

THE EFFECT OF AN EDUCATIONAL INTERVENTION ON IMPROVING ACUTE
CARE NURSES' LEVEL OF KNOWLEDGE IN PROVIDING HIGH QUALITY
END-OF-LIFE CARE TO PATIENTS WITH LESS THAN 2 WEEKS TO LIVE

by

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DEDICATION

I dedicate this work to my husband, Ty; my parents, Joe and Cindy; my brother, Ryan; my sister-in-law, Jaki; my prayer warrior, Char; my best friend, Rizzo; and my sweet loyal dog, Harlee Jo. I love you all more than words could ever express.

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ABSTRACT

Although nurses, above all other health professionals, are in a prime position to positively impact the quality of end-of-life care (EOLC) individuals receive, numerous studies have identified that they are educationally unprepared to do so (White & Coyne, 2011). The purpose of this study was to determine the effect of an educational intervention on improving acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying (i.e., deemed to have less than 2 weeks to live). Because "EOLC in the acute setting frequently takes place over a very short time frame when death is recognizably imminent" (Bloemer et al., 2011, p. 167), the researcher focused on the preactive and active phases of dying and the nursing interventions necessary to provide quality EOLC to patients during their final days and hours of life. The researcher explored the acute care nurses' level of EOLC knowledge, implemented an evidence-based educational intervention using the ELNEC-Core curriculum (COH & AACN, 2000), and determined whether the educational intervention successfully improved the nurses' level of knowledge in providing quality EOLC to adult patients with less than 2 weeks to live. A one-group pretest–posttest research design was implemented to test the hypothesis: Upon completion of the educational intervention the acute care nurse participants will achieve significantly higher scores on the posttest than they do on the pretest. Thirty-one acute care RNs and LPNs voluntarily participated in the study. Data were collected and stored by the software vendor in such a way that data were available only in the aggregate form for each item. Therefore, no direct pretest–posttest comparisons could be made for the individual participants. As a result, descriptive analyses were utilized to examine and report the findings of the participants' aggregate pretest and posttest results. As hypothesized, participants' answered more questions correctly on the posttest than they did on the pretest. Whereas such results could not be directly attributed to the educational intervention, the findings suggest that the participants, as a whole, possessed a higher level of EOL knowledge at the completion of the study.

CHAPTER ONE

INTRODUCTION

A Good Death

“While growing up may be regarded as optional, growing older and dying are not” (Glasper, 2010, p. 1194). Although death is recognized as the “inevitable conclusion to life’s journey” (Glasper, 2010, p. 1194), many individuals do not dwell on dying until the end nears (Glasper, 2010). However, once death approaches, acknowledgement of mortality is frequently reflected by the individuals’ desire to experience what they personally perceive as being a “good death” (Glasper, 2010).

It is difficult to precisely discern what constitutes a “good death,” as its definition is rooted in individualized preferences that undoubtedly vary from person to person. To date, there is no single concrete definition of “good death,” but numerous descriptions do exist. One description offered by the end-of-life care (EOLC) strategy illustrated a good death as “being treated as an individual, with dignity and respect; being without pain and other symptoms; being in familiar surroundings; and being in the company of close family and/or friends” (Paddy, 2011, p. 33). Likewise, the Institute of Medicine defined a good death as one that is “free from avoidable distress and suffering, for patients, family, and caregivers; in general accord with the patients’ and families’ wishes; and reasonably consistent with clinical, cultural, and ethical standards” (Reinke et al., 2010, p. 753). Regardless of how it may be defined, achieving a “good death” is a “prominent social and political priority across the western world” (Watts, 2012, p. 20).

Deemed an ethical obligation of health care providers, the provision of high quality EOLC is an essential component for achieving a “good death” (Stefanou & Faircloth, 2010). EOLC incorporates hospice care services to provide specialized care to anyone who is nearing death (Lewis, 2013). One of the main goals of EOLC is to appropriately anticipate, recognize, manage, and alleviate distressing symptoms associated with the dying process through the “judicious use of comfort measures so that a peaceful death may be achieved” (Lewis, 2013, p. 23).

According to Pullis (2013), “nurses spend more time with dying patients and their families than any other health professional, and every nurse will provide palliative care to patients, no matter in what setting they work” (p. 464). As a result, it is vital that nurses receive proper education to acquire the specialized knowledge and skills essential to delivering high quality EOLC so patients’ goal of achieving a “good death” may be recognized (Paice, Ferrell, Coyle, Coyne, & Callaway, 2008).

Research Problem and Purpose of the Project

Although nurses, above all other health professionals, are in a prime position to positively impact the quality of EOLC individuals receive, numerous studies have identified that they are educationally unprepared to do so (White & Coyne, 2011). According to Pullis (2013), “many nurses report that they do not feel competent or confident in providing end-of-life care and do not consider caring for a dying patient to be a rewarding experience” (p. 463).

The primary goal of nursing in the acute care setting is to “stabilize and restore patients to their prior state of health through the provision of aggressive treatment and care” (Espinosa, Young, Symes, Haile, & Walsh, 2010, p. 273). However, “contrary to this original intent and focus of the acute care environment, an increasing number of patients are receiving terminal care within this specific setting” (Espinosa et al., 2010, p. 273). Despite their responsibility to provide both restorative and EOLC, literature vastly indicates that acute care nurses in particular lack the knowledge, skills, and confidence to transition quickly from their normal curative approach to caring for patients during their final days and hours of life (Bloomer, Moss, & Cross, 2011). Research finds that acute care nurses frequently struggle personally and professionally to “accept death as a natural outcome of life rather than regard it as a medical failure or a disease that must be treated and cured” (Zomorodi & Lynn, 2010, p. 1). Additionally, acute care nurses commonly encounter the following challenges and barriers that “preclude them from delivering optimal end-of-life care” (Espinosa et al., 2010, p. 275):

Lack of time related to poor staffing patterns and a shortage of nurses; lack of involvement in the plan of care; differences between the medical and nursing practice models; disagreement among physicians and other healthcare team members; perception of futile care and unnecessary suffering; unrealistic expectations of the family; and lack of experience and education of the nurse. (Espinosa et al., 2010, p. 275)

The American Association of Colleges of Nursing (AACN) offered a well-cited explanation as to why nurses commonly feel ill-prepared to provide high quality EOLC. According to the AACN and numerous other reports, “end-of-life care has been inconsistent or absent from much of nursing education” (Pullis, 2013, p. 463). Due to the inadequate amount and quality of education offered in undergraduate, graduate, and

continuing education programs, many nurses exhibit shortfalls in EOLC knowledge, skills, and competencies (Schlairet, 2009). Such shortfalls pose detrimental effects on patients, as well as health care providers and organizations, as they create barriers for both the delivery and attainment of quality EOLC (White & Coyne, 2011). Without nurses being educationally versed and fully competent to deliver this specialized care to those they serve, the goal of improved EOLC cannot be achieved (Paice et al., 2008).

The purpose of this project was to determine the effect of an educational intervention on improving acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying (less than 2 weeks to live). Acute care nurses provide the majority of EOLC to patients who are dying from an unexpected event or illness, in which little time passes between diagnosis and death (Bloomer et al., 2011). As a result, "end-of-life care in the acute setting frequently takes place over a very short time frame when death is recognizably imminent" (Bloomer et al., 2011, p. 167). Given this reality, the researcher chose to focus on the preactive and active phases of dying, the symptoms and challenges associated with such phases, and the nursing interventions necessary to provide high quality EOLC to patients during their final days and hours of life. In doing so, the researcher explored the acute care nurses' level of EOLC knowledge; implemented an evidence-based educational intervention using the End-of-Life Nursing Educational Consortium (ELNEC) core curriculum (City of Hope [COH] & AACN, 2000); and determined whether the education intervention successfully improved the nurses' level of knowledge in providing high quality EOLC to adult patients with less than 2 weeks to live.

Background and Significance of the Project

Death and the Need for Quality EOLC in the Acute Care Setting

According to the Centers for Disease Control and Prevention (2013), death completes the life cycle of more than “2.5 million United States residents annually” (para. 1). Although the overwhelming majority of individuals prefer to die at home, death in the United States most frequently occurs in institutions (Fischer, Min, Cervantes, & Kutner, 2013). “More than 30% of the residents who die annually in the United States expire in the hospital setting” (Dobbins, 2011, p. 159), a “percentage that is projected to rise over the next 40 years especially as the baby boomers continue to age” (Johnson & Gray, 2013, p. 318). According to Dobbins (2011), “the rising population of individuals age 65 years and older will consume the most hospital resources of any demographic age group and will be the most likely to die in a hospital” (p. 159). Literature produced by Lin, Arnold, Lave, Angus, and Barnato (2010) further asserted that “40% of patients in the United States currently die in the acute care setting” (p. 1).

Although evidence and statistics demonstrate that death in America frequently occurs in hospitals, research indicates that “most health care organizations are ill-prepared to offer their patients a peaceful death through adequate symptom assessment and amelioration, communication, and emotional support” (White & Coyne, 2011, p. 711). Such a lack of preparedness has led to inconsistencies in the provision of high quality EOLC that, in turn, has transformed the prevalent “fear of death” into a widespread “fear of dying” (Cramer, 2010, p. 54). As explained by Cramer (2010),

“people fear what they must go through prior to dying far more than dying itself” (p. 54). “While many people may wish for death to occur suddenly, most people will die as a consequence of the progressive accumulation of problems arising from one or several pathologies” (Tapley, Pilling, Jolley, Daniels, & El-Mahmoudi, 2013, p. 42). Given this reality, individuals with chronic and life-limiting diseases, who do not die suddenly, will one day have to personally contend with the dying process (Tapley et al., 2013).

The intricate and multidimensional process of dying generates various physical, emotional, psychological, and spiritual needs for dying individuals, as well as their families. Universally, dying individuals hope to have these needs met so they may achieve a “good death” and end their life’s journey with comfort, peace, and dignity (Lewis, 2013). However, reports unfortunately indicate that “patients in acute care settings often do not receive the proper care to meet all of their end-of-life needs” (Lewis, 2013, p. 23). Continual aggressive “efforts to establish a strong evidence base for practices that improve EOLC in the acute care setting underscore the fact that such needs of dying patients are widely recognized but poorly met” (Lin et al., 2010, p. 5).

“Persons dying from prolonged illnesses can, and should, experience a good death free from pain and suffering” (Imhof & Kaskie, 2008, p. 907). However, despite the “prominent and social priority to achieve a good death for all” (Watts, 2012, p. 20), “evidence proclaims that many Americans do not experience a good death” (Imhof & Kaskie, 2008, p. 907). According to Wasserman (2008), “in any discussion about death, the term suffering is often used simultaneously” (p. 621). “Too many Americans who die in healthcare settings suffer needlessly in pain at the end of life” (Imhof & Kaskie, 2008,

p. 908) and endure symptoms (restlessness, difficulty breathing, cough, dry mouth, constipation, nausea, anxiety) that could be alleviated through high quality EOLC (U.S. Department of Health and Human Services, 2011).

According to Bloomer et al. (2011), “good care at the end-of-life and a dignified death should be regarded as basic human rights, where the dying patient and their family are supported in the respectful completion of the life cycle” (p. 168). High quality EOLC is “increasingly recognized as an ethical obligation of healthcare providers” (Stefanou & Faircloth, 2010, p. 589), as it is the catalyst for achieving a good death. Without the proper and timely delivery of EOLC, distressing symptoms associated with the dying process will not be mollified and, subsequently, the universal goal to conclude life’s journey with peace, comfort, and dignity will not be achieved (Lewis, 2013).

Acute Care Nurses’ Role in Providing Quality EOLC

“Of all healthcare professionals, nurses spend the most time with dying patients and their families” (Paice et al., 2008, p. 174). Because of their “frequency and continuity of contact with their patients” (Boyd, Merkh, Rutledge, & Randall, 2011, p. 230) nurses are in a prime position to improve the quality of care patients receive as their life draws to an end. “Nurses provide care across the lifespan, throughout the disease trajectory, and are uniquely trained to serve as clinicians, educators, and advocates” (Paice et al., 2008, p. 174).

Advocacy is a primary nursing role and an essential component of providing high quality end-of-life care. End-of-life nursing advocacy encompasses pain and symptom management, ethical decision making, culturally sensitive nursing care, and care for patients through the process of death and dying. The practice of advocacy in end-of-life care helps to alleviate patient suffering while promoting dignity and comfort. (Pullis, 2013, p. 464)

As mentioned above, “advocacy throughout the dying process encompasses pain and symptom management” (Pullis, 2013, p. 464), vital to delivering the high quality EOLC necessary for patients to achieve a good death. According to Jarrett, Church, Fancher-Gonzalez, Shackelford, and Lofton (2013), “pain is a symptom experienced frequently in the acute care setting and is one of the symptoms that patients fear and dread the most” (p. 81). As stated by Barnett, Mulvenon, Dalrymple, and Connelly (2010), “terminally ill patients are particularly fearful of experiencing unmanaged pain and suffering at the end-of life” (p. 82).

“Despite the increased awareness of the need for adequate pain and symptom management to elicit a good death for individuals, research shows patients dying in hospitals are still not receiving adequate pain relief” (Jarrett et al., 2013, p. 81). To date, “research continues to demonstrate that 50% to 75% of hospitalized patients die in moderate to severe pain” (Jarrett et al., 2013, p. 81). It is impossible for patients to achieve a good death rooted in comfort, peace, and dignity when they experience moderate-to-severe pain and suffer from unmanaged symptoms during their final days and hours of life (Jarrett et al., 2013). As a result, one of the most important yet challenging roles of nurses in providing high quality EOLC is to “become a patient

advocate for the relief of pain and other distressing symptoms frequently experienced throughout the dying process” (Jarrett et al., 2013, p. 81).

Challenges and Barriers to Providing Quality EOLC in the Acute Care Setting

Acceptance of Death. The literature recurrently emphasizes the enormous personal and professional demands that are placed on acute care nurses and speaks to the challenges and barriers they must overcome within the hospital setting in order to provide high quality EOLC to their dying patients. The acute care setting alone poses challenges for nurses to deliver quality EOLC. According to Bloomer et al. (2011), “in tertiary care settings, particularly in the United States the overall momentum in care delivery is towards life extension where resuscitation and assertive treatment to restore health, increase survival, and avoid death takes precedence” (p. 168). Tertiary settings create barriers to the delivery of quality EOLC, as they exemplify the cultural norm of the United States where “death is medicalized and curative procedures are often prioritized ahead of palliation” (Bloomer et al., 2011, p. 168). In the acute care setting, nurses and other health care providers are emotionally and professionally challenged to recognize and accept when patients enter the dying phase, a phase where continuation of curative treatment is futile and no longer appropriate (Bloomer et al., 2011).

For those patients who are in the dying phase, aiming for a cure is not only unrealistic, but may result in over-inflated expectations for patients and family, situations of conflict, and inappropriate or inadequate care. The failure to recognize or acknowledge treatment futility results in a system where clinicians miss the opportunity to deliver timely and appropriate EOLC (Bloomer et al., 2011, p. 168).

The appropriate and timely transition from curative treatment to EOLC is an intricate yet essential process in the achievement of a good death. However, before such transitioning can occur, the patient, family, nurses, and providers have to first accept the outcome of dying (Bloomer et al., 2011). Unfortunately, numerous reports continue to identify a lack of acceptance toward patient death among nurses and providers. Today, nurses and providers commonly regard “patient death as a medical or professional failure rather than the inevitable outcome of disease” (Bloomer et al., 2011, p. 168) and natural process of life. As a result, acceptance of death remains a major barrier to the provision of high quality EOLC for nurses practicing within the acute hospital setting (Bloomer et al., 2011).

Time. According to the literature, “nurses have been identified as highly motivated to provide quality EOLC. However, the busy hospital environment, staffing patterns, nursing shortages, and time constraints” (Kruse, Melhadi, Convertine, & Stecher, 2008, p. 395) often leave nurses feeling frustrated and torn between meeting the needs of their dying patients and their acutely ill patients (Sheward, Clark, Marshall, & Allan, 2011). As explained by Bloomer, Endacott, O’Connor, and Cross (2013), “caring for dying patients alongside the acutely ill is particularly challenging” (p. 758). “Care of the dying has a lesser priority and is under-resourced in terms of staffing, particularly when dying patients compete for attention with the acutely ill” (Bloomer et al., 2013, p. 758). A study by Reinke et al. (2010) also recognized time constraints as being a significant barrier to the provision of quality EOLC within the tertiary setting. “System barriers such as inadequate staffing or time to devote to dying patients and their families

prevent nurses from implementing quality end-of-life care” (Reinke et al., 2010, p. 756).

As a result, acute care nurses are consistently challenged to recognize care of the dying as an equal nursing priority. For dying patients to receive the high quality care they rightfully deserve, staffing shortages must be overcome and nurse–patient ratios must be kept to a reasonable number (Reinke et al., 2010).

Lack of Knowledge and Education. Although numerous other barriers are mentioned throughout the literature, nurses’ lack of knowledge and education is consistently identified as the greatest, and perhaps most troubling, barrier to the provision of quality EOLC. Although nurses are in a prime position to influence the quality of EOLC patients receive, Grant et al. (2013) noted that “nurses cannot do what they do not know” (p. 122). Providing high quality EOLC is an art that requires nurses to go above and beyond to assimilate the specific knowledge, education, competencies, and skills necessary to effectively address the complex needs of dying individuals (Schlairet, 2009).

Over the past 20 years, research has demonstrated major insufficiencies in end-of-life and palliative care education (Schlairet, 2009). According to Schlairet (2009), “there is no scarcity of information describing the significant shortfalls in formal end-of-life educational preparation for nurses at the undergraduate, graduate, and professional development levels” (p. 171). Due to the lack of formal EOLC education and training within nursing curricula, nurses cannot reasonably be expected to deliver high quality EOLC based on their professional nursing licensure alone (Schlairet, 2009).

In response to the “significant gaps evident in the undergraduate, graduate, and continuing education programs” (White, Coyne, & White, 2012, p. 711), the AACN

“published a list of competencies for nurses who care for the dying” (Kruse et al., 2008, p. 391). Of these established core competencies, the literature indicated that nurses practicing in inpatient hospital settings ranked “pain and symptom management” as the most important core competency, followed by “how to talk to patients and families about death and dying” and “knowledge of palliative care” (White et al., 2012, p. 134). However, despite nurses recognizing pain and symptom management as the most important core competency, the majority of hospitalized patients continue to die in moderate-to-severe pain (Jarrett et al., 2013). This harsh reality provides further evidence of the “significant gap that exists between the level of end-of-life care nurses want to deliver and their actual abilities” (Schlairet, 2009, p. 174).

EOLC Education

Because nurses are on the front lines of patient care, their “knowledge, skills, and expertise are the keys to improving” (Kim et al., 2011, p. 222) the quality of EOLC patients receive. Based on this realization, “various educational initiatives are being used to improve nurses’ knowledge about palliative and end-of-life care” (Grant et al., 2013).

Essential end-of-life care competencies for nurses and comprehensive nursing curricula have been developed to address the educational deficiencies of nurses. One such example is the national End of Life Nursing Education Consortium (ELNEC) program (COH & AACN, 2000), which was developed by the AACN and City of Hope National Medical Center. (Schlairet, 2009, p. 171)

According to the AACN (2014),

The End-of-Life Nursing Education Consortium (ELNEC) project (COH & AACN, 2000) is a national education initiative to improve palliative care. This educational curriculum was developed by nationally recognized palliative care experts to provide undergraduate

and graduate nursing faculty, CE providers, staff development educators, specialty nurses in pediatrics, oncology, critical care and geriatrics, and other nurses with training in palliative care so they can teach this essential information to nursing students and practicing nurses. (para. 1). ELNEC-Core (COH & AACN, 2000) content is divided into eight modules: “Palliative Nursing Care; Pain Management; Symptom Management; Ethical Issues in Palliative Care Nursing; Cultural Considerations in End-of-Life Care; Communication; Loss, Grief, Bereavement; and Final Hours.” (para. 6)

Although it is just one example of an existing education initiative, “the ELNEC (COH & AACN, 2000) is a nationally and internationally known, evidence-based educational program that is highly regarded for its positive impact upon improving end-of-life care” (Whitehead, 2009, p. 45). Participating in end-of-life education, such as the ELNEC program (COH & AACN, 2000), empowers practicing nurses to “assess their professional skill set and assume responsibility for mastering the knowledge, attitude, and skills needed to provide exemplary care for the dying” (Schlairet, 2009, p. 174).

Statement of the Problem

“Providing quality care to dying persons and their families has become a major political, societal, and healthcare concern. Fueling this concern are research findings documenting less than optimal end-of-life care practices” (Thompson, McClement, & Daeninck, 2006, p. 170). Care of the dying within acute hospital settings has received particular scrutiny for the delivery of suboptimal quality EOLC (Thompson et al., 2006). “Lack of education provided to healthcare professionals regarding assessment and management of physical symptoms, as well as psychological, social, and spiritual

concerns” (Paice et al., 2008, p. 174) have been identified as considerable barriers to the delivery of high quality EOLC within the acute care setting (Paice et al., 2008).

“Numerous reports document inadequate knowledge and education of healthcare professionals in symptom management and other EOLC skills and stress the need for well-trained professionals” (Paice et al., 2008, p. 174).

The AACN “recognized that EOLC has been inconsistent or absent from much of nursing education” (Pullis, 2013, p. 463). As a result, “both novice and experienced nurses are likely to be practicing without any structured education for the dying” (Kruse et al., 2008, p. 391). Because hospice and palliative services have become more available and in demand, nurses need to acquire the knowledge and skills to effectively provide high quality EOLC to patients with life-threatening illness.

For the goal of improved EOLC to be recognized, the persistent knowledge deficits among nursing professionals must be addressed (Paice et al., 2008). “Continuing education-type initiatives, such as the ELNEC, offer an opportunity for practicing nurses to attain a basic grounding in end-of-life care” (Schlairet, 2009, p. 174). According to Cui, Shen, Ma, and Zhao (2011), “nurses learn to perceive death and dying positively and enhance their end-of-life care knowledge, self-efficacy, and competency levels through continuing education” (p. 403).

Research Question and Hypothesis

This professional project sought to answer the following research question: What effect does an educational intervention (using the ELNEC-Core curriculum; COH &

AACN, 2000) have on improving acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively dying (i.e., deemed to have less than 2 weeks to live) or actively dying (typically 2–3 days prior to death)? The researcher hypothesized that following the completion of the educational intervention (using the ELNEC-Core curriculum; COH & AACN, 2000) the acute care nurse participants would answer more questions correctly on the posttest than they did on the pretest, indicating a positive impact on their level of end-of-life knowledge.

Theoretical Framework

The peaceful end of life theory, developed by Cornelia Ruland and Shirley Moore (1998), served as the theoretical framework for this professional project. This theory was synthesized from a preexisting clinical practice standard for peaceful end of life that had been created by a group of expert cancer nurses in Norway. The peaceful end-of-life standard of practice was initially developed to provide clinical guidance to nurses caring for terminally ill patients (Marriner-Tomey & Alligood, 2006). Ruland, one of the expert nurses who helped develop the peaceful end-of-life clinical practice standard, later “developed the standard into the theory of peaceful end-of-life with Moore’s assistance” (Marriner-Tomey & Alligood, 2006, p. 776).

“The Peaceful End of Life Theory (1998) is a prescriptive middle range theory based primarily on Donabedian’s classic model of structure, process, and outcomes which, in part was developed from the grand theory of general systems” (Marriner-Tomey & Alligood, 2006, p. 776).

In the peaceful end of life theory,

The structure setting is the family system (terminally ill patient and all significant others) that is receiving care from professionals on an acute care hospital unit, and process is defined as those actions (nursing interventions) designed to promote the five positive outcomes: (1) being free from pain, (2) experiencing comfort, (3) experiencing dignity and respect, (4) being at peace, and (5) experiencing a closeness to significant others and those who care. (Marriner-Tomey & Alligood, 2006, p. 776)

Ruland and Moore (1998) identified the five aforementioned positive outcomes as major theoretical concepts and provided the following definitions:

- *Not Being in Pain*: “Being free of the suffering or symptoms of distress is the central part of many patients’ end-of-life experience. Pain is considered an unpleasant sensory or emotional experience associated with actual or potential tissue damage” (Marriner-Tomey & Alligood, 2006, p. 776).
- *Experience of Comfort*: “Relief from discomfort, the state of ease and peaceful contentment, and whatever makes life easy or pleasurable” (Marriner-Tomey & Alligood, 2006, p. 776).
- *Experience of Dignity and Respect*: “Each terminally ill patient is respected and valued as a human being” (Marriner-Tomey & Alligood, 2006, p. 777).
- *Being at Peace*: “Feeling of calmness, harmony, and contentment, free of anxiety, restlessness, worries, and fear. A peaceful state includes physical, psychological, and spiritual dimensions” (Marriner-Tomey & Alligood, 2006, p. 777).

- *Closeness to Significant Others*: “The feeling of connectedness to other human beings who care. It involves a physical or emotional nearness that is expressed through warm, intimate relationships” (Marriner-Tomey & Alligood, 2006, p. 777).

Additionally, Ruland and Moore (1998) recognized the following assumptions of their peaceful end of life theory:

- “The occurrences and feelings at the end-of-life experience are personal and individualized” (Marriner-Tomey & Alligood, 2006, p. 777).
- “Nursing care is crucial for creating a peaceful end-of-life experience. Nurses assess and interpret cues that reflect the person’s end-of-life experience and intervene appropriately to attain or maintain a peaceful experience” (Marriner-Tomey & Alligood, 2006, p. 777).
- “Family, a term that includes all significant others is an important part of end-of-life care” (Marriner-Tomey & Alligood, 2006, p. 777).

Lastly, the peaceful end of life theory further asserts that

The goal of end-of-life care is not to optimize care, in the sense that it must be the best, most technologically advanced treatment, a type of care that results in overtreatment. Rather, the goal in end-of-life care is to maximize treatment; that is, best possible care will be provided through the judicious use of technology and comfort measures, in order to enhance quality of life and achieve a peaceful death (Marriner-Tomey & Alligood, 2006, p. 777).

The peaceful end of life theory (Ruland & Moore, 1998) highlights the complexity involved in caring for terminally ill patients and underscores the specialized

knowledge and skills required to appropriately meet the needs of the dying. This theory calls for nurses in the acute care setting to possess and demonstrate a high level of knowledge about the dying process and to recognize their crucial role in providing a peaceful end-of-life experience to terminally ill patients. Review of this theory reminds nurses and health care professionals alike that the treatment goals at the end of life should be focused on providing quality comfort care rather than cure.

This theoretical framework was chosen to guide the researcher's professional project because its components reflect the essence of quality EOLC. With the application of the theory's five theoretical concepts, the information delivered throughout the study's educational intervention was directed toward the fundamental elements of quality EOLC and those nursing interventions and practices that promote a peaceful death through the achievement of the following patient outcomes: "(1) being free from pain, (2) experiencing comfort, (3) experiencing dignity and respect, (4) being at peace, and (5) experiencing a closeness to significant others and those who care" (Marriner-Tomey & Alligood, 2006, p. 776).

Definition of Terms

The following key terms were drawn from the research question and defined to further assist the reader in understanding this professional project:

Actively dying: A phase of the dying process that typically occurs 2–3 days prior to death (Center for Advancing Quality of Life, 2010).

Acute care: A level of health care in which a patient is treated for a brief but severe episode of illness, for conditions that are the result of disease or trauma, and during recovery from surgery. Acute care is generally provided in a hospital by a variety of clinical personnel using technical equipment, pharmaceuticals, and medical supplies (“Hospitals Today,” n.d., p. 17).

Adult patient: “A person 18 years or older who is under medical care or treatment” (Random House, 2014, para. 1).

End-of-life care (EOLC): Incorporates both hospice and palliative care services to mollify distressing symptoms through the judicious use of comfort measures to enhance quality of life and achieve a peaceful death. EOLC provides medical, spiritual, emotional and palliative care for anyone who is nearing death (Lewis, 2013, p. 23).

End-of-Life Nursing Educational Consortium (ELNEC) project (COH & AACN, 2000): A national education initiative to improve palliative care. This educational curriculum was developed by nationally recognized palliative care experts to provide undergraduate and graduate nursing faculty, continuing education providers, staff development educators, specialty nurses in pediatrics, oncology, critical care and geriatrics, and other nurses with training in palliative care so they can teach this essential information to nursing students and practicing nurses (AACN, 2014, para. 1).

Assumptions

This professional project included the following assumptions.

1. An educational curriculum developed by one nursing specialty can be used to effectively educate a different nursing specialty to provide quality care to a similar patient population.

2. The research subjects will do their best to absorb the information offered through the educational intervention and answer the pretest and posttest.

3. Comparing the results of the pretest and posttest scores will determine whether there was an increase in the acute care nurses' level of end-of-life knowledge following the educational intervention.

Limitations

The research for this professional project was limited by (a) time, (b) sample size, (c) lack of control during the collection of data, and (d) the research design. The researcher recognized the time constraints of the graduate nursing program and ensured that every effort was made to collect adequate data based on the time frame allowed. Research subjects were permitted to access and complete the assignment folder containing the pretest, posttest, and educational intervention during an allotted 3-week period. Following this data collection process, participants were asked to answer a postcourse survey to assess whether they had an appropriate amount of time to absorb the information presented to them throughout the educational intervention. Feedback obtained from the postcourse survey was reviewed by the researcher to determine whether participants felt that the data collection process limited their ability to

comprehend and retain the information provided to them during the education intervention.

To achieve the significant sample size determined by power analysis, the researcher took the time to recruit research subjects and enlisted the help of others who were also willing to help recruit research participants. The researcher sought to recruit 75% of the acute care nursing staff of interest. As an incentive, the director of the acute care nursing staff of interest offered monetary compensation to all subjects who participated in this study. Although providing monetary compensation can introduce bias into the research study by motivating the participation among individuals who might otherwise not partake in the study, the director felt strongly that the participants should be compensated for their time. To account for potential biases, the researcher collaborated with the director to ensure that monetary compensation was provided equally to all research participants due to the time commitment involved. Additionally, the researcher confirmed with the director that the size of the monetary compensation was relative to what was being asked of participants (e.g., 3-week participation). To further encourage participation, the assignment folder was offered as an “off-site learner-paced activity,” accessed through a secure intranet system. This approach allowed participants to access the assignment both inside and outside of their work facility at their convenience.

A lack of control throughout the administration of the pretest and posttest was another limitation that could have threatened the validity of this study. The participants were not supervised while they completed the pretest and posttest. Without supervising and monitoring the participants during the testing process, the researcher could not ensure

they did not receive some form of assistance in answering the pretest and posttest questions. However, the researcher did implement certain measures to help address this limitation. To restrict the amount of information participants could access while answering the questions, a time limit was set on both the pretest and posttest (Lean Competency System, 2014). Literature indicates that allowing 1–2 min per multiple choice question is standard practice (Lean Competency System, 2014). Based on the complexity and level of difficulty of the questions included on this study’s pretest and posttest, 90 s were allowed per question. Given that the pretest and posttest were identical and consisted of 12 multiple choice questions, participants had 18 min to complete each test. Once the time limit was reached, the test automatically ended. Additionally, when the tests were uploaded to the intranet site, specific parameters were set by the researcher to inhibit participants from pausing the test and resuming it later, and to prevent participants from accessing the educational intervention during the administration of the pretest and posttest. Also, the participants were unable to review the correct answers to the test questions until the allotted 3-week period elapsed and the collection of data was complete.

Lastly, another limitation of this study was its research design. This study implemented a one-group pretest–posttest research design. Although a pretest–posttest design is a “preferred method to measure the degree of change occurring as a result of treatments or interventions” (Shuttleworth, 2009, para. 1), this study lacked a control group. According to Bell (2014), a “one-group pretest-posttest design is the simplest form of the pretest-posttest designs used to gather data about some outcome” (p. 2) and is

“relatively weak in terms of internal validity” (Bell, 2014, p. 3). “Although this design allows researchers to examine some outcome of interest after some form of treatment, it does not eliminate the possibility that the outcome might have occurred regardless of the treatment” (Bell, 2014, p. 3). Bell cautioned that “the longer the time lapse between the pretest and posttest, the harder it is to rule out alternative explanations for any observed differences” (p. 3). Given this information, and to help address this limitation, the participants were required to complete the pretest, education intervention, and posttest within an allotted 3-week period. Providing participants with a time frame aimed to improve the internal validity of this study’s design by limiting the time lapse between the pretest, educational intervention, and posttest.

Summary

Nurses, regardless of the setting, are in a forefront position to provide care, comfort, and counsel to the dying. As a result, nurses above all other health care professionals are in a prime position to greatly impact the quality of the EOLC patients receive (Grant et al., 2013). However, despite nurses’ best intentions, research continues to show that knowledge deficits persist among the nursing population and hinder the quality of EOLC nurses deliver (Schlairet, 2009).

The literature recurrently emphasizes that “despite their undisputed technical and interpersonal competencies, professional nurses may not possess the specialized knowledge and skills needed to provide high quality end-of-life care to patients” (AACN, 2014, para. 4). Research finds that when transitioning from their

customary curative approach to one solely focused on comfort, acute care nurses commonly lack the knowledge, skills, and confidence necessary to provide high quality EOLC to the dying (Bloomer et al., 2011). In response to such deficits “the ELNEC project (COH & AACN, 2000) was developed to give nurses the knowledge and skills necessary to provide this specialized care and to positively impact the lives of patients and families facing the end of life” (AACN, 2014, para. 4).

Considering the above information, the purpose of this project was to determine the effect of an educational intervention (using the ELNEC-Core curriculum; COH & AACN, 2000) on improving acute care nurses’ level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying. The researcher sought to facilitate the learning process and subsequently enhance acute care nurses’ level of knowledge so that they may help promote a “good death” for their dying patients through the provision of high quality EOLC.

CHAPTER TWO

LITERATURE REVIEW

The following chapter provides a review of the current literature relevant to the researcher's professional project: determination of the effect that an educational intervention (using the ELNEC-Core curriculum; COH & AACN, 2000) has on improving acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying. Literature generated from previously conducted research is compared and contrasted to ascertain what is already known and to identify where gaps in the literature exist. Additionally, this chapter further explores the peaceful end of life theory (Ruland & Moore, 1998) and presents a review of research literature that references the theory's use as a theoretical framework for the studies therein.

Literature Search Effort and Process

Using specific terms, databases, and limiters, the researcher mounted a search effort to elicit a variety of current articles and produce a literature review exemplary of the best research practices in relation to end-of-life nursing education and care. Provided with electronic access to the Montana State University Library, the researcher implemented the literature search process by retrieving the Cumulative Index to Nursing and Allied Literature (CINAHL) and MEDLINE databases via EBSCOhost. According to Polit and Beck (2012), CINAHL and MEDLINE are "two especially useful electronic

databases for nurse researchers” (p. 100) and are “the principal resources for a literature search in nursing” (McGill University Health Centre, 2015, para. 1). Given this information and recommendations of various research references, including Polit and Beck (2012), the researcher selected CINAHL and MEDLINE for the literature review because these databases are “valid, reliable sources of information and offer the researcher the most recent published nursing and healthcare literature” (Anderson & McFarlane, 2010, p. 133).

The researcher initiated the literature search process by first accessing the CINAHL database electronically via the Montana State University Library. Once accessed, the researcher had the option to select and include the MEDLINE database in the literary search and was able to establish search parameters that placed limitations on the literature retrieved. To obtain the most current, accurate, and accessible information, the researcher limited search parameters to research literature that was conducted in the United States, peer reviewed, published between the years 2010 and 2015, and available through the Montana State University Library.

Through use of EBSCOhost, the researcher was able to enter specific domains related to concepts of the research question and simultaneously search the CINAHL and MEDLINE databases for literature relevant to the professional project. The researcher then reviewed the titles of the literature results generated from the search domains and databases and, if deemed relevant to the professional project, examined the article abstracts to obtain additional information and further determine their relevancy. While fully reviewing the literature, the researcher identified and removed exact duplicate

articles from the search results and also examined the reference lists of relevant articles until no further applicable information or supplementary material was found. Table 1 further depicts the literature search effort and process that was undertaken by the researcher and provides an overview of the literary results retrieved, eliminated from, and included in the literature review.

In accordance with Polit and Beck's (2012) recommendations, only literature obtained from primary source research reports were selected for review. According to Polit and Beck (2012), "one should rely mostly on primary source research reports, which are descriptions of studies written by the researchers who conducted them, as these are the most important type of information for research review" (p. 95).

Analysis of Compiled Literature

Through careful analysis and review, the researcher was able to group the relevant research literature into the following categories: (a) literature related to nurses' educational preparedness to provide quality EOLC and (b) literature related to the impact of the ELNEC-Core curriculum (COH & AACN, 2000) on nurses' knowledge of EOLC. Literature displayed throughout the following review will be organized into these two categories to further enhance the reader's understanding and comprehension of the presented material.

Table 1. Overview of Literature Search Effort and Process

Date Literature Accessed	Literature Database Utilized	Literature Domains Searched	Number of Literary Articles Retrieved	Number of Duplicate Articles Eliminated from Review	Additional Comments	Relevant Articles Included in Literature Review
5/22/2015	CINAHL & Medline via EBSCOHost	“ <i>Good Death</i> ” and “ <i>Hospital</i> ”	194	16	All titles reviewed for potential relevancy. Abstracts and reference lists of 5 articles further reviewed.	(0) N/A
5/22/2015	CINAHL & Medline via EBSCOHost	“ <i>Nurses</i> ” and “ <i>Perception</i> ” and “ <i>Good Death</i> ”	3	0	1 article abstract and reference list further reviewed.	(0) N/A
5/22/2015	CINAHL & Medline via EBSCOHost	“ <i>Actively Dying</i> ”	29	0	4 article abstracts and reference lists further reviewed.	(0) N/A
5/22/15	CINAHL & Medline via EBSCOHost	“ <i>Imminent Death</i> ” and “ <i>Hospitals</i> ”	68	11	2 article abstracts and reference lists further reviewed.	(0) N/A
5/22/2015	CINAHL & Medline via EBSCOHost	“ <i>End of Life Care</i> ” and “ <i>Dying</i> ” and “ <i>Acute Care Setting</i> ”	71	17	11 article abstracts and reference lists further reviewed.	(0) N/A

(continued)

Table 1. Overview of Literature Search Effort and Process. (continued)

Date literature accessed	Literature database utilized	Literature domains searched	Number of literary articles retrieved	Number of duplicate articles eliminated from review	Additional comments	Relevant articles included in literature review
5/22/2015	CINAHL & Medline via EBSCOhost	<i>Barriers and End of Life Care and Nursing</i>	194	29	14 article abstracts and reference lists further reviewed.	(2) Josephsen & Martz (2014); Espinosa, Young, Symes, Haile, & Walsh (2010)
5/22/2015	CINAHL & Medline via EBSCOhost	<i>Nurses' Experiences and End of Life Care</i>	98	24	4 article abstracts and reference lists further reviewed.	(0) N/A
5/22/2015	CINAHL & Medline via EBSCOhost	<i>Nurses and Competence and End of Life Care</i>	38	22	4 article abstracts and reference lists further reviewed.	(4) Todaro-Franceschi (2013); White, Coyne, & White (2012); White & Coyne (2011); Shea, Grossman, Wallace, & Lange (2010)

(continued)

Table 1. Overview of Literature Search Effort and Process. (continued)

Date literature accessed	Literature database utilized	Literature domains searched	Number of literary articles retrieved	Number of duplicate articles eliminated from review	Additional comments	Relevant articles included in literature review
5/22/2015	CINAHL & Medline via EBSCOhost	<i>Nurses and Continuing Education and End of Life Care</i>	34	8	1 article abstract and reference lists further reviewed.	(0) N/A
5/22/2015	CINAHL & Medline via EBSCOhost	<i>End of Life Care and Nurses and Educational Needs</i>	5	4	All titles reviewed for potential relevancy.	(0) All relevant articles were duplicates of those already selected and utilized in literature review.
5/22/2015	CINAHL & Medline via EBSCOhost	<i>End of Life Care and Education and Nurses</i>	468	57	31 article abstracts and reference lists further reviewed.	(0) All relevant articles were duplicates of those already selected and utilized in literature review.

(continued)

Table 1. Overview of Literature Search Effort and Process. (continued)

Date literature accessed	Literature database utilized	Literature domains searched	Number of literary articles retrieved	Number of duplicate articles eliminated from review	Additional comments	Relevant articles included in literature review
5/22/2015	CINAHL & Medline via EBSCOhost	<i>End of life Nursing Education Consortium</i>	58	20	24 article abstracts and reference lists further reviewed.	(1) Whitehead, Anderson, Redican, & Stratton (2010).
5/22/2015	CINAHL & Medline via EBSCOhost	<i>Peaceful End of Life Theory</i>	(2005-2015)=1 (1995-2015)=1	0	Both articles reviewed for relevancy.	(0) N/A. Both articles explained the theory but were otherwise not relevant to this study.

Literature Review

Nurses' Educational Preparedness to Provide Quality EOLC

Following the review of the literature, there was compelling evidence that nurses, in general, lack the formal education and preparedness to provide quality EOLC to dying patients. Studies (Espinosa et al., 2010; Josephsen & Martz, 2014; Shea, Grossman, Wallace, & Lange, 2010; Todaro-Franceschi, 2013; White & Coyne, 2011; White et al., 2012) strongly supported that nurses, across all specialties, “have been inadequately prepared during their health professional education to care for the dying” (Todaro-Franceschi, 2013, p. 185).

Recognizing that undergraduate nursing curriculums should be a primary source of EOLC education and preparation, Josephsen and Martz (2014) conducted a pilot study to “analyze the EOL care curricular content of one university’s baccalaureate nursing program and determine whether it met established national EOL care guidelines and student practice needs” (pp. 474–475). A single cohort of senior nursing students and their current faculty were asked to complete an anonymous survey to “determine their perceptions of the amount, type, and applicability of EOL care content presented in the baccalaureate curriculum” (Josephsen & Martz, 2014, p. 475). Results based on 17 faculty members, representing 47% of the faculty, found that they rated the “general curricular content surrounding the goals of EOL care and the role of the nurse as less than adequate” (Josephsen & Martz, 2014, p. 475). In contrast, the results from “31 students, representing 54% of the students, revealed that they considered the general curricular content surrounding the goals of EOL care and the role of the nurse to be adequate” (Josephsen & Martz, 2014, p. 475). However, despite these positive student assessment findings, student nurses also indicated that they “on the whole were not adequately prepared to specifically address fundamental areas of the domains of EOL care such as symptom management and communication about EOL issues” (Josephsen & Martz, 2014, p. 475). Furthermore, specific curricular deficits were identified with the students acknowledging the need and desire to receive education “about the nursing scope of practice in the EOL care process, how to communicate about EOL care, how to identify the dying process, postmortem care, and pediatric EOL situations” (Josephsen & Martz, 2014, pp. 479–480).

Results from the Josephsen and Martz (2014) study, revealing inadequacies in nursing students' EOL academic preparation, were further supported by research findings from a study undertaken by Todaro-Franceschi (2013). Todaro-Franceschi implemented an exploratory descriptive study with qualitative and quantitative components to assess whether "critical care nurses in the United States perceive they have been adequately prepared during basic nursing education to care for the dying and their loved ones and if they perceived themselves capable of providing quality EOL care" (p. 185). The researcher utilized "web-based survey technology to capture information pertaining to the nurses' preparedness to provide EOL care and the impact that EOL care education (or lack thereof) had on the individual nurse's practice" (Todaro-Franceschi, 2013, p. 186). Surveys were completed by 473 critical care nurses who represented every state except Alaska and Arkansas. Results indicated that "80% of the critical care nurse participants felt their basic nursing education did not prepare them to provide quality care to the dying and their loved ones" (Todaro-Franceschi, 2013, p. 188). Further, "84% of the participants reported not receiving enough EOL content in school" (Todaro-Franceschi, 2013, p. 188). Surprisingly, despite these reports, 91% of the participants still "perceived themselves able to provide quality care to the dying with 74% of them reporting having learned EOL care at the bedside without any formal education or training" (Todaro-Franceschi, 2013, p. 188). An additional 16% of the participants who perceived themselves capable of providing quality EOLC reported they had learned to do so "predominantly through personal experiences with their own loved ones who were dying" (Todaro-Franceschi, 2013, p. 188).

Espinosa et al. (2010) reported similar findings following their descriptive phenomenological study that investigated “the experiences of intensive care nurses who provide terminal care in the Intensive Care Unit (ICU) of a 900-bed teaching hospital in the southwestern United States” (p. 274). During five individual and three focus group interviews, with a total of 18 ICU nurse participants, the researchers identified “barriers of optimal EOL care” as one of the three major themes in the ICU nurses’ experiences with terminal care. More specifically, the nurse participants identified the lack of experience and education of the nurse as one of the six barriers to providing optimal EOLC (Espinosa et al., 2010). Reflecting upon this lack of education, one nurse participant reported, “There’s no training that I have ever experienced that teaches us how to deal with that (EOL care)...it’s not there” (Espinosa et al., 2010, p. 276). Similarly, another nurse stated, “It’s (providing EOLC) hard. I don’t know what to do” (Espinosa et al., 2010, p. 276).

Whereas results from the studies conducted by Josephsen and Martz (2014), Todaro-Franceschi (2013), and Espinosa et al. (2010) highlighted the need for more EOLC education in undergraduate nursing curricula, findings from a study conducted by Shea et al. (2010) revealed “a lack of end-of-life care content in graduate nursing programs and a general need for education of APRNs regarding palliative and end-of-life care” (p. 184). Shea et al. (2010) implemented a descriptive study design to “assess graduate students’ baseline knowledge about and attitudes toward palliative care preliminary to curricular integration of the ELNEC (COH & AACN, 2000) graduate core modules” (Shea et al., 2010, p. 183). The researchers’ conducted the study at a “small,

private Jesuit University in the northeast United States during the first week of classes for the semester and utilized the 106-item ELNEC (COH & AACN, 2000) examination to assess the students' knowledge about palliative care" (Shea et al., 2010, p. 185). A response rate of 78% was achieved, with a total of 36 graduate nursing students completing the ELNEC (COH & AACN, 2000) examination (Shea et al., 2010). Corresponding demographic data were obtained from 30 of the 36 individuals and revealed the following:

(1) The participants' ages ranged from 27-54 years, with an average age of 41 years; (2) All participants completing the corresponding questionnaire were female; (3) The participants represented the four graduate specialty tracks- FNP students (57%), psychiatric NP students (20%), health care management students (13%), and nurse anesthesia students (10%); (4) Participants reported a range of four to 32 years of nursing experience, with a mean of 18 years; (5) The majority (66.7%) of participants indicated that they had no prior palliative care experience; and (6) A great percentage (86.7%) of the participants reported that they had no previous education in hospice or palliative care. (Shea et al., 2010, p. 185)

Through analysis of the participants' 106-item ELNEC (COH & AACN, 2000) examination results and demographic data, Shea et al. (2010) noted that the "nurses who had been out of school for the longest time had lower scores on the ELNEC (COH & AACN, 2000) examination, possibly reflecting an earlier lack of palliative care content in nursing curricula" (Shea et al., 2010, p. 187). Shea et al. recognized that although the "nurse participants with years of work experience reported having knowledge of what to do with patients at end-of-life, their exam scores indicated a lack of familiarity with specific palliative care interventions" (Shea et al., 2010, p. 187). Additionally, Shea et al. asked each of the 36 participating graduate nurses to complete a qualitative data sheet consisting of six open-ended questions, with one being "What do you need from the

graduate program in order to practice palliative care” (Shea et al., 2010, p. 187)? In response to this question, the participants most commonly expressed their “desire to have a class, or even a course, devoted to caring for the terminally ill so that they could gain basic end-of-life knowledge and skills” (Shea et al., 2010, p. 187). More specifically, the graduate nurse participants requested education on pain management, pharmacology for end-of-life, the dying process, and communicating with the terminally ill and their family (Shea et al., 2010). Supporting the findings of Josephsen and Martz (2014), Todaro-Franceschi (2013), and Espinosa et al. (2010), results gleaned from this study “demonstrated the lack of educational preparation of nurses, in general, and their lack of confidence in providing end-of-life care” (Shea et al., 2010, p. 187).

Literature produced by White and Coyne (2011) and White et al. (2012) focused on the quality and quantity of end-of-life continuing education and highlighted the core competences needed to provide care for the dying (White & Coyne, 2011). To determine nurses’ perceptions of their preparation for caring for patients at or near the EOL, White and Coyne (2011) repeated a study based on their earlier research, seeking answers to the following questions:

- (1) How prepared in caring for patients and families with life-limiting illnesses or conditions do nurse respondents believe they are,
- (2) How much continuing education about EOL care have the respondents had from 2007-2009,
- (3) Which EOL care core competencies do nurses believe are most important for educational purposes, and
- (4) Are certain characteristics of the respondents associated with rank ordering of core competencies needed in delivering care at or near the EOL period? (p. 712)

For comparison with the authors’ previous work (conducted in 2001), the study’s survey was mailed and emailed to a total of 2,530 registered nurse (RN) members of the

Oncology Nursing Society (ONS) living in Georgia, Virginia, Washington, and Wisconsin. However, the final sample consisted of 714 complete and usable surveys (White & Coyne, 2011). Demographic data were obtained and revealed that “respondents in all four states represented the age, race, gender, practice role (staff nurse), educational preparation, years in practice, and specialty certification of the total ONS membership” (White & Coyne, 2011, p. 713). Of interest, “31% of the respondents had an associate degree in nursing, 39% reported the baccalaureate degree as the highest level of education, and 30% had master’s or doctoral degrees” (White & Coyne, 2011, p. 714). Additionally, “80% of respondents held basic or advanced certification in a nursing specialty, such as oncology, palliative care, or other” (White & Coyne, 2011, p. 714). Results revealed that “all nurse respondents ranked symptom management as the top-ranked core competency and almost all (99%) of the respondents stated that EOL care education was important and that EOL care was part of their professional practice” (White & Coyne, 2011, p. 714). However, although 63% of the nurse respondents had received EOLC continuing education from 2007 to 2009, more than half of the respondents received fewer than 2 hr of such education (White & Coyne, 2011). Furthermore, “25% of the respondents did not believe they were adequately prepared to care for dying patients” (White & Coyne, 2011, p. 711). An unexpected finding of this study was “that the percentage of nurse respondents who had received any EOL continuing education in this study (2007-2009) had decreased from 74% in 1999 to 63% in 2009” (White & Coyne, 2011, p. 715). “Given the growth in the palliative care movement, with the concomitant increase in palliative care awareness and continuing

educational programs for nurses” (White & Coyne, 2011, p. 712), the 11% decline was not anticipated, and “indicated that ONS nurse respondents perceive an ever-widening gap in the quantity and quality of EOL continuing education” (White & Coyne, 2011, p. 715).

White et al. (2012) conducted a very similar study to that of White and Coyne (2011) to “assess core competencies deemed most important by Hospice and Palliative Nurses Association (HPNA) members by assessing the quantity and quality of continuing education” (White et al., 2012, p. 133). The survey used in the White and Coyne (2011) study was “mailed to 4022 HPNA members, with a nationally representative return rate of 31.2%” (White et al., 2012, p. 133). Based on the study’s results, White et al. (2012) reported the following:

Of the 1234 nurse members of HPNA who responded to the survey, 99.8% believed that EOL care education is important and that EOL care was part of their professional practice (95%). Ninety-five percent of the respondents had received EOL care education in the preceding 2 years, with 78.9% having attended educational sessions more than 7 hours. The respondents rated their continuing education as good, very good, or excellent (92%), and 96% of the respondents believed they had good or excellent preparation in caring for dying patients. (p. 138)

These results indicated that “HPNA nurse respondents are comfortable with the quantity and quality of orientation and continuing education within their scopes of practice in palliative care” (White et al., 2012, p. 133). Similar to the findings of White and Coyne (2011), 71% of the nurse respondents ranked symptom management as the top-rated core competency or learning need, followed by pain management and communication with patients and families about dying (White et al., 2012). Furthermore,

during analysis of qualitative information acquired from the comments section of the survey, the researchers discovered that many of the HPNA nurse respondents reported benefiting from the ELNEC-Core (COH & AACN, 2000) curriculum (White et al., 2012).

The Impact of the ELNEC on Nurses' Knowledge of EOLC

Following the review of the literature, there was evidence that educational intervention using the ELNEC curriculum (COH & AACN, 2000), in general, had a positive impact on nurses' knowledge of EOL care. However, only one study (Whitehead, Anderson, Redican, & Stratton, 2010) offered findings that specifically addressed the impact of an educational intervention with the ELNEC-Core curriculum (COH & AACN, 2000) on nurses' end-of-life knowledge. This study, conducted by Whitehead et al. (2010), "assessed the ongoing impact of the ELNEC-Core program (COH & AACN, 2000) on registered nurses' knowledge of the dying process" (p. 184). The researchers implemented a quasi-experimental longitudinal study to test their hypothesis that "upon completion of the ELNEC-Core (COH & AACN, 2000) training, nurses would have increased knowledge of the dying process" (Whitehead et al., 2010, p. 184). A self-report five-point Likert survey, referred to as "KDS," was utilized as the study's pretest-posttest to measure the nurse participants' perceived knowledge of dying. This survey consisted of eight Likert style questions (with "0" indicating no level of knowledge and "4" indicating complete knowledge) that addressed the nurse participants' perceived knowledge of the content delivered throughout the ELNEC-Core curriculum

(COH & AACN, 2000) modules: (1) nursing care at EOL, (2) pain management, (3) symptom control, (4) ethical and legal issues, (5) cultural considerations, (6) bereavement care, (7) challenges in providing quality EOLC and (8) nursing care at the time of death (Whitehead et al., 2010, p. 186). “The pretest was administered to 27 participants in the control group and 11 participants in the experimental group” (Whitehead et al., 2010, p. 186). As opposed to those in the control group, participants in the experimental group received a 2-day ELNEC-Core curriculum (COH & AACN, 2000) training (Whitehead et al., 2010). “The posttest was administered to both the control and experimental group participants two weeks after the two-day ELNEC (COH & AACN, 2000) training, at six months, and finally at 12 months” (Whitehead et al., 2010, pp. 186–187). Matched-pair analysis was conducted and revealed that “nurse participants who received the ELNEC-Core (COH & AACN, 2000) training showed significant improvement ($p = .01$) relative to the matched control nurses in their perceived knowledge about the dying process immediately after the ELNEC-Core (COH & AACN, 2000) training, which was sustained at 12 months ($p = .01$)” (Whitehead et al., 2010, p. 189).

Gaps in the Literature

There is minimal literature evaluating the effects that specific educational interventions, particularly the ELNEC-Core curriculum (COH & AACN, 2000), have on improving acute care nurses’ level of end-of-life knowledge. To date, no research has examined the effects of any educational intervention, including the ELNEC-Core curriculum (COH & AACN, 2000), on improving acute care nurses’ level of knowledge

in providing high quality EOLC to patients who are preactively and actively dying. As a result, the researcher will implement a study to produce information specific to this topic.

CHAPTER THREE

METHODS

The primary goal of this professional project was to determine the effect of an educational intervention on improving acute care nurses' level of knowledge regarding high quality EOLC for adult patients who are preactively and actively dying. A one-group pretest–posttest quasi-experiment was conducted to answer the project's research question. This chapter presents and discusses the research methodology and design detailing the following: (a) population of interest and project setting, (b) sampling, (c) protection of human subjects, (d) research design, (e) procedures, (f) instrumentation, and (g) planned data analysis.

Population of Interest and Project Setting

The population of interest for this professional project consisted of acute care registered nurses and licensed practical nurses working within a particular acute care hospital (hereafter referred to as “Hospital A”), located within an urban community of a western frontier state. The community, with a population of approximately 68,000, is the region's major medical and retail center. Classified as a Level III trauma center, Hospital A is licensed for 146 acute-care beds, including medical–surgical (48), pediatrics (14), obstetrics (21), ICU (8), pediatric ICU (4), neonatal ICU (16), and rehabilitation (12), in addition to a 24-hr physician-staffed emergency department. The facility provides an array of services to members of the immediate community as well as to individuals from

surrounding areas. Approximately 6,000 inpatients are admitted to this facility each year. Sixty-five percent of all inpatients come from the immediate county, whereas another 21% travel from the north and south neighboring counties to receive care. Additionally, another 11% of the inpatient population originates from other western counties within the state, whereas 2% of the inpatient population is attributed to those from out of state (“Hospital A,” 2011).

Unique to this facility’s medical-surgical unit is a large room reserved for patients who are preactively and actively dying. Although this room can accommodate only one patient at a time, it serves an average of 30 patients each year, all of whom are in their final days and hours of life. Fully furnished and equipped with amenities resembling that of a small apartment, this room was established and designed to provide a peaceful and private environment for the patient, his or her family members, and friends as they spend their final moments together (Gilels, 2011).

Sampling

Sampling Process and Procedure

A convenience sample of acute care nurses was utilized to select participants for this professional project. Due to the researcher’s limited financial resources and the time constraints of this professional project, the researcher chose to utilize this common form of sampling. Convenience sampling is a nonprobability sampling technique where participants are “primarily selected on the basis of ease of access to the researcher and their knowledge of the subject matter” (Russell & Gregory, 2003, p. 37). According to

Elizabeth (2013), “the relative cost and time required to carry out a convenience sample are small in comparison to probability sampling techniques, enabling the researcher to achieve the sample size he/she wants in a relatively fast and inexpensive way” (p. 1).

Inclusion and exclusion criteria were applied when selecting the participants for this professional project. The inclusion criteria allowed every acute care registered nurse and licensed practical nurse working on the medical–surgical unit of Hospital A to participate in the study if he or she was not omitted based on the exclusion criteria. Those excluded from the study were acute care registered nurses and licensed practical nurses working on the medical–surgical unit of Hospital A who were certified or have ever been certified in palliative or hospice care or who have ever taken the ELNEC-Core curriculum train-the-trainer course (COH & AACN, 2000). Such exclusions were made to eliminate nurses (RNs or licensed practical nurses [LPNs]) who had previous experience with the ELNEC-Core curriculum (COH & AACN, 2000).

Estimated Sample Size

According to LoBiondo-Wood and Haber (2006), “the findings and generalizability of a study are strengthened when power analysis is calculated to ensure a sample size is adequate to determine the effect of the intervention” (p. 279). To achieve a significant sample size for this research design, an estimated sample size was generated from a priori power analysis using G*Power3 software (Faul, Erdfelder, Lang, & Buchner, 2007). Through use of the G*Power3 software (Faul et al., 2007), a one-tailed analysis with an effect size of .5, an alpha level of .05, and a power of .8 was implemented.

According to Watson, McKenna, Cowman, and Keady (2008), “it is common to simply estimate the effect size, which can be described as being small, medium, or large” (p. 372). “Large effect sizes are very rare and small effect sizes are of little interest clinically; therefore, it is common in clinical research to use medium effect sizes” (Watson et al., 2008, p. 372). Polit and Beck (2012) reported that “most nursing studies have modest (small-to-medium) effects” (p. 423). As a result, the researcher chose an effect size of .5, as this value denotes a medium sized effect (Polit & Beck, 2012).

Watson et al. (2008) explained “the statistical significance required for a power analysis is conventionally set at 0.05” (p. 372). Given this information, the researcher selected a significance level of 0.05 as literature specifies that this is the “standard and minimally acceptable value for nursing research” (LoBiondo-Wood & Haber, 2006, p. 372).

The researcher set the power level at 0.8, as this level is commonly used in nursing research and is the “minimal acceptable level for power to detect an effect” (Schneider, Whitehead, LoBiondo-Wood, & Haber, 2013). “With power equal to 0.8, there is an 80% chance or greater of avoiding a Type II error by finding a statistically significant difference when one exists” (Watson et al., 2008, p. 372).

A one tailed analysis was applied due to the expected direction of the researcher’s hypothesis: Upon completion of the educational intervention, the acute care nurse participants will achieve significantly higher scores on the posttest than they do on the pretest, indicating a positive impact on their level of end-of-life knowledge. With the aforementioned parameters, a power analysis identified that an estimated sample size of

27 was needed to achieve significance for this study (Faul et al., 2007). Table 2 provides a summary of the parameters used to determine the estimated sample size needed to ascertain significance.

Table 2. Summary of Parameters for A Priori Power Analysis.

Test	Effect size	Alpha level	Power level
<i>t</i> -test comparison of means (matched pairs)	.5 (medium effect)	.05	.8

Protection of Human Subjects

The Collaborative Institutional Training Initiative (CITI) program was established in 2000, with a mission “to promote the public’s trust in the research enterprise by providing high quality, peer reviewed, web based, research education materials to enhance the integrity and professionalism of investigators and staff conducting research” (CITI Program, 2014, para. 1). On October 28, 2012, the researcher completed the CITI training required by Montana State University’s Institutional Review Board and received a certificate of completion for the Social and Behavioral Research basic course (see Appendix A).

On February 15, 2015, the researcher submitted an application to Montana State University’s Institutional Review Board seeking expedited approval for this study’s involvement of human subjects. On February 25, 2015, the researcher was granted expedited approval exempting the project’s research from the requirement of review by Montana State University’s Institutional Review Board (see Appendix B).

Consent Process

As previously mentioned, the researcher sent a letter (see Appendix C), via Hospital A's employee email system, to every medical-surgical RN and LPN providing them with specific information about the study and its participatory requirements. In regards to the process of gaining participants' consent, the letter informed all potential research participants that participation in the study was completely voluntary. The letter further explained to participants that their willingness to access the assignment folder would be deemed as implied voluntary consent. As a result, the researcher did not obtain signed consent forms from those who chose to participate in this study. In addition to the information enclosed within the letter, the following statement was displayed at the beginning of the research material contained within the assignment folder (demographic questionnaire, pretest, introductory presentation, education intervention, posttest, and postcourse survey): "Participation is voluntary...you can choose to not answer any questions you do not want to answer and/or you can stop at any time."

Process to Maintain Participant Confidentiality

Prior to the research commencing, the participants were informed, via the letter they received from the researcher (see Appendix C), of the measures in place to protect their confidentiality. As previously explained, participants submitted their responses to the study's pretest, posttest, demographic questionnaire, and postcourse survey electronically via the software vendor. Once the data collection process was complete, the software vendor analyzed the participants' responses and generated the following four computerized reports: (a) pretest question analysis, (b) posttest question analysis, (c)

demographic questionnaire scores evaluation, and (d) postcourse survey scores evaluation. Upon completion of the study, the clinical education coordinator of Hospital A reviewed the results and removed all participant identifying data from the four reports. Once all identifying data had been removed, the clinical education coordinator provided the researcher with a printout of the four generated reports, all of which reflected the research participants' aggregate test scores and survey responses. Due to this practice, confidentiality was maintained throughout the entire data collection process, as the researcher was not privy to any of the participants' identifying data.

Additionally, although the clinical education coordinator did provide the medical–surgical director of Hospital A with a list of those who completed the research requirements, the director did not have access to any participant identifying data pertaining to pretest–posttest scores or responses to the demographic questionnaire or postcourse survey. The list of individuals completing the research requirements was provided to the medical–surgical director of Hospital A only so that these participants could be financially compensated for their time, as previously ensured by the director.

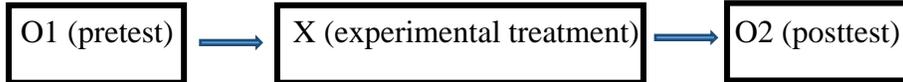
Research Design

This study implemented a one-group pretest–posttest research design to test the hypothesis: Upon completion of the educational intervention the acute care nurse participants will achieve significantly higher scores on the posttest than they do on the pretest. According to Shuttleworth (2009), “pretest-posttest designs are a common research method for comparing and measuring the degree of change occurring as a result

of treatments or interventions” (para. 1). With this quasi-experimental research design “data was collected before (pretest) and after (posttest) an experimental intervention on one group of subjects and the difference between the pretest and posttest scores were taken to be the effect of the intervention” (LoBiondo-Wood & Haber, 2006, p. 231).

Figure 1 offers a depiction of the one-group pretest–posttest research design utilized in this study.

Figure 1. One-Group Pretest–Posttest Research Design.



Variables

According to LoBiondo-Wood and Haber (2006) “an independent variable is the variable that has the presumed effect on the dependent variable” (p. 53). The dependent variable “is often referred to as the consequence or presumed effect that varies with change in the independent variable” (LoBiondo-Wood & Haber, 2006, p. 53). Given such definitions, the independent variable of this study was the educational intervention (using the ELNEC-Core curriculum; COH & AACN, 2000) the acute care nurses received. The dependent variable of this study was the acute care nurses’ level of knowledge related to providing high quality EOLC to adult patients who are preactively and actively dying.

Procedures

On January 19th and 20th, 2015, the researcher attended a 2-day ELNEC-Core curriculum (COH & AACN, 2000) train-the-trainer course in Anaheim, California, sponsored by the AACN and the COH. Upon completion of this course, the researcher became “part of a national network of specially-prepared nurse educators qualified to teach the ELNEC-Core (COH & AACN, 2000) content to others” (AACN, 2014, para. 1). As an approved ELNEC-Core (COH & AACN, 2000) trainer, the researcher was granted permission by the ELNEC (COH & AACN, 2000) organization to use, duplicate, and/or modify the ELNEC-Core curriculum (COH & AACN, 2000) materials in order to educate others (AACN, 2014).

Aware that the medical–surgical unit of Hospital A possesses a room devoted to providing EOLC to patients with less than 2 weeks to live, the researcher contacted the unit’s nursing director to discuss the purpose of this research project and inform her of the education intervention that could be offered to research participants. Familiar with the reputation of the ELNEC (COH & AACN, 2000) organization and cognizant of the importance of end-of-life education, the medical–surgical director of Hospital A agreed to collaborate with the researcher and help recruit acute care nurse participants for this study. Because both RNs and LPNs working on the medical-surgical unit of Hospital A provide care to actively and preactively dying patients, and the researcher and Director hoped the education intervention would positively impact the quality of EOLC delivered within this setting, it was decided to invite both acute care RNs and LPNs to participate in this study.

On February 17th, 2015, Hospital A's medical–surgical director held a mandatory staff meeting for all medical–surgical RNs and LPNs. During this meeting, the director informed the RNs and LPNs of the researcher's professional project in which they would be invited to participate. The director explained the inclusion and exclusion criteria to the medical–surgical nursing staff and confirmed that all the RNs and LPNs were eligible to participate in this study, as none of them had ever been certified in palliative or hospice care or had ever taken the ELNEC-Core train-the-trainer course (COH & AACN, 2000). As an incentive, the director offered financial compensation to every nurse who participated in this study and received the educational intervention. The director agreed to financially compensate every medical–surgical nurse participant for the amount of time he or she invested in meeting the research requirements of this study.

In addition to the information delivered to the potential nurse participants at the mandatory staff meeting the researcher also sent a letter, via Hospital A's employee email system, to every RN and LPN working in the medical–surgical area. The letter provided the potential nurse participants with the following information: (a) purpose of the study, (b) inclusion and exclusion criteria, (c) expectations of participants, (d) procedures implemented to maintain confidentiality, (e) consent process, (f) associated risks and inconveniences of participating in the study, (g) contact information for the primary investigator and faculty sponsor, and (h) detailed instructions as to how and when to access and complete the required research participation materials (see Appendix C). The medical–surgical director of Hospital A also sent out an attachment to this email

explaining the financial compensation incentive that would be offered to every RN and LPN who completed the participation requirements of this study.

Research Process

To help achieve a significant sample size and make participation in this study as convenient as possible, the researcher implemented an off-site learner-paced educational intervention. With the assistance of Hospital A's clinical education coordinator, an electronic assignment folder from a software vendor was created and made available to every RN and LPN working on the medical–surgical unit of Hospital A. Consisting of a demographic questionnaire, a pretest, an introductory presentation, an educational intervention, a posttest, and a postcourse survey, the assignment folder contained the materials participants were asked to complete if choosing to voluntarily participate in the research study. The assignment folder was uploaded to Hospital A's secure intranet site and made available to all potential medical–surgical RN and LPN research participants through Hospital A's designated online education resource. The assignment folder was available to participants for an allotted 3-week period and was accessible to participants both inside and outside of Hospital A. As a result, from March 9, 2015, through March 30, 2015, participants were able to choose a convenient time and location to electronically access, review, complete, and submit the required research material contained within the assignment folder.

Participation Process

Individuals who voluntarily chose to participate in the research study were asked to (a) watch a 12-min introductory slide show presentation; (b) complete a 12-question

multiple choice pretest; (c) review “ELNEC-Core Module 8: Care During the Final Hours” (COH & AACN, 2000), an educational intervention presentation; (d) complete a 12-question multiple choice posttest; (e) complete a five-question postcourse survey; and (f) complete a six-question demographic questionnaire. Specific measures were implemented by the researcher to limit the threat to this study’s validity by eliciting a level of control throughout the administration of the pretest and posttest. Participants were able to access the introductory slide show presentation and the ELNEC-Core Module 8 (COH & AACN, 2000) educational intervention multiple times throughout the allotted 3-week period, as they were not required to watch these presentations within one continuous session. However, participants could access the ELNEC-Core Module 8 (COH & AACN, 2000) educational intervention only after completing the pretest. The posttest used in this research study could be accessed only after the participant completed the pretest and reviewed the ELNEC-Core Module 8 (COH & AACN, 2000) educational intervention. The pretest and posttest utilized in this study were identical, consisting of 12 multiple choice questions, and were administered to participants as timed tests. Once beginning the pretest and posttest, participants were provided 18 min to complete the 12 multiple choice questions. Specific parameters were set by the researcher and the clinical education coordinator to (a) inhibit participants from pausing the pretest and posttest, (b) prevent participants from accessing the educational intervention presentation during the administration of the pretest and posttest, and (c) preclude the participants from printing, copying, or pasting any research material contained within the assignment folder. Additionally, participants were unable to review the correct answers to the pretest and

posttest questions until after the allotted 3-week period elapsed, when the collection of data was complete. Following completion of the posttest, participants were asked to complete a five-question postcourse survey as well as a six-question demographic questionnaire.

Educational Intervention: ELNEC-Core
Module 8—Care During the Final Hours

The ELNEC-Core Module 8 (COH & AACN, 2000) instructional material is copyrighted by the COH and the AACN and was utilized and uploaded to Hospital A's secure intranet site with permission. A copy of the attribution statement for the use of the ELNEC-Core curriculum (COH & AACN, 2000) instructional materials is included in Appendix D. In its entirety, the ELNEC-Core curriculum (COH & AACN, 2000) consists of eight modules: (a) "Palliative Nursing Care"; (2) "Pain Management"; (3) "Symptom Management"; (4) "Ethical Issues in Palliative Care Nursing"; (5) "Cultural Considerations in End-of-Life Care"; (6) "Communication"; (7) "Loss, Grief, Bereavement"; and (8) "Care During the Final Hours" (AACN, 2014, para. 6). Due to time and financial constraints associated with this research project and the research focus, the researcher only delivered the instructional material related to Module 8: "Care During the Final Hours" (COH & AACN, 2000) to participants during the study's educational intervention. This module presented in-depth educational information pertaining to the following three aspects of EOLC: (a) "Preparing for a Good Death," (b) "Frequent Signs and Symptoms Associated with Imminent Death," and (c) "Bereavement Care" (COH & AACN, 2000). Based on the focus of the study, the

researcher found it appropriate to present ELNEC-Core Module 8 (COH & AACN, 2000) to the study's participants, as it encompassed the five theoretical concepts of the peaceful end of life theory and provided educational material specific to the dying process and the delivery of quality EOLC to patients during their final weeks, days, and hours of life (AACN, 2014). The study's educational intervention, containing recorded audio lecture from the researcher, was delivered to participants via an online PowerPoint presentation lasting approximately 1 hr.

Educational Intervention Pretest and Posttest

The researcher was supplied a copy of the 106 multiple choice question exam that was developed and once utilized by the ELNEC Project (COH & AANC, 2000). This 106 question exam reflected the cumulative instructional material delivered to individuals throughout the eight modules of the ELNEC-Core curriculum (COH & AACN, 2000). The director and coinvestigator of the ELNEC Project (COH & AACN, 2000) provided the researcher with the exam and permitted the researcher to use any or all test questions for the purpose of this study (see Appendix E).

Each question presented on the ELNEC Project's exam (COH & AACN, 2000) was categorized under one of the eight ELNEC-Core modules (COH & AACN, 2000) to identify the module containing the information the test question was designed to assess. This process of categorization allowed the researcher to easily discern the test questions that reflected the instructional material presented to the research participants through the

Module 8: “Care During the Final Hours” (COH & AACN, 2000) educational intervention.

From the 106 questions created by the ELNEC Project (COH & AACN, 2000), the researcher utilized 12 multiple choice questions for the development of this study’s identical pretest and posttest. Each of the selected 12 questions were carefully chosen by the researcher to ensure that research participants had received the instructional material necessary, through the study’s educational intervention, to correctly answer the questions (see Appendix F).

Due to participants’ individual data not being available to the researcher, the reliability and validity of the study’s pretest–posttest could not be calculated. However, literature published by Ferrell et al. (2005) provided reliability information for the overall 106 item test. According to Ferrell et al. (2005):

The 106 multiple-choice item examination, derived from the ELNEC (COH & AACN, 2000) content, was written by expert item-writers in a style consistent with the national nursing licensing examination (NCLEX). All distractors were used by some students in the pretests and the posttests. The average item difficulty, measured as the percentage of test-takers who answered the item correctly, was 0.59 and 0.64 (moderately easy) in the pretests and posttests, respectively. Corrected item-total correlations (discrimination indices) ranged from 0.00 to 0.48 and the coefficient alpha for the entire exam was 0.92 (p. 109).

Demographic Questionnaire

According to Salkind (2010), “demographic information provides data regarding research participants and is necessary for the determination of whether the individuals in a particular study are a representative sample of the target population for generalization purposes” (p. 346). Further, Salkind (2010) explained that the “inclusion of particular

demographic data offers a description of research participants, as well as data analysis, and enhances accurate interpretation of the study's results" (p. 347). Given this information, the researcher developed and asked participants to complete a six-item demographic questionnaire inquiring about their nursing licensure, degree of education, total years of nursing experience, gender, age, and whether they were certified in medical–surgical nursing (see Appendix G).

Postcourse Survey

The postcourse survey, consisting of five questions, was developed by the researcher to obtain participants' feedback about the pretest–posttest, educational intervention, and the data collection process. Following the completion of the pretest, educational intervention, and posttest, participants were asked to answer the postcourse survey and invited to anonymously provide additional feedback about the study and/or education intervention. Through administering the postcourse survey, the researcher gained valuable insight into the participants' perceptions of the study's educational intervention, pretest–posttest, and data collection process. Additionally, the postcourse survey provided the researcher with feedback as to whether participants felt the educational intervention improved their knowledge in providing care to preactively and actively dying patients and whether they would like to receive additional end-of-life education in the future (see Appendix H).

Planned Data Analysis

Prior to conducting the study, the researcher was informed, by the facility's clinical education coordinator, that participants' individual and aggregate data could be accessed and made available to the researcher. However, due to unforeseen circumstances, individual participant data were not provided to the researcher by the software vendor. Rather, only aggregate responses from participants were made available.

On May 1, 2015, the clinical education coordinator supplied the researcher with the four software vendor reports that provided the participants' aggregate responses to the study's demographic questionnaire, pretest, posttest, and postcourse survey. Following a review of these reports, the researcher contacted the clinical education coordinator and requested the participants' individual results and responses, with all participant identifiers removed in order to protect participants' confidentiality, as previously planned. Later, the clinical education coordinator informed the researcher that she was unable to access the participants' individual results via the software vendor. Despite repeated attempts (summarized in Appendix I), the researcher was unable to obtain the individual participant data from the software vendor. As a result, after consulting with her committee chair, the researcher decided to use the aggregate data in the analysis.

Following retrieval of the aggregate data, the researcher contacted Research Consultation Pros (RCPros), a company that "provides one-on-one consultation and assistance for dissertation and thesis research and statistics" (RCPros, 2015, para. 1). The researcher directly consulted with one of the consultants to determine the most

appropriate technique for analyzing the participants' aggregate data. During this process, the consultant further consulted with multiple PhD colleagues and statisticians, as well as three different reference texts to determine the appropriate analysis technique for the aggregate data (RCPros Consultant, personal communication, July, 17, 2015). Following this consultation process, it was concluded that the nature of the reported data did not permit analyses with one-sample paired t tests, as originally planned. Instead, descriptive analyses were used, such that all data were analyzed and reported in aggregate using frequencies and percentages.

CHAPTER FOUR

RESULTS

The researcher conducted a one-group pretest–posttest quasi-experiment to determine the effect of an educational intervention on acute care nurses’ level of knowledge regarding high quality EOLC for adult patients who are preactively and actively dying. In doing so, a convenience sample of acute care nurse participants were asked to complete a pretest, review an educational intervention derived from the ELNEC-Core curriculum (COH & AACN, 2000), and complete an identical posttest. Through descriptive analyses, data originating from participants’ aggregate test results were examined to assess participants’ end-of-life knowledge before and after their review of the educational intervention and highlight any changes in knowledge levels that occurred. The researcher hypothesized that following completion of the educational intervention, results would indicate participants answered more questions correctly on the posttest than they did on the pretest, indicating a positive impact on the nurses’ level of end-of-life knowledge.

Participants

A convenience sample of acute care registered nurses (RNs) and licensed practical nurses (LPNs) working on the medical–surgical unit of Hospital A were recruited to participate in the research study. In regards to the sample size, it should be noted that the researcher targeted 100% of Hospital A’s medical–surgical nursing staff,

which consisted of 27 RNs and LPNs. In doing so, the researcher only provided these 27 nurse participants with access to the study's electronic assignment made available through the software vendor. However, despite only assigning the study's electronic assignment to 27 nurse participants, aggregate results revealed that the pretest questions were answered by 31–32 individuals, and two of the posttest questions were answered by 28 individuals. Questioning such results, the researcher sought clarification from Hospital A's clinical education coordinator and was informed that she allowed the nurses who frequently float to the medical–surgical unit to log in and access the study's pretest, educational intervention, and posttest. According to the education coordinator, five specific float nurses approached her and requested access to the study's educational intervention. However, in order to access the educational intervention, parameters set by the researcher required the individuals to first access the study's pretest. Such events provide an explanation as to why the pretest was completed by more than the expected 27 research participants. It remains unknown why two of the 12 posttest items were answered by 28 individuals, whereas the rest of the items were expectedly answered by the study's 27 recruited participants.

According to the clinical education coordinator, she had planned to remove the float nurses' responses from the data reports prior to providing them to the researcher. However, due to the unforeseen inability to access the individual participant data from the software vendor, the clinical education coordinator was unable to remove any responses made by the float nurses, who were not considered part of the research study. Because the researcher utilized descriptive analyses to analyze and report the findings,

such circumstances did not limit the study but they did create unnecessary confusion for the researcher as well as the study's audience.

Research data (participants' responses to a demographic questionnaire, pretest, posttest, and postcourse survey) were collected electronically via the software vendor over a 3-week period (March 9, 2015, to March 30, 2015). As shown by the collected demographic data, the participating acute care nurses were predominately women ($n = 23$; 85%) and between the ages of 20 and 25 years old ($n = 8$; 30%). Nonetheless, every age group, ranging from 20 to over 50 years of age, was represented by the study's participants, with data revealing that six (22%) of the respondents were between the ages of 26 and 30 years old; two (7%) were between each of the ages of 31 and 35, 36 and 40, and 41 and 45; one (4%) was between the ages of 46 and 50; and six (22%) were over the age of 50 years old.

The majority of the participants identified themselves as RNs ($n = 23$; 85%), with 18 (67%) respondents having a bachelor's degree in nursing, and five (19%) respondents having an associate's degree in nursing. It was noted that only four (15%) of the study's 27 participants identified themselves as LPNs. Additional demographic data reported that the majority of the respondents ($n = 17$; 63%) did not have their medical surgical certification, and most ($n = 15$; 56%) had a total of 0-5 years nursing experience. However, the participants' total years of nursing experience ranged from 0 to over 25 years, with six (22%) participants reporting 6–10 years of total nursing experience, one (4%) participant reporting 16–20 years of experience, and five (16%) participants reporting more than 25 years of nursing experience (see Table 3).

Table 3. Participants' Demographic Data.

Demographic data	<i>N</i>	%
Gender		
Men	4	14.81
Women	23	85.19
Age (years)		
20–25	8	29.63
26–30	6	22.22
31–35	2	7.41
36–40	2	7.41
41–45	2	7.41
46–50	1	3.70
50+	6	22.22
Nursing licensure		
RN	23	85.19
LPN	4	14.81
Nursing degree		
Associate's degree	5	18.52
Bachelor's degree	18	66.67
Other (LPN)	4	14.81
Total years nursing experience		
0–5	15	55.56
6–10	6	22.22
11–15	0	0.00
16–20	1	3.70
21–25	0	0.00
25+	5	18.52
Medical–surgical certification		
Yes	10	37.04
No	17	62.96

Results

Participant Learning

The study's pre and posttest were identical and consisted of 12 multiple choice items, with one answer option coded as correct (1) and the other options coded as

incorrect (0). Table 4 contains the percentage correct on each of the 12 items for both the pretest and posttest.

As discussed in Chapter 3, data were collected and stored by the software vendor such that the data were available only in aggregate form for each item. Therefore, no direct pretest–posttest comparisons could be made for the individual participants. As a result, descriptive analyses were utilized to examine and report the findings of the participants' aggregate pretest and posttest results.

Pretest. Through review of the aggregate pretest results, it was observed that the majority (88% [$n = 28$] to 94% [$n = 30$]) of the participants answered Items 1, 4, 9, 10, 11, and 12 correctly. However, Items 2, 6, and 8 appeared to be more problematic, with only 68% ($n = 21$) to 75% ($n = 24$) of the participants answering the questions correctly. Of greatest challenge to the participants were pretest items 3, 5, and 7, answered correctly by only 50% ($n = 16$), 34% ($n = 11$), and 28% ($n = 9$) of the participants, respectively.

Posttest. Analysis of the posttest aggregate data revealed that all items were answered correctly by 81% ($n = 22$) or more of the study's participants, even those items that were answered incorrectly by a large percentage on the pretest. Increases in the percentage of the participants' correct responses were observed in 11 of the 12 posttest items, with the largest improvements seen on Items 3, 5, and 7. When compared to the pretest data, the percentage of participants' correct responses on the posttest increased from 50% ($n = 16$) to 81% ($n = 22$) on Item 3; 34% ($n = 11$) to 85% ($n = 23$) on Item 5;

and 28% ($n = 9$) to 93% ($n = 25$) on Item #7. It should further be noted that 100% of the study's participants correctly answered Items 9, 10, and 12.

Table 4. Number and Percentage of Items Answered Correctly on the Pretest and Posttest.

Item–correct response	Pretest ($n = 32$)		Posttest ($n = 28$)	
	<i>N</i>	%	<i>N</i>	%
1. The nurse is caring for a man who is imminently dying. During morning care, the man asks the nurse if he is dying. An example of the best response for the nurse to give is: <i>“Yes. Tell me about any concerns, fears, or questions you have about what will happen.”</i>	29	90.63	26 ^a	92.86
2. The nurse is caring for a patient who has just died. The family is weeping at the bedside. In assisting the family to understand what will occur next, the nurse should: <i>Explain how the body will be cared for immediately following the death.</i>	21 ^b	67.74	26 ^a	92.86
3. In caring for patients with life-threatening illnesses, the nurse must be aware of health care trends that impact end-of-life care. Which is a current trend in end-of-life care? <i>The health care team often delays referrals of patients to hospice and palliative care services until late in the illness.</i>	16	50.00	22	81.48
4. The nurse is caring for a patient who has just died. In caring for the body after death, the goal of care is to: <i>Provide a clean, peaceful impression of the deceased for the family.</i>	30	93.75	25	92.59
5. The nurse is caring for a middle-aged man with end-stage ALS. The man's son and daughter have cared for him for the past 2 years, and now he is physically dependent on them. The patient has just broached the subject of assisted suicide with the nurse, and says he plans to discuss the subject with his children that evening. The nurse's first response should be to: <i>Recognize that the patient may have unmet end-of-life needs that require prompt assessment.</i>	11	34.38	23	85.19

(continued)

Table 4. Number and Percentage of Items Answered Correctly on the Pretest and Posttest. (continued)

Item–correct response	Pretest (n = 32)		Posttest (n = 28)	
	N	%	N	%
6. The nurse is caring for a dying patient whose family disagrees with the patient’s decisions about end-of-life care. Which action should the nurse take first? <i>Encourage the family and patient to discuss the conflict.</i>	23	71.88	25	92.59
7. The nurse is caring for a patient with end-stage COPD who is dying. The patient’s respirations are labored with frequent episodes of apnea and restlessness. The nurse administered the prescribed morphine for comfort and shortness of breath. The patient dies 20 minutes later. What ethical principles best support the nurse’s action? <i>Beneficence and double effect.</i>	9	28.13	25	92.59
8. The nurse is caring for a 45 year old woman in the terminal stages of cancer. The woman has not been eating for the past 3 days. During a family meeting, the husband states he is concerned about her “starving to death” and asks if they should request a feeding tube to be placed. All of the following interventions are appropriate actions for the nurse EXCEPT: <i>Contact the physician to have a feeding tube placed.</i>	24	75.00	22	81.48
9. The nurse is being oriented to palliative care. Which factor should the nurse identify as a requirement crucial to quality end-of-life care? <i>Communicating effectively with patients and their families.</i>	30	93.75	27	100.00
10. Nurses are concerned with religion and spirituality of patients in end-of-life care. Which question is the least appropriate during a spiritual assessment? <i>“What church do you attend?”</i>	28	87.50	27	100.00

(continued)

Table 4. Number and Percentage of Items Answered Correctly on the Pretest and Posttest. (continued)

Item–correct response	Pretest (n = 32)		Posttest (n = 28)	
	N	%	N	%
11. The nurse is caring for a female patient with end-stage renal disease. The patient has decided to forego further dialysis. The patient’s family requests information about how they will know when the patient is dying. The nurse provides the family with information regarding the physical signs and symptoms of the dying process. What is considered a universal sign of imminent death? <i>Change in breathing pattern.</i>	30	93.75	26	96.30
12. The nurse is caring for an 85 year old man who is dying. He has been comatose for several days. His respirations are now shallow and rattling. His adult children at the bedside state, “We don’t want our dad to suffocate.” Which action should the nurse take? <i>Reassure the family that the rattling is normal and is not causing suffering.</i>	28	87.50	27	100.00

^aThese items were answered by 28 participants. ^bThis item was answered by 31 participants.

Participant Postcourse Survey

Following completion of the pretest, educational intervention, and posttest, participants were provided with a brief survey asking for their anonymous feedback about the course. This postcourse survey consisted of five Likert-type items asking participants about their level of agreement (e.g., agree, disagree, neither agree nor disagree) with the statements, as well as one open-ended item offering participants the opportunity to provide any additional feedback. Review of the postcourse survey indicated that all participants rated that they “agreed” with each of the five postsurvey items.

In regards to the one open-ended item, 21 (78%) participants provided additional feedback about the course, and six (22%) participants chose to not comment. The vast majority ($n = 18$, 86%) of the feedback was positive and could be grouped into the following two categories: (a) feedback expressing thanks for the training in the specific area of EOLC and (b) feedback acknowledging the general usefulness of additional end-of-life training to help improve nursing practice. Review of the feedback revealed that several of the participants ($n = 18$; 86%) found the specific content of the course useful. One participant appreciated the focus on end of life care, stating that

I feel that any training regarding end of life is valuable. We practice many daily tasks like IV starts or inserting a catheter but we rarely practice end of life discussions. I welcome additional training and ultimately hope to be well versed and prepared when I interact with patients and family that are dealing with end of life scenarios. (Participant A)

A second participant similarly found the specific course content helpful, stating

End of life care is a difficult topic in health care and one that I believe a lot of us do struggle with, as you mentioned in this course... I believe the information provided through your educational intervention will be a great asset in helping us care for patients nearing the end of their life and, hopefully, help us make their transition from this life to the next a more peaceful journey. (Participant B)

Finally, a third participant also expressed that they found the course useful, stating that “I appreciated the thorough overview on what to expect during the dying process” (Participant C).

Other participants found the overall training helpful. One stated that the course was “very relevant and provided useful information that I can apply to my nursing practice” (Participant D). Another participant stated that the course was “an exceptional

end of life course” and further stated that “As we deal with this [end of life care] often, more education is always appreciated” (Participant E).

However, despite the majority of participants’ feedback being positive, three (14%) of the nurses’ responses highlighted potential areas for improvement. One participant found the “educational opportunity to be a little long” but did state the information received was “helpful” (Participant F). The other two responses pertained to the pretest and posttest, with one participant expressing confusion as to why the pretest and posttest were identical (Participant G) and the other participant stating the “tests would have been more beneficial had they not been timed” (Participant H). A summary of the postcourse survey is provided in Table 5, indicating the percentage of participants who agreed with each Likert-type item.

Table 5. Percentage of Participants Agreeing With Postcourse Survey Items

Item	<i>N</i>	%
1. I had enough time to absorb the information provided throughout the education intervention before taking the posttest.	26	96.3
2. The information provided throughout the education intervention was clear, concise, and easy to understand.	24	88.9
3. The pretest and posttest questions reflected the material that was presented throughout the education intervention.	25	92.6
4. This education intervention improved my knowledge of providing care to patients during the final days and hours of their life.	26	96.3
5. In the future, I would like to receive additional end of life continuing education.	24	88.9

Note. All postcourse survey items were answered by 27 participants.

Summary

In summary, 32 acute care nurses (27 recruited nurses and 5 “float” nurses) working on the medical–surgical unit of Hospital A participated in a one-group pretest–posttest quasi-experiment. Through implementation of a pretest, educational intervention, and posttest, the researcher sought to determine what effect a specific educational intervention (using the ELNEC-Core Curriculum) had on improving acute care nurses’ level of knowledge regarding high quality EOLC for adult patients with less than 2 weeks to live.

Due to unforeseen circumstances influencing the nature of the data collected, only participants’ aggregate results were available for review. As a result, descriptive analyses were used to examine the participants’ aggregate pretest and posttest results and determine whether the data supported the researcher’s hypothesis. Analyses of the aggregate data provided support to the researcher’s hypothesis by indicating that participants answered more questions correctly on the posttest than they did on the pretest, suggesting a positive impact of the educational intervention on the nurses’ level of end-of-life knowledge.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

The overriding purpose of this professional project was to determine the effect of an educational intervention on the improvement of acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying. The peaceful end of life theory (Ruland & Moore, 1998) guided the researcher's selection and implementation of the evidence-based educational intervention. This learner-paced educational intervention provided the research participants with instructional material specifically presented throughout the ELNEC-Core Curriculum's Module 8: "Care During the Final Hours" (COH & AACN, 2000). Module 8: "Care During the Final Hours" provided the nurse participants with educational information of the five peaceful end of life theoretical concepts and outcomes believed to be essential to the delivery of high quality EOLC ("being free from pain, experiencing comfort, experiencing dignity and respect, being at peace, and experiencing a closeness to significant others and those who care" (Marriner-Tomey & Alligood, 2006, p. 776). A one-group pretest–posttest quasi-experiment was conducted on the medical–surgical unit of "Hospital A"—a Level III trauma center located in an urban community of a western frontier state. This quasi-experiment used a convenience sample of 32 registered nurses and licensed practical nurses (27 of whom were recruited and 5 who worked as "float" nurses on the floor), representing 100% of Hospital A's medical–surgical nursing staff, who voluntarily participated in the study.

The identical pretest and posttest, comprised of 12 multiple choice items selected from the ELNEC program's original 106-item test (COH & AACN, 2000) functioned as the study's instrument to assess the nurse participants' level of end-of-life knowledge before and after receiving the educational intervention. The researcher hypothesized that following completion of the study's educational intervention, the acute care nurse participants would answer more questions correctly on the posttest than they did on the pretest, indicating a positive impact on their level of end-of-life knowledge.

As discussed in Chapters 3 and 4, unforeseen circumstances beyond the control of the researcher limited the nature and analyses of the collected data. Because individual participant data were inaccessible to the researcher, no direct pretest–posttest comparisons or statistical analyses of individual participant's data could be performed. Rather, the nature of the study's collected data required the researcher to use descriptive analyses to examine and report the findings of the participants' aggregate test results (Dr. K. P., personal communication, July, 17, 2015).

Supporting the researcher's hypothesis, the participants' aggregate test results revealed that the acute care nurses answered more questions correctly on the posttest than they did on the pretest. More specifically, the data illustrated increases in the percentage of participants' correct responses for 11 of the 12 posttest items. Further, the data demonstrated that 80% or more of the study's participants correctly answered all 12 of the posttest items, even those items that were answered incorrectly by a large percentage on the pretest. Although such results are limited, they do suggest that the study's educational intervention may have had a positive impact on the nurse participants' level

of end-of-life knowledge. Such an increase in knowledge on the five theoretical concepts and patient outcomes could translate into improved EOLC being provided to patients who are preactively and actively dying.

Discussion of Results

The results from this study may lend support to the findings from existing literature that consistently show improvement in participants' end-of-life knowledge following educational intervention with the ELNEC curriculum (COH & AACN, 2000). Specifically, findings from this study are consistent with those from the study previously conducted by Whitehead et al. (2010). Although differences exist between this study and the one conducted by Whitehead et al. (2010), the results do suggest that the ELNEC (COH & AACN, 2000) educational intervention had a positive impact on the participants' level of end-of-life knowledge. However, given the limitations of this study, further research is needed to support the researcher's observations.

Implications

Implications for Practice

A review of the participant feedback, provided on the study's postcourse survey, revealed that the nurses recognized the need for ongoing end-of-life continuing education and training and, subsequently, appreciated receiving the study's educational intervention. According to the overwhelming majority of the participants, the information presented throughout the educational intervention was both useful and

relevant to their clinical practice. Furthermore, 89% ($n = 24$) of the study's participants reported that they would like to receive additional end-of-life continuing education in the future. This finding lends support to the existing literature that describes nurses, in general, as being highly motivated to learn and process new information relevant to their clinical practice (White & Coyne, 2011). One implication for nursing practice, brought forth by this study and supported by the literature, is to offer nurses new to EOLC additional training, especially if they have not had any previous training in that specific area. Training should focus on the competencies established by the AACN (2014) deemed "necessary for nurses to provide high quality care to patients and families during the transition at the end-of-life" (AACN, 2014, para. 6).

Implications for Management

Nurse managers and leaders are in a prime position to ensure that nurses who work in acute care (as well as other specialties) are "provided with the EOL care education necessary to ensure not only their competency but also their comfort with caring for individuals who are dying and their loved ones" (Todaro-Franceschi, 2013, p. 189). Based on the literature and results of the present study, it is recommended that an evidenced-based educational program, such as the ELNEC curriculum (COH & AACN, 2000), be added to the orientation and professional development programming that all nurses working in EOLC receive. The study's 12-item pretest could serve as a brief, initial screening as nurses enter into the EOLC setting or are assigned to a patient needing EOLC in the acute care setting.

The learner-paced format implemented in this study has another implication for nursing management, especially when considering professional development programs for the nursing staff. Given their limited time and irregular work schedules, nurses may appreciate and benefit from a learner-paced format that allows them to complete the required training at their convenience (as opposed to having a set two or three day workshop that they have to attend). If this format is found to be effective it may be easier for managers to implement professional development strategies. Implementing a learner-paced format would provide the nurse manager an avenue that allows more nurses to complete the education and training in a more cost-effective manner.

Implications for Education

Although the study's limitations prevented the researcher from conclusively determining the educational intervention's impact on the acute care nurse participants' level of end-of-life knowledge, the researcher observed that the nurses answered more questions correctly on the posttest than they did on the pretest. Although the researcher was unable to directly attribute these observations to the implementation of the educational intervention, the findings suggest that the participants, as a whole, possessed a higher level of end-of-life knowledge at the completion of the study. Participant responses to one item on the study's postcourse survey lend support to this observation. According to the postcourse survey results, 96% ($n = 26$) of the participants reported that the study's educational intervention improved their knowledge of providing EOLC to patients during their final days and hours of life. Despite the study's limitations, it is

encouraging to know that the vast majority of the participants felt the educational intervention had a positive impact on their level of end-of-life knowledge

Although it cannot be concluded that the study's educational intervention positively impacted the nurses' level of end-of-life knowledge, it also cannot be discounted. At the very least, this study likely increased the nurse participants' awareness of EOLC and, hopefully, motivated them to pursue further end-of-life education initiatives that will increase their knowledge, advance their clinical nursing practice, and improve the quality of care they deliver to their dying patients.

Implications for Research

Due to the various limitations impacting the study's internal and external validity, the researcher concluded that this particular study did not significantly contribute to the existing body of science that focuses on improving nurses' level of end-of-life knowledge through educational interventions, specifically through the use of the ELNEC (COH & AACN, 2000) curriculum. However, this study does provide a basis for future research. Should this study ever be replicated in the future, the researcher offers the following recommendations to strengthen the research practice and enhance the study's results.

First, the researcher recommends replicating this exact research study using an electronic education or survey programs that reports the participants' data at the individual level. With the individual data, the researcher could perform an analysis of the psychometrics (reliability and validity) of the study's 12-item pretest and posttest. Furthermore, and perhaps more important, with the attainment of the participants' individual data, the researcher would be able to make direct pretest and posttest

comparisons and conduct the statistical analyses necessary to determine whether to accept or reject the null hypothesis.

Secondly, the researcher recommends performing this study with the implementation of a two-group, random selection, pretest–posttest research design. “This classic experimental design involves an experimental group and a control group, both created by a random assignment method” (Grinnell & Unrau, 2011, p. 282). Because this design randomly assigns participants to the experimental and control groups, the design exhibits good internal validity and “helps control for rival hypotheses” (Grinnell & Unrau, 2011, p. 282). By controlling for more threats to internal and external validity through the two-group, random selection, pretest–posttest design, the researcher would be better able to attribute any difference found to the intervention being tested rather than other factors. As a result, the two-group, random selection, pretest–posttest design is far superior to the one-group pretest–posttest research design that was implemented in this study.

Thirdly, the researcher recommends expanding the sample size by recruiting acute care nurses from more than one unit of a single hospital. Although the researcher used convenience sampling and targeted the acute care nurses working on the medical–surgical unit of Hospital A, it is recommended that future studies attempt to recruit acute care nurse participants, who provide care to preactively and actively dying adult patients, from two or more hospital facilities. Ideally, the researcher would use probability sampling methods to recruit a larger sample of participants “who are most likely to be representative of the larger population from which they are drawn” (Sadler, Lee, Lim, &

Fullerton, 2010, p. 371). Such measures, coupled with the two-group random-selection pretest–post research design, would significantly increase the study’s external validity.

Lastly, in the future, the researcher recommends having the study’s participants complete an educational needs assessment before conducting the actual study. Such assessment would allow the researcher to identify where educational gaps exist and determine which of the eight ELNEC-Core modules (COH & AACN, 2000) to include in the study’s educational intervention to appropriately address the participants’ educational needs.

Study Limitations

Several significant limitations were identified in this study. The primary limitation of this study was the unattainability of the participants’ individual data from the software vendor. Although multiple attempts were made to access data at the individual level, only aggregate participant data were available for analyses. To ensure the aggregate participant data were analyzed appropriately and to the fullest extent, the researcher consulted with Dr. K. P. (Dr. K. P., personal communication, July, 17, 2015). Dr. K. P. also consulted with multiple colleagues and PhD-prepared statisticians to determine the most appropriate technique for analyzing the aggregate data. Following this consultation process, it was recognized that one-sample *t* tests could not be conducted as originally planned. Due to the nature of the data, no pretest–posttest comparisons could be made and no statistical analyses could be conducted. As a result, the researcher was limited to using descriptive analyses in which all data were analyzed

and reported in aggregate using frequencies and percentages (Dr. K. P., personal communication, July, 17, 2015).

Although descriptive analyses allowed the researcher to summarize the participants' aggregate results, no inferences or conclusions regarding the study's hypothesis could be made. Furthermore, without access to the participants' individual raw data, the researcher could not conduct a psychometric analysis of the study's 12-item pretest and posttest. As a result, the researcher was limited to referencing literature published by Ferrell et al. (2005) that provided reliability information for the overall 109-item test that was utilized to select the 12 questions for the study's pretest and posttest.

Another significant limitation of this study was the implementation of a one-group pretest–posttest quasi-experimental research design. According to Bell (2014), a “one-group pretest-posttest design is the simplest form of the pretest-posttest designs used to gather data about some outcome” (p. 2). Due to the absence of a control group, this design does not have any external validity and possesses only minimal internal validity that may be threatened by uncontrolled extraneous variables (Bell, 2014). Given the very nature of the pretest–posttest research design, the researcher identified the testing effect as one of the uncontrolled extraneous variables that further threatened the study's internal validity. As explained by Trochim, Donnelly, and Arora (2015), the testing effect is a type of threat that arises when “the pretest makes respondents more aware of what the researcher is studying... sensitizing and priming respondents in a way that they otherwise would not have been without the pretest” (p. 212). This testing effect confounds a study's results because “it may be the taking of the pretest, not participating

in the intervention that affects how participants do on the posttest” (Trochim et al., 2015, p. 212). To help minimize the testing effect and its threat to the study’s internal validity, participants were purposely uninformed that the pretest and posttest were identical. However, it remained possible that following the pretest, participants researched answers to the test items and remembered those answers while taking the posttest. Furthermore, due to a lack of control throughout the administration of the pretest and posttest, it is possible that participants researched answers to the items while taking the tests. Because the participants were not supervised or monitored during the testing process, although the researcher electronically structured the testing process, the researcher cannot ensure they did not receive some form of assistance in answering the pretest and posttest questions. Despite the researcher’s efforts to manage such limitations, the study’s internal validity was jeopardized by the research design, lack of control group, and uncontrolled extraneous variables such as the testing effect. Based on the aforementioned limitations and the identified weaknesses of the study’s internal validity, the observed increase in the participants’ aggregate posttest scores cannot solely be attributed to the study’s educational intervention.

In addition to the study’s research design, other limitations, such as a relatively small sample size ($n = 32$), affected the external validity of the study. Statistical power analysis estimated that a sample size of 27 was needed to attain significance for the study. While the achieved sample size meets the minimum number of participants required to attain significance for the study, generalizations to and across other nursing populations

cannot be made due to the researcher's utilization of nonprobability (convenience) sampling.

Conclusion

Through implementation of this study, the researcher made an initial attempt to determine the effect of a particular educational intervention (utilizing the ELNEC-Core curriculum; COH & AACN, 2000), on improving acute care nurses' level of knowledge regarding high quality EOLC to adult patients who are preactively and actively dying. The researcher hypothesized that, following the completion of the study's educational intervention, the acute care nurse participants would answer more questions correctly on the posttest than on the pretest, indicating a positive impact on their level of end-of-life knowledge. Although limitations precluded the researcher from conclusively drawing inferences about the study's hypothesis, the researcher observed that the participants answered more questions correctly on the posttest than they did on the pretest. Although no definitive conclusions could be drawn from the study's results, the researcher found it encouraging that 96% ($n = 26$) of the participants reported improvement in their level of EOL knowledge following the educational intervention. According to the peaceful end of life theory (Ruland & Moore, 1998), "nursing care is crucial for creating a peaceful end-of-life experience. Nurses assess and interpret cues that reflect the person's end-of-life experience and intervene appropriately to attain or maintain a peaceful experience" (Marriner-Tomey & Alligood, 2006, p. 777). Based on this theory, it can be assumed that

increases in the nurses' end-of-life knowledge will likely translate into a higher quality of care delivered to preactively and actively dying patients.

Despite the study's limitations and need for further research, this study introduced participants to the ELNEC curriculum (COH & AACN, 2000) and provided them with specific end-of-life education that they may not have otherwise received as part of their traditional or professional training. Furthermore, this study highlighted a need for nurses, across all specialties, to acquire and assimilate the education necessary to provide quality EOLC to patients during their final days and hours of life.

REFERENCES CITED

- American Association of Colleges of Nursing. (2014). *ELNEC*. Retrieved from <http://www.aacn.nche.edu/elneec>
- Anderson, E., & McFarlane, J. (2010). *Community as partner: Theory and practice in nursing* (6th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Barnett, M., Mulvenon, C., Dalrymple, P., & Connelly, L. (2010). Nurses' knowledge, attitudes, and practice patterns regarding titration of opioid infusion at the end of life. *Journal of Hospice and Palliative Nursing*, *12*, 73–136. doi:10.1097/NJH.0b013e3181cf791c
- Bell, B. (2014). Encyclopedia of research design: Pretest–posttest design. Retrieved from <http://www.sagepub.com/kumar4e/study/Chapter%208/Pretest-Posttest%20Design.pdf>
- Bloomer, M., Endacott, R., O'Connor, M., & Cross, W. (2013). The disease of dying: Challenges in nursing care of the dying in the acute hospital setting. *Palliative Medicine*, *27*(8), 757–764. doi:10.1177/0269216313477176
- Bloomer, M., Moss, C., & Cross, W. (2011). End-of-life care in acute hospitals: An integrative literature review. *Journal of Nursing and Healthcare of Chronic Illness*, *3*, 165–173. doi:10.1111/j.1752-9824.2011.01094.x
- Boyd, D., Merkh, K., Rutledge, D., & Randall, V. (2011). Nurses' perceptions and experiences with end-of-life communication and care. *Oncology Nursing Forum*, *38*, 229–239. doi:10.1188/11.ONF.E229-E239
- City of Hope & American Association of Colleges of Nursing. (2000). *ELNEC-core train-the-trainer instructional course material*. Retrieved on January 19, 2015, at ELNEC-Core train-the-trainer course in Anaheim, California.
- Center for Advancing Quality of Life. (2010). *Preparing for an approaching death brochure*. Retrieved from <http://lrmc.com/wp-content/uploads/2009/08/Preparing-for-approaching-death.pdf>
- Centers for Disease Control and Prevention. (2013). *Faststats: Deaths and mortality*. Retrieved from <http://www.cdc.gov/nchs/fastats/deaths.htm>
- CITI Program. (2014). *About us*. Retrieved from <https://www.citiprogram.org/index.cfm?pageID=1>
- Cramer, C. (2010). To live until you die: Quality of life at the end of life. *Clinical Journal of Oncology Nursing*, *14*(1), 53–56. doi:10.1188/10.CJON.53-56

- Cui, J., Shen, F., Ma, X., & Zhao, J. (2011). What do nurses want to learn from death education: A survey of their needs. *Oncology Nursing Forum*, 38(6), 402–408. doi:10.1188/11.ONF.E402-E408
- Dobbins, E. (2011). The impact of end-of-life curriculum content on the attitudes of associate degree nursing students toward death and care of the dying. *Teaching and Learning in Nursing*, 6(4), 159–166. doi:10.1016/j.teln.2011.04.002
- Elizabeth, C. (2013). *Research methods: Sampling techniques*. Retrieved from https://learning.uonbi.ac.ke/courses/LDP603/work/assign_2/Indv._Assignment-Non-Probability_Sampling_1.pdf
- Espinosa, L., Young, A., Symes, L., Haile, B., & Walsh, T. (2010). ICU nurses' experience in providing terminal care. *Critical Care Nursing Quarterly*, 33(3), 273–281. doi:10.1097/CNQ.0b013e3181d91424
- Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39, 175–191. Retrieved from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>
- Ferrell, B., Virani, R., Grant, M., Rhone, A., Malloy, P., Bednash, G., & Grimm, M. (2005). Evaluation of the end-of-life nursing education consortium undergraduate faculty training program. *Journal of Palliative Medicine*, 8(1), 107–115.
- Fischer, S., Min, S., Cervantes, L., & Kutner, J. (2013). Where do you want to spend your last days of life: Low concordance between preferred and actual site of death among hospitalized adults. *Journal of Hospital Medicine*, 8(4), 178–183. doi:10.1002/jhm.2018
- Gilels, D. (2011). *If these walls could talk*. Retrieved from <http://bluetoad.com/publication>
- Glasper, A. (2010). The government's eight-point plan for improving end-of-life care. *British Journal of Nursing*, 19(18), 1194–1196.
- Grant, M., Wiencek, C., Virani, R., Uman, G., Munevar, C., Malloy, P., & Ferrell, B. (2013). End-of-life care education in acute and critical care. *AACN Advanced Critical Care*, 24(2), 121–129. doi:10.1097/NCI.0b013e3182832a94
- Grinnell, R., & Unrau, Y. (2011). *Social work research and evaluation*. Oxford, New York: Oxford University Press.

- “Hospital A”. (2011). *About us*. Retrieved from [http://www."hospitalA".org/index.php/our_philosophy/about_us/](http://www.)
- Hospitals today. (n.d.). Retrieved from <http://www.ct.gov/dph/lib/dph/ohca/hospitalstudy/HospToday.pdf>
- Imhof, S., & Kaskie, B. (2008). Promoting a good death: Determinants of pain-management policies in the united states. *Journal of Health Politics, Policy and Law*, 33(5), 907–994. doi:10.1215/03616878-2008-024
- Jarrett, A., Church, T., Fancher-Gonzalez, K., Shackelford, J., & Lofton, A. (2013). Nurses’ knowledge and attitudes about pain in hospitalized patients. *Clinical Nurse Specialist*, 27 (2), 55–106 . doi:10.1097/NUR.0b013e3182819133
- Johnson, S., & Gray, P. (2013). Understanding nurses’ experiences of providing end-of-life care in the us hospital setting. *Holistic Nursing Practice*, 27(6), 318–328. doi:10.1097/HNP.0b013e3182a72c83
- Josephsen, J., & Martz, K. (2014). Faculty and student perceptions: An end-of-life nursing curriculum survey. *Journal of Hospice & Palliative Nursing*, 16(8), 474–481. doi:10.1097/NJH.0000000000000098
- Kim, H., Kim, B., Yu, S., Kim, S., Park, S., Choi, S., & Jung, Y. (2011). The effect of an end-of-life nursing education consortium course on nurses’ knowledge of hospice and palliative care in korea. *Journal of Hospice & Palliative Care*, 13(4), 222–229. doi: 10.1097/NJH.0b013e318210fdec
- Kruse, B., Melhado, L., Convertine, L., & Stecher, L. (2008). Evaluating strategies for changing acute care nurses’ perceptions on end-of-life care. *The American Journal of Hospice & Palliative Care*, 25(5), 389–397. doi:10.1177/1049909108322368
- Lean Competency System. (2014). Guide to developing multiple choice tests. Retrieved from http://www.leancompetency.org/images/docs/guides/LCS_MCT_Development_Guide_1401.pdf
- Lewis, K. (2013). How nurses can help ease patient transitions to end of life care. *Art & Science*, 25(8), 22–26.
- Lin, C., Arnold, R., Lave, J., Angus, D., & Barnato, A. (2010). Acute care practices relevant to quality end-of-life care: A survey of Pennsylvania hospitals. *Quality & Safety in Health Care*, 19(6), 1–5. doi:10.1136/qshc.2008.030056

- LoBiondo-Wood, G., & Haber, J. (2006). *Nursing research: Methods and critical appraisal for evidence-based practice* (6th ed.). St. Louis, MO: Mosby.
- Marriner-Tomey, A., & Alligood, M. (2006). Middle range theories: Peaceful end of life theory. *Nursing Theorists and Their Work*. Maryland Heights, MO: Mosby.
- McGill University Health Centre. (2015). *MUHC databases*. Retrieved from <http://www.muhclibraries.ca/e-resources/muhcdatabases/>
- Paddy, M. (2011). Influence of location on a good death. *Art & Science*, 26(1), 33–36.
- Paice, J., Ferrell, B., Coyle, N., Coyne, P., & Callaway, M. (2008). Global efforts to improve palliative care: The international end-of-life nursing education consortium training programme. *Journal of Advanced Nursing*, 61(2), 173–180. doi:10.1111/j.1365-2648.2007.04475.x
- Polit, D., & Beck, C. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Pullis, B. (2013). Integration of end-of-life education into a community health nursing course. *Public Health Nursing*, 30(5), 463–467. doi:10.1111/phn.12063
- Random House. (2014). *Adult-Patient*. Retrieved from <http://dictionary.reference.com>
- Reinke, L., Shannon, S., Engelberg, R., Dotolo, D., Silvestri, G., & Curtis, R. (2010). Nurses' identification of important yet under-utilized end-of-life care skills for patients with life-limiting or terminal illnesses. *Journal of Palliative Medicine*, 12, 753–759. doi:10.1089/jpm.2009.0423
- Research Consultation Pros. (2015). *Research consultation pros*. Retrieved from <http://www.researchconsultationpros.com/>
- Ruland, C., & Moore, S. (1998). Theory construction based on standards of care: A proposed theory of the peaceful end of life. *Nursing Outlook*, 46(4), 169–175. doi:10.1016/S0029-6554(98)90069-0
- Russell, C., & Gregory, D. (2003). Evaluation of qualitative research studies. *Evidence Based Nursing*, 6(2), 36–40. doi:10.1136/ebn.6.2.36
- Sadler, G., Lee, H., Lim, R., & Fullerton, J. (2010). Recruiting hard-to-reach united states population sub-groups via adaptations of snowball sampling strategy. *Nursing Health Sciences*, 12(3), 369–374. doi:10.1111/j.1442-2018.2010.00541.x
- Salkind, N. (2010). *Encyclopedia of research design* (Vol. 1). Thousand Oaks, CA: Sage.

- Schlairet, M. (2009). End-of-life nursing care: Statewide survey of nurses' education needs and effects of education. *Journal of Professional Nursing, 25*(3), 170–177. doi:10.1016/j.profnurs.2008.10.005
- Schneider, Z., Whitehead, D., LoBiondo-Wood, G., & Haber, J. (2013). *Nursing and midwifery research: Methods and critical appraisal for evidence-based practice* (4th ed.). Elsevier Australia: Mosby.
- Shea, J., Grossman, S., Wallace, M., & Lange, J. (2010). Assessment of advanced practice palliative care nursing competencies in nurse practitioner students: Implications for the integration of ELNEC curricular modules. *Journal of Nursing Education, 49*(4), 183–189. doi:10.3928/01484834-20090915-05
- Sheward, K., Clark, J., Marshall, B., & Allan, S. (2011). Staff perceptions of end-of-life care following implementation of the Liverpool care pathway for the dying patient in the acute care setting: A New Zealand perspective. *Journal of Palliative Medicine, 15*(4), 623–630. doi:10.1089/jpm.2011.0375
- Shuttleworth, M. (2009). Pretest–posttest designs. Retrieved from <https://explorable.com/pretest-posttest-designs>
- Stefanou, N., & Faircloth, S. (2010). Exploring the concept of quality care for person who is dying. *British Journal of Community Nursing, 15*(12), 588–593.
- Tapley, M., Pilling, L., Jolley, D., Daniels, A., & El-Mahmoudi, B. (2013). Hospice transfer for patients at the end of life: Part 1. *Nursing Standard, 28*(8), 42–48. <http://dx.doi.org/10.7748/ns2013.10.28.8.42.e7756>
- Thompson, G., McClement, S., & Daeninck, P. (2006). Nurses' perceptions of quality end-of-life care on an acute medical ward. *Journal of Advanced Nursing, 53*(2), 169–177.
- Todaro-Franceschi, V. (2013). Critical care nurses' perceptions of preparedness and ability to care for the dying and their professional quality of life. *Dimensions of Critical Care Nursing, 32*(4), 184–190. doi:10.1097/DCC.0b013e31829980af
- Trochim, W., Donnelly, J., & Arora, K. (2015). *Research methods: The essential knowledge base*. Boston, MA: Cengage Learning.
- U.S. Department of Health and Human Services. (2011). *Health, United States, 2010: With a special feature on death and dying*. Retrieved from <http://www.cdc.gov/nchs/data/hus/hus10.pdf>

- Wasserman, L. (2008). Respectful death: A model for end-of-life care. *Clinical Journal of Oncology Nursing, 12*(4), 621–626. doi:10.1188/08.CJON.621-626
- Watson, R., McKenna, H., Cowman, S., & Keady, J. (2008). *Nursing research: Designs and methods*. Philadelphia, PA: Elsevier Limited.
- Watts, T. (2012). End-of-life care pathways as tools to promote and support a good death: A critical commentary. *European Journal of Cancer Care, 21*, 20–30. doi:10.1111/j.1365-2354.2011.01301.x
- White, K., & Coyne, P. (2011). Nurses' perceptions of educational gaps in delivering end-of-life care. *Oncology Nursing Forum, 38*(6), 711–717. doi:10.1188/11.ONF.711-717
- White, K., Coyne, P., & White, S. (2012). Are hospice and palliative nurses adequately prepared for end-of-life care. *Journal of Hospice and Palliative Nursing, 14*(2), 133–140. doi:10.1097/NJH.0b013e318239b943
- Whitehead, P. (2009). Studying the effects of the end-of-life nursing education consortium (Doctoral dissertation, Virginia Polytechnic Institute and State University). Retrieved from http://scholar.lib.vt.edu/theses/available/etd-10272009-143643/unrestricted/Whitehead_PB_D_2009.pdf
- Whitehead, P., Anderson, E., Redican, K., & Stratton, R. (2010). Studying the effects of the end-of-life nursing education consortium at the institutional level. *Journal of Hospice & Palliative Nursing, 12*(3), 184–193. doi:10.1097/NJH.0b013e3181d76d00
- Zomorodi, M., & Lynn, M. (2010). Critical care nurses' values and behaviors with end-of-life care: Perceptions and challenges. *Journal of Hospice and Palliative Nursing, 12*(2), 89–96. doi:10.1097/NJH.0b013e3181cf7cf6

APPENDICES

APPENDIX A

CITI TRAINING COMPLETION REPORT

CITI Collaborative Institutional Training Initiative

Social and Behavioral Research Investigators/ Faculty Curriculum Completion Report Printed on 10/28/2012

Learner: Katelyn McCarthy (username: g29h825)

Institution: Montana State University

Contact Phone: 406-565-7147

Information Email: tkstetzner@gmail.com

Social & Behavioral Research - Basic/Refresher: Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.

Stage 1. Basic Course Passed on 10/28/12 (Ref # 9044902)

Required Modules	Date Completed	
Belmont Report and CITI Course Introduction	10/24/12	3/3 (100%)
Students in Research	10/24/12	8/10 (80%)
History and Ethical Principles - SBR	10/28/12	5/5 (100%)
Defining Research with Human Subjects - SBR	10/28/12	4/5 (80%)
The Regulations and The Social and Behavioral Sciences - SBR	10/28/12	5/5 (100%)
Assessing Risk in Social and Behavioral Sciences - SBR	10/28/12	5/5 (100%)
Informed Consent - SBR	10/28/12	5/5 (100%)
Privacy and Confidentiality - SBR	10/28/12	5/5 (100%)
Conflicts of Interest in Research Involving Human Subjects	10/28/12	4/5 (80%)
Cultural Competence in Research	10/28/12	3/5 (60%)

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered scientific misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

[Return](#)

APPENDIX B

INSTITUTIONAL REVIEW BOARD MEMORANDUM



INSTITUTIONAL REVIEW BOARD
For the Protection of Human Subjects
FWA 00000165

960 Technology Blvd. Room 127
 c/o Immunology & Infectious Diseases
 Montana State University
 Bozeman, MT 59718
 Telephone: 406-994-6783
 FAX: 406-994-4303
 E-mail: cherylj@montana.edu

Chair: Mark Quinn
 406-994-5721
 mquinn@montana.edu
Administrator:
 Cheryl Johnson
 406-994-6783
 cherylj@montana.edu

MEMORANDUM

TO: Katelyn Stetzner and Christina Sietoff

FROM: Mark Quinn *Mark Quinn*

DATE: February 25, 2015

RE: "The Effect of an Education Intervention on Improving Acute Care Nurses' Level of Knowledge in Providing High Quality End-of-Life Care to Adult Patients with Less than 2 Weeks to Live" [KS022515-EX]

The above research, described in your submission of **February 23, 2015**, is exempt from the requirement of review by the Institutional Review Board in accordance with the Code of Federal regulations, Part 46, section 101. The specific paragraph which applies to your research is:

- (b) (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (b) (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability, or be damaging to the subjects' financial standing, employability, or reputation.
- (b) (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if: (i) the human subjects are elected or appointed public officials or candidates for public office; or (ii) federal statute(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- (b) (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available, or if the information is recorded by the investigator in such a manner that the subjects cannot be identified, directly or through identifiers linked to the subjects.
- (b) (5) Research and demonstration projects, which are conducted by or subject to the approval of department or agency heads, and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- (b) (6) Taste and food quality evaluation and consumer acceptance studies, (i) if wholesome foods without additives are consumed, or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the FDA, or approved by the EPA, or the Food Safety and Inspection Service of the USDA.

Although review by the Institutional Review Board is not required for the above research, the Committee will be glad to review it. If you wish a review and committee approval, please submit 3 copies of the usual application form and it will be processed by expedited review.

APPENDIX C

RESEARCH LETTER TO PARTICIPANTS

To all Medical-Surgical RNs and LPNs:

My name is Katelyn Stetzner and I am currently a Family Nurse Practitioner Graduate Student at MSU Bozeman. A significant requirement of this program is to complete a professional research project, which I am currently working on. The purpose of my professional research project is to determine: *What effect a specific educational intervention (using the ELNEC-Core Curriculum) has on improving acute care nurses' level of knowledge in providing high quality end-of-life care to patients who are pre-actively and actively dying (less than 2 weeks to live).* The End of Life Nursing Education Consortium (ELNEC) is a nationally and internationally known, evidence-based educational program that is highly regarded for its positive impact upon improving end-of-life care. In January 2015, I went to California and became an ELNEC-Core trainer, which affords me the opportunity to teach the ELNEC-Core course to others and to use the course material as the education intervention for my research project. In its entirety, the Core curriculum consists of 8 modules but due to time constraints and the focus of this research project, the education intervention will only cover the information contained in Module 8 of the ELNEC-Core Curriculum which is titled: *Care During the Final Hours.*

I am inviting all Community Medical Center Medical-Surgical RNs and LPNs to participate in this study. Please know that participation in this study is voluntary. If you agree to participate in this study you will be asked to:

1. Watch a 12 minute Introductory Slide Show Presentation
2. Complete a pretest which consists of 12 multiple choice questions
3. Review the education intervention...ELNEC-Core Module 8: Care During The Final Hours which is close to an hour in duration
4. Complete a posttest which consists of 12 multiple choice questions
5. Complete a demographic questionnaire which consists of 6 questions
6. Complete a post-course survey which consists of 5 questions

Possible risks and inconveniences associated with participation in this study:

- Participation in this study requires use of your time which may be regarded as an inconvenience. As a participant you will be asked to complete the pretest/posttest and review the education intervention. It

will take approximately 1.5 hours to complete the “Assignment.” You will also be asked to fill out a short demographic questionnaire and post-course survey that will take approximately 5-15 minutes.

Additionally, please note that the education material covers information related to care of dying patients. While you frequently provide care for actively dying patients and may be accustomed to end-of-life care, this material can be emotionally charged.

Should you choose to participate, the following information will provide you with instructions specific to this study. Please note that willingness to access the “research assignment” on the intranet site will be deemed as participatory consent.

Research Assignment-

- The “research assignment” (introductory slide show presentation, pretest/posttest, education intervention, demographic questionnaire, and post-course survey) will be made available through the hospital’s secure intranet site which can be accessed both inside and outside of your facility.
- The “research assignment” is designed to be learner-paced and may be accessed at your convenience during an allotted 3 week period of time which begins March 9th, 2015 and ends March 30th, 2015.

Introductory Slide Show Presentation & ELNEC-Core Module 8 Education Intervention-

- The introductory slide show presentation and ELNEC-Core Module 8 education intervention presentation may be accessed multiple times throughout the allotted 3 week period of time. You do not need to watch these presentations within one continuous session.
- Both presentations should be played as a slide show and should not require you to press any keys to advance the slides (if it appears to be stuck you can press a key and hopefully it will move along...we have, however, tested it multiple times so it should work...fingers crossed).

- The introductory slide show presentation contains music throughout and the ELNEC-Core Module 8 presentation has my recorded voice talking throughout (I apologize in advance!) so you will need to have your speaker on.
- You will not be able to access the ELNEC-Core Module 8 presentation until after you complete the pretest.

Pretest & Posttest-

- ****Please Note: Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at any time.****
- The pretest must be taken *before* you can access the ELNEC-Core Module 8 education intervention presentation. This is a timed test and must be completed when accessed. You will be given 18 minutes to complete the 12 multiple choice questions contained on the pretest.
- The posttest may be accessed *after* you review the ELNEC-Core Module 8 education intervention presentation. As with the pretest, this test must be completed once accessed as it too will be a timed test. You will again be given 18 minutes to complete the 12 multiple choice questions contained on the posttest.
- You will be unable to access the education intervention while taking the pretest and posttest.

Demographic Questionnaire & Post-Course Survey-

- ****Please Note: Participation is voluntary and you can choose to not answer any questions you do not want to answer and/or you can stop at any time.****
- The demographic questionnaire (6 questions) and post-course survey (5 questions) will be available after the posttest is complete.

Measures to Maintain Your Confidentiality-

After March 30th, 2015, the researcher will receive a print out of all the pretest and posttest scores as well as the selected information on the

demographic questionnaire and post course survey. Prior to receiving this information, all participant identifying data will be removed by your facility's clinical education coordinator. The researcher will not see or have access to any participant identifying data at any point in time. To further protect your confidentiality, it is ensured that your Medical-Surgical Director of Nursing, will not see or have access to any participant identifying data pertaining to pretest/posttest scores or responses to the demographic questionnaire or post course survey.

Contact Information-

Please feel free to contact myself or my research chair/advisor for any questions, concerns, or assistance. The following is our contact information:

- Katelyn Stetzner (Researcher)
 - 406-565-7147
 - tkstetzner@gmail.com
- Dr. Christina Sieloff (Research Chair/Advisor)
 - 406-657-2614
 - csieloff@montana.edu

I would like to sincerely thank you all for taking the time to read this letter and for considering to participate in this research study...I greatly appreciate it.

All the best,
Katelyn Stetzner, RN, Student FNP

APPENDIX D

ELNEC ATTRIBUTION STATEMENT

ELNEC Project Copyright Permission

Curriculum materials: Copyright for the ELNEC Project curriculum is held by City of Hope (COH) and the American Association of Colleges of Nursing (AACN). The copyright includes items in the syllabus not specifically attributed to other sources. Those who have completed the ELNEC Project training course are granted permission to duplicate and/or modify ELNEC materials for use in their facilities. These materials include content outlines, slides, and many instructional resources. ELNEC materials may not be published, posted electronically or distributed outside of a course/class without prior approval by COH and AACN. For approval please contact: Pam Malloy at pmalloy@aacn.nche.edu.

-AACN (2014)

Attribution: The End-of-Life Nursing Education Consortium (ELNEC) Project is a national end-of-life educational program administered by City of Hope (COH) and the American Association of Colleges of Nursing (AACN) designed to enhance palliative care in nursing. The ELNEC Project was originally funded by a grant from the Robert Wood Johnson Foundation. Additional funding has been received from the Cambia, Millbank, Oncology Nursing, Open Society, Aetna, Archstone, California Health Care Foundation, National Cancer Institute (NCI), and the Department of Veterans Affairs (VA). Materials are copyrighted by COH and AACN and are used with permission.

Further information about the ELNEC Project can be found at

www.aacn.nche.edu/ELNEC.

-AACN (2014)

APPENDIX E

PERMISSION TO USE ELNEC TEST

Pamela Malloy

<pmalloy@aacn.nche.edu>

1/28/15

Hi Katelyn,

So glad you enjoyed the Summit last week.

I am attaching both tests. Feel free to use whichever one you prefer.

You do not need to use all 106 test questions. Pick-and-choose what you would like.

Let me know if you need anything else, Katelyn.

Best wishes on completing your thesis—oh, I remember those days! 😊

Pam Malloy, RN, MN, FPCN

Director and Co-Investigator of the ELNEC Project

American Association of Colleges of Nursing (AACN)

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APPENDIX F

PRETEST AND POSTTEST QUESTIONS

Please note, participation is voluntary. You can stop at any time. You can choose to not answer any questions you do not want to answer.

Pretest & Posttest Questions:

1.) The nurse is caring for a man who is imminently dying. During morning care, the man asks the nurse if he is dying. An example of the best response for the nurse to give is:

- a. “Yes, I suppose you’ve known this all along. I promise I’ll be right with you all the way.”
- b. “Not today. Why don’t we look at some of the things you would like to accomplish now.”
- c. **“Yes. Tell me about any concerns, fears, or questions you have about what will happen.”**
- d. “Why do you ask that? You look like you feel so much better today than you did yesterday!”

2.) The nurse is caring for a patient who has just died. The family is weeping at the bedside. In assisting the family to understand what will occur next, the nurse should:

- a. **Explain how the body will be cared for immediately following the death.**
- b. Request that the family leave the room in order for the body to be washed.
- c. Give information about the need to remove the body promptly for embalming.
- d. Ask if they would like to have all the tubes, catheters and IV lines removed.

3.) In caring for patients with life-threatening illnesses, the nurse must be aware of health care trends that impact end-of-life care. Which is a current trend in end-of-life care?

- a. Populations such as the uninsured and elderly enjoy equitable access to end-of-life care through public assistance programs.
- b. End-of-life care programs have unrestricted eligibility and few rules for admission by those who need these services.
- c. **The health care team often delays referrals of patients to hospice and palliative care services until late in the illness.**

4.) The nurse is caring for a patient who has just died. In caring for the body after death, the goal of care is to:

- a. Make sure the body is sent to the morgue within an hour after death.
- b. Have the family members participate in the bathing and dressing of the deceased.
- c. Notify all family members and team members regarding the patient’s death.
- d. **Provide a clean, peaceful impression of the deceased for the family.**

5.) The nurse is caring for a middle-aged man with end-stage ALS. The man's son and daughter have cared for him for the past 2 years, and now he is physically dependent on them. The patient has just broached the subject of assisted suicide with the nurse, and says he plans to discuss the subject with his children that evening. The nurse's **first** response should be to:

- a. Notify the physician and nursing director so that appropriate measures can be implemented.
- b. Recognize that the patient may have unmet end-of-life needs that require prompt assessment.**
- c. Respect the patient's confidentiality by waiting for the family to discuss the issue first.
- d. Offer to discuss the patient's preference with the family so that they are not surprised by the idea.

6.) The nurse is caring for a dying patient whose family disagrees with the patient's decisions about end-of-life care. Which action should the nurse take **first**?

- a. Present the case to the agency's ethics committee for resolution.
- b. Ask the health care team to make decisions regarding end-of-life care.
- c. Initiate a referral to social service.
- d. Encourage the family and patient to discuss the conflict.**

7.) The nurse is caring for a patient with end-stage COPD who is dying. The patient's respirations are labored with frequent episodes of apnea and restlessness. The nurse administered the prescribed morphine for comfort and shortness of breath. The patient dies 20 minutes later. What ethical principles best support the nurse's action?

- a. Veracity and respect for autonomy
- b. Beneficence and double effect**
- c. Patient self-determination and justice
- d. Nonmaleficence and clinical pragmatism

8.) The nurse is caring for a 45 year old woman in the terminal stages of cancer. The woman has not been eating for the past 3 days. During a family meeting, the husband states he is concerned about her "starving to death" and asks if they should request a feeding tube to be placed. All of the following interventions are appropriate actions for the nurse **EXCEPT**:

- a. Explain the benefits of dehydration during the dying process.
- b. Discuss the husband's concerns about not feeding the patient.
- c. Instruct the husband on ways to support and care for the patient.
- d. Contact the physician to have a feeding tube placed.**

- 9.) The nurse is being oriented to palliative care. Which factor should the nurse identify as a requirement crucial to quality end-of-life care?
- Maintaining cost-effective analgesic regimens.
 - Restricting care to symptom management algorithms.
 - Communicating effectively with patients and their families.**
 - Employing volunteer to ensure patients are not alone.
- 10.) Nurses are concerned with religion and spirituality of patients in end-of-life care. Which question is the **least** appropriate during a spiritual assessment?
- “What church do you attend?”**
 - “Are spiritual beliefs important in your life?”
 - “What aspect of your faith gives you most life meaning?”
 - “How would you like me to address spirituality in your care?”
- 11.) The nurse is caring for a female patient with end-stage renal disease. The patient has decided to forego further dialysis. The patient’s family requests information about how they will know when the patient is dying. The nurse provides the family with information regarding the physical signs and symptoms of the dying process. What is considered a universal sign of imminent death?
- Decrease in the swallow reflex
 - Change in breathing pattern**
 - Weakness and fatigue
 - Loss of consciousness
- 12.) The nurse is caring for an 85 year old man who is dying. He has been comatose for several days. His respirations are now shallow and rattling. His adult children at the bedside state, “We don’t want our dad to suffocate.” Which action should the nurse take?
- Use a suction then machine to suction secretions from the mouth and throat.
 - Sit the patient up and percuss the back to facilitate loosening of congestion.
 - Reassure the family that the rattling is normal and is not causing suffering.**
 - Request an order for humidified oxygen to decrease the patient’s air hunger.

APPENDIX G

DEMOGRAPHIC QUESTIONNAIRE

Please note, participation is voluntary. You can stop at any time. You can choose to not answer any questions you do not want to answer.

Demographic Questions:

(Please select one of the following options for each question)

- 1.) Nursing Licensure
 - a. RN
 - b. LPN

- 2.) If RN, what is your degree
 - a. Associate Degree of Nursing
 - b. Bachelor Degree of Nursing

- 3.) Total years of nursing experience
 - a. 0-5 years
 - b. 6-10 years
 - c. 11-15 years
 - d. 16-20 years
 - e. 21-25 years
 - f. Greater than 25 years

- 4.) Gender
 - a. Male
 - b. Female

- 5.) Age
 - a. 20-25
 - b. 26-30
 - c. 31-35
 - d. 36-40
 - e. 41-45
 - f. 46-50
 - g. Greater than 50

- 6.) Do you have your medical surgical certification
 - a. Yes
 - b. No

APPENDIX H

POSTCOURSE SURVEY

Please note, participation is voluntary. You can stop at any time. You can choose to not answer any questions you do not want to answer.

Post-Course Survey:

Please select your response

1. I had enough time to absorb the information provided throughout the education intervention before taking the posttest.
 - a. Agree
 - b. Disagree
 - c. Neither agree or disagree

2. The information provided throughout the education intervention was clear, concise, and easy to understand.
 - a. Agree
 - b. Disagree
 - c. Neither agree or disagree

3. The pretest and posttest questions reflected the material that was presented throughout the education intervention.
 - a. Agree
 - b. Disagree
 - c. Neither agree or disagree

4. This education intervention improved my knowledge of providing care to patients during the final days and hours of their life.
 - a. Agree
 - b. Disagree
 - c. Neither agree or disagree

5. In the future, I would like to receive additional end of life continuing education.
 - a. Agree
 - b. Disagree
 - c. Neither agree or disagree

Please feel free to provide any feedback or comments about this education intervention...(what you liked, what needs to be improved, etc.)

Thank You Again for Your Participation!!

APPENDIX I

RESEARCHER'S ATTEMPTS TO OBTAIN INDIVIDUAL DATA

Researcher's Attempts to Obtain Individual Data

Date of communication	Communication contact	Nature of communication–conversation
May 22, 2015	S.S. (Clinical Education Coordinator)	S.S. stated she will have to call the software vendor and directly request access to the individual data.
June 16, 2015	S.S. (Clinical Education Coordinator)	Follow up: S.S. stated she has not yet contacted the software vendor. She requested the researcher wait an additional week, as the software vendor is updating their program and offering additional reporting features. Following completion of the upgrade, she will attempt to retrieve the reports displaying the participants' individual data.
July 8, 2015	S.S. (Clinical Education Coordinator)	S.S. informed the researcher that the software vendor delayed the upgrade and consequently she is still unable to obtain the individual data.
July 9, 2015	Software Vendor's Customer Service Representative (a)	Researcher inquired about software vendor's reporting features and ability to access participants' individual results. Researcher was informed that the "software program isn't designed to record or report participants' individual results and responses as it is the company's belief that these findings should remain private to the student."
July 10, 2015	Software Vendor's Customer Service Representative (b)	Researcher requested additional information and clarification. Representative reiterated similar response stating, "the individual data is not recorded and can't be retrieved." Researcher asked how the software program is able to report aggregate data without having individual data and the representative explains, "the program uses the individual data but does not record or report it"
July 14, 2015	Dr. Christina Sieloff (researcher's chair/advisor)	Researcher informed Dr. Sieloff of the issues accessing the participants' individual data via software program.
July 21, 2015	R.T. (Software Vendor's Corporate Office); Software Vendor's Customer Service Representative (c); and L.W (Montana's Software Vendor's Operations Specialist) (a)	On behalf of researcher, Dr. Sieloff called the software vendor's corporate office and left a voicemail message for R. T. to further inquire about the existence of a database containing the individual data from which the aggregate data is derived. Additionally, Dr. Sieloff spoke with another Customer Service Representative for the software program and receives similar response to those received by the researcher. Dr. Sieloff was provided with the contact information of L.W., who is the software vendor's Operations

August 4, 2015	L.W. (Montana's Software Vendor's Operations Specialist) (a)	Specialist for the state of Montana. Dr. Sieloff calls L.W. and left a voicemail message requesting a return phone call. L.W. returned Dr. Sieloff's call and encouraged her to have researcher send an email with additional information required to determine whether the participants' individual results for this study can be obtained. Researcher sent email containing the requested information to L.W.
August 13, 2015	M.C. (Montana's Software Vendor's Operations Specialist) (b)	Researcher received an email from M.C., another one of the software vendor's Operations Specialist serving Montana. Email states, "It appears this data (participants' individual data) can be made available to you...the down side is there is a fee associated and it will take up to three weeks (to receive)." Researcher spoke with chair and decided to proceed with descriptive analysis, due to the financial and time constraints associated with the study.
