were some limitations to the project. First, I recruited the nurses targeted for the project from a convenience sample of nurses working at a long-term care facility; therefore, the findings may not be generalizable to other populations of nurses. Another limitation of this project is that the analysis was completed using the average pre- and posttest scores. While it can be concluded that the intervention may be responsible for the increase in scores, there may be other reasons for why the posttest scores may have changed. For example, participants may have had the opportunity to memorize the questions from the pretest, potentially positively changing their results on the posttest.

The literature supports the use of PowerPoint in the education program as a strength (see Ankad et al., 2015), but there are also limitations to its use. At times, PowerPoint slides can contain too much information, limiting the amount of information the audience retains. When presenting, it is also important to discuss the information as opposed to simply reading the slides to the audience. The final limitation identified was during the implementation of the educational intervention, the unit was also preparing for Long-Term Care Survey Institute. Because the staff were also participating in mock surveys and mandatory education on the unit for this institute, it limited the number of days the training could be completed. Having both trainings at the same time could have caused the nurses to receive too much information at once, which could have potentially affected outcomes.

Summary

Antipsychotic medications have been overused when caring for residents in a long-term care setting who have dementia and display challenging behaviors. CMS (DATE) has stressed the importance of using nonpharmacological interventions before administering an antipsychotic medication. Within the local LTC facility, there was evidence that staff lacked knowledge regarding the use nonpharmacological interventions. To address this local issue, I developed a staff education training to improve the knowledge of staff regarding nonpharmacological interventions. My goal was to demonstrate the use of nonpharmacological interventions and how they can be effective in managing residents who display challenging behaviors.

Section 5: Dissemination Plan

The dissemination of evidence into practice is critical in ensuring quality patient care (Conway et al., 2019). Dissemination of evidence is one way to increase the chances of ensuring evidence is adopted and sustained (Derman & Jaeger, 2018). The results of this DNP project will first be disseminated to the nurses who are assigned to the dementia care unit. Disseminating the project results will give them the opportunity to firsthand see the positive impact the educational intervention had on improving their knowledge of nonpharmacological interventions. Being key stakeholders, the nurses must possess knowledge regarding nonpharmacological interventions to improve patient care.

Additionally, the results of the DNP project will be presented to the stakeholder, education, and leadership teams of the organization. Given that other units in the organization house residents with dementia, disseminating the findings to leadership may assist in the offering of the educational intervention to all staff who care for residents living with dementia. A vital way to improve staff knowledge in nursing is continuing professional development (Correa-de-Araujom, 2016). I recommend that this educational intervention be repeated annually during the annual competency review period for the organization.

Analysis of Self

As Scholar

As a scholar, I have learned that evidence-based practice is the foundation of nursing practice and continuously improves nursing practice. When a problem in nursing practice is discovered, it is imperative to seek solutions through the evidence and that the

translation of the evidence, along with the expertise of the provider and specific needs of the patient, be utilized to ensure a standardized practice is developed. Through completing this DNP project, I have strengthened my skills in researching and translating the evidence. I have enhanced my leadership and communication skills through working with the organizational stakeholders and project team. I plan to continue to develop my professional skills through learning more about nonpharmacological interventions and antipsychotic medications usage to enhance my practice. With the completion of this project, I have a sense of pride and fulfillment.

As Practitioner

My passion for caring for the population with dementia and my passion for utilizing less invasive, cost-effective interventions led me to choose the topic of nonpharmacological interventions for this DNP project. As a nurse manager, one of my goals is to ensure staff are educated on a continuous basis with current research. One challenge that I faced as the project creator was delegation. Delegation is a key element in promoting staff development. Through completing this project, I have gained the necessary skills to delegate effectively. Therefore, I can state that the completion of this project has helped me become an effective leader and nurse manager within my organization.

As Project Manager

As the project manager, I was faced with some challenges. One challenge was a time constraint due to other trainings at the facility being conducted at the same time. However, I was able to meet with the unit nurse manager and CLC nurse educator to

develop a schedule to deliver the educational intervention aside from the nurses' required trainings. Additionally, every member of the project team was knowledgeable and willing to make time to share their expertise, making the development process smoother. There were no issues related to scheduling or staff attendance of the training. Additionally, the scheduled trainings occurred as expected with a surplus of participation.

Summary

This project was effective in improving staff knowledge regarding the use of nonpharmacological interventions for dementia residents with challenging behaviors. The main challenge faced during the project was the time constraint in scheduling the educational program due to other required trainings being held at the same time. The challenge was easily surmounted with the help of the project team members to coordinate the two training dates for the program. I hope that the implementation of the project will be adapted by other units within the facility and facilities within the network. To ensure the sustainability of this project, I recommend the nurse educator and nurse manager evaluate staff knowledge annually and as needed through use of the educational program.

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Appendix A: Educational Intervention PowerPoint

4/27/2021

Increasing Staff Knowledge Regarding the Use of Non-Pharmacological Interventions with Long-Term Care Residents Diagnosed with Dementia

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1

Learning Objectives

- The learner will be able to identify non-pharmacological interventions related to managing dementia residents who display challenging behaviors.
- The learner will have an increased knowledge regarding the use of non-pharmacological interventions related to dementia.

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2

Introduction

- Growing US elderly population
- Growing number of elderly living in long term care facilities.
- Increasing incidence and prevalence of dementia.
- Antipsychotic usage is a major discussion in LTC facilities.

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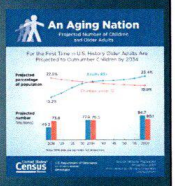
3

Problem

- Aging US population
- Increasing prevalence of dementia.
- Increasing population of patients diagnosed with dementia in long term care facilities.
- Increasing use of anti-psychotic medications to mange behavior.
- Alternative methods to manage behavior and enhance the resident's quality of life.



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4

Evidence-based Practice Research

- Non-pharmacological strategies include interventions that target strategies to manage behaviors and staff education. These strategies have been recommended to take precedence over pharmacological therapies.
- The intended goal for using non-pharmacological strategies includes prevention of challenging behaviors, behavior symptom relief, and a decreasing the burden care givers face when caring for residents with dementia.
- There are several healthcare organizations that have suggested drug therapy should be used only after the failure non-pharmacological interventions.
- The Centers for Medicare & Medicaid Services (CMS, 2013) have targeted dementia care as a high priority area in need of quality improvement.
- Historically, behavior management practices rely on chemical and physical restraints, now there is interest in non-pharmacological approaches due to medications resulting in adverse reactions.
- A non-pharmacological approach to manage behaviors of dementia residents use activities to engage residents and improve their quality of life by enhancing positive affect.

5

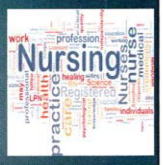
Definition of Dementia

- Dementia refers to a clinical syndrome characterized by progressive cognitive decline that interferes with the ability to function independently.
- Symptoms of dementia are gradual, persistent and progressive.
- Individuals suffering from dementia experience changes in cognition, function and behavior.
- The clinical presentation of dementia varies greatly among individuals, and the cognitive deficits it causes can present as memory loss, communication and language impairments,
  - agnosia (inability to recognize objects)
  - apraxia (inability to perform previously learned tasks)
  - impaired executive function (reasoning, judgement and planning).

6

Definition of Non-pharmacological Interventions

- Non-pharmacological interventions have demonstrated a positive effect in reducing behavioral and psychological symptoms of dementia.
- Non-pharmacological interventions can provide complementary therapy, offering versatile approaches to improve outcomes for people living with dementia and minimize behavioral occurrences as well as to improve or sustain quality of life



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Types of Non-pharmacological Interventions

- Music Therapy
- Physical Exercise
- Dance Therapy

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Music Therapy

- Music therapy is used as a treatment for the improvement of cognitive function in people with dementia.
- Music can change the focus of attention and provide an interpretable stimulus that elicits positive memories from an earlier period in the person's life.
- Music is a pleasant stimulus, especially when it is adapted to one's personal preferences, and it can evoke positive emotions.
- Music therapy improves the quality of life of people with dementia.
  - prevent, or alleviate, anxiety or agitation.
  - Live interactive music presents efficacy in the short-term management of apathy in patients with moderate and severe dementia
  - Prerecorded music produces a more limited effect

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Physical Exercise

- The use of physical exercise as a nonpharmacological intervention for people with dementia has shown potential benefits in quality of life and in reducing agitation and depression.

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Dance Therapy

- Dance Movement (Psycho) therapy is the psychotherapeutic use of movement and dance through which a person can engage creatively in a process to further their emotional, cognitive, physical and social integration.
- It is founded on the principle that movement reflects an individual's patterns of thinking and feeling.

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11

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12

Appendix B: Demographic Questionnaire (Given During Pretest)

Please respond to each of the following questions below:

1. Age (in years) _____

2. Gender
    a. Male
    b. Female
    c. Prefer not to answer

3. Education Level
    a. Diploma
    b. AA/ASN
    c. BSN
    d. MS/MSN
    e. Doctoral Degree

4. Years of Experience as a Nurse _____ Years

5. Years of Experience working with dementia residents/current position

_____Years

Appendix C: Pretest and Posttest Questions

Non-Pharmacological Intervention Usage in Long-Term Care Residents Diagnosed with Dementia (correct answers are highlighted)

1) The Centers for Medicare and Medicaid Services discourages the use of non-pharmacological interventions for residents diagnosed with dementia.

   True
   False

2) Music Therapy, dance therapy, and physical exercise are non-pharmacological interventions used for residents with dementia.

   True
   False

3) Non-pharmacological interventions are used as the second choice for treating residents diagnosed with dementia who display challenging behaviors.

   True
   False

4) Non-pharmacological interventions should not be individualized but should be the same for each resident.

   True
   False

5) The use of non-pharmacological interventions can improve a resident's quality of life.

   True
   False

6) Music therapy, dance therapy, and physical therapy should be patient-centered and have been shown to reduce agitation/anxiety in residents living with dementia who display challenging behaviors.

   True
   False

7) Music therapy, dance therapy, and physical therapy do not meet the social and emotional need of residents living with dementia.

   True
   False

8) The goals for the use of non-pharmacological interventions are to ensure residents living with dementia maintain cognitive function and to improve behavioral symptoms related to dementia.

   True
   False

9) The use of non-pharmacological interventions will not improve the stress staff experience when caring for residents who exhibit challenging behaviors.

   True
   False

10) Non-pharmacological interventions are safe and considered cost-effective treatments for residents living with dementia who demonstration challenging behaviors.

   True
   False