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Implementing Aromatherapy for Falls Reduction in the Inpatient Hospice Population

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This is to certify that the doctoral study by

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2019

Abstract

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MSN, Walden University, 2007

BSN, The University of Iowa, 2005

Project Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Nursing Practice

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May 2019

Abstract

Falls among the elderly is a health concern affecting multiple patients annually. Hospice patients and those with multiple comorbidities are at the greatest risk of falling and sustaining injuries from falls. Aromatherapy has been used for reducing multiple symptoms as well as for decreasing falls. The practice-focused question explored whether an education program on using aromatherapy for fall prevention would increase knowledge of this intervention for an interdisciplinary group of hospice staff. The design was developed using Knowles's theory of andragogy and Bloom's taxonomy. Thirteen staff members from the same facility participated in the education program. The program was targeted to educate staff who worked with hospice patients about implementing the intervention in their practice. The program was also offered facility-wide to allow all staff the opportunity to increase their knowledge in using the intervention in their fall-reduction programs. Assessment tools including pretest, posttest, and evaluations were completed by all program participants. Using a Likert scale to calculate participant responses, results revealed an increase in knowledge gained from 15% to 60%. The participants rated the program favorably with a mean score of 4.4 to 4.6 out of 5. This program would be beneficial to hospice caregivers and a broader range of staff members including nonhospice nurses, therapists, and providers who are interested in decreasing falls in their patient population. The program would also be of interest to accrediting bodies, hospice, palliative care, oncologic, and geriatric organizations for alternative fall-reduction interventions. Reducing falls will result in a positive social change by decreasing fall-related injuries costs and improving quality at end-of-life.

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Dedication

To my wonderful husband, what a long educational journey this has been for both of us, long-hours, sleepless nights, tears, multiple accomplishments and countless educational milestones. Thank you for your unending love and faith in me, even when I was ready to give up you encouraged me to continue on. You have been there every step of the way and I couldn't have done this without you. To my six beautiful children, your unwavering belief in me is truly inspiring. I hope in some way this educational journey of mine will guide you to believe in yourself and follow your own dreams. I will always be your greatest cheerleader. To my parents, your dedication and tremendous work ethic instilled in me at a very young age that work and a great educational foundation was important. Thank you for your unconditional love and for always believing in me. Mom thanks for being the nurse that I will always look up to. I love you all.

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Section 1: Nature of the Project

Introduction

Falls with injury is a prevalent patient safety issue and a growing concern among the aged and chronically ill patients—the most vulnerable groups for sustaining falls (Ishøy & Steptoe, 2011). Patients are at increased risk of falling while hospitalized due to multiple medical conditions and decreased mobility. One million falls among hospitalized patients occur annually with hospice patients at a greater risk of falling compared to their non-hospice counterparts (Kowalski, 2016). As the overall population rises, the risk of falling also rises. To ensure safe, quality care in this high-risk group, alternative methods to reduce falls and decrease costs need to be addressed and implemented.

Reducing injuries due to falls in the hospice inpatient population promotes positive social change. Social change means positive life changes in cultures, communities, environments and helps improve well-being, security, and quality of life (Bradbury-Jones & Taylor, 2014). In the inpatient hospice population, addressing and decreasing the possibility of fall-related injuries will increase awareness and understanding of falls among older adults including strategies for preventing falls and decreasing the number of falls (Schonwetter, Kim, Kirby, Martin, & Henderson, 2010). The intervention used in fall prevention—along with endorsing education, increasing knowledge, and building awareness among staff and family members about providing quality care at end-of-life—will support and enhance positive social change. This social change may have broader implications for hospice nurses and hospice organizations—

including the National Hospice and Palliative Care Organization, the Hospice and Palliative Nurses Association, and the Oncology Nursing Society—that is, for overall improvements in reducing falls and increasing quality at the end-of-life.

Problem Statement

Falls in the elderly population is a health concern in organizations and communities, for example, there is an increased risk of falling and sustaining injury (Annweiler et al., 2010). There are a number of evidence-based practice (EBP) options to decrease the occurrence of falls in the elderly population. But few studies have been carried out in the hospice population (Schonwetter et al., 2010).

Educational awareness and increased understanding of staff to improve the use of EBP approaches was needed to reduce falls in inpatient hospice settings. Strategies that help improve safety and increase quality of care are lacking at the bedside, perhaps due to a lack of knowledge and resources (Lusardi, 2012). To address and overcome the issue of falls among the hospice population, it was necessary to satisfy this knowledge deficit and to increase awareness among the nursing staff and other interdisciplinary team members through training in alternative interventions.

At the facility, hospice patients were located in both the acute care areas and in the Community Living Center. Reducing falls among the inpatient hospice population helps improve overall outcomes in comfort and care. Implementation of interventions ultimately impact the current fall rates of the hospice population and help improve quality of life (Kowalski, 2016). With successful implementation, the alternative intervention

used for falls reduction in the hospice population may also be available for successful use in other populations of patients in the facility.

Reducing falls is primarily viewed as a nurse-sensitive measure, that is, nursing staff play a major role (Kowalski, 2016). Reduction of falls at the local level is dependent on an interdisciplinary, collaborative and team approach. Evaluating, handling, and diminishing falls can be a multidimensional and time-consuming problem (Duffy, 2013). Overcoming these issues requires an interdisciplinary approach (Duffy, 2013).

Applying EBP gives nurses the ability to advance and promote excellence by increasing quality and improving safe patient care (Lusardi, 2012). Nurses have been relied on to be leaders in promoting and improving changes in EBP. The DNP project focus was on educating nurses and multidisciplinary team members on using an alternative intervention aiding in reducing falls in the high-risk inpatient hospice population. Falls are the source for increased morbidity and mortality in the elderly, a tremendous economic burden and a major health concern in society today (Blank et al., 2011). Making even small adjustments through EBP interventions in nursing practice can help transform care for this high-risk population.

Purpose

The purpose of the project was to impact social change in the inpatient hospice population. Filling the need in using alternative interventions to assist in decreasing falls and reducing associated risks from falling. The use of aromatherapy has been used for reducing multiple symptoms, including fall prevention. For example, lavender has been used for its calming effects and has been viewed as beneficial in reducing falls (Sakamoto

et al., 2012). An educational awareness for staff was needed to increase knowledge and to promote the use of aromatherapy to improve the chances of decreasing falls along with decreasing other end-of-life symptoms.

The DNP project assisted in meeting the practice gap in the lack of fall interventions specific for the hospice population. The use of alternative therapy in palliative care is rare (Berger, Tavares, & Berger, 2013). Introducing an alternative intervention has the potential to address this gap in practice and to increase the use of implementing aromatherapy in hospice settings. Exploring the use of aromatherapy would mean incorporating a holistic approach in improving end-of-life symptoms (Berger, Tavares, & Berger, 2013) and possibly decreasing the incidence of falls.

The DNP proposal and practice-focused question that guided this project was as follows: Will an education program on using aromatherapy for fall prevention increase knowledge of this intervention for an interdisciplinary hospice staff? Educational interventions are strategies to adjust changes in current practice or to improve them (White, & Dudley-Brown, 2017). Increasing awareness and understanding among the multidisciplinary staff members in the use of aromatherapy could bridge the gap in this practice issue. Through increased knowledge of the staff, this project could not only address the use of aromatherapy in practice but could also open the door for other interdisciplinary staff members to explore additional evidence-based alternative therapies.

Nature of the Doctoral Project

A literature review was completed to search for other EBP uses of aromatherapy that could be beneficial in reducing other symptoms in hospice patients. Decreasing other symptoms at end-of-life may ultimately assist with decreasing the risk of falling. Sources used to explore this topic included a search of Federal government sites and professional organizations for data related to falls. Several sources were used for building the educational program: National Hospice and Palliative Care Organization, Hospice and Palliative Nurses Association, Quality and Safety Education for Nurses (QSEN), American Association of Colleges of Nursing (AACN), State Board of Nursing, Walden University *Staff Educational Program Manual*, Walden library databases, *Nurse as Educator* by Susan B. Bastable (2019), *Teaching in Nursing* by Diane M. Billings and Judith A. Halstead (2016), and Knowles' theory for adult learners and Bloom's taxonomy. The purpose of the literature review was to increase knowledge about the various uses of aromatherapy and how the use of aromatherapy for other symptoms could help reduce falls.

The project approach followed the *Staff Educational Program Manual* for guiding and developing an educational program to increase the awareness and knowledge in using aromatherapy for decreasing falls in the hospice inpatient population. As outlined in the manual, planning, implementation, and evaluation were the steps followed. In addition, Form A, which is the required paperwork for process approval, safeguarding the privacy of the participants and the organization. This form was submitted to the Institutional

Review Board (IRB) for approval based on the staff educational model and a letter of cooperation from the institution was obtained.

Significance

Stakeholder involvement is important for a project to be successful and to remain patient-centered, safe, effective, and efficient (Halley, Sensmeier, & Brokel, 2009). Stakeholders of importance in this project were the hospice patients, their family members, nursing staff, multidisciplinary staff members, organizational leadership and the community. This project was beneficial because it taught nursing and multidisciplinary staff about the use of aromatherapy to reduce falls, decrease fall-related costs, and improve outcomes in safe patient care.

Contributions for hospice patients and their family members were achieved through promoting safety and improving quality at end-of-life. Safety, decreasing pain, supporting individualized care, and improving quality at end-of-life are important elements of care for hospice patients (Nakano, Sato, Katayama, & Miyashita, 2011). In this practice issue, the burden to both the patient and family members may be increased with prevailing safety issues such as falls. Paying close attention to preventing falls can improve end-of-life care and decrease patient and family distress (Morss, 2015). This project has the potential to aid in decreasing not only falls but also to aid in decreasing multiple symptoms for overall improvements in quality care at end-of-life.

Potential contributions for nursing practice and multidisciplinary staff were achieved by leading and promoting into practice new EBP ideas for continued improvements in patient care. Promoting original EBP and applying it in practice through

the use of reliable results can promote positive social change as well as outcomes in patient care (American Association of Colleges of Nursing, AACN, 2006). In this practice issue, nurses and multidisciplinary staff in the local facility can be leaders by increasing their knowledge in the use of alternative interventions for fall prevention in order to improve patient care outcomes and quality of life. This project may also benefit multiple units in the facility with increased falls and fall-related injuries and other healthcare facilities by decreasing falls and potentially decreasing various other symptoms that aromatherapy may help alleviate.

Contributions for organizational leadership and the community were achieved by supporting EBP and alternative interventions in fall prevention and thus being leaders in promoting change. Falls may result in increased health care expenses with increased hospital stays (Chien, Goddard, Casey, Devitt, & Filinski, 2016). Being leaders in fall prevention programs at the local level and sharing knowledge gained with the community may help incorporate alternative fall prevention interventions in community-dwelling older adults by decreasing fall-related injuries and costs (Li, Harmer, & Fitzgerald, 2016).

There could be multiple issues and implications for effecting positive social change. Positive social change for the hospice patient population could be achieved by decreasing falls and related injuries from falls, and by improving end-of-life outcomes. But there may be barriers and implications that could delay social change. Stakeholder buy-in could be a problem as each could have various viewpoints, thoughts, and agendas in mind (Love, Paita, & Custer, 2001). After training, multidisciplinary staff members could still be resistant to incorporating alternative interventions in their practice to reduce

falls. Other implications could be time, cost, sustainability, lack of significant change, and reduction in falls in the hospice patient population.

Summary

The continuing number of falls in the elderly is great (Annweiler et al., 2010). The incidence of falls in the hospice patient population is an even greater risk (Smith, 2014). There was a definite need to integrate alternative interventions in practice to assist with decreasing the rate of falls and fall-related injuries in this high-risk population.

A review of the literature found that there was evidence in using aromatherapy for assisting with insomnia, restlessness, pain, and falls (Sakamoto et al., 2012). The inpatient hospice population was an area that a reduction of falls would benefit and promote positive social change. Improving the quality of life in the hospice patient population by decreasing falls through an educational program. A program that potentially increased the awareness of multidisciplinary team members in the use of the alternative intervention of aromatherapy. As described in the following section, this project included the use of a theory and model to promote change for a fall reduction program at the organizational level.

Section 2: Background and Context

Introduction

This section of the DNP project covers the following topics (a) an overview of the background of the topic of falls in the in-patient hospice population, (b) an overview of the concepts and theories that guided the project, (c) a discussion of the literature relevant to the project, (d) information on the institutional site of the project, and (e) my role as leader of the project.

Falls among the elderly, particularly for those in residential care facilities (Duffy, 2013), is an ongoing health concern in organizations and communities for two reasons: the number of injuries from falling and fall-related costs (Annweiler et al., 2010). Falling in residential care facilities happens to approximately 50% of residents annually (Haralambous et al., 2010). Preventing and reducing the risk of falling is key to promoting best practices for improving health outcomes (Duffy, 2013).

Falls historically and currently are a major safety concern among the elderly and a continual issue for nurses who need to find alternative methods for reducing fall-related injuries. Nurses are accountable for the safety of their patients and are leaders in quality-care improvement initiatives, which includes implementing fall reduction strategies (Hicks, 2015). Despite all of the fall-reduction practices that have been implemented, there is an on-going demand for fall prevention strategies, particularly in populations with medically complex illnesses (Chien, Goddard, Casey, Devitt, & Filinski, 2016).

This DNP project addressed falls in an in-patient hospice facility. The focus of the project was to develop an educational program for interdisciplinary hospice staff on using

aromatherapy to reduce falls in this in-patient hospice setting. This project helped improve an ongoing issue in nursing practice by looking for alternative methods of reducing falls and improving patient safety.

Concepts, Models, and Theories

The use of theories and models supports the coordination, standardization, and explanation of care, as well as a means for gathering and applying findings in healthcare facilities (McEwen & Wills, 2014). Nursing theory is essential in the role of improving education by focusing on the outcomes of patient care. Early theorists viewed the nurse's role in patient care outcomes as that of an educator who increased awareness of health and disease (Sanford, 2000). For a theory to be of benefit it must be comprehensible (McEwen & Wills, 2014). The theory should be supportive of the practice problem being addressed.

Knowles' adult learning theory of andragogy was useful for developing the educational program. Knowles theory described the five expectations for adults to learn: the self-concept of the learner, experience of the learner, readiness to learn, orientation to learning, and the motivation to learn (as cited in Palis & Quiros, 2014). It was important that I understood the characteristics and needs of the adult learners and use this theory to develop the educational program. Knowles' model was used through planning, development, and evaluation of the program based on the specific needs of adult learners.

The Quality and Safety Education for Nurses (QSEN) initiative model was used as a guide for development of the educational program. QSEN is a set of competencies that prepares nurses with the knowledge, skills, and attitudes (KSAs) for continuous

improvement in safe quality care (Association of Perioperative Registered Nurses (AORN, 2018). QSEN's principles focused on education that improves patient centered-care, teamwork, collaboration, EBP, quality improvement and safety (AORN, 2018).

While not a theory or a model, Bloom's taxonomy of educational objectives was used to guide the development of the project for creation of the goals and objectives for the educational program. This resource was easy to comprehend, implement and is commonly applied in developing and evaluating educational programs (Rundio & Wilson, 2013). Bloom's taxonomy is a systematic approach that was used in planning and developing the educational objectives and goals presented to nursing staff for increasing the knowledge of an applicable alternative intervention for a fall reduction program. Bloom's taxonomy was beneficial for this practice problem due to its practicality in use (Rundio & Wilson, 2013). This resource was used for producing an educational program that was based on the needs of the adult learner, assisting with writing measurable learning objectives and goals, and helped to facilitate a process for evaluation (Rundio & Wilson, 2013). This resource was also useful for implementing a pre- and posttest for evaluating the educational program due to the functionality and ease of use.

Relevance to Nursing Practice

Patient falls is an ongoing issue that nursing is constantly looking to EBP for seeking out answers to decrease falls and improve patient safety. There continues to be a huge focus on the incidence and prevalence of falls among the elderly population (Chein et al., 2016; Hicks, 2015; Kiyoshi-Teo, Carter, & Rose, 2017; Latt, Loh, Ge, &

Hepworth, 2016; Resnick, 2015; Schonwetter et al., 2010; Silva & Hain, 2017; Strupeit, Buss, & Wolf-Ostermann, 2016). Falls is a recurrent safety issue, a direct connection to quality nursing practice and a leading cause of patient injuries in hospitals (Hicks, 2015). Historically falls have been an area of dedicated research and clinical practice change, however despite this falls among the elderly is still overwhelming and a continual problem (Resnick, 2015). There is great significance in applying EBP to support and promote nursing practice by creating awareness in fall reduction and in advancement of safe quality patient care (Lusardi, 2012).

Nurses play a major role in the successful implementation of EBP fall reduction programs and for the overall improvements in safe quality patient care (Kiyoshi-Teo, Carter, & Rose, 2017). EBP assists nurses in being able to discover solutions to problems. It is a guideline used for improving the wellbeing and the care given to patient populations (McEwen & Wills, 2014). Nurses need to be involved in exploring and finding ways to increase quality care for patient populations. When nurses feel passionate about improving care, an increase in EBP will be pursued, ultimately increasing the awareness of the nurse (Musker, 2011). For continued improvements in patient care outcomes and in reducing falls, nurses will need to continually focus on and implement EBP strategies for advancing practice. It is of utmost importance to continue the journey for improving fall prevention programs to aid in reducing this historical and current widespread issue (Resnick, 2015).

Finding alternative methods in reducing falls is significant for nurses to assist with improving outcomes in patient care by aiding in reducing complications from fall-

related injuries. There have been numerous trials implemented for preventing falls in the elderly, as falls are a huge economic burden (Annweiler et al., 2010; Blank et al., 2011; Haralambous et al., 2010; Hicks, 2015; Kiyoshi-Teo, Carter, & Rose, 2017; Li, Harmer, & Fitzgerald, 2016; Silva & Hain, 2017; Strupeit, Buss, & Wolf-Ostermann, 2016). Trials have included increased rounding to proactively address needs and decrease falls (Hicks, 2015). Multi-system approaches such as interviews, observations and data collection included with chart reviews have benefited fall reduction programs (Kiyoshi-Teo, Carter, & Rose, 2017). The addition of fall risk assessment tools have been used for predicting patients at highest risk of falling (Strupeit, Buss, & Wolf-Ostermann, 2016). Utilization of fall prevention packets which included yellow arm bands and yellow socks have been implemented to aid in increasing awareness of patients at increased risk of falling (Silva & Hain, 2017). Exercise programs have shown to be of benefit with decreasing falls among the elderly (Li, Harmer, & Fitzgerald, 2016). However, there have been no significant studies on fall prevention strategies in the hospice patient population (Schonwetter et al., 2010). This is a gap in practice and an area where it may be beneficial in preventing falls, decreasing cost, and increasing end-of-life outcomes in the high-risk patient population (Schonwetter et al., 2010). Falls is a persistent issue among elderly hospitalized patients. An estimation of up to 25% of hospitalized patients 65 years and older will fall during their hospitalization (Latt, Loh, Ge, & Hepworth, 2016). Predicting and decreasing the incidence of falling among hospitalized patients continues to be problematic (Latt, Loh, Ge, & Hepworth, 2016). There continues to be a demand advocating for increased fall prevention strategies and programs (Chein et al., 2016).

Nurses play a significant role in the implementation of fall reduction programs and have a need to understand the benefits of implementing various modalities to decrease falls (Hicks, 2015). It is unclear if aromatherapy will be of benefit to reduce falls in the in-patient hospice population, it is however a beginning step in providing knowledge for nursing and multidisciplinary staff in using this intervention in their fall prevention programs.

A literature review conducted by MacCulloch, and Gardner, (2007) found multiple factors associated with increasing the risk of falling which includes physiological illness, weakness in lower extremities, reduced grip, stability issues, visual deficits, mental impairments, lighting, defective assistive devices and untidy surfaces. To overcome these issues there is great importance in decreasing these factors through environmental changes, exercise, medication management, and preventing injuries related to falling (MacCulloch & Gardner, 2007). Haralambous et al., (2010) determined that fall prevention programs includes medication management, staff education, exercise, strengthening, observation, surveillance through rounding, implementing various alarm systems, such as bed alarms, tab alarms, and chair alarms. However, the finding was that these interventions were not used consistently in practice (Haralambous et al., 2010). Exercise has also been used as an effective intervention for assisting in increasing strength and functionality for the elderly population in reducing falls (Li, Harmer, & Fitzgerald, 2016). The strategies above have aided nurses and multidisciplinary team members in reducing falls however there is still work to do as falls remain a constant issue among patients.

A review of current literature was completed regarding the multiple uses of aromatherapy (see Appendix A). Hwang and Shin, (2015) suggest that aromatherapy is a common intervention for multiple uses as it is an economical alternative with less adverse effects and increases the overall sense of well-being. Other studies have shown that the use of aromatherapy has been effective in pain reduction (Lee, Choi, Posazdki, & Ernst, 2012). One study has shown that aromatherapy was beneficial in decreasing pain postoperatively (Dimitriou, Mavridou, Manataki, & Damigos, 2017). Aromatherapy has also shown encouraging results in decreasing pain and anxiety improving sleep (Meghani, Tracy, Niakosari, & Lindquist, 2017). Another study has shown that aromatherapy aids in symptom management for the palliative care population (Berger, Tavares, & Berger, 2013). Aromatherapy has aided in reducing pain, pain which causes issues with physical, psychological, social and spiritual aspects of health (Tang & Mimi Tse, 2014). Tang and Mimi Tse, (2014) went on to further describe how the use of aromatherapy has a lengthy history in western society, specifically using the oils to restore balance and increase well-being. A literature review completed by Maddocks-Jennings and Wilkinson, (2004) has shown that the majority of the literature relating to the use of aromatherapy and oils is used in small doses for massage therapy or used as an environmental fragrance (2004). Further information has shown that there is still minimal evidence supporting the use of aromatherapy in nursing practice and that there is potential to explore its use in practice (Maddocks-Jennings & Wilkinson, 2004).

The doctoral project of developing an educational program in the use of aromatherapy for the prevention of falls in the hospice patient population assisted with

implementing interventions to aid in fall reduction and fill a gap in the literature in the care of this patient population. Reducing falls in this population can greatly affect and improve the quality of life for these individuals (Sakamoto et al., 2012). Education is a primary objective in developing a program for reducing falls. Educational interventions are used to modify behaviors and are seen as useful in promoting successful outcomes in patient care (Abualula, Jacobsen, Milligan, Rodan, & Conn, 2016). An effective educational program was valuable for the DNP project in aiding to promote positive results in this vulnerable patient population.

Local Background and Context

The institution where the DNP project was implemented was a facility in the Midwest. The facility is comprised of inpatient care areas, a community living center and multiple outpatient care areas. The facility provides care covering a forty-two-county area. Across the span of the organization falls can be problematic for ensuring patient safety, along with being an economic burden and liability. The local facility supports reducing falls, as fall reduction is a National Patient Safety Goal. The NPSGs' aim is to evaluate which patients are at increased risk of falling and to incorporate precautions in preventing falls and decreasing injuries resulting from falling (The Joint Commission, 2016). The local facility has a supportive safe patient handling and mobility committee, striving to look at alternative methods in reducing patient falls.

In healthcare facilities patients can be at greater risk of falling due to unfamiliar environments, increased weakness, extensive disease progression, frequent changes in medications, and refusing assistance from others (Schonwetter et al., 2010). Decreasing

the incidence of falls in the hospice patient population can be challenging, particularly in facilities where patient self-determination and personalized care goals are encouraged for promoting quality at end-of-life (Fisher, 2013). In the local facility addressing and incorporating holistic symptom management methods such as aromatherapy may be beneficial in decreasing falls.

My Role

In this DNP project, I implemented the educational program as a student in the doctoral program. As the project planner, my role was to work with various individuals in the facility which consisted of leaders and educators to build the educational program for utilization of the alternative intervention of aromatherapy to reduce falls. The reason for implementing an educational program was to decrease falls in the hospice patient population. Transforming and promoting change in facilities takes time (Kotter, 2007). To be effective as a nursing leader it is essential to know the objectives and views of the staff members, building on their strengths for improving outcomes in patient care (White, Dudley-Brown, & Terhaar, 2016). The leader who is able to transform change in practice through role-modeling ensures transformation is accomplished by believing in the team and creating a team approach (White, Dudley-Brown, & Terhaar, 2016). Nursing leaders assist with influencing a culture of caring as they influence, lead, encourage, support, collaborate, and communicate by using various leadership styles, as well as making adjustments as necessary to be an effective leader of change (Samela, Eriksson, & Fagerström, 2012). One of the areas that I felt was important for my role as a DNP student and nursing leader was by being an effective communicator and being able to

lead change through an educational program, promoting cooperation among multidisciplinary team members for improvements in patient care. Last, I also served as facilitator of the education program.

Role of Project Team

The DNP project focus was on educating nurses and multidisciplinary team members in using an alternative intervention in aiding to reduce falls in the high-risk inpatient hospice population. Educational interventions transform behaviors and are beneficial in endorsing positive outcomes in patient care (Abualula, Jacobsen, Milligan, Rodan, & Conn, 2016). I led the project and sought out the expertise from nurse educators for guidance and support in the development of the educational program. The educator was sought out for expertise in assisting with the development of goals and objectives (see Appendix B) for meeting the facility and board of nursing requirements. This information was needed to obtain approval of continuing education units (CEUs) for the participants. The nurse educator was responsible for providing insight and feedback to me through development of the educational program. I set-up ad hoc meetings with the nurse educator to ensure progress and continued support of the DNP project.

Summary

Doctoral nursing education prepares nurses to be leaders in promoting change in practice (AACN, 2006). Nursing leaders support change by becoming involved in EBP projects. This EBP project was an example of how nursing and multidisciplinary staff can utilize alternative interventions of aromatherapy to decrease falls in their fall reduction programs. Nurses are leaders in promoting and implementing change for overall

improvements in patient care outcomes. This project assisted in addressing a gap in the current practice for the hospice population due to the existing lack of understanding on the incidence of falls in this population (Schonwetter et al., 2010).

Incorporating theories and models is beneficial in the ability to apply results in organizations (McEwen & Wills, 2014). Involving nurses in promoting EBP is of great importance by encouraging, educating, and supporting them to increase and improve outcomes in patient care. This may be accomplished by creating an environment of shared governance in which each member is engaged in the process and feels responsible for reducing falls and creating improvements for safe patient care (White, Dudley-Brown, & Terhaar, 2016).

In the following section, collection and analysis of evidence, I describe how the gap in practice through the literature review was used for an educational program promoting social change through an alternative fall reduction intervention in the inpatient hospice population.

Section 3: Collection and Analysis of Evidence

Introduction

This chapter focused on the identification of sources of evidence and how the evidence was used to develop the DNP project. The risk of falls among the hospice patient population is higher compared to other patients in the hospital setting (Smith, 2014). In the facility where this project was implemented, the facility works to decrease falls and to meet the NPSG initiatives. Given the limited studies on this population, falls among the hospice inpatient population was an area of interest. The plan was to collect and analyze the evidence in order to decrease the incidence of falls and improve the quality of care at the end-of-life. Of great importance was educating and empowering nurses to incorporate alternative interventions in their fall prevention program (Kiyoshi-Teo, Carter, & Rose, 2017). The project included an educational intervention where nurses use aromatherapy as an alternative intervention to decrease the incidence of falls. Included in this section of the proposal is an overview of sources of evidence and procedural steps used for carrying out the project.

Practice-Focused Question

The DNP proposal question that guided the project was, Will an education program on using aromatherapy for fall prevention increase knowledge of this intervention for an interdisciplinary hospice staff? Improving the awareness and focus of staff through an educational program could be beneficial in bridging the gap of incorporating fall prevention programs into nursing practice (Kiyoshi-Teo, Carter, & Rose, 2017). An educational program was implemented to increase the knowledge of

multidisciplinary staff about the use of alternative interventions in preventing falls among the hospice inpatient population. Use of aromatherapy for the hospice population—a holistic approach—has been shown to restore balance and increase comfort (Tang & Mimi Tse, 2014). Education allowed multidisciplinary staff to use an alternative intervention for fall prevention, thus applying the evidence for use in nursing practice, creating new information, supporting quality and improving safe patient care (Lusardi, 2012). An evaluation was given to participants to review what they had learned and to assess the likelihood of staff incorporating aromatherapy to reduce falls in their practice.

There is a gap in practice involving studies specifically for fall prevention in the hospice population (Schonwetter et al., 2010). The educational program helped address this gap and offered staff an opportunity to incorporate aromatherapy in their fall reduction program for the hospice population. The program helped staff use an alternative approach in their fall reduction and prevention program (Haralambous et al., 2010). Aromatherapy is an intervention that has increased in popularity due to its cost-effectiveness, its low level of adverse effects compared to other medications used for treatment, and due to its overall use of promoting comfort through its relaxant effects (Hwang & Shin, 2015).

Sources of Evidence

Multiple sources of evidence were used to address the practice-focused question for this project. First, I searched the following databases: Medline, CINAHL, PubMed, EBSCO, Ovid Nursing Journals, and ProQuest. I also searched various government websites related to falls, for example, Centers for Disease Control and Prevention, U. S.

Department of Health and Human Services, National Institutes of Health, and The Joint Commission. I searched evidence-based sources to help answer the practice-focused question, including a comprehensive and extensive search for applicable evidence-based articles. This determined what was known regarding the topic and what was unknown. The following keywords were used for searching sources of interest: aromatherapy, essential oils, alternative modalities and therapies, symptom management, falls, fall prevention, including specific searches for falls related to hospice, end-of-life, comorbidities, and the elderly. The search was limited to articles that were peer-reviewed, full-journal entries, English language, and dates ranging from 2000 to the present. The date range was selected to show both longevity of using aromatherapy for symptom management and to obtain sufficient resources to be used in the educational program for the DNP project.

The supporting evidence was used to guide me in developing the project by supporting the purpose and answering the practice-focused question. Collecting and analyzing applicable evidence through the use of current evidence-based literature that had been published and incorporating resources for developing the educational program provided resources for addressing the practice-focused question. The DNP project aided in increasing the knowledge of the nursing staff through the educational offering regarding the usage of aromatherapy as an alternative intervention for fall prevention. The education program increased the awareness of the staff in the ability to incorporate the intervention in their fall reduction program. Increasing the staffs' understanding that providing a holistic and individualized fall reduction approach in the hospice patient

population may aid in improving their fall prevention program (Smith, 2014). Multidisciplinary staff will use the knowledge gained in using aromatherapy for fall prevention benefits including relaxant effects, olfactory stimulation, calming properties and aiding in reducing the need for further sedative medications (Sakamoto et al., 2012).

Collecting and analyzing available evidence provided me the ability to address the practice-focus question and build an applicable educational program. The educational program was offered to multidisciplinary staff members for incorporating an alternative intervention in their fall reduction program. The educational program assists with promoting a positive social change in the hospice patient population by decreasing falls and improving quality care at the end-of-life. Education gave staff the knowledge for implementing an effective fall prevention program that was patient-focused, consistent with patient values, strives to meet goals of independence, and improves safety and quality of life (Morss, 2016).

The collection and analysis of the sources of evidence were evident through the development of the project. I worked with the nurse educator to obtain continuing education units (CEUs) for the program. The facility was an approved provider for CEUs through the State Board of Nursing, so I did not need to submit the application. The facility as an approved provider had a consistent, identifiable authority who was responsible for reviewing and forwarding all required program information to the contact person at the state board of nursing. The authority for the facility was the nurse educator, I worked with the nurse educator in development of all required forms that were sent by the Nurse Educator to the state board for CEU approval. I worked with the nurse educator

in development of a pre- and posttest (see Appendix C) along with an evaluation tool (see Appendix F) that was used for obtaining data from the educational program.

Evidence Generated for the Doctoral Project

Participants

Staff members who participated in the education program were sought out through publishing the educational program through the use of email which included adding the educational flyer (see Appendix B) for staff to register for the program. I sought out information from the nurse educator for publishing the educational program and recruiting interested participants. The program was presented to individuals based on their availability to attend and their relevance in caring for the hospice population of patients. The education program was targeted to nursing and multidisciplinary staff who worked with patients receiving end-of-life care. The educational program was also offered hospital-wide to allow all staff members the opportunity to attend and increase their knowledge of the intervention. Frontline staff who worked with patients at end-of-life were relevant participants to take what they learned and implement in their practice. Education is a primary means for spreading and incorporating EBP in patient care (Ousley, Swarz, Milliken, & Ellis, 2010). Participants received a pre- and posttest to assess for knowledge gained. A separate tool was used for evaluating the continuing education program of content learned.

Potential contributions for nursing participants was through leading and promoting into practice new alternatives in fall prevention and for supporting improvements in quality patient care. Nurses and multidisciplinary staff in the local

facility can become leaders by increasing their knowledge in the use of alternative interventions for fall prevention in order to improve patient care outcomes and quality of life. This project could also benefit other areas in the facility to decrease falls and potentially decrease various other symptoms that aromatherapy may assist with alleviating. Therefore, the education program was presented to primarily nursing staff but was offered to all ancillary staff as well.

Procedures

The *Manual for Staff Education* following the steps of planning, implementation and evaluation for development of the education project was used. The applicable methods and theories were also used for development of the educational program. Theories must be understandable to be useful, the applicable use of theory assists with coordinating care, standardization of care, validation of care, and serves as a tool for collecting and implementing the findings (McEwen & Wills, 2014). Theories are applied to support and assist with completing an in-depth assessment, and for the development and implementation of change in practice (Hodges & Videto, 2011). I used the multiple tools for development of the education program which was geared toward adult learners.

Planning

One of the first steps completed for the project was obtaining site approval from upper leadership at the organization by gaining support for completing the educational project at the facility. This form is not included in the final DNP project paper. Developing, organizing and presenting the program was through the use of the support from the organization and the various educational tools from subject matter experts which

included, committee chair, nurse educator, *Teaching in Nursing: A Guide for Faculty* (5th ed.) by Billings and Halstead (2016), *Nurse as Educator* (5th ed.) by Bastable (2019), Knowles' theory (Palis & Quiros, 2014) and QSEN (AORN, 2018).

Planning and development of the program was further developed through the use of models and frameworks for guiding leaders and teams (Kettner, Moroney, & Martin, 2017). The applicable models were useful guides for the development of the objectives, goals and the pre- and posttest (see Appendix C) of the educational program. I used the expertise from the theorists and models cited in section two, committee chair and subject matter experts in development of the educational program to ensure that the program met the needs of adult learners and for validating and evaluating the effectiveness of the education given. The educational program was revised through review and input from subject matter experts which included nurse educator and committee chair for validation. An evaluation (see Appendix D) was given to all participants for collecting data on the effectiveness of the educational program.

Implementation

Education was one of the main objectives in the program for reducing falls. Educational interventions that are used to change behaviors have been shown to be helpful for successful outcomes in care (Abualula, Jacobsen, Milligan, Rodan, & Conn, 2016). Effective educational programming was beneficial in ensuring a positive outcome in reducing falls. Implementation of the program followed the guidelines outlined in the Walden University *Manual for Staff Education Project*. The nurse educator at the facility assisted with overseeing the educational program including oversight in the development

of the recruitment flyer (see Appendix B), preparation of PowerPoint slides (see Appendix F) and evaluation materials (see Appendix D) for the program. I served as subject matter expert and facilitator of the educational program. As facilitator, I delivered the educational program to the participants.

Evaluation

Program evaluation is necessary for evaluating the impact of the interventions used for implementing change, for assessing if the changes can be maintained and for determining if the intervention increased results (Reeves et al., 2016). An evaluation was given to all participants for determining the effectiveness of the educational program objectives. Due to the number of participants the data was analyzed manually. A synthesis of the findings will be presented in the final DNP project paper and available to the nurse educator and key stakeholders at the facility.

Protections

I ensured the protection of participants in the doctoral project. This was accomplished through the institutional review board (IRB) process approval safeguarding the privacy of the participants and the organization. The IRB approval number for the project was 12-20-18-0038447. The participant names remained anonymous and the organization name was not used. I worked with the nurse educator to obtain CEUs for the program. An attendance roster (see Appendix E) was maintained and used for record keeping. The final form with participant names is not included in the final DNP project. A consent from participants was not needed for a continuing educational program.

Analysis and Synthesis

The systems used for recording, tracking, and analyzing the evidence was through the development of a pre- and posttest and the program evaluation process. One of the main goals at end-of-life is by improving and promoting a positive transition to the end-of-life (Nakano, Sato, Katayama, & Miyashita, 2011). The use of aromatherapy has been shown to enhance and improve symptom management of pain, discomfort, depression, anxiousness, stiffness, and tension and has been found to be an important addition during end-of-life care (Berger, Tavares, & Berger, 2013). Analyzing and synthesizing current literature aids in identifying commonalities, connections and gaps in current practice (Clark & Buckley, 2017). There was a need to identify the gaps and connections in the incidence of falls in the hospice population of patients for successful implementation of alternative methods for fall reduction in the inpatient hospice population and promoting social change.

A pre- and posttest (see Appendix C) was developed by me in collaboration with the committee chair and nursing educator at the facility and was given to the multidisciplinary staff members participating in the education program to determine the impact of the educational program. I understood the need for the pre- and posttest questions to be broader questions to accommodate the various interdisciplinary staff who attended the program. The pre- and posttest included seven questions which were assessed by a content expert for face validity. I used the evidence-based educational nursing texts, Bloom's taxonomy, current literature, nurse educator, and through guidance of the committee chair to develop the questions. The pre- and posttest allowed

me to know if the practice-focused question was answered and if the education program had been successful in increasing the knowledge of the staff in the use of incorporating alternative interventions, such as aromatherapy in their fall reduction programs.

A program evaluation tool (see Appendix D) was implemented based on the evaluation requirements per the organization and the State board of Nursing. I used a Likert scale for calculating the outcome of the pre- and posttest for determining program effectiveness. A Likert scale utilizes a numerical scale to determine the opinion or responses of individuals to a series of questions (Groves, Burns, & Gray, 2013). The numerical data was analyzed manually due to the number of participants who attended the program.

The evaluation included questions for determining the knowledge gained of the participants, questions that aligned with the program objectives. I worked with the nurse educator at the facility to develop an educational program in which continuing education credits were available for applicable staff. I used available resources given by the education department for requesting instructional support, template for educational planning, and using resources available through the state board for seeking out continuing education credits. Continuing education was available in the state by having an educational program that increased nurses' knowledge. The information from the state board was used for following the criteria and requirements needed for approval of CEUs. I also worked with the nurse educator to determine if other disciplines were able to obtain continuing education credits toward their licensure.

Summary

While literature on strategies has grown to reduce falls very little had been done using aromatherapy to reduce falls. To answer the DNP practice-focused question a review of current literature guided the educational program for multidisciplinary staff members. The literature review was organized by using a review matrix ensuring up-to-date results were incorporated in the DNP project. The literature was used to develop an educational program for multidisciplinary nursing staff to incorporate alternative interventions for fall prevention. I guided the educational program by using the *Manual for Staff Education* and QSEN principles for ensuring the program focused on overall improvements in patient-centered quality care. The American Nurses Credentialing Center (ANCC) served as the model for development of the staff educational program. In the next section the focus is on reviewing the findings and implications of the DNP project of educating nursing staff for incorporating an alternative intervention of aromatherapy for fall reduction and for promoting a positive social change in the hospice inpatient population.

Section 4: Findings and Recommendations

Introduction

This chapter focuses on the findings, implications, analysis, synthesis, strengths, and limitations of the DNP project. Falls among the elderly is a persistent health care concern due to the increase in fall-related injuries and thus increased costs (Blank et al., 2011). The overall purpose of the DNP project was to impact social change in the inpatient hospice population by filling a gap in practice. Using alternative interventions to assist in decreasing falls and reducing the associated risks from falling in this high-risk population will assist with filling this gap. There continues to be an increased demand for more fall prevention strategies for patients with multiple comorbidities (Chien et al., 2016; Ishoy & Steptoe, 2011; Kowalski, 2016; Schonwetter et al., 2010). Due to the number of comorbidities and advanced disease processes that are possible at end-of-life, the hospice population needs alternative strategies to reduce falls and improve quality of life.

For this DNP project multiple sources of evidence were used, including multiple databases and various government websites. EBP literature was identified by searching full- text, peer-reviewed articles with dates ranging from 2000 to the present. The range showed the longevity of using this alternative intervention for end-of-life symptom management and for use as a fall reduction method. Keywords used for searching the evidence included *aromatherapy*, *essential oils*, *falls*, *fall-prevention*, *elderly*, *hospice* and *end-of-life*. Collecting and analyzing the evidence through the multiple sources

allowed me to address the practice-focused question and to build the educational program for the staff.

Findings and Implications

In the literature, there was evidence to support the use of aromatherapy for managing multiple symptoms, such as those related to end-of-life symptom management, including pain reduction, decreasing anxiety, increasing sleep, relaxation, and reduction of falls (Berger, Tavares, & Berger, 2013; Dimitriou, Mavridou, Manataki, & Damigos, 2017; Hwang & Shin, 2015; Lee, Choi, Posazdki, & Ernst, 2012; Meghani, Tracy, Niakosari, & Lindquist, 2017; Sakamoto et al., 2012). Aromatherapy has been shown to be beneficial as it is an economical alternative for symptom management (Hwang & Shin, 2015). Through the educational program various staff members had the opportunity to increase their knowledge about using aromatherapy as an alternative intervention at end-of-life in their fall reduction programs.

Procedure

An educational program was designed by me to determine the effectiveness of the training on the knowledge gained of the participants in using alternative interventions in their fall reduction programs. Designed as a continuing education offering, the program lasted 60 minutes. The educational program included a slide presentation, discussion period, and a question-and-answer period. I developed a pre- and posttest to assess the knowledge gained. The educational program was presented on two separate occasions with a total of 13 participants: Day 1 had five participants and Day 2 had eight participants.

Knowles theory was used to assist me in development of the educational program. Knowles theory focuses on the five expectations that adult learners need for effective learning, these include, self-concept, experience, readiness, orientation and motivation (as cited in Palis & Quiros, 2014). Knowles theory was used as a guide for planning, developing, and evaluating the program focusing on the specific needs of adult learners. Blooms taxonomy of educational objectives was also used by me to assist with writing measurable goals and objectives for the educational program and for development of the pretest, posttest, and program evaluation.

The QSEN was also useful for development of the educational program. QSEN's principles were beneficial for me in developing a program that was in line with the principles of this model. Principles of the model, are being patient-centered, working as a team, collaboration, using EBP, and focusing on quality and safety (AORN, 2018).

Steps used in carrying out the program was through planning, implementation and evaluation. As the project planner I worked with a variety of individuals at the facility for building the educational program with a significant amount of time spent with the nurse educator. The educational program was implemented by me as the facilitator of the educational program. The educational program was implemented to increase the knowledge of staff in using an alternative intervention of aromatherapy in their fall reduction programs. Evaluation of the educational program was through the development of the pretest, posttest, and evaluation tool in coordination with the nurse educator to ensure the forms were approved for use in the facility and approved for participants to receive CEUs through the state board.

Participants

A total of 13 staff members participated in the educational program (n = 13). The participants included registered nurses (RNs), licensed practical nurses (LPNs), nursing assistants (NAs), and two other staff members with no designation of specialty. Prior to implementation of the educational program a consent form for anonymous questionnaires was given to all participants. Participants were recruited through advertisement by posting educational flyers via facility email. The educational program was open to all staff members to assist with increasing the number of participants.

Instrumentation

A pre- and posttest was developed by me and given to all 13 participants. A pre- and posttest were used to answer the practice-focused question while a program evaluation survey was used to assess quality of the educational offering. The pre- and posttest (see Appendix C) included seven questions, four true/false and three multiple-choice questions. A program evaluation tool (see Appendix D) was also developed by me and given to all participants. This tool followed the evaluation requirements of the organization and the State board of Nursing. There was a total of eight questions incorporated in the evaluation tool. Confidentiality of the participants was obtained by not having participants write individual names on the forms. The test and program evaluation tool were also handed out and collected by the nurse educator to ensure confidentiality of the participants.

Data Analysis & Results

Data from the pretest, posttest and evaluation were manually calculated by me to determine the knowledge gained. With the continuing educational program serving as an intervention, findings indicate an increase in pre- and posttest scores (See Table 1). Questions 1, 3, 5, and 7 were all true or false questions and had no change in response from the pre- to posttest, as all were answered correctly. Questions 2, 4, and 6 showed an increase of knowledge ranging from 15–60%, showing an increase in correctly answering the questions from the pre- to posttest by the participants.

Table 1

Pretest & Posttest Questions Answered

N = 13	Pretest	Posttest	Correct answer	Improvement from pre- to posttest (%)
Question 1	a. 13 b. 0	a. 13 b. 0	a.	0
Question 2	a. 0 b. 4 c. 9 d. 0	a. 0 b. 4 c. 1 d. 8	d.	62
Question 3	a. 0 b. 13	a. 0 b. 13	b.	0
Question 4	a. 7 b. 6	a. 4 b. 9	b.	23
Question 5	a. 13 b. 0	a. 13 b. 0	a.	0
Question 6	a. 1 b. 2 c. 11 d. 1	a. 2 b. 2 c. 13 d. 1	c.	15

Question 7	a.13 b. 0	a. 13 b. 0	a.	0

A Likert scale with eight questions was used to evaluate the overall quality of the continuing education program (See Table 2). Twelve out of 13 participants responded favorably to the program by rating either *agree* or *strongly agree* with all questions. One participant rated all areas as *neither agree nor disagree* in the program evaluation. The responses were evaluated using the mean score in calculating the participant responses with the range from 4.4 to 4.6 out of 5, rating the program positively.

Table 2

Evaluation

Evaluation Questions	Mean Likert Score
1. Overall the stated objectives were met	4.6
2. The teaching methods used were conducive to learning	4.5
3. The content was relevant to the objectives	4.6
4. The facilitator was an effective presenter	4.6
5. After attending the program, I have increased knowledge regarding the risk of falls in the hospice patient population	4.6
6. After attending the program, my understanding in the use of aromatherapy as a fall prevention intervention has increased	4.4
7. After attending the program I have a greater understanding of how aromatherapy is used as a holistic approach for fall prevention	4.6

Note. Overall program: 5 = *strongly agree*; 4 = *agree*; 3 = *neither agree or disagree*; 2 = *disagree*; 1 = *strongly disagree*

Implications

Implications of the project to the various stakeholders is through increasing education of an alternative fall prevention strategy. Stakeholders who may benefit from this project are the hospice patients, their caregivers and family members, nursing staff, multidisciplinary staff, healthcare facilities and the community. Increasing awareness through education on using aromatherapy as a fall prevention strategy and its use with various other symptoms can assist with promoting a positive social change. Social change is through promoting positive life changes for individuals, communities, and healthcare systems by improving the overall quality of life (Bradbury-Jones & Taylor, 2014). Addressing falls in the hospice population has largely been overlooked or taken for granted. Providing an educational program on aromatherapy to reduce patient falls in this population is a beginning to attempt to address this problem. Defined as a strategy to increase awareness, positive social change can also be seen as an outcome.

Recommendations

The DNP project has the potential to address the gap-in-practice as evidenced by the increase in knowledge of the staff that participated in the educational program through the pre- and posttest (see Table 1). Through dissemination of the educational program and using aromatherapy as an alternative intervention in fall reduction programs at end-of-life has the potential of addressing this gap in practice. An educational offering allowed the participants an opportunity to gain knowledge on using an alternative intervention in their fall reduction program. Education is an effective method in increasing knowledge and spreading the use of applying EBP for overall improvements in

patient care (Ousley, Swarz, Milliken, & Ellis, 2010). It would be beneficial for continued educational programs incorporating this intervention in fall reduction programs for overall improvements in quality care.

Contribution of the Doctoral Project Team

The nurse educator was an essential part of the project. The educator's expertise was sought out to assist with development of the educational program including giving input into the development of the goals and objectives for the program in meeting the facility and board of nursing educational requirements. The educator was supportive and aided in obtaining CEUs for the program, along with promoting and advertisement of the program. I kept in close contact with the nurse educator to ensure the project was moving forward to meet timelines for project completion. The nurse educator assisted with the educational program by having applicable paperwork available and distributed to participants including signing the roster, completing the pretest, posttest, evaluation and ensuring the confidentiality of the participants by gathering the applicable paperwork for me.

I realize there is a need to continue educating multidisciplinary staff on using this modality in fall reduction programs. I will continue to work with the facility and leaders beyond the DNP project completion in promoting the implementation of this alternative intervention and other EBP programs for inclusion in fall reduction programs. I plan to be at the forefront as a leader in promoting this project and other projects for improvements in quality care. Possible areas for improving quality care is becoming involved with the

EBP committee, mobility committee and participation with unit level and facility policies.

Limitations and Strengths of the Project

Reducing falls is complex and requires a tremendous amount of support from multiple stakeholders (MacCulloch, Gardner, & Bonner, 2007). The goal of the DNP project was to present an educational program to find if there was knowledge gained by the participants. With any project there are limitations and strengths found.

Limitations

Sample size could be limited with only 13 participants. Sample size for a rigorous study is dependent on having enough study participants to obtain meaningful data (Grove, Burns, & Gray, 2013). Sample size can have a great impact on the data and findings in the project (Grove, Burns, & Gray, 2013).Therefore, given a small sample of participant's findings from pre- and posttest should be addressed cautiously.

There could be limitations due to the education being offered at one facility. The number of educational offerings available, time offered, and day of week could have played a role in the number of staff able to attend. The findings of the data may not reflect a general consensus for a more global perspective. The inability to disseminate the education to larger groups could have an impact on progressing or incorporating this alternative intervention in fall reduction programs.

The decreased number of multidisciplinary staff participants may have been an issue. Stakeholder buy-in or lack of participation in the educational program may limit the ability to disseminate this alternative intervention in practice. Nurses are perceived as

the individuals responsible for implementing EBP projects for improving quality patient care (Kiyoshi-Teo, Carter, & Rose, 2017). The majority of participants were nursing staff. Effective fall reduction programs require a collaborative interdisciplinary team approach (Duffy, 2013). Finding other strategies to involve interdisciplinary team members including therapy and providers may have been beneficial.

There are possible limitations of the reliability and validity of the pretest, posttest, and evaluation tools. These tools were all developed by me. There was not a confirmed reliability of the questions asked, rather a general overview of true/false and multi-choice questions developed from the educational program given.

Strengths

Possible strengths of the DNP project was through the dedication and support of leadership and nursing education. For effective implementation leaders need to be involved with prompting and executing change by being available and being open to change (Samela, Eriksson, & Fagerström, 2012). EBP is the standard for improving the overall health and healthcare for the patients (McEwen & Willis, 2014). The individuals involved with the DNP project support and promote EBP.

Summary

A total of 13 staff participated in the DNP educational program. While an increase of knowledge was seen through the results of the posttest an increased number of participants may have been beneficial for widespread education and increased knowledge to multidisciplinary staff members. Advocating and supporting fall prevention interventions is

needed for improvements in patient care (Fisher, 2013). A supportive team advocating and promoting the educational program assisted with successful implementation of the program. In the next section the focus is on further dissemination plans of the DNP project to the facility, the stakeholders appropriate to disseminate the project to, and an analysis of self.

Section 5: Dissemination Plan

Introduction

In this chapter the focus will be on dissemination of the DNP project, the applicable audiences, and the stakeholders of interest. For improvements in quality care it is important that knowledge be improved to keep others updated with changes that affect care (Walsh, 2010). This chapter will also include an analysis of self and the challenges and insights gained throughout the DNP project process.

Dissemination of the project at the facility level would continue to increase the knowledge of interested multidisciplinary staff members about incorporating aromatherapy as an alternative intervention in their fall reduction programs. It would be important to find out (a) what presentation would work best at the facility to disseminate the education and broaden staff participation and (b) the day, time, and place staff would be more apt to attend, and (c) how to increase the number of multidisciplinary staff members involved. Education should be embraced as it promotes quality and helps staff contribute to improvements in patient care (Walsh, 2010). Continued support from the organization, leadership, and frontline staff would be important for further dissemination.

This project is applicable to a broad range of the nursing profession and would include any nurse who is interested in improvements in quality care and patient safety, particularly those who are interested in fall reduction programs. To include a broader nursing profession would be any nurses who care for patients at an increased risk of falling. This project would be of interest to any accrediting body because it centers on implementing alternative fall reduction interventions to improve patient care (Joshi,

Ransom, Nash, & Ransom, 2014). Others that could benefit from this project include hospice nurses and hospice organizations, for example, National Hospice and Palliative Care Organization, Hospice and Palliative Nurses Association, and Oncology Nursing Society. Other nursing organizations include, but are not limited, to American Nurses Association, Geriatric Nurses Association, and National League for Nursing, and American Association of Colleges of Nursing. This DNP project should be considered for publication; disseminating outcomes in peer-reviewed journals is imperative for supporting the finest in EBP standards for nurses (Christenbery, 2011).

Another way to disseminate this project is through a poster presentation, which allows for increased interactions and opportunities for discussion and answering questions one-on-one (Christenbery & Latham, 2013). A poster format would also allow a drop-in approach, which would allow more staff the opportunity to attend compared to a rigid class timeframe. A poster presentation is mobile and can be taken to other units at the local facility, including other health care facilities and venues of interest for this educational program. This would assist with increasing the education to a broader group.

Analysis of Self

To promote change, a leader requires patience, persistence, strength, practicality, self-confidence, and trust in others (Nelson-Brantley & Ford, 2016). These are the skills that I focused on and learned as I worked toward completion of the DNP project. The DNP program focuses on preparing nurses to advance their skills in teamwork, collaboration, use of EBP and system management for improvements in patient care (Moriber et al., 2014). During this experience my goal was to work on expanding my

leadership skills, improving collaboration and communication, and assisting with improving patient care outcomes, all of which I have improved throughout this process. I definitely feel more prepared in being a leader and change agent in the facility for future projects.

One of the most important things I had to learn was patience, and that with any practice change it takes time (Kotter, 2007). The DNP educational project was a process and each step took different timeframes. I found out pretty quickly that my timeframes did not always meet the needs of the various leaders, educators and staff that I was working with throughout the project. This was one of the biggest challenges I had to face, focusing on what I could do at the time to keep the project moving forward was important. The DNP project focused on implementing an educational program, this was an area where I had little to no exposure previously and therefore did not know exactly what to expect or the time needed to complete. I have greatly increased my knowledge in this area and am more confident in going forward with planning and implementing other educational programs.

Summary

Falls unfortunately are a continual occurrence and health concern for the elderly that may lead to a variety of injuries up to and including death (Kiyoshi-Teo, Carter, & Rose, 2017). Falls occurring among patients at end-of-life are at an even greater risk (Smith, 2014). The DNP project assisted with addressing the gap in current practice for the hospice population by educating staff of an alternative intervention for use in fall reduction programs.

Addressing and implementing alternative methods to reduce falls and decrease costs is needed to for overall improvements in quality care for this high-risk vulnerable group.

Aromatherapy is an alternative intervention that has been found as beneficial in improving end-of-life symptom management and in reducing falls. Aromatherapy is a cost-effective alternative with fewer adverse effects used for improving comfort for multiple symptoms (Hwang & Shin, 2015). Aromatherapy has been shown to be effective in fall-reduction programs (Haralambous et al., 2010).

The educational program developed by me followed the Manual for Staff Education, ANCC, and QSEN principles. Thirteen staff took part in the DNP educational program. While an increase of knowledge was seen, a larger number of participants would have been beneficial for further spread of the educational program.

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Appendix A: Literature Review Matrix

Author/Year	Title/Journal	Purpose	Research Design	Population/ Sampling	Findings
Berger, L., Tavares, M., & Berger, B 2013	Journal of Palliative Medicine	To determine if complementary therapy improved symptom management and improving quality and satisfaction at end of life.	Assessment, therapy intervention, sessions of psycho-spiritual support	31 respondents	Significance improvement with 95% confidence
Dimitriou, V., Mavridou, P., Manataki, A., & Damigos, D. 2017	Journal of Peri-Anesthesia Nursing	To analyze results of randomized controlled trials studying the effectiveness of aromatherapy on postoperative pain	Systematic Review	9 randomized controlled trials from 1965-2010.	Shown improvement in patient satisfaction Undetermined on the effectiveness in postoperative pain relief
Hwang, E., & Shin, S. 2015	The Journal of Alternative and Complementary Medicine	Evaluate evidence on aromatherapy for sleep	Systematic literature review and Meta-analysis	245 publications reviewed with 12 selected meeting all criteria.	Treatments effective in promoting sleep.
Lee, M. S., Choi, J., Posadzki, P., & Ernst, E. 2011	Maturitis	Overview of the effectiveness of aromatherapy	Systematic Review	201 publications reviewed with 10 meeting all criteria	No significant findings or effect for using aromatherapy
Lillehei, A.S., & Halcon, L. L. 2014	Journal of Alternative and Complementary Medicine	Review if essential oils aided in sleep.	Systematic Review	15 qualitative studies 11 randomized controlled trials	Majority of the studies showed a positive result with lavender as the most beneficial
Meghani, N., Tracy, M. F., Hadidid, N. N., & Lindquist, R. 2017	Dimensions of Critical Care Nursing	Review use of aromatherapy for symptom management of pain, insomnia, anxiety in critically ill	Integrative Review	Primary sources research, 2010-2017, 6 studies. Broader window and inclusion established which produced 9 studies.	All studies revealed positive benefits from use of aromatherapy.
Sakamota, Y., et al. 2012	Journal of The American Geriatrics Society	Investigate the effects of lavender on fall reduction	Randomized placebo-controlled trial	145 nursing home residents 65 years and older.	Fewer fallers in the lavender group than the placebo group.
Tang, S. K., & Mimi Tse, M. Y. 2014	BioMed Research International	Examine the effectiveness of aromatherapy and reducing pain	Intervention group versus control group	Eighty-two participants took part in the study. Intervention group of (37 females and 7 males. Control group of 30 females and 8 males.	Significant reduction in the intervention group. Aromatherapy found to be effective in reducing pain.

Appendix B: Educational Flyer Objectives and Goals

Facility

Using Aromatherapy for Reducing Falls in the Hospice Population
(TMS No. 4490365)

Purpose: The purpose of this training program is designed to provide Nursing and Multidisciplinary Staff working with the patients receiving hospice care, an opportunity to learn about using an alternative intervention to decrease falls. The major topics include:

- Overview of End-of-Life Symptoms
- High risk fall populations and fall prevention overview
- Overview of Aromatherapy and benefits for use
- Holistic Care of the Veteran at the End-of-Life using aromatherapy to decrease falls.

Objectives: ***After completing this program, the learner should be able to:***

1. Identify End-of-Life symptoms that increase the risk of falling.
2. Recognize how aromatherapy may be used to manage symptoms at the End-of-Life.
3. Discuss common fall precautions and identify alternative interventions that may be used to decrease the risk of falls.
4. Explain the increased risk for falls at the End-of-Life.
5. Recognize various methods of aromatherapy that can be integrated into practice.
6. Discuss the impact of aromatherapy to prevent falls for patients receiving Hospice Care.
7. Describe the holistic approach to reduce falls for patients at the End-of-Life.

Date/Time/Location of Program:
Tuesday, January 29, 2019, 3-4:00 PM Building 12
Wednesday, February 6, 2019, 1-2:00 PM Building 4

Intended Audience: Nursing and Multidisciplinary Staff working with Veterans receiving Hospice Care.

Facilitator(s): Kimberly Pistek, MSN, BSN, RN

TMS Registration Link: Aromatherapy and Fall Prevention 4490365

Nursing Contact Hours: This ongoing program has been approved for 1.0 Contact Hours by the Health Care System, State board of nursing provider #53. No partial credit will be offered

Appendix C: Pre- and Posttest

Facility

Pretest

Title: Aromatherapy: An alternative intervention for fall prevention.

1. Unintentional falls are the most common cause of injury for people 65 and over?

a. True
b. False

2. Injury and mortality rates after a fall rises dramatically after the age of?

a. 55
b. 65
c. 75
d. 85

3. Hospice patients are at no greater risk of falling than any other patient?

a. True
b. False

4. There have been multiple studies conducted in the hospice population for fall reduction interventions?

a. True
b. False

5. Aromatherapy is an effective fall prevention intervention?

a. True
b. False

6. Which of the following essential oils has been found to be beneficial for its soothing properties and an aide for fall reduction?

a. Orange
b. Peppermint
c. Lavender
d. Rosemary

7. A holistic approach is beneficial for fall prevention programs?

a. True
b. False

Facility

Posttest

Title: Aromatherapy: An alternative intervention for fall prevention.

1. Unintentional falls are the most common cause of injury for people 65 and over?

a. True
b. False

2. Injury and mortality rates after a fall rises dramatically after the age of?

a. 55
b. 65
c. 75
d. 85

3. Hospice patients are at no greater risk of falling than any other patient?

a. True
b. False

4. There have been multiple studies conducted in the hospice population for fall reduction interventions?

a. True
b. False

5. Aromatherapy is an effective fall prevention intervention?

a. True
b. False

6. Which of the following essential oils has been found to be beneficial for its soothing properties and an aide for fall reduction?

a. Orange
b. Peppermint
c. Lavender
d. Rosemary

7. A holistic approach is beneficial for fall prevention programs?

a. True
b. False

Appendix D: Evaluation

PROGRAM EVALUATION

Title: Aromatherapy: An alternative intervention for fall prevention.
Date: 1-29-2019, 3-4:00 PM and 2-6-2019, 1-2:00 PM

I. OVERALL PROGRAM: Please answer using the following scale:
5 – Strongly Agree; **4** – Agree; **3** – Neither agree or disagree; **2** – Disagree; **1** – Strongly Disagree

(Circle the number that best reflects your agreement with each statement)

1. Overall the stated objectives were met 5 4 3 2 1

2. The teaching methods used were conducive to learning. 5 4 3 2 1

3. The content was relevant to the objectives. 5 4 3 2 1

4. The facilitator was an effective presenter. 5 4 3 2 1

5. I found this program useful for my professional practice. 5 4 3 2 1

6. This program has increased my knowledge in the risk of falls for the hospice patient population. 5 4 3 2 1

7. This program has increased my understanding in the use of aromatherapy as a fall prevention intervention. 5 4 3 2 1

8. This program has increased my knowledge of how aromatherapy is used as a holistic approach for fall prevention. 5 4 3 2 1

9. Suggestions for improving the program are welcomed:

II. Position: (select one)
___ Nursing Administration
___ Nurse Manager
___ Staff Nurse
___ LPN
___NA/HT
___ other (specify) _____

III. Other education programs I would be interested in attending: _____
THIS EVALUATION MAY BE SUBMITTED DIRECTLY TO THE State Board of Nursing.

Appendix E: Roster

Facility

Program Roster

TMS Course No.: 4490365

Course Title: Aromatherapy: An alternative Intervention for fall reduction.

Presenter(s): Kimberly Pistek MSN, BSN, RN

Date: 1-29-2019, 3-4:00 PM
2-6-2019, 1-2:00 PM

Name	VA Email Address	Unit/Area	Signature

Appendix F: Educational PPT

AROMATHERAPY: AN ALTERNATIVE INTERVENTION FOR FALL REDUCTION

Kimberly K. Pistek MSN, BSN, RN
Walden University DNP Student

Objectives

- Explain the increased risk for falls at the End-of-Life.
- Identify End-of-Life symptoms that increase the risk of falling.
- Discuss common fall precautions and identify alternative interventions that may be used to decrease the risk of falls.
- Recognize various methods of aromatherapy that can be integrated into practice.
- Recognize how aromatherapy may be used to manage symptoms at the End-of-Life.
- Discuss the impact of aromatherapy to prevent falls for patients receiving Hospice Care.
- Describe the holistic approach to reduce falls for patients at the End-of-Life.

Introductions

- Introduce self
- Where you work
- How long you have been with the facility
- Aromatherapy – any experiences with use

Falls

- Fall and injury prevention is a continual issue.
- Economic burden - costs reaching in the billions yearly.
- Unintentional falls are the most common cause of nonfatal injuries in the U.S. for people 65 and older.
- 28-35% of individuals over the age of 65 fall every year.
- 32-42% of individual over the age of 70 fall every year.
- Fall-related injuries are the most common cause of accidental death for those over 65.
- Injury and mortality rates rise dramatically after the age of 85.

(Chein, Goddard, Casey, Devitt, & Filinski, 2016).

Falls

- A fall is classified as any descent from a standing, sitting, or supine position (Hicks, 2015).

Falls

Falls can lead to adverse outcomes;

- Changes in Physical well-being
- Changes in Psychological well-being
- Increased caregiver burden
- Reduced independence
- Increased hospital visits/stays
- Increased risk of future falls

(Chein, et. al, 2016).

Causes of Falls

- Multifactorial
- Risks greatly vary
- Patterns
- Age
- Gender – female vs. male
- Confusion
- Medications
- Illness/Debility
- Lack of physical activity
- Decreased confidence
- Fear of falling
- Visual deficits
- Cognitive deficits
- Environmental – Inside & Out
- Change in position - toileting
- Independence

Falls at End-of-Life

- Falls with injury is a patient safety issue for the aged and chronically ill patients who are among the most vulnerable groups for sustaining falls (Ishøy, & Steptoe, 2011).
- As population rises, increased risk of falling rises.
- As elderly population increases, falls also increase
- 1 million elderly falls annually
- Hospice Population at greater risk
- Alternative modalities needed to decrease falls in this high-risk vulnerable group.

(Kowalski, 2016).

Falls at End-of-Life

- Limited studies have been carried out in regards to falls in the hospice patient population (Schonwetter et al., 2010).
- Why?

End-of-life symptoms & increased fall risk

- Disease progression/Terminal Illness
- Increased Age
- Medications
- Depression
- Disoriented – day, time, place
- Delirium
- Cachexia
- Sleep pattern changes
- Decreased mobility
- Decreased strength/balance
- Bed bound
- Fear of falling
- Visual deficits
- Cognitive deficits
- Environmental
- Independence

Fall Prevention-Hospice

Contributions for hospice patients and their family members is through promoting

- Safety
- Decreasing pain
- supporting individualized care
- Improving quality at end-of-life
- Important elements of care for hospice patients

(Nakano, Sato, Katayama, & Miyashita, 2011).

Effective Fall Prevention for Hospice

- Patient-centered
- Multi-disciplinary team approach & collaboration
- Evidence-Based Practice (EBP)

Fall Prevention Precautions

- Prevention
- Screening Tools
- Education
- Purposeful Rounding
- Yellow Falling Star
- Yellow skid-free socks
- Yellow bracelet
- Bed Alarms
- Chair Alarms
- Floor Alarms
- Seat belts
- Low beds
- Hip protectors
- 1:1 observation
- Therapy & Exercise programs
- Post-fall Huddles

Systems Affecting Fall Precaution Use

- Outlook of users – patients & staff
- Previous belief/Experiences
- Knowledge deficits
- Lack of buy-in
- Social acceptance of non-use
- Time constraints
- Resources
- Lack of accountability from leaders

(McCluskey, & Middleton, 2010).

Processes Needed for Sustained Change

- Leadership accountability & Support
- Policy/Standard Operation of Procedures (SOP) implemented
- Understanding & overcoming barriers
- Education/Training
- Implementation of alternative interventions
- Accessible resources
- Monitoring for compliance & use

Greater Fall Prevention at end-of-life

Alternatives and greater fall prevention is needed for patients with medically complex conditions.

Medically complex includes having at least two conditions in any of the following categories:

- Acute
- Chronic
- Physical
- Psychiatric

(Chein, et. al, 2016).

Fall Prevention at end-of-life

Hospice is one of the best settings to study the etiology of falls among the elderly and those with advanced illnesses.

A population that will benefit from fall prevention and fall reduction approaches.

Due to their:

- Increased risk of falling
- Increased healthcare costs
- Number of injuries sustained (minimum, moderate, severe)
- Decreased mobility
- Decreased independence
- Death

(Schonwetter, et. al, 2010).

Alternative Fall Prevention

- The significance in reducing falls is vital, as the cost from falls continues to climb.
- Making even small changes and adjustments through EBP interventions can assist with making a tremendous transformation in care.
- The use of aromatherapy has been utilized for reduction in multiple symptoms including fall prevention.

Aromatherapy

- Aromatherapy is the application of utilizing essential oils through topical methods of massage, compresses, or ointments through inhalation to promote the health of body, mind and soul. (Meghani, Tracy, Hadidi, & Lindquist, 2017).

Aromatherapy

- Exploring the use of aromatherapy has the potential of incorporating a holistic approach in improving end-of- life symptoms (Berger, Tavares, & Berger, 2013) and possibly decreasing the incidence of falling.

- Contributions for hospice patients and their family members is through promoting safety and improving quality at end-of-life.

- Safety, decreasing pain, supporting individualized care, and improving quality at end-of-life are important elements of care for hospice patients (Nakano, Sato, Katayama, & Miyashita, 2011).

Aromatherapy Benefits

- Economical alternative with less adverse effects, increases the overall sense of well-being (Hwang, & Shin, 2015).
- Effective in pain reduction (Dimitriou, Mavirdou, Manataki, & Damigos, 2017; Lee, Choi, Posazdki, & Ernst, 2012).
- Shown encouraging results in decreasing pain and anxiety improving sleep (Meghani, Tracy, Niakosari, & Lindquist, 2017).

Aromatherapy Benefits

- Aids in symptom management for the palliative care population (Berger, Tavares, & Berger, 2013).
- Reduction in pain which causes issues with physical, psychological, social and spiritual aspects of health (Tang, & Mimi Tse, 2014).
- Oils aided to restore balance and increase well-being (Tang, & Mimi Tse, 2014).
- Assisting with insomnia, restlessness, pain, and falls (Sakamoto, et al., 2012).

Aromatherapy - categories

- Olfactory – Inhalants
- Cosmetic – facial, skin, body & hair care products
- Massage

Aromatherapy Uses

- Pain
- Insomnia
- Restlessness
- Relaxation
- Stress Reduction
- Sleep Aide
- Muscle Aches
- Headache
- Anxiety
- Depression
- Nausea
- Mental fatigue
- Concentration
- Altering Mood

Facility Use of Aromatherapy

- Overview of SOP for utilizing Aromatherapy

Aromatherapy - Varieties

- Lavender
- Peppermint
- Eucalyptus
- Lemongrass
- Orange
- Rosemary
- Tea Tree
- Cinnamon Leaf
- Frankincense
- Chamomile
- Cedar wood
- Bergamot
- Sage
- Thyme
- Oregano
- Grapefruit
- Sandalwood

Lavender & Fall Prevention

- Lavender has been shown to be beneficial in elderly patients for fall prevention and reduction due to the therapeutic benefits of use (Sakamoto, et. al, 2012).
- Reducing and/or decreasing the risk of falling at end-of-life can positively affect quality of life (Sakamota, et. al, 2012).

Lavender Uses

Multiple effects & benefits:

- Soothing Properties
- Anxiety
- Agitation
- Nervousness
- Stress
- Sleep aide
- Relaxant - Calming
- Pain
- Depression
- Headache-Migraines
- Melancholy
- Improved gait and balance

(Sakamota, et. al, 2012).

Aromatherapy, falls, & end-of-life

- Alternative Intervention
- Nonpharmacological intervention
- Less adverse effects
- Cost effective
- Safe if used appropriately
- Increases the overall sense of well-being
- Positive impact for patients/families
- Holistic care – (physical, emotional, & spiritual)

(Hwang, & Shin, 2015).

Holistic Care

- One of the main goals for end-of-life care is providing a holistic approach and reducing suffering at the end of life (Nakano, Sato, Katayama, & Miyashita, 2013).
- Aromatherapy has been shown to be beneficial for multiple end-of-life issues.
- The use of aromatherapy may assist multidisciplinary staff the use of an alternative fall prevention method.
- Providing improvements in care to the patients in a holistic manner addressing needs affecting the mind, body, and soul (Lukose, 2011).

Questions??

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