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This doctoral project, directed and approved by the candidate's committee, has been accepted by the College of Graduate and Professional Studies of Abilene Christian University in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice



Dr. Joey Cope, Dean of the College
of Graduate and Professional Studies

05 / 22 / 2020

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School of Nursing

Evidence-Based Nursing Education on Dementia and Dementia Care

A doctoral project submitted in partial satisfaction

of the requirements for the degree of

Doctor of Nursing Practice

by

Sun O. Weaver

June 2020

Dedication

Philippians 4:13 (New King James Version): “I can do all things through Christ who strengthens me” with a grateful heart for those who participated in this beautiful journey from all the directions.

Acknowledgments

1 Chronicles 16:34 (New King James Version): “Oh, give thanks to the Lord, for He is good! For His mercy endures forever.” And, thanks to my loving family and all the professors, health care workers, and friends who have helped me reach this point in my academic career.

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Abstract

The purpose of this research study was to identify the relationship between nursing education and nurses' knowledge of dementia and dementia care in a long-term care setting. Residents of long-term care settings who have dementia often have behavior problems that affect their quality of life, psychosocial dynamics, and the requirements of their nursing care. The effectiveness of the nursing care delivered to nursing home residents with dementia and behavior problems makes a crucial difference in their quality of life. Best practice nursing to promote optimal dementia care uses nonpharmacological interventions and avoids unnecessary psychotropic medication in residents with age-related dementia and behavior problems. This research study showed that effective nursing education improved nursing staff's Dementia Knowledge Assessment Tool Version Two scores, indicating increases in nursing knowledge of dementia and dementia care. That is, with education, students had an increased understanding of dementia care, communication, and teamwork ethics.

Keywords: dementia, behavior, nonpharmacological, long-term care, nursing education

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Chapter 1: Introduction

The world's population of people over 65 is increasing as medical technology has advanced and socioeconomic influences have also contributed to greater longevity (Higgs & Gilleard, 2017). Progressive decline in multiple areas of cognitive function leads to a gradual decline in self-care, requiring nursing care in long-term care (Higgs & Gilleard, 2017; Joenpera, 2017). As the older population grows, so does the need for dementia-related health care and qualified staff to provide that care (Beck et al., 2016). The continued growth of the older population, their health problems, and often the need for long-term care settings have a significant impact on overall health care and make this an area of considerable concern (Higgs & Gilleard, 2017).

As the geriatric population continues to grow and an understanding of dementia and dementia care is becoming a chronic health care concern, effective management is needed (Nygaard et al., 2020). Dementia patients with behavioral problems may suffer from a lack of knowledge on the part of the staff. As an example, Beck et al. (2016) indicated that nurses lacked nursing knowledge toward older people, influenced the attitude among nurses, and had negative attitudes toward older patients. Moreover, nursing home managers demonstrated a lack of knowledge of caring for the older population and had negative attitudes (Beck et al., 2016; Evripidou et al., 2019). Leaders and management teams for behavioral problems may not provide a proper focus of care, and direct caregivers may lack understanding of dementia care (Beck et al., 2016). Moreover, the use of pharmacological treatments before behavioral interventions causes residents to suffer undesirable side effects (Rakesh et al., 2017). In contrast, from the evidence-based practice, nonpharmacological treatment has positive efficacy, which is a first line of treatment for dementia-related behavior problems (Rakesh et al., 2017). Such a behavior

modification does not have side effects, is the safer practice in the geriatric population, and should be treated without psychotropics (Oliveira et al., 2015; Rakesh et al., 2017). Nursing education and training are needed to improve the quality of nursing care in the older population (Annear et al., 2015; Parra-Anguita et al., 2019). Evidence-based nursing education concerning the care of these residents leads to improvements in nursing care for those with dementia compared to where the staff does not have this education (Beck et al., 2016; Travers et al., 2018). The continued growth of the geriatric population, dementia, and behavioral problems are an increasing concern (Beck et al., 2016). As the older population increases, there is an inevitable increase in diagnoses of dementia. Thus, it is essential to address the development of nursing education concerning dementia and dementia care in those of the older population in long-term care settings (Beck et al., 2016).

The World Health Organization (WHO, 2018b) has acknowledged the problem of the scope of the development of nursing education concerning dementia and dementia care and has reported that dementia is “a public health priority.” On December 7, 2017, WHO (2018a) launched the Global Dementia Observatory, which provides information concerning policies, service delivery, and research concerning dementia. WHO indicated in a comprehensive mental health action plan for 2013–2020 strengthening leadership in mental health, providing comprehensive mental health care, and promoting and delivering information concerning psychological health (WHO, 2018b).

Problem Statement

With a fast-growing aging population in society, dementia and evidence-based nursing education on dementia and dementia care are an increasing health problem. In the United States, one of the fastest-growing communities is people over the age of 85 (Higgs & Gilleard, 2017).

Up to 80% of nursing home populations have some degree of dementia, which results in a decline in functional capacity. Dementia is a progressive decline in multiple areas of cognitive function, results in a gradual decline in self-care, and requires nursing care (Joenpera, 2017).

According to American Community Survey data from 2012–2016, the population of older people reached 46.2 million in the year 2017 (United States Census Bureau, 2019). The continued growth in the number of older adults and their health care needs, including the need for long-term care settings, has a significant impact on health care overall, making this area one of great concern (Higgs & Gilleard, 2017). WHO and Healthy People 2020 goals demonstrate that the understanding of dementia and the use of the positive approach to promoting the well-being of the geriatric population are essential aspects of health care provision that promote patients' welfare (Office of Disease Prevention and Health Promotion, 2018; WHO, 2018a). Pender's health promotion model indicates that health care providers are an integral part of the community, and people can change their behavior as necessary (Sakraida, 2017). An understanding of evidence-based practice and promoting mental health are essential parts of current health care practice.

Background

The U.S. Healthy People 2020 goals are to reduce morbidity, to provide cost-effective care, and to improve the quality of life for those with dementia (Office of Disease Prevention and Health Promotion, 2020). As part of the quality improvement of dementia project, the United States adopted sustainable development goals to achieve improvement in mental health and well-being and to provide prevention and treatment sufficient to make a real change in the world by 2030 (Office of Disease Prevention and Health Promotion, 2018; WHO, 2018b). Moreover, on December 7, 2017, the WHO launched the Global Dementia Observatory to track progress

among people living with dementia and their caregivers globally. The goals of WHO are to monitor policies and plans, risk reduction strategies, and organizational structures that provide care and treatment, as well as to gather information on the surveillance system itself and to promote evidence-based practice (WHO, 2018a).

Distressed residents with dementia in nursing homes are a growing population as the geriatric population as a whole increases (Joenpera, 2017). Dementia is a collection of signs and symptoms, including a progressive decline in multiple areas of cognitive function, leading to a gradual decline in self-care, as well as in social and occupational performance and increased stress in residents, caregivers, and families (Joenpera, 2017). A decline in cognitive function may lead to psychiatric symptoms and behavioral disturbances (Joenpera, 2017).

Dementia leads to psychological changes, which can include personality disturbances, inappropriate behaviors, apathy, agitation, mood disturbances, anxiety, and hallucinations (Joenpera, 2017). For example, a nursing home study panel from 2012 to 2014 showed an increase in dependency, requiring nursing care in dementia residents (Schussler & Lohrmann, 2015). As dementia progresses, the patient's cognition and physical ability decline so that the person requires assistance with daily activities, mobility, and financial management. The problems in dementia care include stress in residents, caregivers, and family (Joenpera, 2017). Moreover, there are increases in morbidity and mortality, the cost of care, the risk of overmedication, and public health problems (Rakesh et al., 2017). Therefore, the health care systems need to promote excellent mental health and psychological well-being in the geriatric population, their caregivers, and providers, and need to ensure that the rights of all are protected based on evidence-based practice (WHO, 2018b).

Purpose

The purpose of the research study was to determine the effectiveness of nursing education and nursing knowledge related to dementia and dementia care, and outcomes of the effectiveness of nursing staff education to promote a positive approach with dementia care. Dementia residents in a long-term care setting have increased behavior problems, requiring effective nursing care (Beck et al., 2016). However, nurses' lack of nursing knowledge toward older people impacts the attitude among nurses, which results in negative attitudes toward older patients (Evripidou et al., 2019). This is important because nurses should practice to their full capacity of nursing knowledge and achieve a higher level of education and training to promote the delivery of patient care safety (American Nurse Today, 2019).

The goals of this research study were to identify the relationship between nursing education and nursing knowledge related to dementia and dementia care, to promote the quality of nursing care, and to provide optimal nursing care using best practice with dementia and dementia care. I performed a quasi-experimental research study in the long-term care setting with nursing staff to study nursing knowledge related to dementia and dementia care comparing outcomes between the nursing staff with nursing education and that without education. An optimal goal was to increase nursing knowledge of dementia and dementia care to promote quality of care through evidence-based practice.

Significance

The continuing growth of the older population, many of whom have dementia and dementia-related behavior problems, creates increased caregiver and nursing needs (Beck et al., 2016). The long-term care environment is challenging for both dementia patients and their caregivers. Evripidou et al. (2019) indicated that nursing home managers demonstrated a lack of

knowledge about caring for the older population and often have negative attitudes. There is a need to promote health care for residents with dementia and dementia-related behavior to ensure their needs for their overall health and well-being are met. Nursing education related to dementia and dementia-related behavior is one of the keys to success in achieving this goal.

Nature of the Project

The project focused on providing best-practice care to an underserved, vulnerable population, promoting their quality of life through nursing education related to dementia and dementia care. Low et al. (2015) used randomized controlled trials and quasi-experimental controlled trials. The study results indicated that nursing education, including the theoretical models of behavior change, led to an improvement in patient care, improved staff behaviors, and enhanced application of the nursing process to achieve quality care. Moreover, Annear et al. (2015) performed a pilot DKAS study that indicated the need for dementia education to promote quality of care in dementia care. However, further research was recommended for methods of improving staff motivation and dementia care.

PICOT Question

Does evidence-based nursing education on dementia and dementia care lead to an increase in effective nursing knowledge of dementia and dementia care to nursing staff in long-term care with dementia residents as measured over 2–3 months?

- Problem or population—nursing staff in long-term care with residents with dementia
- Intervention—education related to dementia and dementia care
- Comparison—nursing knowledge of dementia and dementia care before and after education
- Outcome—increase in nursing knowledge of dementia and dementia care

- Time duration—measured over 2 to 3 months (see Appendix A).

Hypothesis

- Null hypothesis H0: There is no statistically significant correlation between nursing education and nursing knowledge with dementia and dementia care.
- Alternative hypothesis H1: There is a statistically significant correlation between nursing education and nursing knowledge of dementia and dementia care.

Conceptual Framework

The conceptual framework for this study, the health promotion model, was developed by Pender in 1982 and revised in 1996 (Sakraida, 2017). The health promotion model identifies factors influencing patient behaviors and focuses on the use of positive elements to promote health (Sakraida, 2017). Nurses work with patients to discover both positive and negative behaviors to help motivate patients to change their direction to healthier behaviors. Pender developed the health promotion model as a tool to help the nursing profession form a focus on preventive care, a better quality of life, longer life span, and the delivery of cost-effective health care (Sakraida, 2017). The health promotion model has five primary elements: the person, the environment, nursing practice, the meaning of health, and the definition of illness (Sakraida, 2017).

Pender indicated that there is a causal relationship between internal and external factors, thoughts, and behavior (Sakraida, 2017). Some components of health vs. illness are not modifiable, such as race, age, and socioeconomic status where health factors are modifiable, while awareness of a connection between cognition and behavior is part of nursing practice (Sakraida, 2017). Although perceived barriers to new behaviors may form obstacles to change, a nurse can evaluate the patient and then help the patient find the ability and confidence to move in

the direction of health (Sakraida, 2017). Developing a relationship with the patient is essential because it increases their self-reliance and openness to change, can have a positive effect, and result in healthier behavior. The health promotion model posits that people can assess their behavior, value positive growth, seek health, and regulate their actions (Sakraida, 2017). The modifications are how they are affected by the environment and how, in turn, they affect the situation so that they can achieve healthier behaviors (Sakraida, 2017).

Operational Definitions

Dementia Knowledge Assessment Tool Version Two (DKAT2). This assessment tool was developed by Annear et al. (2015) to support professional caregivers; aged residential caregivers, including family members; and aged staff. DKAT2 is a dementia knowledge questionnaire, has 21 items, and scoring (Annear et al., 2015; Parra-Anguila et al., 2019; Piovezan et al., 2018). DKAT2 is used to establish nursing knowledge and outcomes of nursing knowledge and to evaluating nursing knowledge related to dementia and the understanding of dementia care (see Appendixes B and C).

Scope of Project

This research study was quasi-experimental, with one group with education (experimental group), including pretest and posttest, and one without education (control group) at different nursing home settings with similar populations. The research study was designed to take place in a natural setting without randomly selecting the subjects and without any researcher controlling the study subjects. The quasi-experimental design was chosen because it was appropriate to use where groups are already in place, such as in a long-term care setting (Handley et al., 2018). I obtained support letters from the administrator and director of nurses for permission to conduct the research study, to assure nursing staff and nursing home residents'

confidentiality, to provide nursing education related to nursing knowledge of dementia and dementia care, and to obtain informed voluntarily consent from the nursing staff before the research study.

The experimental group had staff with nursing education on dementia and dementia care, where the control group was staff without nursing education on dementia and dementia care. The times of intervention and data collection of samples were at preintervention, intervention, and postintervention (Handley et al., 2018). With the experimental group, the author performed a pretest/posttest before and after the nursing education in-service to compare nursing knowledge, as well as the control group (in another nursing home with a similar setting), which had the posttest as part of the study.

The independent variables and conditions were nursing education related to dementia care. As a nursing educator, I provided nursing education in-services on dementia care. The nursing staff education in-service was during first shift, which was between 7 a.m. and 3 p.m. and included the pretest before the nursing staff in-service and the posttest following the nursing staff in-service. The dependent variables were the nursing knowledge of dementia and dementia care with dementia residents in the nursing home setting, which were scores from the DKAT2. The results of the DKAT2 questionnaire were used to assess nursing knowledge before and after the nursing staff in-services and to assist nursing staff with the learning curve and adaptation of the learning material.

Summary

The continued growth of the older population, dementia, and behavioral problems has a significant impact on health care (Higgs & Gilleard, 2017). Caring for an older patient with dementia is becoming a chronic health care concern, and effective management is needed

(Nygaard et al., 2020). For example, best practice is needed to promote excellent care in the geriatric population, their caregivers, and providers to provide quality of care with evidence-based practice (Melnik & Fineout-Overholt, 2015; WHO, 2018b). Annear et al. (2015) indicated that nursing education leads to improvements in nursing care for those with dementia. Moreover, education improved in dementia care with work ethics.

This research study was to identify the relationship between nursing education and nursing to promote the quality of nursing care and to provide optimal nursing care using best practice with dementia and dementia care. As a result, education increased understanding of dementia care and demonstrated improvement in communication and teamwork ethics (Annear et al., 2015; Wilchesky et al., 2018).

Chapter 2: Literature Review

Effective nursing interventions to manage behavior are needed for older people over the age of 85 who make up the fastest-growing segment of the U.S. population and for whom dementia-related behavior is an increasing health problem (Evrpidou et al., 2019). According to Joenpera (2017), as of June 2009, 89% of people diagnosed with dementia needed help with meal preparation; by 2015, that percentage had increased to 98%, parallel with the growth in the dementia population and the need for assistance with activities of daily living, such as meal preparation, toileting, bathing, and remaining safe. There has been an increased need for health care providers prepared to meet these needs (Joenpera, 2017). Approximately 50% of the older population with dementia require long-term care due to the loss of ability to care for themselves and meet their medical needs. This population brings an increase in memory problems, mental illness, and behavioral problems (Joenpera, 2017).

Older residents with dementia require intensive nursing care because dementia makes them unable to perform the tasks of daily living and manifests in behavior problems (Joenpera, 2017). For example, these residents need more nursing hours and more medical care to manage their behavioral symptoms effectively compared to those without behavior problems (Joenpera, 2017). In addition, up to 63% of the general population with dementia tends to wander, which increases the risk of health and safety problems (MacAndrew et al., 2019).

However, Oliveira et al. (2015) stated that approximately 90% of the residential population with dementia has behavioral problems such as restlessness, wandering, and disruptive screaming. A patient with dementia may decline rapidly as the illness progresses and their functional ability becomes more significantly impaired, thus adversely affecting the quality of life and adding to the burden and stress of caregivers (Oliveira et al., 2015).

Providing comprehensive mental health care and implementing behavior management require time and effort on the part of caregivers (Oliveira et al., 2015). The challenges of caring for those with unpredictable behavior create stress for caregivers, whether family or nursing, and increased risk to patients. Evripidou et al. (2019) said that nurses who lack knowledge of geriatric care tend to have a negative view of older patients. Yet, the nurse's attitude toward older people is a critical factor in the quality of care. Promoting increased public knowledge of caring for people with dementia is challenging. WHO's Global Action Plan for dementia called for global involvement in addressing the challenges of caring for this vulnerable population (WHO, 2018a). Policy makers and leadership need to concern themselves with improving the quality of care and developing educational programs to help staff achieve an understanding of dementia and of behavior management in nursing care (Beck et al., 2016; Cations et al., 2018). There are differences in stress levels among caregivers. A study by Nogales-Gonzalez et al. (2015) indicated the importance of self-efficacy in behavior management that showed improved knowledge led to decreased stress.

Pharmacological vs. Nonpharmacological Management

Generally, the first line of treatment for an older population with behavior problems is nonpharmacological to avoid polypharmacy. Nonpharmacological treatment does not have side effects and is the safer practice in the geriatric population (Rakesh et al., 2017); behavioral problems should not routinely be treated with psychotropics (Oliveira et al., 2015).

Pharmacological management may be necessary for emergencies where the patient is dangerous to self or others (e.g., psychotropic medication has moderate efficacy in treating behavioral symptoms; Rakesh et al., 2017). Psychotropic medication may have a favorable outcome in some situations where nonpharmacological interventions have been ineffective; however, there may be

undesirable side effects such as abnormal movement, aggression, cardiovascular problems, epilepsy, and lack of movement (Healy, 2016).

Age-related changes in the older population cause them to have different responses to pharmacological management from those of the general population. For example, the older population tends to have increased body fat, decreased lean body mass, changes in hepatic and renal function, and increased sensitivity to benzodiazepines, opioids, and other psychotropics (Rakesh et al., 2017). According to Rakesh et al. (2017), a review of medication use using START and STOPP criteria found that 23.5% of patients had an inappropriate, unnecessary prescription.

The reduction of unnecessary medications reduces adverse side effects and improves the efficacy of nonpharmacological interventions (Oliveira et al., 2015). Avoiding polypharmacy and reducing the risk of adverse side effects are essential. Nonpharmacological interventions may include behavioral management and various activities, including arts and crafts and physical activities (Oliveira et al., 2015). MacAndrew et al. (2019) indicated that nonpharmacological interventions are the best evidence-based practice for the management of dementia-related behaviors. Symptoms that may need treatment include restlessness, wandering, agitation, and aggression (MacAndrew et al., 2019). MacAndrew et al. (2019) conducted multiple research studies related to behavior symptom management, including randomized control studies, nonrandomized control studies, and quasi-experimental studies.

Nonpharmacological interventions such as music, social interaction, and physical activity have been shown to have positive outcomes for dementia-related wandering (Nickel et al., 2018). Other effective behavior modifications include adjustments to the environment, aromatherapy, and providing a safe environment (MacAndrew et al., 2019). For example, ambulation is helpful

to prevent elopement in patients with exit-seeking behaviors (MacAndrew et al., 2019). Nickel et al. (2018) have shown that nonpharmacological interventions such as exercise, occupational therapy, and psychological interventions are more cost-effective than traditional approaches (Nickel et al., 2018). Finally, MacAndrew et al. (2019) identified positive outcomes from 11 studies. MacAndrew et al. described reducing wandering with nonpharmacological measures, which were shown to be more effective than pharmacological interventions. Nonpharmacological approaches constitute the first line of treatment for dementia-related behavior management (MacAndrew et al., 2019).

Nursing Education in Dementia Care

Annear et al. (2015) indicated that their research study was designed to assess the effects of the educational program at a different level, including a comparison of before and after nursing education. Annear et al. (2015) showed that educating nursing staff improved the DKAS score, which is the key for effective dementia care in nursing home residents and an essential outcome in nursing practice as the older population with dementia increases (Annear et al., 2015). Their research study was designed to develop a dementia knowledge scale and to assess the reliability and validity, including the effect on the level of the dementia care knowledge of the nursing staff (Annear et al., 2015). The pilot DKAS was implemented, as well as the Delphi study, which specialized in dementia experts for forecasting method (Annear et al., 2015). After the pilot DKAS study, Annear et al. (2015) were able to show that DKAS provided a reliable and valid scale and improved the nursing staff's ability to care for residents.

Understanding the older population and what it is like for them to live with dementia is a critical factor in attaining practical nursing care. Honan (2016) showed that the level of nursing knowledge concerning care for older residents and the management of their behavior affected the

kind of care they received and the attitudes of nursing students. Honan (2016) stated that nursing students who expressed their feelings and attitudes were uncomfortable with dementia-related behaviors and managing behaviors such as aggression. The perceptions of nursing students and their level of acceptance of these patients influenced the effectiveness of their care (Honan, 2016). Providing education to assist caregivers and nursing staff is essential to promote adequate patient care and the use of evidence-based nursing practice (Annear et al., 2016).

The Wicking Dementia Research and Education Centre developed to improve the skills of students working with patients with complex health and dementia issues and to assess the students' interpersonal skills at a professional level (Annear et al., 2016). In this study, the work setting had a structural clinical placement so that the students' competence in a dementia care setting could evaluate students' attitudes with nursing skills with a pre-post placement questionnaire to assess students' knowledge of dementia. The results showed that after education, students had an increased understanding of dementia care and demonstrated improvement in communication and teamwork ethics (Annear et al., 2016).

Changing attitudes in nursing to provide quality care to dementia patients is a challenging process (Low et al., 2015). Cost-effectiveness and a variety of possible barriers to change must be considered. According to Uchida-Nakakoji et al. (2016), the average cost of registered nurse (RN) turnover was approximately \$22,000 to \$64,000, costing facilities 2.9% annually (Uchida-Nakakoji et al., 2016). In contrast, sufficient staffing, lower staff turnover, and longevities of nursing staff have been shown to improve quality of patient care and outcomes, which include decreases in infection rate and hospitalization (Uchida-Nakakoji et al., 2016).

While such changes in attitude may be challenging, they are possible. System reviews found that there have been many attempts to provide quality care in long-term settings (Low et

al., 2015). The barriers to change include resistance on the part of leadership, reluctance to adopt innovations, lack of staff development programs, and inconsistency in staff due to rapid turnover (Low et al., 2015). To succeed in implementing a positive approach and providing quality care, facilities must develop evidence-based practice guidelines, adequate resources, and assessment of practice outcomes (Low et al., 2015).

The study with randomized controlled trials and quasi-experimental controlled trials had positive results with nursing education, including the theoretical models of behavior change (Low et al., 2015). The results of the study led to improvement in patient care, improved staff behaviors, and improved application of the nursing process to achieve quality care. However, further research is recommended into methods of improving staff motivation (Low et al., 2015).

Strengths and Weaknesses

The strengths of the article by Annear et al. (2015) showed that they used an effective research process and well-organized interventions in coordination with the nursing staff. Annear et al.'s use of evidence-based practice resulted in favorable outcomes. Annear et al.'s (2015) study was designed to aid in the development of dementia assessment tools and educating nursing staff effectively in the area of dementia management. The researchers collected data from a wide range of domains within dementia caregivers and health care providers, which was an appropriate study sample and representative of the population (Annear et al., 2015).

The limitations of the study from Annear et al. (2015) included a lack of communication with the nursing staff before the intervention, which was evidenced by the reduction in deceased in the pilot DKAS from 40 to 27 during the research study. The sample was appropriate for the research study and representative of the population. The purposive sample was collected by the researcher, which could lead to bias (Annear et al., 2015; Crossman, 2020). In contrast, a meta-

analysis would be an effective study design to assess more specific treatment outcomes and the risks and benefits involved in the research study, which is more desirable (Wang et al., 2018).

The strength of Rakesh et al. (2017) is that they conducted their study of the older population in a tertiary care hospital with a large patient population, and they used the tool by Beers Criteria in studying the appropriateness of prescribed medications. The limitation was that their data were based on existing hospital data with limited duration by cross-sectional design (Rakesh et al., 2017). Wang et al. (2018) conducted a meta-analysis and a systemic review of risks related to the use of antidepressants in the dementia residents. The strengths of this study were the use of a large patient population and the use of the tool by Beers Criteria in studying the appropriateness of prescribed medication. However, the study excluded some information related to the use of medication and its risks in dementia patients (Wang et al., 2018).

A research article critique from MacAndrew et al. (2019) concerned nonpharmacological interventions to deal with wandering in the community. The strengths of this study included a systematic review of dementia in domestic settings and the identification of effective interventions to reduce wandering, which may be used in further research. The weakness of the study was the lack of valid measurements of wandering behavior (MacAndrew et al., 2019). Travers et al. (2018) stated that observation and auditing of data related to resident care and providing education to improve care were effective in facilitating changes in behavior. However, this study was completed under time constraints and heavy demands from the nursing staff (Travers et al., 2018).

Health Promotion Model

The purpose of the health promotion model is to promote positive behavior modification in patients to help them achieve a better quality of life and self-reliance in working toward

health. The nurse can use the instrument of clinical assessment in the health promotion model to evaluate its effectiveness (Sakraida, 2017). Pender showed examples of questions for a nurse, which could apply in nursing during patient care (Sakraida, 2017; see Appendix D, E, and F).

For example, during clinical assessment, nurses can use the clinical evaluation instrument, asking the following questions:

- What has nursing tried to promote patient behavior modification?
- What was the accomplishment while attempting behavior modification?
- What benefits were there from the behavior modification?
- What barriers do nurses encounter in promoting the patient's behavior modification?
- If these barriers are overcome, can the nurse motivate the patient to develop healthier behaviors?
- Which behavior modification has been most effective?
- Are there family members or staff who are influencing the patient's behavior?
- What will motivate the patient toward positive change?
- What is the role of nursing with the patient and with other nursing staff?
- What environmental, nonpharmacological factors promote the patient's healthy behavior?
- Is the nursing staff prepared to set goals, develop a plan, and implement favorable behavior modification? (Sakraida, 2017).

Rationale for Incorporating the Health Promotion Model Into Nursing Practice

A tenet of the health promotion model is that people are motivated to achieve their health potential and that nurses are positive influencing factors (Sakraida, 2017). Mental illness is distressing to families and health care providers as well as to patients, increases the risk of health

problems, generally has a deleterious effect on the quality of life, and drives up health care costs. Dementia is an increasing health care concern, creating a challenge in providing adequate care; it is the leading cause of long-term care placement (Higgs & Gilleard, 2017).

To optimize mental health in the geriatric population, nursing must provide comprehensive mental health care and implement behavior management (Nogales-Gonzalez et al., 2015). Pender believed that people would attempt to create optimal living conditions (Sakraida, 2017). Pender recognized that nurses can complete a self-assessment, value growth, and regulate and change their behavior and that nurses and other health care providers fill an essential role in the community by assisting patients in finding the way to better health (Sakraida, 2017).

Advantages and Disadvantages

Some advantages of the health promotion model are the benefits of healthy behavior, which in turn increase life expectancy, quality of life, and cost-effectiveness (Sakraida, 2017). There are disadvantages of the health promotion model that include the focus on the person's degree of self-efficacy and their cognitive capacity, and its ability to address influencing factors such as family and community and their level of motivation. Research models are not reflective of real life, and further real-life research is needed. As an example, direct involvement in health-promoting activities with the older population might not be beneficial due to the limitations of health economic evaluation (Huter et al., 2018).

Relevance of the Health Promotion Model in Populations of Interest

The goal of the health promotion model is to promote a positive behavior modification by helping patients to help themselves in achieving a better quality of life and healthier behavior (Sakraida, 2017). Nursing needs to provide comprehensive mental health care and implement

behavior management to optimize mental health in the geriatric population (Nogales-Gonzalez et al., 2015). Providing comprehensive mental health care and implementing behavior management require time and effort on the part of caregivers (Nogales-Gonzalez et al., 2015).

Caregivers' stress in the face of unpredictable behavior is burdensome to caregivers and nursing staff and leads to increased mental health problems and safety risks for patients. However, the level of stress in caregivers can be modified; insufficient self-efficacy in caregivers is the problem (Nogales-Gonzalez et al., 2015). As an example, the development of an educational program improves students' skills in dementia management (Annear et al., 2016). Assessments of the students before and after the program showed that after taking the program the students had improved interpersonal skills and greater competence in managing dementia patients (Annear et al., 2016). Therefore, by adopting the health promotion model, nurses can help to focus on preventive care, improving quality of life, longer life span, and the delivery of cost-effective health care (Sakraida, 2017).

A Review of the Literature on Evidence-Based Practice

The world faces an increase in the geriatric population. As this population grows, the need to manage mental illness and problem behaviors also grows (WHO, 2018b). Moreover, nonpharmacological behavioral management results in improved behaviors and higher self-efficacy in caregivers and nursing staff (Oliveira et al., 2015). According to Kotter et al. (2016), an observational study of the application of the health promotion model was performed among medical students. In this study, the students conducted self-assessments through general and mental health questionnaires. Factors such as physical activities among first-year students were studied, and the effect on their mental health was assessed and found to be positive (Kotter et al., 2016).

Summary

The continuing growth of an older population in the United States, many of whom have dementia and dementia-related behavior problems, creates increased caregiver and nursing needs. However, the long-term care environment is challenging for dementia patients with behavior problems and their caregivers. Nursing home staff often demonstrate a lack of knowledge about caring for the older population and often have negative attitudes (Beck et al., 2016). Nursing education and training are needed to improve the quality of care given to the older population. Also, policies and procedures based on evidence-based practice must be in place to improve care (Beck et al., 2016).

Health care providers need to improve care by advocating for patient and caregiver access to information related to dementia and also advocating for research aimed at strengthening overall mental health care through evidence-based nursing (Cations et al., 2018; WHO, 2018a). There is a need to promote health care for residents with dementia who require a positive behavior approach and to ensure that their needs for their overall health and well-being are met. Nursing education related to dementia and dementia-related behavior is one of the keys to success in meeting this goal.

Chapter 3: Research Method

As the over-65 population in the United States continues to grow, caring for residents in long-term health care becomes more demanding (Joenpera, 2017). In long-term care settings, the majority of the population requires assistance (Joenpera, 2017). However, dementia residents may not understand the activities of daily living and the need for self-care. This is because, in some cases, residents become agitated and become aggressive toward caregivers and require nursing assistance (Joenpera, 2017).

To assist residents with dementia and behavior problems, nursing knowledge of dementia and dementia care is needed so that staff can understand the resident's behaviors (Joenpera, 2017). As an example, Guzman et al. (2017) performed two quasi-experimental case studies to measure staff attitudes and beliefs related to dementia, including what derived from nursing education and staff training. They found that staff education resulted in improved care for dementia and measurable improvement in behavior problems, behaviors, and overall quality of life (Guzman et al., 2017).

Residents with severe dementia required periodic medication reviews to avoid the use of inappropriately prescribed medication to prevent the occurrence of adverse effects and overuse or misuse of medication (Wilchesky et al., 2018). Older residents have more adverse drug reactions and decreased adherence to drug regimens, which leads to worsening of quality of life, an increase in adverse effects, and unnecessary drug expenses (Rakesh et al., 2017; Wilchesky et al., 2018). About 20% to 65% of older adults were taking inappropriate medication, which causes an increased risk of adverse drug reactions and thus constitutes unsafe drug use (Rakesh et al., 2017).

Caregivers' attitudes, beliefs, and experiences related to the uses of medication are affected by a lack of guidelines and recommendations for safely discontinuing medications and reluctance among providers to discontinue medications currently in use (Rakesh et al., 2017). Canevelli et al. (2016) argued that nonpharmacological intervention and a positive behavioral approach should be the first line of treatment for dementia-related behavior, such as light therapy for sundowning. Dementia and related behaviors affect complex phenomena and create economic and psychosocial burdens for patients and caregivers (Canevelli et al., 2016). However, a quasi-experimental study by Henskens et al. (2017) stated a nonpharmacological intervention is suggested, such as movement-oriented restorative care leading to a more positive self-image and improving the ability to carry out activities of daily living in dementia residents.

To evaluate nursing knowledge with dementia and dementia care in a long-term care setting, I conducted a research study in a nursing home setting on nursing staff knowledge related to dementia and dementia care. The research study was quasi-experimental in a natural setting without randomly selecting the subjects. I did not control the study subjects, and it was performed in a nursing home setting with nursing education (experimental group) and another nursing home setting with a similar population without nursing education (control group).

Purpose

The purpose of this study was to identify how nursing education affects nursing knowledge and related outcomes in nursing practice with dementia and dementia care. The prevalence of dementia is trending upward globally; there are over 5 million with dementia, with 16 million expected by the year 2050 (Alzheimer's Association, 2018). Therefore, to promote residents' well-being and quality of care and to support best practices in nursing care, nursing education related to dementia and behavior is much needed.

Spencer et al. (2018) also performed quasirandomized controlled trials on aggressive behaviors and nursing management techniques. Their research study of behaviors included verbal aggression, physical aggression, pacing, and repetition with nonpharmacological approaches. For example, the de-escalation techniques had better outcomes with residents without aggressive psychiatric behaviors (Spencer et al., 2018). Therefore, Spencer et al. (2018) argued that nonpharmacological interventions were optimal treatment to manage residents with behavior problems. Moreover, Ehlman et al. (2018) stated that their quasi-experimental pilot study on nursing education showed that health workers with improved knowledge of caring for dementia patients achieved significantly better outcomes. Therefore, nursing education is strongly recommended.

Project Design

I performed a quasi-experimental study with a control group designed to make a comparison between similar groups: the control group and the experimental group at baseline before and after the intervention. A quasi-experimental study is appropriate to use where groups are already in place and are designed for researchers studying in a natural setting without randomly selecting the subjects. Therefore, I did not control the study subjects. The independent variables and conditions included nursing staff education in-services related to dementia and dementia care, and the dependent variables were the nursing knowledge related to dementia and dementia care.

Nursing staff from the experimental group had education on dementia and dementia care of residents where the nursing staff from the control group did not have education on dementia and dementia care. For the nursing staff education component, I, a nursing educator, provided a nursing staff in-service related to dementia and dementia care of residents with dementia. Staff

development from the experimental group scheduled nursing staff in-services according to the choice of the director of nurses. Demographic data from the participating nursing staff in-service included age, gender, race, occupation (registered nurse [RN], licensed practical nurse [LPN], or certified nursing assistant [CNA]), years in occupation, and prior dementia education. The nursing staff in-services were during the first shift, which was from 7 a.m. to 3 p.m. The research study included a pretest and posttest using the DKAT2 questionnaire. The DKAT2 is a dementia knowledge questionnaire that has 21 items and scoring (Annear et al., 2015; Parra-Anguita et al., 2019; Piovezan et al., 2018).

Instruments and Tools

I, a nurse educator, provided in-services (dementia and dementia care) to the experimental group. The in-services included video related to dementia and dementia care and a lecture with a PowerPoint (PPT) presentation. I provided a nursing education in-service in the facility's classroom for the staff and the staff development per director of nurses and scheduled the nursing staff in-services. The necessary tools for the in-services were a personal computer, a microphone, and a large-screen television in the facility. The educational video subject was "Agitated Behaviors Among Older Nursing Home Residents," provided by the Department of Veterans Affairs, and took approximately 20 minutes. The educational video was available to the public; it was not necessary to obtain permission to use it for educational purposes, and no password was required.

To promote effective dementia care with a positive approach, understanding a certain level of nursing knowledge related to dementia care is needed. Annear et al. (2015) developed a tool to measure a caregivers' nursing knowledge, DKAT2 (Annear et al., 2015; Parra-Anguita et al., 2019; Piovezan et al., 2018). The DKAT2 is a questionnaire that includes 21 questions and a

scoring system (Annear et al., 2015; Parra-Anguita et al., 2019; Piovezan et al., 2018). The DKAT2 outlines a collaborative approach to care planning including family, aged caregivers, and nursing staff who provide dementia care to cognitively impaired residents (Annear et al., 2015; Parra-Anguita et al., 2019; Piovezan et al., 2018). The tested reliability and validity of the DKAT2 result using Cronbach's alpha coefficient were 0.79 ($n = 39$) and 0.79 ($n = 59$), indicating good internal consistency and acceptable reliability (Parra-Anguita et al., 2019). Therefore, in this research study, I used DKAT2 as an assessment tool to evaluate the nursing staff's knowledge of dementia and dementia care.

Data Collection and Analysis Procedures

Data collection sampling was a convenience sampling. The convenience sampling method, one of the most commonly used to gather data, was readily available, uncomplicated, and personally comfortable for me to use to collect data (Dudovskiy, 2019). The benefits of convenience sampling include simplicity, feasibility, suitability for obtaining data, and generating a hypothesis in a short period (Dudovskiy, 2019). The disadvantage of convenience sampling included high risk of sampling error, vulnerability to bias, and lack of credibility (Dudovskiy, 2019).

The method of statistical analysis used was an independent and dependent *t* test, using the Statistical Package for Social Sciences (Version 23.0; Cronk, 2018). To assess nursing knowledge of dementia and dementia care, I used the DKAT2 to establish nursing knowledge and outcomes of nursing knowledge and to perform the evaluation of nursing knowledge related to dementia and dementia care (Annear et al., 2015).

Dependent t Test

I performed a dependent t test, which was to analyze paired scores to assess the difference in nursing knowledge (the results of the DKAT2) before and after the nursing education program (Cronk, 2018). With the experimental group, I performed the pretest/posttest, using DKAT2 before and after the nursing in-service on dementia and dementia care. The way to compare the results in measuring the nursing education outcomes is to calculate the sample size for the nursing staff for the dependent t test. I used a G*Power 3.1. 9.1 t test, which means the difference between two dependent means (Cronk, 2018).

Independent t Test

To calculate the independent t test sample, the estimated sample size and the difference between two independent groups are calculated (experimental and control group) with the power of 0.80, the expected effect size of 0.8, and an α of 0.05 (Cronk, 2018). I performed the posttest with the DKAT2 for performing an independent t test from the experimental group. From the control group, I performed a posttest using the DKAT2, which was in another similar nursing home without dementia and dementia care in-service. The required estimated sample was 42, and the participants were 48, which was above the required sample.

IRB Approval and Process

In the process of obtaining research study approval, I submitted a proposal to the institutional review board (IRB) and obtained IRB approval before the research study performance (see Appendix G). The application for an exemption included the following reasons:

1. Research conducted in established or commonly accepted educational settings and dementia education are required regularly by the Center for Medicare and Medicaid Services (Department of Public Health, 2018)

2. Research that only includes interactions involving educational tests, such as the pre- and posttest after the dementia education survey
3. Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses (including data entry) with the facility agreeing to the interventions and collection of information.

Moreover, the aim of the study was to promote best practice and quality of life through evidence-based practice (Cronk, 2018).

Voluntarily Informed Consent Form

In the process of obtaining consent from the participants, I submitted a proposal to the participants, including a voluntarily informed consent form, before conducting the research, and I obtained signatures before the research study. The voluntarily informed consent form included the purpose of the study, the study procedure, risks and benefits, and confidentiality, and stated that participation in this study was voluntary. If a participant decided to take part in this study, I asked them to sign a consent form. After signing the consent form, participants were still free to withdraw at any time and without giving a reason. After the completion of the questionnaires, a copy of the written signed consent was given to all the participants. For the protection of information, all research notes and documents were assigned codes and numbers for participants. All the notes, interview transcriptions, and any other identifying participant information were stored in a locked file cabinet in the personal possession of the researcher in cases of legally obligated to report specific incidents such as incidents of abuse and misuses (Cronk, 2018).

Risks and Benefits

The risks of a quasi-experimental research study include the possible inability to randomize the subject study group, which can lead to reduced internal validity and nursing errors such as inadequate documentation (Moran et al., 2019). For example, the preexisting factors for the control group may influence the outcome of the study through self-education or accessing residents' health care information during the study (Center for Innovation in Research and Teaching, 2019). Other risks are possible exposing confidential information, or undesired or unintended uses of information (University of California, Irvine, 2019).

Quasi-experimental research was chosen because of the goal of producing useful data for nursing staff with residents with diagnoses of dementia in a long-term care setting. The participants were in their customary genuine setting. Selecting similar settings for the control group and experimental groups was necessary for comparing the study outcomes. The use of a quasi-experimental study design also decreased ethical concerns and the time required for selecting the samples (Center for Innovation in Research and Teaching, 2019). The quasi-experimental study tended to generate possible treatment for best practice (Center for Innovation in Research and Teaching, 2019). For example, Wilchesky et al. (2018) also showed that education on medication reduction in the geriatric population in long-term care settings has had positive results and was a feasible way to promote greater well-being in this population.

Summary

The purpose of this research study was to assess current nursing knowledge and to increase nursing knowledge related to dementia and dementia care. It was specifically designed to promote and evaluate the best practice in the detection and diagnosis of dementia and provide the best dementia care in the nursing home setting, including supports to assist staff in the

education about and delivery of this best practice. This research was necessary because most U.S. dementia residents do not reside in designated dementia care units, leading to a lack of targeted care and an increase in some types of inadequate care (Kaskie et al., 2015).

Dementia is a global epidemic, and there is an urgent need for the development of sound nursing education about it (Centers for Disease Control and Prevention, 2015). Life for residents with dementia may be improved through lifestyle changes, which decrease risks to health. There is an urgent need for the development of sound nursing education about dementia (Centers for Disease Control and Prevention, 2015). Best practices are needed to promote quality care for dementia in a long-term care setting, such as providing adequate orientation, staff training programs, and ongoing training (Gilster et al., 2018). Therefore, quality dementia care is needed for providing the best overall quality of care and patient well-being. It is necessary to develop appropriate evidence-based care plans, treatments, policies and procedures, staff education, and excellent communication among team members to ensure that the basis for the delivery of excellent dementia care in long-term care will be in place.

Chapter 4: Results

This quasi-experimental study was performed in a natural setting without randomly selecting the subjects and without controlling the study samples (Center for Innovation in Research and Teaching, 2019). The research study groups were in a nursing home setting, where study participants and groups were already in place and had natural working environments. The selection of a quasi-experimental study was appropriate for making a comparison between the experimental group and the control group. The intervention was the in-services, providing nursing education related to dementia and dementia care. I hypothesized that providing nursing education on dementia and dementia care would improve nursing knowledge and promote quality care to residents. The results showed a positive correlation with a measure of nursing education with dementia and dementia care.

Purpose of the Project

The purpose of this research study was to understand the current nursing practice and nursing knowledge of dementia and dementia care in a long-term care setting and to promote best practice in dementia care. The research study was focused on the evaluation of nursing knowledge before and after the nursing education related to dementia and dementia care. The goal was to support the nursing staff in the delivery of dementia education related to dementia care to provide evidence-based practice in dementia and dementia care in the nursing home setting. This was important because most residents with dementia reside in a traditional nursing home setting without individual care units (Centers for Disease Control and Prevention, 2015; Kaskie et al., 2015).

The experimental group had the pretest and posttest, while a control group at different nursing home settings in a similar population had a posttest. The independent variables and

conditions included education related to dementia and dementia care. The dependent variables were nursing knowledge of dementia and dementia care with dementia residents in the nursing home setting.

The nursing education on dementia and dementia care included educational lectures with the PowerPoint (PPT) templates and video in-services with dementia and dementia-related behavior. The video was an education material video subject, “Agitated Behaviors Among Older Nursing Home Residents,” provided by the Department of Veterans Affairs, and took place approximately 20 minutes. The nursing staff in-service took place at the beginning of the research study, which included a pretest. The nursing education in-services were provided on the part of the staff development program during the working hours as scheduled by staff development and nursing department, followed by a posttest.

With the experimental group, I collected data from the pretest and posttest using the DKAT2—that is, before and after the nursing in-service on dementia care. The times of intervention and data collection of samples were at pretest, dementia education in-service, and posttest. However, with the control group, the author only performed a posttest without dementia education, which was in another similar nursing home setting.

Demographics

The participants of sample populations were nursing staff from the experimental and control groups from long-term care nursing homes. The sample population of both experimental and control groups included RNs, LPNs, and CNAs from the long-term care facilities. The 48 volunteers were signed up for enrollment and completed the research study.

The method for collecting the samples from the participants was convenience sampling, which made it easy for me to collect the data. Convenience sampling is readily available and less

complicated and made it easy to collect data (Dudovskiy, 2019). Convenience sampling was beneficial for this research study and for the author, which was simple, low cost, and suitable to obtain data to generate a hypothesis in a short period. However, convenience sampling has some disadvantages, such as a risk of sampling error and low credibility (Dudovskiy, 2019).

Data Analysis

The statistical test was a *t* test using the Statistical Package for Social Sciences (Version 23.0; Cronk, 2018). I performed an independent *t* test and a dependent *t* test. Performing the independent *t* test, I collected the pretest and posttest from the experimental group—that is, after the nursing in-service on dementia education. With the control group, I collected the posttest results, which were from the other similar nursing home where there was no dementia-related behavior management in-service by me as an educator (Cronk, 2018). I performed a dependent *t* test, analyzed paired scores from the experimental group, and evaluated the difference nursing knowledge between before and after the in-service in dementia and dementia care (Cronk, 2018).

Question Guiding the Inquiry

The research study was to identify if the evidence-based nursing education on dementia and dementia care led to an increase in nursing knowledge of dementia and dementia care in a long-term care setting. In a long-term care setting, the residents who have dementia often have memory and behavior problems that affect their quality of life and psychosocial well-being. The effectiveness of dementia care of nursing care was needed in a long-term care setting. Effective dementia care delivery to nursing home residents with dementia and behavior problems influences their quality of life (Beck et al., 2016). The nursing staff demonstrated a lack of knowledge about caring for the older population and had negative attitudes (Beck et al., 2016). Education related to dementia and dementia care was needed to increase nursing knowledge, as

well as to strengthen overall mental health care through evidence-based nursing (Cations et al., 2018; WHO, 2018b).

Dependent t Test

I performed a dependent t test and analyzed paired scores to assess the difference in nursing knowledge between the pretest and the posttest results of DKAT2 from the nursing education program. I conducted a dependent t test (paired-samples t test) to evaluate whether a statistically significant difference existed between the mean DKAT2 test score pretest and posttest results of nursing education and dementia care knowledge. Assumption testing indicated no gross violation of assumptions. The results of the dependent t test (paired-samples t test) were statistically significant, $t(23) = 4.90, p < .05$, indicating that there was a significant increase in DKAT2 test scores from the pretest ($M = 15.58, SD = 3.39, N = 24$) to the posttest ($M = 18.25, SD = 2.34$). The mean increase was 2.67, with the 95% confidence interval for the difference between the means of 1.54 to 3.79 (see Tables 1 and 2).

Table 1

Paired-Samples Statistics

		<i>M</i>	<i>N</i>	<i>SD</i>	<i>SEM</i>
Pair 1	DKAS2 score	15.5833	24	3.39970	.69396
	DKAS2 score	18.2500	24	2.34521	.47871

Table 2*Paired-Samples Test*

		Paired differences			95% CI of the difference		<i>t</i>	<i>df</i>	Sig. (2-tailed)
		<i>M</i>	<i>SD</i>	<i>SEM</i>	Lower	Upper			
Pair 1	DKAS2 score–DKAS2 score	–2.66667	2.66485	.54396	–3.79194	–1.54140	–4.902	23	.000

The effect size was large, based on Cohen's conventions (Wuensch, 2019). To compare the results in measuring the nursing education outcomes, the sample size for the nursing staff for the dependent *t* test was calculated. I used a G*Power 3.1. 9.1 *t* test, which calculates the difference between two dependent means (Cronk, 2018). From calculating the estimated sample size, I calculated with the power of 0.80 the expected effect size of 0.8, with an α of 0.05 (Cronk, 2018). The estimated sample size from a priori power analysis was 12 nursing staff. I added 20% (2 more nursing staff) for possible participant loss, such as for staff leaving the facility, illness, or withdrawal from participating in the research study. The total need for the sample was 40 (Cronk, 2018). From the research study, the total participants were 24 in the control group, which was higher than the required number of 14.

I rejected the null hypothesis that there was no statistically significant correlation between nursing education and nursing knowledge with dementia and dementia care. According to the research study results, there was a statistically significant correlation between nursing education and nursing knowledge of dementia and dementia care. Therefore, providing nursing education on dementia and dementia care will improve nursing knowledge and promote the quality of dementia care to residents.

Independent t Test

I performed two episodes of independent *t* test. One comparison of DKAT2 scores was between the control group and the experimental group without nursing education. Another independent *t* test was the DKAT2 scores from the experimental group between the pretest and posttest results, which was to analyze if there was a correlation between before and after the nursing education and nursing knowledge of dementia and dementia care.

To calculate the independent *t* test sample, the estimated sample size and the difference between two independent groups (experimental and control group) were calculated with the power of 0.80, the expected effect size of 0.8, with an α of 0.05 (Cronk, 2018). A priori power analysis was used to estimate the sample size of 42 nursing staff, with 20% (8 nursing staff) added for possible participant loss through leaving the facility, illness, or deciding not to participate in the research study, totaling 50 samples (Cronk, 2018). The required estimated sample was 42 and the number of participants was 48, which indicated that the effect size was large based on Cohen's conventions (Wuensch, 2019).

I performed an independent *t* test from the independent *t* test variable score without the nursing education comparison results, which were DKAT2 scores from the control group and the experimental group. The independent *t* test was to determine if a difference existed between the mean DKAT2 scores of the control group and the experimental group of nursing knowledge with dementia and dementia care without dementia education. The results of the independent *t* test were no statistically significant difference between the mean DKAT2 scores of the control group ($n = 24$, $M = 14.88$, $SD = 2.74$) and the experimental group ($n = 24$, $M = 15.58$, $SD = 3.39$), $t(46) = -.795$, $p > .05$. The 95% confidence interval from both groups was 1.09–2.50, which indicated that for nursing knowledge with dementia and dementia care without nursing

education, there was no statistically significant difference between the two groups (see Tables 3 and 4).

Table 3

Group Statistics

Independent <i>t</i> test		<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
DKAT2 score	Control group	24	14.8750	2.73960	.55922
	Experimental group	24	15.5833	3.39970	.69396

Table 4

Independent Samples Test

		Levene's test for equality of variances		<i>t</i> test for equality of means						
		<i>F</i>	Sig.	<i>t</i>	<i>df</i>	Sig. (2-tailed)	<i>M</i> difference	Std. error difference	95% CI of the difference	
									Lower	Upper
DKAT2 score	Equal variances assumed	5.338	.025	-.795	46	.431	-.70833	.89124	-2.50231	1.08564
	Equal variances not assumed			-.795	44.011	.431	-.70833	.89124	-2.50450	1.08783

I performed an independent t test from another episode for an independent t test with posttest results to compare the groups' results, which were DKAT2 scores from the control group and DKAT2 posttest scores from the experimental group. The independent t test was used to determine if a difference existed between the mean DKAT2 scores of the control group and the experimental group of nursing knowledge with dementia and dementia care with dementia education. The results of the independent t test were a statistically significant difference between the means. The DKAT2 scores of the control group ($n = 24$, $M = 14.88$, $SD = 2.74$) and experimental group ($n = 24$, $M = 18.25$, $SD = 2.35$), $t(46) = -4.59$, $p < .05$. The 95% confidence interval was -1.89324 to -4.85676 , indicating that with dementia education the DKAT2 increased, which indicated that with nursing education, there was a statistically significant difference with dementia and dementia care between the two groups (see Table 5 and 6).

Table 5

Group Statistics

	Independent t test	N	M	SD	SEM
DKAT2 score	Control group	24	14.8750	2.73960	.55922
	Experimental group	24	18.2500	2.34521	.47871

Table 6*Independent Samples Test*

		Levene's test for equality of variances		t test for equality of means						
		<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>M</i> difference	Std. error difference	95% CI of the difference	
									Lower	Upper
DKAT2 Score	Equal variances assumed	.008	.931	-4.585	46	.000	-3.37500	.73613	-4.85676	-1.89324
	Equal variances not assumed			-4.585	44.932	.000	-3.37500	.73613	-4.85771	-1.89229

I rejected the null hypothesis that there was no statistically significant correlation between nursing education and nursing knowledge with dementia and dementia care. The independent *t* test results indicated that there was a statistically significant correlation between nursing education and nursing knowledge of dementia and dementia care. Therefore, there was a strong indication that providing nursing education on dementia and dementia care will improve nursing knowledge and promote the quality of dementia care to residents.

Reliability/Validity

I performed a research study using a DKAT2, which was considered an excellent assessment tool. The reliability and validity of the DKAT had internal consistency and acceptable reliability (Annear et al., 2015). Therefore, in this research study, I used the DKAT2 as an assessment tool to evaluate the nursing staff's knowledge of dementia and dementia care, which included 21 questions and a scoring system (Annear et al., 2015; Parra-Anguita et al., 2019; Piovezan et al., 2018).

The DKAT2 scores of the experimental group and control group had a consistent result with the statistically significant finding from a dependent *t* test and independent *t* test, which

indicated relatively good reliability. Comparing the two test results yielded both statistically significant findings. The DKAT2 scores repeatedly produced stable and similar results under the consistent condition with the consistency of the experimental and control group, which indicated that the results of the measures satisfied the concept of reliability.

Strengths and Limitations

The strengths of this research study were that it was a compelling research study and intervention with excellent volunteers and 100% participation. The sample size was large in analyzing the DKAT2 results with statistically significant findings, which indicated positive reliability and validity of the research study, leading to effectiveness of nursing education and outcomes. Limitations of this research study included the fact that nursing education–related dementia may be a limited collection of the sample from the convenience sampling. Convenience sampling is commonly used in research studies. Moreover, convenience sampling is less complicated and makes it easy to collect data. However, convenience sampling has disadvantages for possible error risk for collecting the data and its vulnerability of low credibility (Dudovskiy, 2019).

Interpretation and Inference of the Findings

A quasi-experimental research study of nursing knowledge of dementia and dementia care using DKAT2 scoring indicated that nursing education did increase nursing knowledge in these areas. The findings from the DKAT2 scores from two episodes, independent t tests and a dependent t test, were statistically significant, which were from the independent t test from the control and experimental groups and the dependent t test from the pretest and posttest. Moreover, the quasi-experimental research study using the DKAT2 scoring system showed a statistically significant correlation between nursing education and nursing knowledge of dementia and

dementia care. Therefore, the evidence of the research study indicated that education would promote the delivery of optimal care to residents of long-term care facilities.

In long-term care settings, dementia is a growing epidemic. Approximately 80% of that population had dementia, and the number continues to grow, creating an increasing need for proper nursing care and the development of dementia care as a topic in nursing education (Centers for Disease Control and Prevention, 2015). Moreover, adequate nursing education and ongoing training are required to support best practice dementia care in long-term settings (Department of Public Health, 2018). The American Community Survey data from 2012 to 2016 showed the population of older people would reach 46.2 million in the year 2017 (United States Census Bureau, 2019). Therefore, increasing nursing knowledge of dementia care is necessary to decrease health risks and disparities in these vulnerable patients and to improve their overall quality of life.

Summary

In long-term health care, 80% of the population has dementia and is a growing epidemic, and the development of dementia care in nursing education is needed (Centers for Disease Control and Prevention, 2015). Increasing the nursing knowledge of dementia care may improve through nursing education to promote the patient's quality of life and decrease health risks. Providing adequate nursing education and ongoing training can promote the best practices as well as promote quality care for dementia in a long-term care setting (Department of Public Health, 2018).

From the quasi-experimental research results, DKAT2 scores increased after nursing education related to dementia and dementia care, which indicated that nursing education influences are significantly different from dementia and dementia care in nursing knowledge.

The dependent t test from the research results had a statistically significant correlation between nursing education and nursing knowledge of dementia and dementia care, which was a strong indication that nursing educations will promote the improvement of dementia care in long-term care. Therefore, providing continuation of nursing education on dementia and dementia care will increase nursing knowledge and the quality of life of the residents.

Chapter 5: Discussion, Conclusions, and Recommendations

Dementia is the progressive decline of cognition and function, with changes in memory and behavior, and is a rapidly increasing health problem around the world (American Speech-Language-Hearing Association, 2019). The WHO (2018a) has recognized the need for improvements in dementia care and reduction in its accompanying health and safety risks. In the United States, an estimated 5.7 million people live with a diagnosis of dementia; this number is expected to grow to 13.8 million by 2050 (Alzheimer's Association, 2020). However, nurses often lack knowledge of geriatrics and dementia care, and education and training are needed to meet these patients' needs (Beck et al., 2016). As a result, the rapid growth of the over-65 population in the United States has caused concerns about how clinical practice will meet patient care needs and the increased demand for health care providers (Joenpera, 2017). For example, up to 80% of those in long term care facilities have some degree of dementia and thus a decline in memory and functional capacity (Joenpera, 2017).

Nursing education and training are needed both to increase knowledge of dementia and to promote the delivery of optimal dementia care (Beck et al., 2016). Nursing education on dementia and dementia care increases nursing and caregiver knowledge of evidence-based practices (Parra-Anguila et al., 2019; Rakesh et al., 2017). Such education on evidence-based, cost-effective practices will increase knowledge of dementia among nurses, caregivers, and the general public (Rakesh et al., 2017). Thus, there is an administrative responsibility to assess the nursing staff's level of knowledge of dementia and dementia care and to develop and implement appropriate educational programs, policies, and procedures (American Nurse Today, 2019).

Implications of Analysis for Leaders

Caring regularly for dementia residents can present challenges to nursing staff emotionally, physically, and ethically, leading to high turnover in staff. Lack of knowledge of dementia care, ineffective supervision, feelings of frustration, and physical exhaustion result in poor morale (Beck et al., 2016; Spenceley et al., 2019). However, weaknesses in the American health care delivery system become a factor in adverse outcomes as multiple disciplines attempt to work together without effective communication and with outright miscommunication (Roussel et al., 2016). A large national study of health care providers and administrators revealed a workplace culture of poor communication and a lack of collaboration among health care professionals, contributing to a significant rate of medical errors and staff turnover (Roussel et al., 2016). Effective leadership is needed to transform the organization's values and beliefs and to promote quality of care and patient safety.

Influential leaders, a transformational leadership style, can motivate team members in challenging environments to guide team members with a vision of their goals for personal and organizational success with effective communication (Roussel et al., 2016). Effective leaders negotiate their way through the extraordinary challenges and opportunities of the rapidly changing health care landscape. Effective nursing leaders can motivate team members in challenging environments, not by dominating them through their positions of relative power but by employing creative approaches to problem-solving will guide staff toward bringing reality to their vision and the achievement of their goals for personal and organizational success (Roussel et al., 2016). Moreover, leadership must offer staff support with a creative approach to problem-solving (Roussel et al., 2016). To recap, effective leadership, such as transformational leadership, can transform an organization's values and beliefs and improve patient care and safety through

the adoption of new ideas (Choi et al., 2016; Foundation of Nursing Leadership Assessment, 2015).

In this research, I aimed to strengthen overall mental health care through evidence-based nursing (Cations et al., 2018). There is a great need to improve quality of care through education and training for nursing staff and the development of policies and procedures based on evidence-based practice (Beck et al., 2016). It was estimated in 2012 that there were about 36 million people diagnosed with dementia worldwide, with this number expected to double by 2030 (Spenceley et al., 2019). People diagnosed with dementia are likely to require nursing care, particularly the 24-hour care that is offered in long-term care and assisted-living settings (Joenpera, 2017; Spenceley et al., 2019). One of WHO's goals was to have health care providers improve care by advocating for better patient and caregiver access to information on dementia (WHO, 2018a).

The challenges of caring for those with dementia create stress for caregivers, whether family or nursing, and increase risks to patients at the same time. An estimated 90% of residential dementia patients had impaired functioning and behavior problems, which significantly affect their quality of life and the quality of life of their burdened and stressed caregivers (Oliveira et al., 2015). Nurses who are not knowledgeable about geriatric care tend to have a negative view of older patients. Moreover, caring for dementia residents can become a source of moral distress to staff (Evripidou et al., 2019). When they are working short-staffed and do not have sufficient time for safe, quality care, they lack family support and are in an environment where there are minimal activities for residents (Spenceley et al., 2019). Yet, the nurse's attitude toward older people is a critical factor in the quality of their care (Evripidou et al., 2019). Providing dementia care education and implementing behavior management

interventions promote better patient care and less wear and tear on caregivers (Oliveira et al., 2015).

Rapid changes in the health care scene, such as the explosive growth in the older population and in the emergence of new technologies, also take their toll on nursing leadership and care. Even as technology propels us toward rapid change, it is necessary to build a culture of improving the safety of patient care (Medprogroup, 2018). Therefore, policy makers and nursing leaders need to focus on improving care through providing the educational programs to help staff gain an understanding of dementia and the role of nursing care (Beck et al., 2016; Cations et al., 2018).

Essentials of Doctoral Education for Advanced Practice Nurses

Essential I: Scientific Underpinnings for Practice. Essential I emphasizes that the state of current and future dementia care and evidence-based nursing education is developed through research studies and recommendations. The projected growth of the older U.S. population with their incidence of dementia and related health care problems often require care in long-term settings; as a result, dementia patients who have behavioral problems may suffer from a lack of knowledge on the part of the staff (Rakesh et al., 2017). Therefore, health care management teams, nursing leaders, and nursing staff need a better understanding of knowledge of dementia care to provide a proper focus of care and to direct other caregivers (Rakesh et al., 2017). For example, some of the recommendations include the development of nursing education and the participation of nurse leaders in the policy-making process, which is vital to bring evidence-based practice to nursing education and nursing care of dementia patients (American Nurse Today, 2019). Thus, governmental and nursing leaders and policy makers must be involved in the development of nursing education programs and nursing policies designed to promote

improved dementia care through the implementation of the best evidence-based practice (Beck et al., 2016; Cations et al., 2018).

Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking. Essential II is preparation for improved quality of care through expertise in dementia assessment and the ability to identify and facilitate solutions in systemic problems. Ongoing systemic analysis and systemic development of best practice interventions are recommended as essential to the delivery of good dementia care with sound health care management. Nursing leaders can assist in the improvement of dementia care and nursing education related to it by participating in the development of evidence-based policies and procedures (Fazio et al., 2018). Evidence from the quasi-experimental research study on nursing knowledge of dementia supports the proposition that proper nursing education did effectively increase nursing knowledge of dementia and best practice care. For the best evidence-based practice to be implemented, nursing leadership must be actively involved in the development of education and policies designed to promote excellent dementia care (Beck et al., 2016; Cations et al., 2018).

Essential III: Clinical Scholarship and Analytical Methods for Evidence-Based Practice. Essential III focuses on the use of analytic methods to evaluate the existing literature on the implementation of evidence-based best practice in dementia care and related nursing education. The level of nursing knowledge concerning the care of older residential patients and management of their behavior affected both the attitudes of nursing students and the kind of care that patients received (Honan, 2016). Many nursing students were uncomfortable with trying to manage dementia-related behaviors such as aggression (Honan, 2016). The perceptions of nursing students and their level of acceptance of these patients influenced the effectiveness of

their care (Honan, 2016). Providing education to nursing staff and other caregivers is essential to the use of evidence-based nursing practice and the delivery of quality care (Annear et al., 2016).

As nursing care becomes more effective through education, dementia care was improved, and thus the desired nursing outcome was achieved (Annear et al., 2015). Annear et al. (2015) designed their research study to assess the effectiveness of an educational program and its concomitant effect on the stress level of the nursing staff. Their research study showed that effective nursing education did result in improved patient care (Annear et al., 2015; Low et al., 2015). However, further research on improving staff motivation is recommended.

Essential IV: Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care. Essential IV emphasizes review and evaluation of informatics technology and analysis of technological applications for generating evidence-based health care interventions. In the United States, the cost of dementia care has increased by 35% since 2010, and an Alzheimer's report estimated \$604 billion (Global Voice on Dementia, 2015; Wimo et al., 2017). Electronic health records (EHRs) promote cost-effectiveness and improve patient care through their superior ability to document and access patient information (Medprogroup, 2018). EHRs make it possible to collect patient information and then analyze the data to support improvements in the quality of care. EHR use further improves patient care by minimizing risks and preventing errors; therefore, using technology is one strategy for decreasing the financial burden of health care costs and improving health care management (Medprogroup, 2018).

Essential V: Health Care Policy for Advocacy in Health Care. Essential V is an analysis of health care policies and procedures in dementia care, nursing education, and advocacy of the nursing profession in serving public health needs at the local, state, federal, and

global levels. Worldwide, dementia is one of the most rapidly growing medical problems in the human population, with a new case appearing every 3 seconds, and the approximately 50 million dementia sufferers are expected to triple in number by 2050 (WHO, 2020). Dementia is a rapidly growing problem requiring new developments in care; it is the sixth-leading cause of death in the United States (Alzheimer's Association, 2020).

Nurse leaders have vital roles in innovations in the health care system and being involved in decisions regarding patient care, in collaboration with other health care stakeholders, and in advocacy for safe, high-quality care (American Nurse Today, 2019). Therefore, nurse leaders must be involved in policy making with the information gained from research studies to improve patients' safety and the general quality of their care by providing an innovative scientific foundation for clinical practice (American Nurse Today, 2019).

Essential VI: Interprofessional Collaboration for Improving Patient and Population Health Outcomes. Essential VI focuses on the complexity of health care management and the rapid growth of dementia and concomitant changes in the health care system. Effective interprofessional collaboration is essential to improved dementia care and positive health outcomes. Effective leadership can transform an organization's beliefs and values concerning the delivery of safe, quality care through the use of a new idea. Effective leaders motivate team members in challenging work settings through positive motivation and creative problem-solving rather than through their positions of power. An effective leader guides team members to help them bring reality to their vision and to achieve their goals for personal and organizational success (Roussel et al., 2016).

Essential VII: Clinical Prevention and Population Health for Improving the Nation's Health. Essential VII is an analysis of the scientific data on the global dementia

epidemic and the education needed to promote best practice. Dementia is a global epidemic, and its management requires new developments in nursing education (Centers for Disease Control and Prevention, 2015). The incidence of dementia doubles for every increase of 5.9 years in age. Worldwide, 7.7 million new diagnoses of dementia are expected yearly. In the United States, the estimated annual number of cases of dementia is 1.25 million (WHO, 2015). The delivery of best practice dementia care in a long-term setting requires adequate staff orientation with initial and ongoing training (Department of Public Health, 2018). Therefore, nursing leaders need to be involved in the development of evidence-based care plans, treatments, policies and procedures, and staff education for excellent dementia care.

Essential VIII: Advanced Nursing Practice. Essential VIII emphasizes the role of advanced nursing practice, which includes demonstrating competence in the fundamentals of nursing practice as well as improving the quality of nursing practice through the use of advanced nursing knowledge in a variety of patient care settings. The doctor of nursing practice program prepares advanced practice nurses to conduct a comprehensive, systemic patient assessment; to design, implement, and evaluate educational programs related to the nursing sciences; and to guide and educate others through the use of conceptual and analytical skills to evaluate nursing practice and policy at all levels of nursing practice (American Nurse Today, 2019). WHO (2018a) has recognized the challenges of increasing public knowledge about dementia care and has called for global involvement in meeting those challenges and bringing best practices to patients. Nursing leaders must focus on improving the quality of care through the development of educational programs designed to promote evidence-based practice and to help staff achieve best practice levels of dementia care to promote quality of life (Beck et al., 2016; Cations et al., 2018).

Recommendations

There is a need for current nursing knowledge and practice for education on dementia and dementia care as well as the need to develop public health policy addressing dementia care (Alzheimer's Association, 2019). For example, though it has been shown that early diagnosis of dementia and the early establishment of a support system for caregivers improve dementia care, at present, only about 16% of the older population receives cognitive assessments during routine physician visits (Alzheimer's Association, 2019).

To promote best practices in dementia care, policy makers and leadership need to focus on the development of patient-centered care, and on getting dementia education to caregivers (Adler, 2018). The quasi-experimental research study indicated that improved knowledge of evidence-based best practices in dementia care would result in more cost-effective care. In the United States, the cost of dementia care is one of the most significant federal budget challenges and concerns. The cost of caring for dementia was \$226 billion in 2015, and \$ 1.1 trillion is expected by the year 2050 (Alzheimer's Association, 2020). The cost of dementia care has increased 35% since 2010 and is estimated by the *World Alzheimer's Report* to be at \$604 billion (Global Voice on Dementia, 2015; Wimo et al., 2017).

Therefore, cost-effective care strategies are needed to decrease the cost of dementia care. For example, adopting new technology decreases the financial burden of health care costs and nursing education. For example, EHR systems allow for the documentation and retrieval of patient information. EHR can be used to collect and analyze patient data, improving care by reducing the risk of errors (Medprogroup, 2018). Administrative and regulatory leaders also need to develop and put into place policies and procedures to assess staff knowledge regularly and to create and implement educational programs (American Nurse Today, 2019).

It is also necessary that primary caregivers continually evaluate residents' cognition, provide adequate care, and make prompt referrals for geriatric consults as needed (Alzheimer's Association, 2019). A proper and timely diagnosis of dementia is crucial to giving patients and caregivers support and access to the care and education they need. With the rapid growth and change in the health care system, nurse leaders must be involved in policy making that concerns adequate care planning and nursing knowledge and practice. In this way, nurses can influence decisions affecting patient care and can collaborate with other health care stakeholders (American Nurse Today, 2019).

Innovations in nursing care allow nurses to oversee patient care and outcomes, reduce rehospitalization, and promote cost-effective care (American Nurse Today, 2019). Nurses can conduct research studies to help generate an innovative scientific basis for clinical practice, including risk reduction and the promotion of better general dementia care (American Nurse Today, 2019). Nurse leaders need to achieve the policy-making skills to address professional challenges, such as advocating for improved patient safety and quality of care and facilitating the meeting of nursing care needs (American Nurse Today, 2019).

Since 2010, with the passage of the Patient Protection and Affordable Care Act, nurses have had new opportunities to deliver effective care and to be leaders in advocating for quality improvement from health care professionals and organizations (American Nurse Today, 2019). State and federal policy makers should take action for fairness in public health and safety (American Nurse Today, 2019). Currently, there are some evidence-based programs available for dementia caregivers (Office of the Assistant Secretary for Planning and Evaluation, 2018). Evidence-based knowledge can form the basis for further educational programs and plans for further research studies (Office of the Assistant Secretary for Planning and Evaluation, 2018).

The U.S. government has the Triple Aim, developed and promoted by the Institute for Healthcare Improvement (IHI) and adopted by the federal government for meaningful, value-based patient care (Edelstein, 2018). Ongoing research is needed to understand the effectiveness of nursing education and knowledge and to make suitable adaptations in care as more evidence-based knowledge is accumulated, such as with the IHI policies, procedures, and outcomes (Edelstein, 2018).

Summary

The underlying problems in the current approach to dementia care are the lack of education and skills for caring for a population with special needs. Understanding the needs of different patient groups and individuals is one of the essential aspects of health care in general, as well as nursing in particular (Beck et al., 2016). Increasing nursing knowledge of dementia care will improve patients' quality of life and reduce further risks to their health (Department of Public Health, 2018). Training in early detection and patient-centered care are needed to provide adequate support and assistance (Fazio et al., 2018).

Continually improving care with evidence-based interventions in nursing education, health management, and general quality of care is essential for vulnerable populations such as those with dementia (Fazio et al., 2018). A competent nurse leader must be involved in nursing education and in policy making to promote evidence-based practice by strengthening their political skills and communicating with legislators about policies. Nurse leaders can improve the quality of nursing care and at the same time bring discussions in public health and media forums to a higher level through greater public awareness of the dementia epidemic and an improved image of those with dementia and their caregivers (American Nurse Today, 2019).

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	2018	2019					2020				
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Appendix B: Dementia Knowledge Assessment Tool Version Two (DKAT2)

Dementia Knowledge Assessment Tool Version 2 (DKAT2)

Here are some statements about dementia.

Please read each statement carefully and place a tick in the box to show if you agree or disagree with the statement, or if you don't know.

It is important to tick only one box (yes, no, or don't know) for every statement.

	Yes	No	Don't know
1. Dementia occurs because of changes in the brain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Brain changes causing dementia are often progressive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Alzheimer's disease is the main cause of dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Blood vessel disease can also cause dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Confusion in an older person is almost always due to dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Only older adults develop dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Knowing the likely cause of dementia can help to predict its progression.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Incontinence always occurs in the early stages of dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Dementia is likely to limit life expectancy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. When a person has late stage dementia, families can help others to understand that person's needs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. People who have dementia may develop problems with visual perception (understanding or recognising what they see).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Sudden increases in confusion are characteristic of dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<p>Here are some statements about dementia.</p> <p>Please read each statement carefully and place a tick in the box to show if you agree or disagree with the statement, or if you don't know.</p> <p>It is important to tick <u>only one</u> box (yes, no, or don't know) for <u>every</u> statement.</p>			
	Yes	No	Don't know
13. Uncharacteristic distressing behaviours may occur in people who have dementia (e.g., aggressive behaviour in a gentle person).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Difficulty swallowing occurs in late stage dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Movement (e.g., walking, moving in a bed or chair) is limited in late stage dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Changing the environment (e.g., putting on a CD, opening or closing the blinds) will make no difference to a person who has dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. When a person who has dementia is distressed, it may help to talk to them about their feelings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. It is important to always correct a person who has dementia when they are confused.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. A person who has dementia can often be supported to make choices (e.g., what clothes to wear).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. It is impossible to tell if a person who is in the later stages of dementia is in pain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Exercise can sometimes be of benefit to people who have dementia.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The Dementia Knowledge Assessment Tool Version 2 was developed from Version 1 at Curtin University, Edith Cowan University, the Australian Catholic University, and the University of Tasmania by Toye, C., Lester, L., Popescu, A., McInerney, F., Andrews, S., and Robinson, A. L. Version 1 was developed at Edith Cowan University with funding from the Australian Government Department of Health and Ageing and support from a dementia education consortium led by Alzheimer's Australia WA.

This document may be reproduced with this acknowledgement retained.

Appendix C: Measurement Tool Permission Letter (DKAT2)

Mon, Mar 11, 2019, 10:09 PM

Chris Toye <XXXXXX>

Dear Sun,

Many thanks for your query about using the DKAT2.

Please see the attached tool and scoring guide. Unfortunately there was an error in one of the tables in the paper published in Dementia (also attached) so please use the scoring guide in preference to the published paper (a correction has been published).

It would be interesting to learn of your findings.

You may also be interested in another recently published dementia knowledge tool, the DKAS. I have attached three papers related to this tool's development.

Please note that we have not carried out factor analysis for the DKAT2 but the DKAS has undergone this process. You can register to use the DKAS at <http://www.utas.edu.au/wicking/research/dementia-knowledge-assessment-survey-registration> .

Very best regards,

Chris

Chris Toye

Associate Professor, Older Persons' Health Care, School of Nursing, Midwifery and Paramedicine and Center for Nursing Research at Sir Charles Gardner Hospital

Appendix D: Health Promotion Model Clinical Assessment Tool 1

Health Promotion Model Clinical Assessment for Health Promotion Plan

Example: Improving Nutrition

Assess current stage of positive nutrition practices [pre-contemplation (PC), contemplation (C), planning/preparation (P), action (A), maintenance (M)]. If in stages C, P, or A, continue. If in stage M, reinforce positive behavior. If in stage PC, reinforce benefits of positive nutritional practices, and assess readiness at a later time.

Prior Behavior

What attempts have you made in the past to eat healthy foods at work and at home?

What did you learn from these attempts?

Personal Influences

What are the personal **benefits** of improving your eating habits?

What problems (**barriers**) might you have trying to eat healthier foods (more vegetables, more fruits, lower fat foods, and healthy grains)?

How sure are you (**self-efficacy**) that you can overcome these barriers to eating healthy?

1	2	3	4	5	6	7	8	9	10
Uncertain					Very Sure				

What healthy foods do you enjoy most? (**activity-related affect**)

Appendix E: Health Promotion Model Clinical Assessment Tool 2

Interpersonal Influences

Social Norms - Do any of your family members or friends expect you to eat healthy foods? Yes No

If so, who, and what do they do?

Social Support - Who will encourage you to eat healthy meals and eat them with you?

Role Models - Do any of your family members or friends eat healthy meals most of the time? Yes No

If so, who?

What do they eat?

Situational Influences

Where can you find healthy foods to eat that you enjoy?

Work?

Home?

Other?

Commitment to a Plan of Action

Are you ready to set goals and develop a plan to eat healthier meals? Yes No

Steps of Plan for Healthy Eating

Competing Demands and Preferences (At Follow-up)

What problems did you encounter in trying to eat healthier foods?

How can you avoid these problems in the future?

Appendix F: Permission Letter (Health Promotion Model)

Mon, Feb 25, 2019, 9:44 PM

Nola Pender <XXXXXX>

Dear Sun:

You have my permission to use the Health Promotion Model Clinical Assessment in your research. I wish you success

Sincerely,

Nola Pender

Appendix G: IRB Approval

ABILENE CHRISTIAN UNIVERSITY
Educating Students for Christian Service and Leadership Throughout the World

Office of Research and Sponsored Programs
320 Hardin Administration Building, ACU Box 29103, Abilene, Texas 79699-9103



May 7, 2019

Sun Weaver

Department of DNP

Dear Sun,

On behalf of the Institutional Review Board, I am pleased to inform you that your project titled "Does evidence-based nursing education on dementia and dementia care lead to an increase in effective nursing knowledge of dementia and dementia care?"

(IRB# 19-043) is exempt from review under Federal Policy for the Protection of Human Subjects.

If at any time the details of this project change, please resubmit to the IRB so the committee can determine whether or not the exempt status is still applicable.

I wish you well with your work.

Sincerely,

Megan Roth

Megan Roth, Ph.D.
Director of Research and Sponsored Programs