Importance of Certified Nursing Assistant (CNA)s Knowledge in End of Life (EOL) Care for a Hospice Patient

Aneesh Remaniravi

Hawaii Pacific University

Abstract

Background: Hospice services offered by Certified Nursing Assistant (CNA)'s play a critical role in resolving most of the concerns raised by elderly patients and their families, for instance, their knowledge with regards to End of life care (EOLC) and comfort measures. Research has identified that education about EOLC helped CNAs in improving patient understanding, thus improving their health outcomes.

Purpose: The purpose of this study was to identify and assess the knowledge of EOLC among hospice CNAs and how education about end of life care improved their knowledge and skills in their care of the elderly in hospice and Care homes in Honolulu, Hawaii in 2020

Methods: Quasi-experimental pre-post design was used to answer clinical questions. A sample of 12 CNAs recruited from the hospice agency in Honolulu, Hawaii, was included. The CNAs underwent an EOL education and their knowledge was assessed immediately after the education session and after 4 weeks of the session. Data were analyzed through repeated measures ANOVA.

Results: There was a significant mean difference in knowledge of EOL from pre-intervention (M = 14.33, SD = 1.723) to post-intervention (M = 16.58, SD = 2.065), Z = -2.329, p = .020. There was a significant mean difference in skills delivery from pre-intervention (M = 119, SD = 7.045) to post-intervention (M = 135, SD = 8.432), Z = -3.062, p = .002.

Conclusions: The current project evaluated the effectiveness of EOL care education intervention in improving knowledge and skills in delivering care. The findings indicated that the educational intervention program was effective in improving the knowledge and skills in delivering quality care. Inadequate knowledge and skills gap are a notable challenge among many CNAs providing end of life care in nursing care systems, which have been addressed through the education program. Major limitations of this study related to the data collection being in only one facility, limiting the ability to generalize to other nursing homes, and the small CNA sample size (N = 12)

Keywords: Certified nursing assistants, End of life care, Hospice care, Elderly patients

Table of Contents

Chapter 1: Introduction 1
Background of the Project 2
Problem Statement 3
Purpose of the Study 4
Advancing Scientific Knowledge 4
Theoretical framework 5
Unfreezing 5
Moving or change 5
Refreezing 5
Application of Lewin's Change Management Theory on EOL Setting 6
Unfreezing stage 6
Moving stage 6
Refreezing stage 6
Rationale for Methodology 7
Nature of the Project Design 7
Design 7
Sample/setting 7
Procedures 8
Instruments 9
Data Analysis 10
Definitions of Terms 10
Assumptions, Limitations, and Delimitations 11
Organization of the Remainder of the Study 14
Chapter 2: Literature review 15

Background of the Problem 15
Literature Search Strategy 16
Review of the literature 17
CNAs Attitudes on home-based hospice care 17
CNAs knowledge and practice in home-based hospice care and small care homes 19
Summary of the theme 20
Education and training of CNAs on EOLC 20
Summary of the theme 23
Evidence-based practice for CNAs in EOLC 23
Summary of the theme 25
Improvement of knowledge and skills for CNAs 25
Improved and quality end of life care hospice services 26
Indicators of an improved quality end of life care in hospice 28
Summary of the theme 30
Time for CNAs certification and Continuing education programs 30
Summary of the theme 32
Overall Summary 32
Chapter 3: Research Methodology 35
Introduction 35
Statement of the Problem 36
Clinical Question(s) 37
Project Methodology 38
Project Design 38
Nature of the Project Design 38
Sample/ setting 38

Recruitment 39
Population and Sample Selection 39
Instrumentation 40
Data Collection Procedures 40
Data Analysis Procedures 41
Ethical Considerations 41
Limitations 42
Summary 43
Chapter 4: Data Analysis 45
Descriptive Statistics 45
Summary 49
Chapter 5: Discussion, Conclusions and Recommendations 50
Summary of Findings 50
Discussion of Findings 50
Conclusions 51
Implications for Theory and Practice 51
Limitations of the Project 52
Recommendations for Further Studies 53
References 54
Appendices 70
Appendix A: Informed Consent Document 70
Appendix B: Invitation for CNAS to Take Part in the Research Study 72
Appendix C: Nursing Assistant Knowledge Assessment Questionnaire 73
Appendix D: Nursing Assistant- Self-Evaluation of End of Life Skills 77

List of Tables

Table 1. Descriptive statistics: Length of Experience……..48

Table 2. Descriptive statistics: Racial Distribution ……49

Table 3. EOL Knowledge score..... 49

Table 4. Statistical tests for knowledge of EOL 50

Table 5. EOL Skills score..... 51

Table 6. Statistical tests for skills delivery of EOL care..... 52

List of Figures

Figure 1. Years of Experience 45

Figure 2. Distribution of race 46

Chapter 1: Introduction

Hospice care has proven relevant to people, especially during the end of life. The states and national government have recognized the essence of hospice care, with these services being regulated across the United States. Medical centers in the U.S. are conducting numerous clinical trials showing the benefits of hospice care and hospice services are covered by various insurance companies such as Medicare and conventional insurance companies like Aetna (Hughes & Smith, 2014). Additionally, there were approximately 15,650 certified end-of-life care (EOLC) facilities in the U.S. By 2012, these facilities had majorly attained optimum occupancy at 83% with about 1.38 million occupants with 1.2 million of them above 65 years as of 2013 (Westermann, Kozak, Harling, & Nienhaus, 2014).However, some patients and their families prefer getting hospice care services in the comfort of their homes.

Statistics indicate that 66% of patients in hospice care receive care at their homes (Lysaght Hurley et al., 2015;WesleyLife, 2014). Certified Nursing Assistants (CNAs), through doctors' orders, have a duty to provide these patients with the services that they might need for comfortable care at home along with items such as hospital beds, bandages, bedside commode, and the ordered medication. Moreover, Certified Nursing Assistants (CNAs) responsible for care of hospice patients need to have sufficient knowledge and skills required to handle them at the end of life.

Woodhead, Northrop, and Edelstein (2016) noted that the percentage of residents who require assistance in two or fewer activities in End of Life Care at 25%, whereas 75% require aid in three or more activities. By 2020, it is forecasted that almost 40% of elderly adults will die in an EOLC facility (Etkind et al., 2017). Hospice services are very critical to EOLC residents as they are aimed at caring for as opposed to the curing of the dying (Wilmont, 2015). Approximately 89.4% of EOLC settings offer some type of hospice services, and almost 78%

have contracted hospice providers (Zimmerman et al., 2016). Nonetheless, across all settings and grounds of death for elderly, only 43% of the elderly have utilized hospice services on the verge of their deaths (Falk, Baigis, & Kopac, 2012). Whereas there are numerous concerns that arise among the elderly, the most pertinent entail pain management, end of life communication, and participation in treatment choices (Chi, 2017).

The most critical concerns among Certified Nursing Assistants (CNAs) are pain and symptoms management more so pertaining to rules revolving around morphine, likely dependence to pain prescription, and probable side effects such as shortening of life (Waldrop & Nyquis, 2011). Additionally, CNAs have a duty to make their elderly clients comprehend what to expect from their ailment and their imminent demise (Apperson, 2015).

This project was conducted as a pre-test post-test format. CNAs were provided a pre-test, then an educational session, and a post test immediately after the session and after 4 weeks did another post-test. After completion of the education program, the CNAs exposed to the program were tested to assess if there were notable changes in their attitudes, knowledge, and skills towards giving EOLC. The purpose of the project was to develop some clinical guidelines from the knowledge of CNA's to improve the care delivered by the CNA'S, which eventually helped the organization. A survey conducted indicated that there were low EOL knowledge scores among CNAs, which needs to be addressed for quality improvement (Unroe et al., 2015). The study was conducted in Hospice Hawaii, a non-profit organization.

Background of the Project

End of life (EOL), normally deemed to be six months prior to a person'death, can be a challenging period for both elderly people and their loved ones. Past research by Zimmerman et al. (2016), MacArtney et al. (2016), and Gélinas (2016) indicated that the management of pain and symptoms has been proven to be a major worry among terminal patients, their families, and

medical practitioners. The patients tend to fear the pain they believe they will suffer prior to their actual demise.

Another pertinent apprehension in the study entailed the elderly's quest for knowledge, in comprehensible terms, their expectations from their sickness, and their impending demise. Elderly terminal patients are worried about their illness progression, their body changes, and the happenings surrounding their death (Westermann et al., 2014; Atkin, Vickerstaff, & Candy, 2017). However, medical practitioners have, in the past, failed to furnish their elderly patients with the information with the intention of conserving hope and nursing professionals demonstrate discomfort in discussing death (Parry, Land, & Seymour, 2014).

Furthermore, the elderly may, in some instances, be under-informed regarding the different end of life alternatives available to them. Despite their profound concern in participation with the end of life treatment choices, they are afraid that their inclinations and request will be neglected (Miller, Lima, Gozalo, Mor, 2010; McHugh et al., 2018). Hospice services offered by CNAs play a critical role in resolving most of the concerns raised by elderly patients and their families, especially in the area of their knowledge with regards to EOLC and comfort measures.

Problem Statement

This study aimed at comprehending EOL care by CNAs within the hospice services context coupled with their perspectives on how their resident patients assessed the services. More explicitly, this study examined how the knowledge level of CNAs affected the care delivered by them and how comfortable they were to take care of a dying patient. The deficiency of knowledge among CNAs, to a large extent, affects the quality of care. Research by Mitchell (2013) revealed that CNAs experienced anguish over some decisions arrived at the EOL. For instance, some CNAs suffered when residents failed to be tube-fed while in their incurable

phases of the illness; various respondents believed that the residents were being starved to death (Waldrop & Nyquis, 2011). Numerous CNAs seem to be confused and lack rudimentary information regarding the expressions, “palliative care,” “comfort care,” and “hospice.” Some appear to perceive hospice as less care compared to possibly proactive care targeted at keeping residents comfortable. Very few CNAs can define the part played by the hospice in the nursing home setting. Generally, CNAs reveal that they are content to offer care during bereavement; nonetheless, a handful of them defined learning to execute post-mortem attention in a “sink or swim” environment, which respondents deemed extremely upsetting (Chen, Chow, & Tang, 2018).

Purpose of the Study

This pretest-posttest quasi-experimental study aimed at identifying and assessing the knowledge of EOL care among hospice CNAs and how education about end of life care improved their knowledge and skills in delivering that care. The purpose of this study was to identify and assess the knowledge of EOLC among hospice CNAs and test the hypothesis that EOL education improved their knowledge and skills in their care of the elderly in hospice and Care homes in Honolulu, Hawaii in 2020.

Advancing Scientific Knowledge

Numerous healthcare organizations have employed the change management theory by Kurt Lewin (1951) to comprehend human conduct pertaining to modification and struggle against change patterns. The model entails three distinctive stages: unfreezing, moving, and freezing. The prototype is aimed at recognizing variables that can obstruct change (Rack, Dudjak, & Wolf, 2011). Two types of forces exist change-opposing forces, normally termed as restrictive or ‘inert forces’ and those that stimulate change called ‘dynamic forces’ (Shirey, 2013). The moment health care facilities fully comprehend that practices either stimulate or

contradict change; they can work to reinforce the optimistic, motivating forces, effective change can transpire.

Theoretical framework

Kurt Lewin's change theory provided a framework for this study. Lewin's theory suggests that change occurs in three stages: unfreezing, moving, and refreezing (Kamizki, 2011). Lewin stated the key to change, whether individual or in a group, was a painful process of unlearning without loss of identity, and relearning by restructuring one's thoughts, perceptions, feelings, and attitudes (Kucienski, 2017).

Unfreezing

According to Lewin's first stage in the process of changing behavior, is to unfreeze the existing situation. Unfreezing is essential to overcome the strains of individual resistance and group conformity. Unfreezing can be achieved through encouraging participants by preparing them for change, build trust and recognition for the need to change, and actively participate in recognizing problems (Kristonis,2005).

Moving or change

The second stage in Lewin's theory is moving to a new change. The second stage involves a process of change that happens in feelings, thoughts, and behavior. It is considered a difficult stage because, in this stage, the people involved are convinced that the current policy is not a beneficial and the new way is better (Kaminski, 2011). After analyzing the present situation, new processes and structures are employed to achieve the desired change (Kaminski, 2011).

Refreezing

The last stage of Lewin's change theory is refreezing. The purpose of refreezing is to stabilize the new equilibrium resulting from the change by balancing both the driving and restraining forces (Kristonis,2005). This stage consists of establishing the change as a new

standard and frozen in place to guarantee that they become part of normal working procedures. It is established through supportive mechanisms like policies, support, and rewards (Kristonis,2005).

Application of Lewin's Change Management Theory on EOL Setting

Unfreezing stage

During the phase, round-table deliberations are undertaken with the goal of discovering the limiting and driving forces aided in seeking out obstacles that may require overcoming. The mentioned project may encounter some limiting factors such as personnel resistance to change and utilize the knowledge in their daily encounters with the patients (Manchester, Gray-Miceli, Metcalf, Paolini, Napier, Coogle, & Owens, 2014). Motivating powers would be factors that would assist moving the task to a conclusion, for instance, the new skills that are acquired from the class, improved likelihood for efficiency and user-friendliness, and backing from top management (Sutherland, 2013).

Moving stage

This phase denotes the duration of real adjustment, entailing the design and execution phases of the scheme. Spetz, Burgess, and Phibbs (2012) validated the vigorous involvement of CNAs to instill a form of entitlement of the project's success. Some consideration areas in the facility are training requirements, operationalization timelines, workflow effects, as well as the culture and leadership styles of the organization.

Refreezing stage

This ultimate phase entails the "stability and evaluation" period that proceeds the changed practice. Continued support of CNAs occurs as well as technological backing to all participants until the modification is considered comprehensive, and all handlers are conversant with the know-how (Mitchell, 2013).

Rationale for Methodology

This project used a 24-item EOL care knowledge questionnaire known as the nursing assistant knowledge assessment instrument in measuring EOL knowledge. The instrument was developed by Ersek, Grant Kraybill (2005), who later permitted it to be implemented by the Hospice and Palliative Nurse Association (HPNA) at the close of their training units. After the pre-test, an education session was conducted, and a post-test was done after the class and after four weeks. Previous studies undertaken on CNAs and EOL care have proven that there exists a shortage of palliative care (P.C.)-oriented knowledge among health experts (Ersek, Grant, & Kraybill, 2005). Using the theoretical framework of Kurt Lewin's Change Theory, the three step process of planning, implementing and evaluating change will help the project keep its focus on both limiting observer biases and extending knowledge based on feedback. The proposed project will use a one group pretest-posttest design due to the complexity of the results and type of data sought.

Nature of the Project Design

Design

The research study employed a quasi experimental design with self-reported questionnaires being the pioneer of hypothesis generation.

Sample/setting

The study was conducted in hospice in Hawaii, which is a hospice agency in Honolulu. Additionally, CNAs were recruited to the agency and trained more on the effective delivery of hospice care services. The facility offers home health services and has a care home for hospice patients. Moreover, the CNA recruits were required to offer home health services to hospice care patients and also offer services to small care homes in the agency. The recruited CNAs were trained in two locations that are in the hospice Hawaii care home and other during staff training.

New CNAs will be at liberty to participate so long as they are recruited within the research period.

Recruitment

The CNAs were recruited after approval was obtained from the IRB. The consent was used to enlist respondents by welcoming them to participate in the research and clarify the study objective. The letters were disseminated through facility mail during CNA paycheck distribution.. The managerial staff also announced the study during personnel gatherings and training periods. The recruitment consent forms (Appendix A) openly declared that the involvement was entirely voluntary, and the decision of the CNAs to either take part or not did not influence their employment. Certified nursing assistants who were interested in contributing to the study were requested to contact the researcher at the email or phone number availed (See Appendix B).

Procedures

Before commencement, the respondents were requested to sign the consent form followed by the formulated questionnaires. To guarantee anonymity, the consent form was gathered and deposited separately from the other study forms. After signing the consent forms, the participants were given questionnaires, which they were requested to complete.

Further, on open-ended questions, the participants were requested to be as descriptive as possible. The questionnaires distributed were the primary method of data collection used in the study. The CNAs attended the presentation after filling out the questionnaires and answered the post-test questionnaires. Moreover, the CNAs knowledge was assessed after 6 weeks using the same questionnaires. A room was designated for volunteers, and refreshments offered in appreciation of their involvement. Coffee/tea and pastries were offered in the sessions. CNAs

were not paid for their contribution. Some of the sessions were rescheduled in case of any eventualities, such as staffing challenges.

Instruments

The tools entailed a data collection tool developed by the researcher that included demographic data such as experience period as a CNA, main language, and ethnicity. The actual identities of respondents were hidden by concealing their real names. Efficacy in offering EOL care was assessed using a 14-item, self-assessment tool (See Appendix D) formulated by Ersek (2005) for the PERT project, after attaining her approval. The nursing assistant self-evaluation of end-of-life skill measure employed a measure of 0 (not at all effective) to 10 (very effective). The scales were fashioned in adherence with PERT program goals. The next step entailed computing the mean of all items and allocating an array of 0 to 10 as summary scores. The higher the score, the superior the confidence of CNAs EOL capabilities. The CNAs scale's alpha reliability coefficient was set at 0.7.

A 24-item EOL care knowledge questionnaire (See Appendix C) known as the nursing assistant knowledge assessment instrument was employed in measuring EOL knowledge. The instrument was developed by Ersek (2005), who later permitted it to be implemented by the Hospice and Palliative Nurse Association (HPNA) at the close of their training units. The tool contains wide-ranging multiple-choice questions across key features of EOL care. The questions were formulated based on reputable standards for test creation. The writers established a network to align inquiries with aims of the course, thus guaranteeing that the tests mirrored the complete array of project subjects. The PERT elective solution test was appraised by a learning specialist and funneled by CNAs from a single facility. The Kuder-Richardson formula (KR20) was the statistics employed in assessing the internal reliability of the EOL knowledge exams, where it scored an impressive KR20 score of 0.7.

Data Analysis

The study used descriptive statistics, for describing the sample. Moreover, to determine if the class was successful in increasing the knowledge and skills in delivery of EOL care of participants, the researcher performed a repeated-measure ANOVA using the pre- and post-program scores. Prior to conducting repeated measures ANOVA, the assumption of normality was assessed where violations led to the use of an alternative test, Friedman's test. Post hoc analysis was conducted through Wilcoxon signed rank test. The inferences were made at .05 significance level.

Definitions of Terms

Certified Nursing Assistant (CNA). A CNA is a health para-professional that assists residents or patients in end-of-life or hospice setting under the direction of a Registered Nurse (RN) or a Licensed Practical Nurse (LPN) (Al Qadire, 2014). A CNA may also be called a Patient Care Assistant (PCA), A Nursing Assistant (NA), or a State Tested Nurse Assistant (STNA). Every state has its unique range of practice for CNAs, as well as a specific code of conduct, State of Hawaii uses the term Certified Nursing Assistant.

End of life care. This is dynamic, empathetic care aimed at consoling, treating, or supporting people who are suffering from life-threatening diseases (Hagelin et al., 2016). EOL type of care is sensitive to individual, spiritual, and cultural values and comprises support for friends and families in the periods before, during, and after the demise.

Hospice care. This type of care is designed for individuals suffering from terminal illnesses that are either incurable or the patient may forfeit undergoing their treatment. Similar to palliative care, hospice offers all-inclusive wellbeing for the patient, coupled with support for loved ones (Grubb & Arthur, 2016). However, in hospice care, efforts to cure the individual’s illness have already been halted, and a physician has already established that the patient has only twenty-four

weeks or less of life if the illness adheres to its natural trajectory. Hospice care can be provided in two types of locations: home setting or in a facility, for instance, an infirmary, nursing home, or assisted living facility.

Palliative care. This type of care is applicable to patients with forms of terminal illnesses whose probability of recovery is quite low. Despite the importance of controlling pain among other symptoms, palliative care focuses on the individual in entirety, including their general sense of welfare coupled with their physical situation (Henderson, Rowe, &Watson, 2016). The objective of palliative care is to attain the optimum quality of life for patients and their loved ones, despite their remaining length of time on this earth. Palliative care touches on four key elements of need that emanate during the end of life, both when the death emanates from severe illness and the natural 'system shut-down' that occurs to older people.

The needs are:

- Physical that entails tending to symptoms varying from pain to weariness, sickness, or appetite loss. It also entails 'tender loving care (TLC),' for instance, stopping pressure sores.
- Psychological that entails offering passionate support to the occupant and their loved ones by offering a listening ear and comprehending their worries.
- Social that entails providing support and guidance on practical problems, for instance, solving any impending family feuds.
- Spiritual entails a necessity to discover opinions regarding the meaning of life or anxieties on post-death happenings.

Assumptions, Limitations, and Delimitations

Assumptions. Assumptions are the beliefs that are supposed to be true but cannot be tested empirically (Marshall & Rossman, 2016). This project assumed that the invited CNAs honestly

responded to the questionnaire without individual bias. In addition, this project assumed that the CNAs showed a sincere interest in participating in this project and worked towards ensuring that the project was successful. This assumption was made due to the human nature of resistance to change. The project also assumed that the contracted CNAs had been working in a hospice care as well as interacted with elderly patients in hospice services.

Limitations. The existing literature in the study of hospice in EOL care depicts some noteworthy limitations, among them being the dearth of information. Although a considerable amount of research has been undertaken concerning EOL, partial research has been carried out on hospice and EOL within long-term care (LTC) or nursing home settings (Cornally et al., 2016). Additionally, most of the existing research is older, having been undertaken in the 1980s and 1990s. This was probably triggered by the inclusion of hospice services as a Medicare benefit during that era. Consequently, a survey done on 18 long-term care experts across 15 countries indicate that specialized EOL services are largely obsolete and concentrated on practices probably already phased out, not putting into consideration the current information and teaching attained within the field (Wallace et al., 2017).

Another inadequacy is the effective description of hospice. Hospice services can be offered anywhere an individual opts to access their EOL care. In the prevailing studies, hospice services offered in different locations, for example, inpatient and home hospices, are usually analyzed in unison, or there lacks a reference of setting altogether (Greiner, Perera, & Ahuwalia, 2003; Connor, Pyenson, Fitch, Spence, & Iwasaki, 2007; Han, Remsburg, & Iwasyna, 2006). This limitation makes it impossible to establish the impacts of hospice within a certain setting, for instance, a nursing home. The major share of hospice services are provided through home hospice agencies, and the focus of the study will be in the service delivered by the home hospice agency.

To worsen matters, hospice is also in some instances categorized as being a component of palliative care (Meier, 2011), being equivalent to palliative care (Nilsson et al., 2009; Bakitas et al., 2009), and in some instances being different from palliative care (Temel et al., 2010; Scheffey et al., 2014). These diverse descriptions and joint settings do not support an in-depth examination of hospice services in a specific home hospice setting.

Another critical limitation is the fact that the respondents of numerous previous research are from family members of occupants through interviews and surveys regarding EOL and hospice experiences of their kin normally after the death has taken place (Casarret et al., 2008; Oliver et al., 2014; Dryer, Fodee, & Nortvedt, 2009, Kirkendall, Holland, Kenne, & Luna, 2014). Probing family members may lack the desired efficacy in gaining knowledge of life and hospice, due to the charged atmosphere and feelings proceeding the demise (Wright et al., 2010), their restricted interaction with the kin of the patient in the verge of demise (Port et al., 2001), and probably their overall restricted involvements with death. Another limitations of this study related to the data collection being in only one facility, limiting the ability to generalize to other nursing homes, and the small CNA sample size (N = 12). Deziel (2018) note that a small sample size reduces the statistical power of research as it increases the margin error, and as a result, make the study possiblybe presumed as meaningless.

Delimitations. Delimitations are the attributes derived from the limitations in the scope of the project and determine the inclusionary and exclusionary decisions developed during the project plan period (Simon & Goes, 2013). Besides, generalization was not a notable challenge in the project as it addressed a particular problem in the community care facility in the hospice agency in Honolulu, Hawaii (Simon & Goes, 2013). The project also ensured that participants must be CNAs working in the hospice agency and care facility of the elderly near the end of life or

patients and family members in bereavement from the death of a loved one. The location of this project was in a hospice care facility in a hospice agency in Honolulu, Hawaii.

Organization of the Remainder of the Study

Despite the increasing role of the CNA as a provider of EOL care, the training in the specialty area has failed to keep up to the specifications of basic care. Nonetheless, there still exist prospects to improve EOL care, for instance, through changes in education policy, heightened financing for informative courses, as well as hospice certification for CNAs. The advanced practice nurse (APN) is well placed to affect the value of EOL care via strategy ingenuities, for instance, supporting curriculum variations for CNA basic learning as well as EOL specialty certification.

The formulation of evidence-oriented procedures for EOL care is another critical policy initiative. APNs can also advocate for continued and improved financing for long-term care aimed at satisfying the expanded training needs of CNAs. Further research also needs to be undertaken on how the cultural and religious beliefs of CNAs have influence EOL care. It is imperative that patients, families, and CNAs appreciate the reality that the American philosophy is rich in variety, and hence portray admiration for one another’s uniqueness.

Chapter 2: Literature review

Background of the Problem

There is a rapid growth of the elderly population in the United States, More than 80 percent of hospice beneficiaries are over age sixty-five, and more than one-third are over eighty-five. Healthcare personnel such as certified nursing assistants, therefore, need to be prepared to handle the aging population, especially during the end of life (Malik & Chapman, 2017). Lippe, Volker, Jones, and Carter (2017), note that the majority of CNAs feel that the formal education they receive at school does not fully prepare them to competently offer end of life care services for both the patients and their families. Despite insufficient knowledge, further studies indicate that certified nursing assistants provide direct care and are responsible for care in about 1.5 million nursing homes in the united states (Squillace et al., 2009). CNAs in hospice care have an obligation of ensuring that the patients in hospice care live the best and comfortable life possible until death. The National Hospice and Palliative Care Organization (2019), states that hospice care is usually meant for the improvement of the quality of life of the dying patient and not for extending life.

Further, hospice serves the purpose of educating and counseling patients and their families on issues of death and dying, thus preparing them for death (National Hospice and Palliative Care Organization, 2019). As a result, hospice care is a crucial field that needs qualified and knowledgeable CNAs for them to deliver the desired outcomes.

Further, hospice care has evolved, and many patients have opted to shift from hospitals to homes. Studies indicate that 20% of the people receiving the end of life care die in nursing homes (Anstey et al., 2016). The National Hospice and Palliative Care Organization (2019), notes that patients at the EOL usually feel that they will receive quality care in the hands of their loved ones at home rather than staying in nursing homes. CNAs are under the guidance of registered

nurses, and they have a duty of providing routine home care for patients receiving home-based care to ensure that the patients and families feel that they are supported throughout their end of life journey (Berry, Connor, & Stuart, 2017).

Several studies have raised the issue of inadequate knowledge and skills for certified nursing assistants who were offering end of life care (Unroe et al., 2014; Wang et al.,2018; Kim, Chung, & Xu, 2009). To improve, knowledge, and skills among CNAs it important to understand why CNAs involved at the end of life care feel that they have inadequate knowledge to deliver competent services, how they perceive serving EOL patients, and the possible interventions that would improve these conditions. Further, there is also insufficient literature describing home-based EOLC and patients receiving EOLC in small care nursing homes.

Literature Search Strategy

The literature used in this study was obtained from peer-reviewed journals that were published between 2004 and 2019. However, scholarly articles will be reviewed to support the foundation of this study. Several articles were found; however, only 50 studies were used in the study based on the inclusion criteria that is their relevance to the research question. The articles were searched in several online databases, which include PubMed, Google Scholar, National Hospice and Palliative Care Organization Hospice database, JSTOR, Science Direct, MEDLINE, EBSCOhost, CINAHL, and Nursing and Allied Health Care Database. Additionally, other hospice care-related websites were searched, such as the National Hospice center, Palliative Medicine, and Health and Wellness Resource Center. The research topic was used to search relevant articles as well as the use of keywords that are relevant to the topic, for example, hospice care, certified nursing assistants, end of life care, home-based hospice, and nursing homes.

Review of the literature

CNAs Attitudes on home-based hospice care

Certified Nursing Assistants in hospice serve the purpose of improving the health outcome of their patients. Unroe et al. (2014) conducted a survey to describe and investigate the attitudes that certified nursing assistants had towards hospice care. The survey was conducted on 1229 CNAs in 52 different nursing homes in Indiana. The responses from the three open-ended qualitative prompts and six scaled questions indicated that 84% of CNAs felt that a patient's family contributes to added care and health of the patients. Additional results indicated that 54% of CNAs felt that offering hospice care in patient's homes made their job easier than while treating them in nursing homes (Unroe et al., 2014).

Mohlman, Dassel, Supiano, and Caserta (2018) conducted another study to examine attitudes and experiences of certified nursing assistants while providing end of life care in an assisted living facility. The study was done by involving CNAs in a 30-minute focused group discussion. The purpose of the discussion was for the CNAs to discuss their educational needs and experiences regarding EOL care. Results from this study indicated that 70% of the CNAs who participated in the study did not feel prepared for the provision of end of life care.

A structural equation study was conducted by Wang et al. (2018), to explore the factors that influenced work-related morale for CNAs in hospice care. The study was done on 413CNA in Taiwan from five different hospice units. The findings from the study indicated that the perceptions of deaths as well as the level of altruism while hiring CNAs were something that needed to be assessed. Additionally, the study concluded that the CNAs that portrayed high levels of altruism had a positive attitude towards death and focused more on the well-being of their patients . Moreover, the study indicated that high levels of altruism resulted in increased work involvement as well as a commitment to the challenging work of hospice care .

Cagle et al. (2017) conducted a survey to examine the staff perspectives and experiences that were related to caring for EOL patients. The survey was done with 707 staff working at 52 nursing homes in Indiana. Moreover, the study did a thematic analysis using the constant comparative method to come up with a conclusion . The results of the study categorized the experiences of the staff into three categories, namely first-hand experience, observed experiences of family members, and observed experiences of the EOL patients (Cagle et al., 2017). Further findings from the study indicated that CNAs providing EOLC experienced positive experiences such as good communication, close bonds with the patients and family members, and feeling prepared to get involved in hospice. Conversely, other findings indicated that CNAs reported negative experiences such as unacknowledged death, family absenteeism, uncertainty and helplessness, and painful emotions (Cagle et al., 2017). Therefore, the findings obtained in the study could be helpful to the registered nurses as they would understand the challenges that the CNAs were facing and thus help them through it.

Certified nursing assistants view home-based hospice as a way of improving the quality of life of the patients at the end of life. A comparative cross-section study was done to evaluate the home-based hospice and palliative care program in a community health center in Korea (Kim, Chung, & Xu, 2009). The study was conducted with the purpose of evaluating the effects of home-based care hospice, especially in terms of health care utilization and the quality of life. The study selected 30 participants that were receiving care from a nursing home and 46 participants who were receiving home-based hospice care. The study measured the results through the Korean version of quality of life at the end of life surveys, the frequency of outpatient care, emergency room visits recorded within 6 months, and reports on the number of hospital admissions. Findings from the study indicated that participants who received home-based care had a high quality of life and recorded lower tendencies of outpatient visits as well as

emergency room visits than the ones receiving palliative care programs. The results of the study indicated that a home-based program was considered an appropriate model for patients at the end of life care to manage physical symptoms.

CNAs knowledge and practice in home-based hospice care and small care homes

A study was conducted to examine the understanding of CNAs about patients at the end of life (Halifax, Miaskowski, & Wallhagen, 2018). The study examined the time that the CNAs spent with their patients and examined their experience The study conducted interviews with 16 CNAs who were to give their experiences while caring for end of life patients who were in pain. Results indicated that the majority of the CNAs in EOLC were able to understand, interpret, recognize, and respond to the patients in pain. However, the study indicates that the CNAs could not differentiate between the normal pain that the patients had and the pain that needed to be reported to licensed nurses.

A qualitative study was done to examine the healthcare assistant's role and experience in pain assessment and management (Jansen et al., 2017). The study used key informant interviews with CNAs (14 participants were selected) to collect the information to complete the study. The participants had to have been involved in hospice care for 4 years. Further, the study adopted a thematic analysis to interpret data gathered in the interviews. Additionally, the results of the study were divided into three themes that are upskilling, recognizing pain, and reporting pain. The findings from the three themes indicate the tendencies of reporting pain for the CNAs depended on the relationship that they had with other professionals and to what extent they felt valued in their facility. Jansen et al. (2017), claims that the positive relationship between CNAs and other professionals handling EOLC resulted in comprehensive pain reports, while negative relationships resulted in ambiguous reporting. However, the CNAs involved in the study reported having the desire for further training and upskilling, especially on how to use basic pain tools.

The study indicated that pain management and pain assessment for people at the end of life care in a nursing home was a major challenge to CNAs. Jansen et al. (2017) noted that CNAs had challenges using observational pain assessment and they had difficulties using other pain assessment tools without seeking other collateral patient information.

Summary of the theme – CNAs Knowledge about EOLC

The theme presents the attitudes of CNAS on home-based hospice care as well as the knowledge and practice of CNAs on EOLC. Findings from different studies indicate that CNAs view hospice care as the main method of improving the health outcomes of the patients (Unroe et al.,2014; Kim, Chung, & Xu, 2009; Thompson, McClement & Daeninck, 2006). Other findings indicated that a positive attitude towards EOLC increased work involved in hospice care (Wang et al.,2018). On the other hand, during practice, CNAs seemed to face challenges such as low job satisfaction and low emotional well-being, which resulted in turnover intentions, and switching of jobs (Rosen, Stiehl, Mittal, & Leana, 2011). Further, findings indicate that inadequate training for CNAs resulted in challenges in pain management and pain assessment (Jansen et al., 2017).

Education and training of CNAs on EOLC

A study was done on educating and training CNAs on EOLC (Malik & Chapman, 2017). The study recruited CNAs from a long-term care facility in western New York (Malik & Chapman, 2017). The recruits were required to attend 45-minute training session/ education intervention for six times that focused on several topics of EOLC that were obtained from the Core Curriculum for the Hospice and Palliative Nursing Assistant. The study aimed at assessing the changes in knowledge and the learning needs identified during the survey. Results from the study indicated that there was a significant improvement in knowledge for certified nursing assistants who attended the training. Moreover, the study concluded that there was a need for education and training for CNAs providing EOLC. Further, the study concluded that education

and training were important as it could help the CNAs provide appropriate and effective care for the patients.

A study was presented by Ersek and Wood (2008), to describe a Nursing Assistant Computerized Education Program that was developed with the aim of providing and initiating a computer-based EOLC curriculum for certified nursing assistants. Ersek and Wood (2008) noted that their study had the aim of describing how the Nursing Assistant Computerized Education Program was developed and evaluated. As presented by Ersek and Wood (2008), there was a problem for CNAs in the preparation of end of life care, and staff developers recommended a continuing education program. Further, the Nursing Assistant Computerized Education Program (NACEP) was evaluated by 65 CNAs from various practice settings such as home health, long term care, and hospice agencies. The study involved the participants in a six hours study for six weeks. The participants underwent a knowledge assessment exam and clinical skills at the end of life care self –evaluation before and after being exposed to the program. The results obtained from this study indicated that the program was highly rated, especially in areas such as presentation and content. Further findings indicated that after undergoing the training, the CNAs portrayed an increase in their knowledge and skills when caring for EOL patients.

Sengupta, Ejaz, and Harris-Kojetin (2012) conducted a study to examine the findings from national data about the training of home health aides and nurse aides. The study used data from the National Nursing Assistant Survey and obtained 2897 CNAs participants and data from the National Home Health Aide Survey to obtain data for 3377 home health. The article examined the similarities and differences of the perceptions of certified nursing assistant on the education that they receive to prepare them for practice. The studies indicate that CNAs felt that the education they were receiving prepared them well for their jobs. On the other hand, the study indicated that home health aides felt that they did not receive sufficient information to prepare

them for their jobs. The study concluded that most of the CNAs believed that their training helped them in addressing the challenges that they faced while handling patients as compared to home aides.

Lerner, Resnick, Galik, and Russ (2010) conducted a study on an advanced nursing assistant education program. The program offered a training program for CNAs to supplement their basic education. The effectiveness of the program was done using a knowledge application and acquisition test. The results obtained from the study indicated a gap and need for future education on CNAs. The study indicated that CNAs are the least educated on issues of direct-care, yet almost 90% of them take care of the elderly in nursing homes. Lerner, Resnick, Galik, and Russ (2010), indicated that other supervisory workers in the nursing home felt that CNAs needed additional training to meet the complex needs that were required to give competent care for the nursing home residents. Further findings indicated that after the education program, there was a significant knowledge improvement for CNAs who attended the program. Additionally, the participants identified and expressed their desires for more education programs as they felt that it would enable them to enhance their caregiving skills. Further, the study concluded that advanced education programs would improve the quality of care offered to the patients and also increase job satisfaction for the CNAs.

Sengupta, Harris-Kojetin, and Ejaz (2010) conducted a study to investigate the training received by CNAs working in nursing homes in the United States. The study evaluated CNAs assessments report regarding the adequacy of the training they received . Further, the study examined the training needs that the CNAs felt they needed. Statistics indicated that 87.98% of the participants had received continuing education training two years before the study. However, the results indicated that CNAs might have received insufficient training regarding EOLC.

Summary of the theme - Importance of education and training of CNA's on EOLC

The theme presents education and training as an intervention measure to improve on the challenge of inadequate knowledge, skills, and training on EOLC. Findings from the literature in this theme indicates that there was a significant improvement of knowledge for CNAs who attended a training program (Malik & Chapman, 2017). Other findings indicated that the clinical skills of CNAs improved after being subjected to a computer-based EOLC curriculum as well as an electronically delivered learning module (EDLM) (Ersek & Wood, 2008). Further findings indicated that CNAs who were exposed to an advanced nursing assistant education program had improved caregiving skills and reported increased job satisfaction (Lerner, Resnick, Galik, & Russ, 2010). Additional findings indicated that the continuing education program resulted in increased nursing home indicators as well as increased work-life skills (Han et al., 2014; Sengupta, Harris-Kojetin, & Ejaz, 2010).

Evidence-based practice for CNAs in EOLC

A national nursing assistant survey was done to examine evidence-based policy initiatives for CNAs to strengthen the workforce delivered by CNAs (Squillace et al., 2009). The survey was done on 3017 certified nursing assistants working in 1500 different nursing homes across the United States. The study indicated that there was a need to develop and improve evidence-based initiatives to increase the likelihood of job satisfaction for the CNAs. Further, the study recommended that nursing homes and long-term care should adopt evidence-based initiatives to maintain the quality of services that they provide for the rampantly growing aging population.

A pilot study was done to investigate the evidence-based health promotion in nursing homes (Cadet et al., 2016). The study was conducted to determine how effective a psycho-educational intervention would be for CNAs. The study selected a group of CNAs and tested

from midsize nursing homes and conducted a survey test before and after the intervention. The study subjected the participants to a one-hour training intervention, which was supported by empirically using formative data. The results obtained from the findings indicated that the training enhanced the knowledge of CNAs, especially on oral health, as they showed a significant improvement in areas such as frequency of brushing and toothbrush positioning. Further, the study concluded that evidence-based health promotion was relevant as it delivered the desired outcome of promoting oral health for the patients in long-term care, including those at EOLC.

Melnyk, Fineout-Overholt, Stillwell, and Williamson (2010), presented an article that explored evidence-based practice and its different steps. The article had the purpose of providing CNAs the knowledge and skills they needed to implement evidence-based practice effectively and consistently, that is, one step at a time. Melnyk, Fineout-Overholt, Stillwell, and Williamson (2010), noted that when the evidence-based practice is delivered in a caring and supportive manner, it could result in the highest quality of care and best patients outcomes. The article describes that evidence-based practices through seven steps namely cultivating the spirit of inquiry, formulating clinical questions using the PICOT format, searching for the best evidence, appraising the evidence critically, integrating the evidence with clinical expertise together with patients values and preferences, evaluating the outcomes changes observed based on evidence, and finally disseminating the evidence-based practice results. The article argues that following those steps would result in an effective and sustainable evidence-based practice whose results could be notable to the organization.

Summary of the theme - Evidence based practice for CNA's in improving EOLC skills

The theme presents evidence-based practice for CNAs as a comparison intervention for improving knowledge and skills for CNAs at the EOLC. The finding obtained from the literature on this theme indicates that evidence-based initiatives resulted in increased job satisfaction (Squillace et al., 2009). Further results indicate that evidence-based health promotion resulted in increased knowledge for CNAs, especially in areas such as oral health (Cadet et al., 2016). Additional results indicated that evidence-based practice was considered the best practice to enhance nursing para-professional skills and knowledge (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010). Other findings indicated that evidence-based practice improved knowledge as it increased the CNAs interests to seek knowledge through the use of online research resources, research methods and research designs

Improvement of knowledge and skills for CNAs

The research was conducted by Parnell (2014) on the health literacy of nursing in end of life care. Parnell (2014), found out that there was a relationship between the knowledge and skills of CNAs giving EOLC and the outcomes of the treatment. Further, in her research, she discovered that outpatient, inpatient, and virtual care programs for CNAs improved patients care. Other findings from the study indicated that health literacy on the end of life care helped the CNAs to identify the needs of their patients in EOLC. Additional findings indicated that education helped CNAs in the transitions of care, especially for home-based services.

Another study investigated the perceptions of CNAs on end-of-life-care education placement in the nursing curriculum (Li, Smothers, Fang, & Borland, 2019). Further, the study was also aimed at investigating the nurse's experiences of previous EOL education or training. The study indicated that the students that receive EOL education reported having benefited from

the training. The findings from the study indicated that CNAs who had received EOL education felt ready and comfortable to provide EOLC after their graduation. Additional findings indicated that students felt that EOL education helped them to gain more insights regarding the key elements of palliative care. Moreover, other results indicated that EOL education helped students differentiate concepts such as the similarities of hospice care and palliative care and know the roles that they had to play in the different settings.

Improved and quality end of life care hospice services

Anstey et al. (2016) conducted a systematic review to identify the educational interventions to enhance the end of life care for nursing home staff. Additionally, the study also aimed at investigating the outcomes that indicated the success and benchmark of the educational intervention based on the guidelines for education on EOLC. The study searched 13 databases and reviewed 21 studies that had relevant information related to the research topic. The results from this study indicated that the CNAs that were exposed to the education intervention reported increased knowledge, skills, and confidence while delivering the end of life care services. Further, the study concluded that education intervention was urgently needed to improve the quality of end of life care.

Trinkoff et al. (2016) conducted a study to investigate the relationship between CNAs training requirements and resident outcomes in nursing homes in the United States. The study derived data from 15 508 nursing homes across the United States. The study compared the total training hours, the clinical and in-service hours, and compared the ratio of clinical hours to didactic hours. Additionally, the study measures the outcomes of the training using the quality indicators of weight loss, antipsychotic use, pain, depression, falls with injuries, and pressure ulcers. The participants of the study were stratified by the size of the facility, ownership status,

urban-rural status, and several Medicaid-certified beds. The results of the study indicated that more training hours resulted in better outcomes and quality care for the patients at the EOLC.

A qualitative study was done to investigate the relationship between staff knowledge and skills and the delivery of quality care for hospice patients (Tracy, 2013). The study involved examining the skills that CNAs possessed, the academic qualifications they possessed, and the time that they had worked in a hospice setting. Tracy (2013) noted that the knowledge and skills of CNAs were directly linked to increased quality of care in a hospice setting. The study concluded that poor decision making, incompetency, and inadequate interpersonal skills, and inadequate specialization resulted in poor care quality. As a result, the study concluded that emphasis is laid on educating and training CNAs to ensure that they give and deliver quality care to the patients.

A pilot study was done to examine the effects of using a computer-based simulation education program, specifically an interactive video simulator, to improve the performance of CNAs with nursing home residents (Tsai et al., 2018). The study investigated ways in which the simulation program affected CNAs, especially while dressing patients in EOLC. The study used an experimental and control group to obtain information from the participants. The study utilized a traditional educational program for one hour. Further, the participants from the experimental group were then subjected to the video simulator education program for two hours. The intervention was conducted for six weeks, and the results were measured. The findings of the study indicated the dressing performance of the CNAs exposed to the interactive video simulator increased by 0.89%. Further findings indicated that after undergoing the interactive video simulator program, the CNAs demonstrated an improvement in their levels of skills.

Indicators of an improved quality end of life care in hospice

Relief and ease

Marrelli (2015), examined a report that was released by the Department for Veterans in Venezuela. The report involved ways of transforming EOLC for veterans through the analyses of the concept of pain. Further, the report gave the required guidelines that would be used to gauge the significance of quality care for patients at the end of life care. Moreover, the report was intended to serve the purpose of determining the causes of poor provision of hospice services. The report concluded that relief of pain was an essential element that could be used to improve the quality of care in a hospice setting. Also, the report concluded that pain relief made EOL patients feel comfortable and thus experience a positive effect of hospice services. The findings from the report concluded that hospice settings ought to provide patients with qualified care at all costs.

A phenomenological study was conducted by Hatfield and Lovas (2014), examine how pain relief resulted in improved quality care in a hospice setting. The study distributed 12 questions for an in-depth interview. The results generated from the study indicated that knowledge related to hospice care determines the ability of the personnel to alleviate pain for their patients. Further, the study concludes that increasing education for healthcare professionals in hospice care, including CNAs, would increase the possibility of caring for patients in EOLC.

A study was done by Hill, Dempster, Donnelly, and McCorry (2016), indicated that CNAs providing EOLC had a role of alleviating any discomforts felt by the patient. Further, the study recommended that nursing homes needed to maximize on increasing their staff to a probable patient ration of 1:2 to ensure patients receive the required medical attention. Moreover, the study concluded that increased medical attention would result in improved pain relief. Furthermore, the study concluded that CNAs who portrayed the ability to relieve pain

practiced a holistic approach of treatment, which resulted in improved quality of care. Additionally, the study concluded that CNAs could improve the quality of care by making the patient feel at ease, therefore, indicating the ability to make the patient at ease at the best treatment program for patients at the EOL. Hill, Dempster, Donnelly, and McCorry (2016) concluded that making the patient at ease made patients feel that they will be well taken care of and are strengthened even in the worse state of their health.

Increased coordinated care and value-based care

A study by de Graaf et al. (2016), examined the characteristics and effects of value-based hospice care. The study indicated that value-based hospice care has notable characteristics such as the presence of adequate beds, presence of beds that are designed to provide maximum comfort for the patient, and presence of mobile chairs to help patients to have the ability to move around easily and comfortably. Additionally, the study stated that value-based hospice care is characterized by open communication systems as well as accessible patients' information. De Graaf et al. (2016) noted that open communication would have helped nurses and CNAs closely monitor their patients and take note of their progress and urgent arising issues that required their attention. Further, the findings from the study indicate that value-based hospice care ought to give patients and their families' easy and convenient means of seeking help such as access-out-of hour's services in cases of emergency, especially for the patients in home-based care. The study concludes that value-based care results in quality patient care and quality delivery of services.

Teno et al. (2015), conducted a study to analyze the hospice care system in the United States. The study found out that hospice care systems consisted of different programs that were interconnected and organized in a way that served the patient's needs. They noted that the hospice care setting was designed in ways that enabled a coordinated patient nursing care. The study highlighted that hospice care in the United States embraced coordinated care through

effective communication between patients and CNAs, which included both verbal communication and written communication. The study concluded that coordinated care was the backbone of quality care services in hospice care and that health staff could achieve this through enhanced managerial skills such as record keeping and crucial sharing of information. The study also concluded that failure to embrace coordinated care in hospice could jeopardize the quality of care given to the patients.

Summary of the theme – Importance of education in improving the quality of EOLC

The theme presents an improvement of knowledge and skills and quality EOLC services as the expected outcomes for embracing knowledge and training and evidence-based interventions. Findings from this theme indicate that education and training helped CNAs transition of care, especially for home-based services (Parnell, 2014). Additional findings indicated that education helped CNAs differentiate their roles in hospice care and palliative care (Li, Smothers, Fang, & Borland, 2019). Additionally, findings indicated that education helped in the improvement of medical skills thus helping students with knowledge in patient care practices and eventually better patient outcomes and better quality of care for patients at EOLC (Anstey et al., 2016; Trinkoff et al., 2016; Tracy, 2013; Tsai et al., 2018). Additional findings indicated that some of the notable indicators that demonstrated improved quality of EOLC after the inventions include relief and ease, transcendence, and increased coordinate care and value-based care (Marrelli, 2015; Hatfield & Lovas, 2014; Hill, Dempster, Donnelly, & McCorry, 2016; de Graaf et al., 2016; Teno et al., 2015).

Time for CNAs certification and Continuing education programs

Usually, individuals willing to pursue a certified nursing assistant program have to pass a competency skills exam as well as go through the state registration process (Registered Nursing

Organization, 2018). Additionally, most institutions must ensure that students pursuing a certificate program for nursing assistants have met the minimum hourly requirements as well as the required education requirements before certification. For enhancement of knowledge, CNA programs ought to offer prerequisite courses such as CPR, common medical terminologies, computer basics, end of life care, and the structure and function of the human body before enrolling the students to the CNA certificate program However, normally, a CNA certificate program entails two courses that is one that teaches on basic patient care (dressing, bathing, and feeding patient, catheter care) and another one which entails clinical externship (the practice of skills for example in nursing homes). The CNA certificate program is completed after going through 75 hours of training, which is the minimum training hours for at least 6 to 12 weeks, which is recommended a duration of training as required by the federal government. However, the duration of training differs depending on the state's requirements (Registered Nursing Organization, 2018). For example, Hawaii offers 130 hours of training for students to qualify to become CNAs.

However, after certification, CNAs are required to constantly enhance their education. CNA Training Help and Certification Resources, (2012), claim that continuing education is usually meant for staying up to date and well equipped with the current knowledge and techniques for quality patient care. The federal law requires that CNAs continuously advance their knowledge for at least 12 hours annually for them to qualify for a recertification. However, continuing education programs differ depending on the state, for example, California requires that CNAs take at least 24 hours of continuing education annually for recertification .Some of the continuing education programs that CNAs could take include infection control, patient's rights, avoiding medical errors, record documentation, current medical procedures (CNA Training Help and Certification Resources, 2012).

Summary of the theme - Time for CNAs certification and Continuing education programs

The theme demonstrated the time that could be used for education and training for CNAs. Findings from the literature review of this theme indicate that CNAs have the required hours for approved training before certification. Findings indicate that the federal government requires CNAs to train for a minimum of 75 hours that is 6-12 weeks before being recertification (Registered Nursing Organization, 2018). However, training varies depending on the state of residence (Registered Nursing Organization, 2018). On the other hand, the government recommends 12 hours of continuing education annually for CNAs to qualify for recertification (CNA Training Help and Certification Resources, 2012). However, other states such as California require CNAs to engage in 24 hours of the continuing program every year for reaccreditation (CNA Training Help and Certification Resources, 2012).

Overall Summary

The review of the literature was guided by the PICOT question, which helped search topics and categorized them into various themes. The first theme presents the attitudes of CNAs on home-based hospice care as well as the knowledge and practice of CNAs on EOLC. Findings from different studies indicate that CNAs and other nurses view hospice care as the main method of improving the health outcomes of the patients (Unroe et al.,2014; Kim, Chung, & Xu, 2009; Thompson, McClement & Daeninck, 2006). However, other findings indicated that the majority of the CNAs felt that they were inadequately trained to provide EOLC (Mohlman, Dassel, Supiano, and Caserta, 2018). Other findings indicated that a positive attitude towards EOLC increased work involved in hospice care (Wang et al.,2018). On the other hand, during practice, CNAs seemed to face challenges such as low job satisfaction and low emotional well-being,

which resulted in turnover, turnover intentions, and switching of jobs (Rosen, Stiehl, Mittal, & Leana, 2011). Further, findings indicate that inadequate training for CNAs resulted in challenges in pain management and pain assessment (Jansen et al., 2017).

The second theme presents education and training as an intervention measure to improve on the challenge of inadequate knowledge, skills, and training on EOLC. Findings indicated that the clinical skills of CNAs improved after being subjected to a computer-based EOLC curriculum as well as an electronically delivered learning module (EDLM) (Ersek & Wood, 2008). Further findings indicated that CNAs who were exposed to an advanced nursing assistant education program had improved caregiving skills and reported increased job satisfaction (Lerner, Resnick, Galik, & Russ, 2010).

The third theme presents evidence-based practice for CNAs as a comparison intervention for improving knowledge and skills for CNAs at the EOLC. The finding obtained from the literature of this theme indicates that evidence-based initiatives resulted in increased job satisfaction (Squillace et al., 2009). Further results indicate that evidence-based health promotion resulted in increased knowledge for CNAs, especially in areas such as oral health (Cadet et al., 2016). Additional results showed that evidence-based practice was considered the best practice that brought out to enhance nursing para-professional skills and knowledge (Melnyk, Fineout-Overholt, Stillwell, & Williamson, 2010).

The fourth theme presents an improvement of knowledge and skills and quality EOLC services as the expected outcomes for embracing knowledge and training and evidence-based interventions. Findings from this theme indicate that education and training helped CNAs transition of care, especially for home-based services (Parnell, 2014). Additionally, findings indicate that education helped in the improvement of medical skills such as pain assessments thus helping students improve their knowledge in patient care practices and eventually resulting

in better patient outcomes and better quality of care for patients at EOLC (Anstey et al., 2016; Trinkoff et al., 2016; Tracy, 2013; Tsai et al., 2018). Additional findings identified that some of the notable indicators that portrayed improved quality of EOLC after inventions included relief and ease, and increased coordination of care and value-based care (Marrelli, 2015; Hatfield & Lovas, 2014; Hill, Dempster, Donnelly, & McCorry, 2016; de Graaf et al., 2016; Teno et al., 2015).

The final theme portrayed the time that could be used for education and training for CNAs. Findings from the literature review of this theme indicate that CNAs have required hours of training before certification is possible. Findings indicate that the federal government requires CNAs to train for a minimum of 75 hours that is 6-12 weeks before being accredited (Registered Nursing Organization, 2018). However, training varies depending on the state of residence (Registered Nursing Organization, 2018). On the other hand, the government recommends 12 hours of continuing education annually for CNAs to qualify for recertification (CNA Training Help and Certification Resources, 2012). However, other states such as California require CNAs to engage in 24 hours of continuing education every year for recertification (CNA Training Help and Certification Resources, 2012).

Chapter 3: Research Methodology

Introduction

CNAs play a significant and vital role in the field of healthcare. They do not only have a role in taking care of the patient but also have the role of supporting the family members of the patient by giving them emotional strength. Wang et al. (2018) noted that, CNAs are expected to take care of the emotional health of patients, which includes offering help on the various emotional issues of the patients and ensuring their overall emotional well-being. A qualitative follow-up study was done by Wiseman, Foster, and Curtis (2016), indicated that there is a strong physical link between the emotional and physical aspects of health.

Further, CNAs in hospice care focus on spiritual needs for the patients. Albers, Bonsignore, and Webb (2018) note that meeting spiritual needs give patients in hospice care a deeper meaning to life. CNAs focusing on spiritual needs of the patients in hospice help the patients discuss their treatment decisions and thus help boost patient satisfaction. Moreover, focusing on spiritual needs opens channels through which the CNAs and the patients can communicate therefore enhancing patient-centered care, which helps the patient feel valued and, as a result, improve the quality of life (Oberoi-Jassal, Pope, & Jassal, 2019). Spiritual focused care includes giving hope and encouraging patients and as a result, helping the patient stay positive even after understanding their condition, therefore, improving their overall health.

Moreover, hospice CNAs have the role of helping patients with any of their basic living activities that the patients cannot do on their own (Trinkoff et al., 2019). For example, bathing and dressing the patients, combing hair, caring for nails, helping them use the toilet, and repositioning them between the bed and the wheelchair (Kusmaul & Waldrop, 2015). Further, certified nurse assistants in hospice care have the role of ensuring that the patients receive the proper nutrition. CNAs have the role of feeding the patients and, therefore, should ensure that the

patients take food with the required nutritional levels together with the required supplements. Trotta et al. (2018), note that some medications given to patients in hospice care may result in loss of appetite, and CNAs have the mandate of ensuring that these patients eat correctly by giving them small meals frequently. Further, in hospice care settings, CNAs have a duty of attending to patients' issues and needs. Patients in nursing homes have many issues, for example, bedsores and patient wounds that CNAs work on managing, and thus, CNAs are highly needed for such roles.

The main goal of end-of-life care is to relieve the suffering of patients through treating psychosocial, physical, and spiritual issues. Furthermore, educating the CNAs improved their understanding of pain management, especially when the symptoms get more aggressive, thus requiring comfort measures to be intensified (Ersek et al., 2016). Intensifying comfort measures results in increased patient satisfaction as patients are less depressed, relieved of the symptom burden, and they feel more in control of their illness. Further, this approach extended to the family members of the patient as they demonstrated greater satisfaction with regards to the quality of care and the attention that their family member was receiving.

Statement of the Problem

This study aimed at comprehending EOL care by CNAs within the hospice services context, coupled with their outlooks on how their resident patients assessed the services. More directly, the research assessed the knowledge of EOL symptoms among CNAs and how this knowledge impacted their delivery of care and skills in providing EOLC. The deficiency of knowledge among CNAs, to a large extent, affects the quality of care. Research by Waldrop and Nyquist (2011) revealed that CNAs experienced anguish over some decisions arrived at in the EOL. For instance, some CNAs suffered when residents failed to be tube-fed while in their incurable phases of the illness; various respondents believed that the residents were being starved

to death. Numerous CNAs seemed to have been confused and lack rudimentary information regarding the expressions, "palliative care," "comfort care," and "hospice." Some appear to have perceived hospice as less adequate a form of care compared to possibly proactive care targeted at keeping residents comfortable. In sum, very few CNAs could define the part played by the hospice in the nursing home setting.

Having knowledge about EOLC helped in the delivery of appropriate care for the patients of hospice. The class also, as anticipated, helped the CNAs improve their communication skills. Communication skills are one of the important skills needed in hospice care. Prader (2017) notes that communication skills help CNAs show compassion to their patients, keep the patient's families informed about their loved one's conditions, and counsel patients to help understand the purpose of their treatment, thus helping in improving the quality of life.

Additionally, the knowledge gained from this class helped CNAs acquire more emotional and mental strength. As presented by Wright et al. (2017), having to encounter death and severe illness daily may result in depression and emotional fragility for the CNAs. Emotional fragility alters with the efficiency of CNAs while delivering care. Therefore, CNAs in hospice care need emotional strength for the delivery of appropriate care. Further, the class equipped the CNAs with more knowledge about EOLC, for example, catering for their hydration and nutritional needs, understanding the process of dying, and acknowledging patients in pain and distress. As a result, the CNAs found themselves in a better position to provide holistic care to the patient that is caring for the patients physically, emotionally, psychologically, and spiritually.

Clinical Question(s)

The clinical question for the study is “Why does EOLC education increase the knowledge and practice skills of CNAs working for Hospice Hawaii in 2020”.

Project Methodology

This project employed a pre-test post-test method. Knapp (2016) notes that the pretest-posttest design is the most appropriate in quasi-experimental studies as it helps the researcher to recognize the impacts that a specific treatment or intervention has on a group. Previous studies undertaken on CNAs and EOL care have proven that there exists a shortage of palliative care (PC)-oriented knowledge among health experts. Educating CNAs about end-of-life symptoms helped CNAs recognized and acknowledged the symptoms in a holistic perspective that is psychosocial, physical, and spiritual and thus react according to the needs of the patient, thus making up a significant contribution towards the goal of hospice care (van Riesenbeck et al., 2015).

Project Design

This project used a 24-item EOL care knowledge questionnaire known as the Nursing Assistant Knowledge Assessment Instrument that was employed in measuring EOL knowledge. The instrument was developed by Ersek (2005), who later permitted it to be implemented by the Hospice and Palliative Nurse Association (HPNA) at the close of their training units (Ersek, Grant, & Kraybill, 2005). After the pre-test, education sessions were conducted, and post-tests were done after the class and again after four weeks. This design was in line with previous studies undertaken on CNAs, and EOL care has proven that there exists a shortage of palliative care (PC)-oriented knowledge among health experts.

Nature of the Project Design

Sample/ setting

The study was conducted in Hospice Hawaii, which is a hospice agency in Honolulu. The facility offered a range of home health services and had a care home for hospice patients. The

recruited CNAs were working in the Hospice Hawaii care home and some CNAs worked as the home health CNAs who visit patients in their homes.

Recruitment

The facility granted permission to undertake the study, and approval was obtained from the Institutional Review Board (IRB) at Hawaii Pacific University. The CNAs were recruited using an approved informational letter that enlisted respondents by welcoming them to participate in the research and clarify the study objective. The letter was disseminated via facility mail during CNA paycheck distribution. Additionally, the approved informational flyers identified the investigator, the research purpose, and the method to contact the researcher. The managerial staff also announced the study during personnel gatherings and training periods. The recruitment flyers openly stated that the involvement was entirely voluntary and the decision of the CNAs to either take part or not, would not influence their employment. CNAs who were interested in joining the study were requested to contact the researcher at the email or phone number provided (see Appendix B).

Population and Sample Selection

A study population is defined according to Westreich et al. (2018), as the totality of all the subjects and members that conform to the required specifications required by the study. In this study, the target population was comprised of CNAs who are in charge of giving EOLC services to patients at home. In this study, the researcher selected participants who confirmed their availability and willingness to participate in the study. The sample was selected through non-probability convenience sampling. Elfil & Negida (2017) note that convenience sampling uses participants conveniently available to participate in the study. The primary aim of using convenience sampling was due to the availability and proximity of the participants, which saved

time and money (Alvi, 2016). Additionally, using convenience sampling allows the researcher to gather data that is related to the research questions (Alvi, 2016).

Instrumentation

This project used a 23-item EOL care knowledge questionnaire known as the Nursing Assistant Knowledge Assessment Instrument, employed in measuring EOL knowledge (Appendix C). The instrument was developed by Ersek (2005), who later permitted it to be implemented by the Hospice and Palliative Nurse Association (HPNA) at the close of their training units (Ersek, Grant, & Kraybill, 2005). The questionnaire was administered prior to the presentation, and the questions were asked after the training sessions.

The questionnaires tackled multiple-choice questions to ensure that the diverse aspects of EOLC were covered. Moreover, the questions were formulated in an exam format to ensure that the knowledge acquired in the program was reflected in the questions given. Questionnaires were collected at the end of the session and kept in separate folders for being analyzed. Also, the instruments included a researcher-developed demographic data collection tool that included information such as the length of time working as a CNA, ethnicity, and primary language. Participants were not required to identify themselves by name. Effectiveness in providing EOL care was evaluated using a self-evaluation, 14- item tool developed by Dr. Mary Ersek (2005) for the PERT Project (Ersek, Grant, & Kraybill, 2005). The Nursing Assistant Self-Evaluation of End-of-Life Skill measure, used Likert-type scale of 0 (not at all effective) to 10 (very effective) (See Appendix D).

Data Collection Procedures

The researcher contacted the CNAs, who delivered EOLC to the patients at home and arranged a meeting for a fifteen-minute presentation that explained the purpose of the study to the CNAs. Further, during the presentation, the researcher explained and reviewed the

advantages, disadvantages, and risks of participating in the study and also answered any questions that were related to the study. The participants that met the required criteria for the inclusion in the study and agreed to participate were contacted through phone calls, direct messages, and emails. Consent forms (See Appendix A) were distributed to the participants, and they were required to sign it before participating in the study. After signing the consent forms, the participants were given questionnaires, which they filled-in as described. Further, on open-ended questions, the participants were requested to be as descriptive as possible. The questionnaires distributed were the primary method of data collection used in the study. The CNA's attended the presentation after filling out the questionnaires and answered the post-test questionnaires. Moreover, CNA's knowledge was assessed after four weeks using the same questionnaires.

Data Analysis Procedures

The study used descriptive statistics, specifically univariate analysis for describing the sample. Moreover, to determine if the class was successful in increasing the knowledge and skills in the delivery of EOL care of participants, the researcher performed a repeated-measures ANOVA using the pre- and post-program scores. Prior to conducting repeated measures ANOVA, the assumption of normality was assessed where violations led to the use of an alternative test, Friedman's test. Post hoc analysis was conducted through the Wilcoxon signed-rank test. The inferences were made at .05 significance level.

Ethical Considerations

The study took into consideration the principle of informed consent. Wolf, Clayton, and Lawrenz (2018) noted that the principle of informed consent ensured that the research that is done respects the participants of the study by ensuring that the participating in the study is a voluntary act. The principle required that the participants of the study signed a document in front

of a witness indicating their willingness to participate in the study (Wolf, Clayton, & Lawrenz, 2018). In this study, the participants were required to fill in the informed consent forms before participating in the study (See Appendix A).

Further, the study took into consideration the principle of privacy and confidentiality. Harriss, MacSween, and Atkinson (2017) noted that privacy in research refers to a participant's right to be free of intrusion by others. Respecting the privacy of the participants in research was obtained, giving participants control over personal information. In this study, the privacy of the participants was maintained by ensuring that participants control their personal information by giving the right to withhold and withdraw from the study should they feel that the research is tampering with their privacy. On the other hand, the principle of confidentiality in research involves safeguarding the participant's information (Harriss & Atkinson, 2015). In this study, the information given by the participant was protected through the use of a self-sealing envelope and by informing the participants not to include their names on the questionnaire, thus ensuring that only the researcher has access to the information provided. Further, the study applied the principle of confidentiality by creating a stable relationship between the researcher and the participant, thus ensuring that trust had been created and thus resulting in the integrity of the research study.

Limitations

The limitations of the study were generic to most of the social sciences, especially those that are associated with research studies of quasi-experimental design. One major limitation of the quasi-experimental design is the issue of internal validity, for example, interpretation of the responses and concepts and experimental mortality (Campbell & Stanley, 2015). The researcher had the obligation of interpreting the results and ultimately drawing generalized conclusions bout the results of the study. The researcher could misinterpret the responses, especially those from

open-ended questions, thus resulting in the wrong and biased findings. Major limitations of this study related to the data collection being in only one facility, limiting the ability to generalize to other nursing homes, and the small CNA sample size ($N = 12$).

Deziel (2018) note that a small sample size reduces the statistical power of research as it increases the margin error, and as a result, makes the possibility of the study being presumed as meaningless. Additionally, a small size could result in uncovering bias as it is not a representation of the general population, and as a result, it affects the reliability of the results (Simmons, 2018). However, researchers can obtain meaningful results from a small sample size through adjusting the sample size based on a confidence level and determining a preferable margin of error, thus deviating the statistical mean of the results (Deziel, 2018). Moreover, the pre-test mechanism of testing might result in altered, unreliable, and biased findings. The participants exposed in a pre-test might have been aware of the need for the education program to their practice; thus, they might receive reactive responses in favor of the education sessions.

Summary

Trained CNAs play an essential role in medicine, such as assisting registered and licensed nurses in taking care of the patient, handling medical equipment and tools, pain management, supporting patients and families emotionally, and preventing the spread of infection. Moreover, CNAs also play a significant role in hospice care, such as maintaining the oral care of the patient, attending to spiritual needs to the patients, and helping patients through their basic living activities such as bathing and dressing, especially for the patients with cognitive disabilities.

However, CNAs in hospice care need to advance their knowledge and skills with regards to EOL symptoms, and thus educating them would result in improved patient satisfaction. Further, educating CNAs about EOL symptoms aimed to increase their knowledge about the various treatment options, thus enhancing their abilities to relieve pain. Additionally, educating

CNAs of EOL symptoms helped them address these symptoms from a holistic perspective as they can differentiate between psychosocial, physical, and spiritual symptoms. Moreover, educating CNAs about EOL symptoms improves their knowledge of pain management, and as a result, CNAs can handle patients even when the pain becomes more aggressive. The study aimed at assessing the knowledge that CNAs have on EOL symptoms and assessing how this knowledge impacts the delivery of EOLC.

Further, the project used pre-test and post-test methods to allow the researcher to see the impacts that the intervention has on a group/participant. A pre-test was done before the education session and a post-test done later in four weeks after completion of the education session. Additionally, the project used a 24-item EOL care knowledge questionnaire known as the Nursing Assistant Knowledge Assessment Instrument, that was employed in measuring EOL knowledge. The study's sample consisted of CNAs practicing home-based hospice care in Hospice Hawaii, and who were recruited to the study through flyers and letters requesting them to participate in the study. Moreover, the study embraced the principles of privacy and confidentiality and informed consent.

Chapter 4: Data Analysis

Descriptive Statistics

Descriptive statistics were employed to analyze the demographic data of the population and presented via tables and graphs. Table 1 depicts the years of experience in the study population as CNAs, and Table 2 depicts the racial distribution of the population. Results are also shown in Figures 1 and 2. Data shows that the study population was ethnically diverse. Five of the 12 participants were Asian, 3 were Native Hawaiians, 3 were Caucasians, and 1 was African American. The 12 CNAs who participated in the study have extensive experience as a CNA, 3 has more than 15 years of experience as CNA, 2 have experience between and 10 and 15 years, 4 has 6 to 10 years of experience and 3 has 1 to 5 years of experience.

Table 1. Descriptive statistics: Length of Experience

Years of Experience	N
1-5Yrs	3
6-10Yrs	4
11-15Yrs	2
>15 years	3

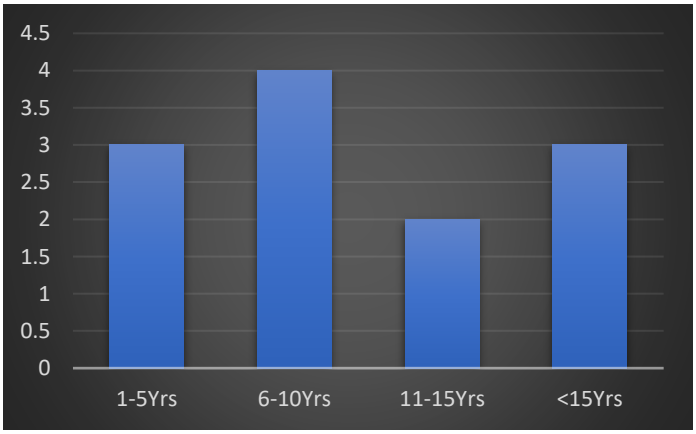


Figure 1. *Years of Experience*

Table 2. Descriptive statistics: Racial distribution

Race	N
Asian	5
Native Hawaiian	3
African American	1
Caucasians	3

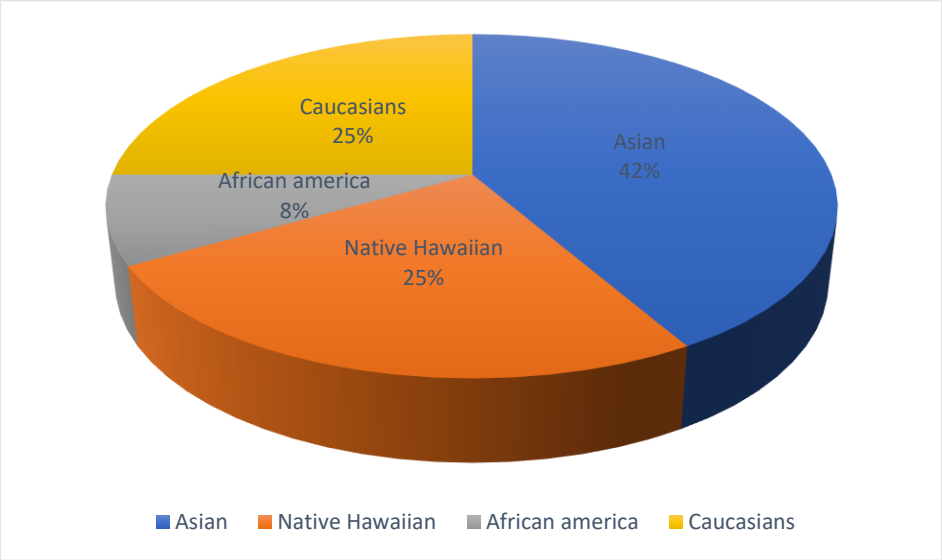


Figure 2. Distribution of race

Table 3. EOL Knowledge score

Initial	**Pretest**	**Post test**	**Post test after 4 weeks**
1.	17	18	22
2.	14	16	16
3.	14	12	17
4.	12	12	14
5.	14	17	15
6.	13	16	17
7.	13	11	17
8.	14	15	16
9.	18	17	14
10.	13	16	17
11.	16	17	16
12.	16	15	17

The purpose of this quasi-experimental project was to answer the question Why does implementing an end of life education program improves the knowledge and skills delivery in end of life by CNAs. The objective in this project was achieved by conducting a Friedman test, which is a non-parametric test equivalent to the repeated measures ANOVA. Friedman's test was adopted because the dependent variables (knowledge of EOL and skills delivery in EOL) were not normally distributed. The results from the Friedman test revealed that there was a statistically significant mean difference in the various levels in the knowledge of EOL ($\chi^2 = 9.378$, $p = .009$). Post hoc analysis with the Wilcoxon signed-rank tests revealed that there was no difference between pre-intervention ($M = 14.33$, $SD = 1.723$) and immediate after intervention ($M = 15.17$, $SD = 2.290$), $Z = -1.496$, $p = .135$. There was a significant mean difference in knowledge of EOL from pre-intervention ($M = 14.33$, $SD = 1.723$) to post-intervention ($M = 16.58$, $SD = 2.065$), $Z = -2.329$, $p = .020$, (Table 3).

Table 4. Statistical tests for knowledge of EOL

Tests	Value	p-value
χ^2	9.378	.009
Z	-1.496	.135
Z	-2.329	.020

Table 5. EOL Skills score

Initial	Pretest	Post test	Post test after 4 weeks
1.	115	125	131
2.	125	126	140
3.	118	130	140
4.	116	131	140
5.	121	126	140
6.	102	104	111
7.	127	134	140
8.	124	130	126
9.	113	124	130
10.	126	134	137
11.	118	130	139
12.	123	135	139

This project also assessed the effectiveness of implementing end of life education on skills delivery of quality care. The clinical question was analyzed using Friedman test and post hoc analysis conducted via the Wilcoxon signed-rank test since the different levels of skill delivery of quality care (pre-intervention, immediate after the intervention, and post-intervention) were not normally distributed. The results from the Friedman test showed that there was a statistically significant mean difference in the various levels in skills delivery on EOL quality care ($\chi^2 = 24.000$, $p = .000$). Post hoc analysis with the Wilcoxon signed-rank tests revealed that there was a significant difference between pre-intervention ($M = 119$, $SD = 7.045$) and immediate after intervention ($M = 127.58$, $SD = 8.317$), $Z = -3.065$, $p = .002$. There was a significant mean difference in skills delivery from pre-intervention ($M = 119$, $SD = 7.045$) to post-intervention ($M = 135$, $SD = 8.432$), $Z = -3.062$, $p = .002$, (Table 4).

Table 6. Statistical tests for skills delivery of EOL care

Tests	Value	p-value
χ^2	24.00	.000
Z	-3.065	.002
Z	-3.062	.002

Summary

The current findings demonstrated that the educational intervention program about the end of life care was effective in improving the knowledge of CNAs about the end of life after four weeks of intervention. The results were not significant for a short-term period after intervention assessment. The findings also demonstrated that end of life care education was effective in improving the skills in delivery among CNAs immediately after intervention and after four weeks period. The results demonstrated the necessity of end of life care education program in improving the skills and knowledge of CNAs. The implications of the results are the continuous implementation of education sessions to enhance the knowledge and skills of CNAs in providing quality care and end of life care. To obtain commendable results, the implementation of education sessions is recommended to be conducted annually. Besides, the implications of findings in this project encourage the possibility of making this education program/class an annual requirement for the CNA recertification with the help of the board of nursing and hospice and palliative nurses association.

Chapter 5: Discussion, Conclusions and Recommendations

Summary of Findings

The findings from chapter four revealed that educating CNAs about the end of life was effective in improving the knowledge of EOL after four weeks of intervention. The education intervention was not effective immediately after the first post test process. The findings also revealed that education intervention about EOL was effective in improving the skills in delivering the EOL care in time. The education intervention was effective immediately after the pre-test process and after four weeks of intervention.

Discussion of Findings

The current findings revealed that educating CNAs about EOL care was effective in improving the knowledge of EOL care. The current findings align with Malik and Chapman (2017), who found that educating and training CNAs on EOL care was effective in improving the knowledge and the learning needs of the EOL. Training and education provide CNAs with the appropriate knowledge of care for patients. Similar findings were documented by Ersek and Wood (2008), where a nursing assistant computerized education program was effective in improving the knowledge of EOL care. Sengupta et al. (2012) also indicated that that training CNAs about EOL care helped them in addressing the challenges that they faced while handling patients as compared to home aides. The CNAs subjected to education intervention program expressed their desires for more education programs as they felt that it would enable them to enhance their caregiving skills (Lerner et al., 2010). Besides, CNAs get motivated to undertake their role in providing EOL care. Integrating health literacy with training and education about EOL is an effective strategy for improving the knowledge of EOL care for CNAs.

The current findings revealed that educating CNAs about EOL care was effective in improving their skills in delivering EOL care. The current findings are consistent with Li et al. (2019), who observed that CNAs who had received EOL education, felt ready and comfortable to provide EOLC after their graduation. End of life education helped CNAs gain more insights regarding the key elements of palliative care. Similarly, Anstey et al. (2016) observed that CNAs exposed to education intervention reported increased skills and confidence while delivering the end of life care services. The communication skills in delivering EOL care are improved following the implementation of EOL education intervention. Effective communication among CNAs creates well-coordinated care between caregivers and their patients.

Conclusions

The current project evaluated the effectiveness of EOL care education intervention in improving knowledge and skills in delivering care. The findings indicated that the educational intervention program was effective in improving the knowledge and skills in delivering quality care. Inadequate knowledge and skills gap are a notable challenge among many CNAs providing end of life care in nursing care systems, which have been addressed through the education program. Increasing the duration and length of education and training is a significant intervention towards improving the knowledge and skills of delivering care. Training and education provide caregivers with communication knowledge and also enables prompt coordination between caregivers and patients. CNAs need to engage in continuous professional development and training and education to deliver quality care and observe satisfactory patient quality outcomes.

Implications for Theory and Practice

The findings from this project call for continuous professional development and continuous education and training interventions to improve the knowledge and skills of

caregivers in delivering EOL care. To obtain commendable results, the implementation of education sessions is recommended to be conducted annually. Besides, the implications of findings in this project encourage the possibility of making this education program/class an annual requirement for the CNA recertification with the help of the board of nursing and hospice and palliative nurses association. The renewal for CNA certification requires CNAs to submit a list of continuous learning activities. Continuous lifelong learning is essential for CNAs to provide quality care to the elderly since the majority of patients are elderly with many underlying issues. The program can be implemented in the teaching practice as a means for increasing communicative, clinical, and technical skills in an actual environment.

Healthcare providers are also compelled to acquire more knowledge about EOL care to increase patient outcomes. Gaining adequate knowledge about communicating effectively with patients and close coordination and collaboration with other caregivers improves patient outcomes (Trinkoff et al., 2016). Besides, the implications for theory in this project depicts the relevance of knowledge and skills delivery in handling patients showing resistance to change for their improved outcomes. Post test scores indicated that there was a significant improvement in the test sores when compared to the immediate post test and post test after 4 weeks which is identical with the Lewin's change theory. Through the education CNAs learned new methods of EOLC and they are convinced the current policy is not beneficial and the new way is better which is in relation with the moving stage of Kurt Levin's theory (Kaminski, 2011).

Limitations of the Project

This project is limited by the methodological framework used to answer the clinical question. The use of the quasi-experimental method is a limitation for this project, which lacks randomization. Lack of randomization in a project creates biases in reporting results and also

affects the generalizability of findings to the general population. (Rahman, 2017). In addition, this project is affected by non-random sampling and small sample size, which indicates that there is biasness and also the credibility of results. Additionally, a small sample size creates a challenge to evaluate the representativeness of the sample to the entire population (Sharma, 2017).

Recommendations for Further Studies

This project recommends the continuous implementation of an educational intervention program to improve the knowledge and skills of delivering EOL care in hospice care settings. This is also accompanied by continuous professional development in the field of caregiving. Besides, end of life care is a two-way outcome affecting both patients and caregivers, where the effect of EOL education intervention was not assessed based on patient outcomes. Assessing the quality of patient care outcomes is paramount to account for the relevance of caregiver skills and efficacy of attained professional development. Also, taking into account these project limitations of small sample size and short duration of project implementation, further study is recommended to implement an EOL education and training program to evaluate its effectiveness in patient outcomes. The recommended future project will include large sample size and conducted over a long intervention duration/period.

References

Acharya, A. S., Prakash, A., Saxena, P., & Nigam, A. (2013). Sampling: Why and how of it. Indian Journal of Medical Specialties, 4(2), 330-333.

Adams, R. J. (2010). Improving health outcomes with better patient understanding and education. *Risk management and healthcare policy*, *3*, 61.

Al Qadire, M. (2014). Knowledge of palliative care: An online survey. Nurse Education Today, 34(5), 714-718. doi:10.1016/j.nedt.2013.08.019

Albers, A., Bonsignore, L., & Webb, M. (2018). A Team-Based Approach to Delivering Person-Centered Care at the End of Life. *North Carolina medical journal*, *79*(4), 256-258.

Alvi, M. (2016). A manual for selecting sampling techniques in research. Retrieved From https://mpra.ub.uni-muenchen.de/70218/1/MPRA_paper_70218.pdf.

Anstey, S., Powell, T., Coles, B., Hale, R., & Gould, D. (2016). Education and training to enhance end-of-life care for nursing home staff: A systematic literature review. *BMJ Supportive & Palliative Care*, *6*(3), 353-361.

Anstey, S., Powell, T., Coles, B., Hale, R., & Gould, D. (2016). Education and training to enhance end-of-life care for nursing home staff: a systematic literature review. *BMJ supportive & palliative care*, *6*(3), 353-361.

Apperson, J. (2015, June 30). The Importance of a Nursing Assistant for the Elderly. Retrieved from https://www.trustworthycare.com/the-importance-of-a-nursing-assistant-for-the-elderly/

Atkin, N., Vickerstaff, V., & Candy, B. (2017). 'Worried to death': the assessment and management of anxiety in patients with advanced life-limiting disease, a national survey of palliative medicine physicians. BMC palliative care, 16(1), 69.

Bakitas, M., Lyons, K.D., Hegel, M.T., Balan, S., Brokaw, F.C., Seville, J., Ahles, T.A. (2009). Effects of a palliative care intervention on clinical outcomes in patients with advanced cancer. The Journal of the American Medical Association, 302(7), 741-749. doi: 10.1001/jama.2009.1198

Beaton & Al Qadire, M. (2014). Knowledge of palliative care: An online survey. Nurse Education Today, 34(5), 714-718. doi:10.1016/j.nedt.2013.08.019

Berry, L. L., Connor, S. R., & Stuart, B. (2017). Practical ideas for improving the quality of hospice care. *Journal of palliative medicine*, *20*(5), 449-452.

Cadet, T. J., Berrett-Abebe, J., Burke, S. L., Bakk, L., Kalenderian, E., & Maramaldi, P. (2016). Evidence-based health promotion in nursing homes: A pilot intervention to improve oral health. *Educational Gerontology*, *42*(5), 352-360.

Cagle, J. G., Unroe, K. T., Bunting, M., Bernard, B. L., & Miller, S. C. (2017). Caring for dying patients in the nursing home: Voices from frontline nursing home staff. *Journal of pain and symptom management*, *53*(2), 198-207.

Campbell, D. T., & Stanley, J. C. (2015). *Experimental and quasi-experimental designs for research*. Ravenio Books.

Casarett, D., Pickard, A., Biley, F.A., Ritchie, C., Furman, Rosenfeld, K., … Shea, J.A. (2008). Do palliative consultations improve patient outcomes? Journal of the American Geriatric Society, 56, 593-599. doi: 10.111/j.1532-5415.2007.01610.x

Chen, C., Chow, A. Y., & Tang, S. (2018). Bereavement process of professional caregivers after deaths of their patients: A meta-ethnographic synthesis of qualitative studies and an integrated model. International journal of nursing studies, 88, 104-113.

Chi, N. C. (2017). Pain Management Concerns from the Family Caregivers' Perspective: An Exploratory Study and Utility Test of an Educational Tool to Support Pain Management (Doctoral dissertation).

Chung, H. O., Oczkowski, S. J., Hanvey, L., Mbuagbaw, L., & You, J. J. (2016). Educational interventions to train healthcare professionals in end-of-life communication: a systematic review and meta-analysis. *BMC medical education*, *16*(1), 131-143.

CNA Training Help and Certification Resources. (2012, June 7). CNA Continuing Education Guidance. Retrieved from https://cnatraininghelp.com/cna-continuing-education-guidance/

Connor, S.R., Pyenson, B., Fitch, K., Spence, C., & Iwasaki, K. (2007). Comparing hospice and nonhospice patient survival among patients who die within a three year window. Journal of Pain and Symptom Management, 33(3), 238-246. doi: 10.1016/j.jpainsymman.2006.10.010

Cornally, N., Coffey, A., Daly, E., McGlade, C., Weathers, E., O'Herlihy, E., ... & Molloy, W. (2016). Measuring staff perception of end-of-life experience of older adults in long-term care. Applied Nursing Research, 30, 245-251.

de Graaf, E., Zweers, D., Valkenburg, A. C., Uyttewaal, A., & Teunissen, S. C. (2016). Hospice assist at home: Does the integration of hospice care in primary health care support patients to die in their preferred location: A retrospective cross-sectional evaluation study. Palliative Medicine, 30(6), 580–586. Retrieved from doi:10.1177/0269216315626353

Deziel, C. (2018, March 13). The Effects of a Small Sample Size Limitation. Retrieved from https://sciencing.com/effects-small-sample-size-limitation-8545371.html

Di Giulio, P., Finetti, S., Giunco, F., Basso, I., Rosa, D., Pettenati, F., ... & Monti, M. (2019). The Impact of Nursing Homes Staff Education on End-of-Life Care in Residents With Advanced Dementia: A Quality Improvement Study. *Journal of pain and symptom management*, *57*(1), 93-99.

Dryer, A., Fodee, R., & Nortvedt, P. (2009). Autonomy at the end of life: life-prolonging treatment in nursing homes- relative role in the decision making process. Journal of Medical Ethics, 35(11), 672-677. doi: 10.1136/jme.2009.030668

Edmond, A. W., & Kenedy, E. T. (2013). An applied reference guide to research design. Quantitative, qualitative and mixed method. Retrieved in December, 18, 2016.

Elfil, M., & Negida, A. (2017). Sampling methods in clinical research; an educational review. Emergency, 5(1).

Ersek, M ., Grant, M . M ., & Kraybill, B. (2005). Enhancing end-of-life care in nursing homes: palliative care educational resource team (PERT) program. *Journal of Palliative Medicine, 8*(3): 556- 565.

Ersek, M., &Wood, B. (2008). Development and evaluation of a nursing assistant computerized education programme. *International Journal of Palliative Nursing,* 14 (10), 502-509.

Ersek, M., Neradilek, M. B., Herr, K., Jablonski, A., Polissar, N., & Du Pen, A. (2016). Pain management algorithms for implementing best practices in nursing homes: Results of a randomized controlled trial. *Journal of the American Medical Directors Association*, *17*(4), 348-356.

Etkind, S. N., Bone, A. E., Gomes, B., Lovell, N., Evans, C. J., Higginson, I. J., & Murtagh, F. E. M. (2017). How many people will need palliative care in 2040? Past trends, future projections and implications for services. BMC medicine, 15(1), 102.

Falk, N. L., Baigis, J., & Kopac, C. (2012). Elder mistreatment and the elder justice act. Online journal of issues in nursing, 17(3).

Gélinas, C. (2016). Pain assessment in the critically ill adult: Recent evidence and new trends. *Intensive and Critical Care Nursing*, 34, 1-11.

Greenfield, T., & Greener, S. (Eds.). (2016). *Research methods for postgraduates*. John Wiley & Sons.

Greiner, K. A., Perera, S., & Ahluwalia, J. S. (2003). Hospice usage by minorities in the last year of life: Results from the national mortality followback survey. Journal of American Geriatric Society, 51(7), 970-978. doi: 10.1046/j.1365-2389.2003.51310.x

Grubb, C., & Arthur, A., (2016). Student nurses' experience of and attitudes towards care of the dying: a cross-sectional study. Palliat. Med. https://doi.org/10.1177/0269216315616762.

Hagelin, C. L., Melin-Johansson, C., Henoch, I., Bergh, I., Ek, K., Hammarlund, K., ... & Browall, M. (2016). Factors influencing attitude toward care of dying patients in first-year nursing students. International journal of palliative nursing, 22(1), 28-36.

Halifax, E., Miaskowski, C., & Wallhagen, M. (2018). Certified Nursing Assistants' Understanding of Nursing Home Residents' Pain. *Journal of gerontological nursing*, *44*(4), 29-36.

Han, B., Remsburg, R.E., & Iwashyna, T.J. (2006). Differences in hospice use between black and white patents during the period 1992 through 2000. Medical Care, 44(8), 731-737. Stable URL: http://www.jstor.org/stable/40221347.

Han, K., Trinkoff, A. M., Storr, C. L., Lerner, N., Johantgen, M., & Gartrell, K. (2014). Associations between state regulations, training length, perceived quality and job satisfaction among certified nursing assistants: Cross-sectional secondary data analysis. *International journal of nursing studies*, *51*(8), 1135-1141.

Handler, S. M., Sharkey, S. S., Hudak, S., & Ouslander, J. G. (2011). Incorporating INTERACT II clinical decision support tools into nursing home health information technology. *The annals of long-term care: the official journal of the American Medical Directors Association*, *19*(11), 23.

Harriss, D. J., & Atkinson, G. (2015). Ethical standards in sport and exercise science research: 2016 update. *International journal of sports medicine*, *36*(14), 1121-1124.

Harriss, D. J., MacSween, A., & Atkinson, G. (2017). Standards for ethics in sport and exercise science research: 2018 update. *International journal of sports medicine*, *38*(14), 1126-1131.

Hatfield, M., & Lovas, S. (2014). Conformational sampling techniques. Journal of Medicine, 20(20), 3303–3313. Retrived from doi:10.2174/13816128113199990603

Henderson, A., Rowe, J., Watson, K., & Hitch-en-Holmes, D. (2016). Graduating nurses' self-efficacy in palliative care practice: An exploratory study. Nurse Education Today, 39, 141-146. doi: 10.1016/j.nedt.2016.01.005

Henoch, I., et al., (2017). Undergraduate nursing students' attitudes and preparedness toward caring for dying persons – A longitudinal study. Nurse Educ. Pract. https://doi.org/10.1016/j.nepr.2017.06.007.

Hill, R. C., Dempster, M., Donnelly, M. & McCorry, N. K. (2016). Improving the well-being of staff who work in palliative care settings. Palliative Medicine, 30(9), 825–833.Retrieved from doi:10.1177/0269216316637237

Hughes, M. T., & Smith, T. J. (2014). The growth of palliative care in the United States. Annual review of public health, 35, 459-475.

Jansen, B. D. W., Brazil, K., Passmore, P., Buchanan, H., Maxwell, D., McIlfatrick, S. J., ... & Parsons, C. (2017). Exploring healthcare assistants' role and experience in pain assessment and management for people with advanced dementia towards the end of life: a qualitative study. *BMC palliative care*, *16*(1), 6.

Joint commissioning panel for mental health. (2012). Understand which social factors affect mental health and wellbeing. Retrieved from https://www.jcpmh.info/resource/understand-social-factors/

Kaminski, J. (2011). Theory applied to informatics-Lewin's change theory. Canadian Journal of Nursing Informatics, 6(1), 1-4.

Kim, S. H., Chung, B. Y., & Xu, Y. (2009). Evaluation of a home-based hospice and palliative care program in a community health center in Korea. *Asian nursing research*, *3*(1), 24-30.

Kirkendall, A., Holland, J. M., Keene, J. R., & Luna, N. (2014). Evaluation of hospice care by family members of hispanic and non-hispanic patients. American Journal of Hospice and Palliative Medicine, 1-9. doi: 10.1177/1049909114526969

Knapp, T. R. (2016). Why is the one-group pretest–posttest design still used? *Clinical nursing research, 25(5),* 467-462.

Kritsonis, A. (2005). Comparison of change theories. International journal of scholarly academic intellectual diversity, 8(1), 1-7.

Kucienski, J. E. (2017). Improving Mobility for Older Adults in the Acute Rehabilitation Setting.

Kusmaul, N., & Waldrop, D. P. (2015). Certified nursing assistants as frontline caregivers in nursing homes: Does trauma influence caregiving abilities?. *Traumatology*, *21*(3), 251.

Lerner, N. B., Resnick, B., Galik, E., & Russ, K. G. (2010). Advanced nursing assistant education program. *The Journal of Continuing Education in Nursing*, *41*(8), 356-362.

Lewin, K. C. (1951). Field theory in social science. New York, NY: Harper & Row.

Li, J., Smothers, A., Fang, W., & Borland, M. (2019). Undergraduate Nursing Students' Perception of End-of-Life Care Education Placement in the Nursing Curriculum. *Journal of hospice and palliative nursing: JHPN: the official journal of the Hospice and Palliative Nurses Association*.

Lippe, M., Volker, D., Jones, T., & Carter, P. (2017). Evaluating end-of-life care education within nursing programs: A method for targeted curriculum evaluation. *Journal of Hospice & Palliative Nursing*, *19*(3), 266-274.

Long, C. O. (2013). Pain management education in long-term care: It can make a difference. *Pain Management Nursing*, *14*(4), 220-227.

Lysaght Hurley, S., Barg, F. K., Strumpf, N., & Ersek, M. (2015). Same agency, different teams: Perspectives from home and inpatient hospice care. Qualitative health research, 25(7), 923-931.

MacArtney, J. I., Broom, A., Kirby, E., Good, P., Wootton, J., & Adams, J. (2016). Locating care at the end of life: burden, vulnerability, and the practical accomplishment of dying. Sociology of health & illness, 38(3), 479-492.

Malik, M., & Chapman, W. (2017). Education and training in end-of-life care for certified nursing assistants in long-term care. *The Journal of Continuing Education in Nursing, 48*(2), 81-85.

Manchester, J., Gray-Miceli, D. L., Metcalf, J. A., Paolini, C. A., Napier, A. H., Coogle, C. L., & Owens, M. G. (2014). Facilitating Lewin's change model with collaborative evaluation in promoting evidence based practices of health professionals. *Evaluation and Program Planning,* (47):82-90. doi: 10.1016/j.evalprogplan.2014.08.007

Marrelli, T. (2015). Hospice and hospice care handbook: Quality, compliance, and reimbursement. St. Louis, MO: Elsevier Mosby

Marshall, C. and Rossman, G. (2016). *Designing qualitative research, 6th Edition*. SAGE, Thousand Oaks.

McHugh, N., van Exel, J., Mason, H., Godwin, J., Collins, M., Donaldson, C., & Baker, R. (2018). Are life-extending treatments for terminal illnesses a special case? Exploring choices and societal viewpoints. Social Science & Medicine, 198, 61-69.

McMullen, T. L., Resnick, B., Chin-Hansen, J., Geiger-Brown, J. M., Miller, N., & Rubenstein, R. (2015). Certified nurse aide scope of practice: State-by-state differences in allowable delegated activities. *Journal of the American Medical Directors Association, 16*(1), 20-24.

Meier, D.E. (2011). Increased access to palliative care and hospice services: Opportunities to improve value in health care. The Milbank Quarterly, 89(3), 343-380. doi: 10.1111/j.1468-0009.2011.00632.x

Melnyk, B. M., Fineout-Overholt, E., Stillwell, S. B., & Williamson, K. M. (2010). Evidence-based practice: step by step: the seven steps of evidence-based practice. *AJN The American Journal of Nursing*, *110*(1), 51-53.

Miller, S.C., Lima, J., Gozalo, P.L., Mor, V. (2010). The growth of hospice care in US nursing homes. J Am Geriatr Soc, 58:1481-1488.

Mitchell, G. (2013). Selecting the best theory to implement planned change. Nursing Management, 20(1), 32-37.

Mohlman, W. L., Dassel, K., Supiano, K. P., & Caserta, M. (2018). End-of-Life Education and Discussions With Assisted Living Certified Nursing Assistants. *Journal of gerontological nursing*, *44*(6), 41-48.

National Hospice and Palliative Care Organization. (2019). Hospice Standards of Practice. Retrieved April 4, 2019 from https://www.nhpco.org/hospice-care-overview/hospice-standards-of-practice/

Nevis, I. (2014). Educational intervention in end-of-life care: an evidence-based analysis. *Ontario health technology assessment series*, *14*(17), 1.

Nilsson, M.E., Maciekewski, P.K., Zhang, B., Wright, A.A., Trice, E.D., Muriel, A.C., … Pringerson, H.G. (2009). Mental health, treatment preferences, advance care planning, location, and quality of death in advanced cancer patients with dependent children. Cancer, 115(2), 399-409. doi: 10.1001/cncr.24002

Noble, H., & Smith, J. (2015). Issues of validity and reliability in qualitative research. *Evidence-based nursing*, *18*(2), 34-35.

Oberoi-Jassal, R., Pope, J., & Jassal, N. (2019). Hospice Care. In *Pain* (pp. 937-939). Springer, Cham.

Oliver, D.P., Washington, K., Krise, R.L., Alrbright, D.L., Lewis, A., & Demiris, G. (2014). Hospice family member's perceptions of and experience with end-of-life care in the nursing home. Journal of the American Medical Directions Association, 15(10), 744-750. Doi: 10.1016/j.jamda.2014.05.014

Parnell, T. A. (2014). *Health literacy in nursing: Providing person-centered care*. Springer Publishing Company.

Parry, R., Land, V., & Seymour, J. (2014). How to communicate with patients about future illness progression and end of life: a systematic review. BMJ supportive & palliative care, 4(4), 331-341.

Patten, M. L. (2016). *Questionnaire research: A practical guide*. Routledge.

Port, C.L., Gruber-Baldini, A.L., Vuton, L., Baumgarte, M., Hebel, J. R., Zimmerman, S.I., & Magaziner, J. (2001). Resident contact with family and friends following nursing home admission. The Gerontologist, 41(5), 589-596.

Prader, J. (2017, July 5). Skills Needed for Hospice Nursing. Retrieved from https://careertrend.com/list-6706663-skills-needed-hospice-nursing.html

Rack, L., Dudjak, L., & Wolf, G., (2011). Study of Nurse Workarounds in a Hospital Using Bar Code Medication Administration System. Journal of Nursing Care Quality, 27(3): 232-239. doi: 10.1097/NCQ.0b013e318240a854

Rahman, M. S. (2017). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language "Testing and Assessment" research: A literature review. *Journal of Education and Learning, 6*(1), 102-112. doi:10.5539/jel.v6n1p102

Registered Nursing Organization. (2018, January 16). How to Become a Certified Nursing Assistant (CNA) || RegisteredNursing.org. Retrieved from https://www.registerednursing.org/certified-nursing-assistant/

Rosen, J., Stiehl, E. M., Mittal, V., & Leana, C. R. (2011). Stayers, leavers, and switchers among certified nursing assistants in nursing homes: A longitudinal investigation of turnover intent, staff retention, and turnover. *The Gerontologist*, *51*(5), 597-609.

Scheffey, C., Kestenbau, M.G., Wachterman, M.W., Connor, S.R., Fine, P.G., Davis, M.. & Muir, J.C., (2014). Clinic-based outpatient palliative care before hospice is associated with longer hospice length of services. Journal of Pain and Symptoms management, 48(4), 532-539. doi: 10.1016/j.jpainsymman.2013.10.017

Schilinski, S., Hellier, S., & Cline, T. (2019). Evaluation of an Electronically Delivered Learning Module Intended for Continuing Education of Practicing Registered Nurses: A Pretest–Posttest Longitudinal Study. Journal of Continuing Education in Nursing, 50(7), 331-336. Retrieved from https://doi.org/10.3928/00220124-20190612-09

Sengupta, M., Ejaz, F. K., & Harris-Kojetin, L. D. (2012). Training of home health aides and nurse aides: findings from national data. *Gerontology & geriatrics education*, *33*(4), 383-401.

Sengupta, M., Harris-Kojetin, L. D., & Ejaz, F. K. (2010). A national overview of the training received by certified nursing assistants working in US nursing homes. *Gerontology & geriatrics education*, *31*(3), 201-219.

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, *3*(7), 749-752.

Shirey, M. R. (2013). Lewin's theory of planned change as a strategic resource. Journal of Nursing Administration, 43(2): 69-72. doi: 10.1097/NNA.0b013e31827f20a9

Simmons, A. E. (2018, March 14). The Disadvantages of a Small Sample Size. Retrieved from https://sciencing.com/disadvantages-small-sample-size-8448532.html

Simon, M. K., & Goes, J. (2013). Assumptions, limitations, delimitations, and scope of the study. *Dissertation and Scholarly Research: Recipes for Success*. Seattle, WA: Dissertation Success LLC.

Spetz, J., Burgess, J. F., & Phibbs, C. S. (2012). What determines successful implementation of inpatient information technology systems? The American Journal of Managed Care, 18(3): 157-162.

Squillace, M. R., Remsburg, R. E., Harris-Kojetin, L. D., Bercovitz, A., Rosenoff, E., & Han, B. (2009). The national nursing assistant survey: Improving the evidence base for policy initiatives to strengthen the certified nursing assistant workforce. *The Gerontologist*, *49*(2), 185-197.

Sutherland, K. (2013). Applying Lewin's Change Management Theory to the Implementation of Bar-Coded Medication Administration. Canadian Journal of Nursing Informatics, 8 (2): 26-29. http://tinyurl.com/y3o8tld7

Temel, J., Greer J., Muzikansky, A., Gallagher, E., Admane, S., Jackson, V.A., & Lynch, T. (2010). Early palliative care for patients with metastatic non-small-cell lung cancer. New England Journal of Medicine 363(8), 733-742. doi: 10.1056/NEJMoa1000678

Teno, J. M., Freedman, V. A., Kasper, J. D., Gozalo, P., & Mor, V. (2015). Is care for the dying improving in the United States? Journal of Palliative Medicine, 18(8), 662–666. Retrieved from doi:10.1089/jpm.2015.0039

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. Retrieved from http://dx.doi.org/10.1111/j.1365-2648.2006.03712.x

Tracy, S. J. (2013). Qualitative research methods. United Kingdom: Wiley-Blackwell.

Trinkoff, A. M., Storr, C. L., Lerner, N. B., Yang, B. K., & Han, K. (2016). CNA training requirements and resident care outcomes in nursing homes. *The Gerontologist*, *57*(3), 501-508.

Trinkoff, A. M., Yoon, J., Storr, C. L., Lerner, N. B., Yang, B. K., & Han, K. (2019). Residential long-term care regulations: comparison between nursing homes and assisted living facilities. *Nursing Outlook*.

Trotta, R. L., Boltz, M., Happ, M. B., & Strumpf, N. (2018). Cultivating Knowing and Relationships: Nursing Assistants' Interactions With Residents Receiving Palliative Care. *International Journal for Human Caring*, *22*(4), 189-198.

Tsai, P. F., Kitch, S., Beck, C., Jakobs, T., Rettiganti, M., Jordan, K., & Adair, S. (2018). Using an Interactive Video Simulator to Improve Certified Nursing Assistants' Dressing Assistance and Nursing Home Residents' Dressing Performance: A Pilot Study. *CIN: Computers, Informatics, Nursing*, *36*(4), 183-192.

Unroe, K. T., Cagle, J. G., Dennis, M. E., Lane, K. A., Callahan, C. M., & Miller, S. C. (2014). Hospice in the nursing home: perspectives of front line nursing home staff. *Journal of the American Medical Directors Association*, *15*(12), 881-884.

Unroe, K. T., Cagle, J. G., Lane, K. A., Callahan, C. M., & Miller, S. C. (2015). Nursing home staff palliative care knowledge and practices: results of a large survey of frontline workers. Journal of pain and symptom management, 50(5), 622-629.

van Riesenbeck, I., Boerner, K., Barooah, A., & Burack, O. R. (2015). Preparedness for resident death in long-term care: The experience of front-line staff. *Journal of pain and symptom management*, *50*(1), 9-16.

Waldrop, D.P., Nyquis, T.K. (2011). The transition from routine care to end-of-life care in a nursing home: exploring staff perspectives. J Am Med Dir Assoc., 12:114-120.

Wallace, C. L., Swagerty, D., Barbagallo, M., Vellas, B., Cha, H. B., Holmerova, I., ... & Moreno, J. C. (2017). IAGG/IAGG GARN international survey of end-of-life care in nursing homes. Journal of the American Medical Directors Association, 18(6), 465-469.

Wang, J. Y., Zhuang, H. L., Chiou, J. Y., Wang, C. W., Wang, C. Y., & Liu, L. F. (2018). Exploring factors influencing the work-related morale for certified nursing assistants in hospice care: A structural equation modeling study. *PloS one*, *13*(10), e0206281.

WesleyLife. (2014). 20 Stats to Know about Hospice Care in the US - WesleyLife. Retrieved from https://www.wesleylife.org/blog/news/20-stats-to-know-about-hospice-care-in-the-us.aspx

Westermann, C., Kozak, A., Harling, M., Nienhaus, A. (2014). Burnout intervention studies for inpatient elderly care nursing staff: systematic literature review. Int J Nurs Stud, 51:63-71.

Whittaker, E., Kernohan, W. G., Hasson, F., Howard, V., Mclaughlin, D., (2007). Palliative care in nursing homes: exploring care assistants' knowledge. The Authors. Journal compilation @ 2007 Blackwell Publishing Ltd.

Wilmont, S. S. (2015). End-of-life care in critical condition. American journal of public health, 105(1), 58-61.

Wiseman, T., Foster, K., & Curtis, K. (2016). The experience of emotional wellbeing for patients with physical injury: A qualitative follow-up study. *Injury*, *47*(9), 1983-1989.

Wolf, S. M., Clayton, E. W., & Lawrenz, F. (2018). The past, present, and future of informed consent in research and translational medicine.

Woodhead, E.L., Northrop, L., Edelstein, B. (2016). Stress, social support, and burnout among long-term care nursing staff. J Appl Gerontol, 35:84-105.

Wright, A.A., Keating, N., Balboni, T., Matulonis, U., Block, S., & Prigerson, H. (2010). Place of death: Correlations with quality of life of patients with cancer and predictors of bereaved caregivers' mental health. Journal of Clinical Oncology 28, 4457-4464. doi: 10.1200/JCO.2009.26.3863

Wright, D. K., Chirchikova, M., Daniel, V., Bitzas, V., Elmore, J., & Fortin, M. L. (2017). Engaging with patients who desire death: Interpretation, presence, and constraint. *Canadian Oncology nursing Journal*, *27*(1), 56.

Zheng, N.T. & Temkin-Greener, H. (2010). End-of-life care in nursing homes: the importance of CNA staff communication. J Am Med Dir Assoc, 11:494-499.

Zimmerman, N.T., Bowers, B.J., Cohen, L.W., Grabowski, D.C., Horn, S.D., Kemper, P. (2016). New evidence on the green house model of nursing home care: synthesis of findings and implications for policy, practice, and research. Health Serv Res, 51:475-496.

Appendices

Appendix A: Informed Consent Document

INFORMED CONSENT DOCUMENT

Project Title: Assessing Certified Nursing Assistant (CNA)'s knowledge in End Of Life (EOL) care who works with Hospice patients

Investigator: Aneesh Remaniravi

PURPOSE

This study involves research. The purpose of the research is to identify and assess the knowledge of EOL care among hospice CNAs and how education about end of life care will improve the knowledge and impact their delivery of care. You were selected as a possible participant because you currently provide care for end-of-life patients in a hospice setting. Please read the form and ask any questions that you may have before agreeing to be in the research.
This project will last for 4 weeks.

PROCEDURES

If you agree to be a participant in this research, you will be asked to do the following things:
1. Attend a 30 minute meeting to fill out a consent form and a simple demographic form that asks you questions about your background, length of time as a CNA, your primary language, ethnicity, and gender.
2. Complete a 14 item questionnaire reporting your confidence level in providing end of-life care, and complete a 23 item questionnaire that asks you about what your knowledge is regarding end-of-life care.
3. You will attend a one hour education session and will answer a post test questionnaire after the class and also 4 weeks after the class to evaluate your EOL knowledge.

RISKS

The risks of participating in this research are minimal, meaning that they are about the same as you would experience in your normal daily activities. The main foreseeable risk is that you may feel some frustration when answering the questions. If you feel too frustrated and want to stop your participation, you should tell the researcher.

BENEFITS

Most important benefits for participating in the study is to learn about the End of Life Care and management of EOL symptoms. Moreover, the data may help the researcher to better understand the confidence and knowledge level of the CNA' s.

COSTS AND COMPENSATION

There will not be any costs for you to participate in this research project. You will not be compensated for your time and/or any possible inconvenience for participating in this research project.

CONFIDENTIALITY

Records of participation in this research project will be maintained and kept confidential to the extent permitted by law. However,the Hawai'i Pacific University IRB may inspect and copy a subject's records pertaining to the research, and these records may contain personal identifiers. In the event of any report or publication from this study, the identity of subjects will not be disclosed. Results will be reported in a summarized manner in such a way that subjects cannot be identified.

VOLUNTARY PARTICIPATION

All participation is voluntary. There is no penalty to anyone who decides not to participate. Nor will anyone be penalized if he or she decides to stop participation at any time during the research project.

QUESTIONS

Questions are encouraged. Questions about this research project and questions about the rights of research subjects or research related injury may be addressed to the IRB Chair (Dr. Susan Watson at 566-2467 or irbchair@hpu.edu)

Subject's name (printed): _____

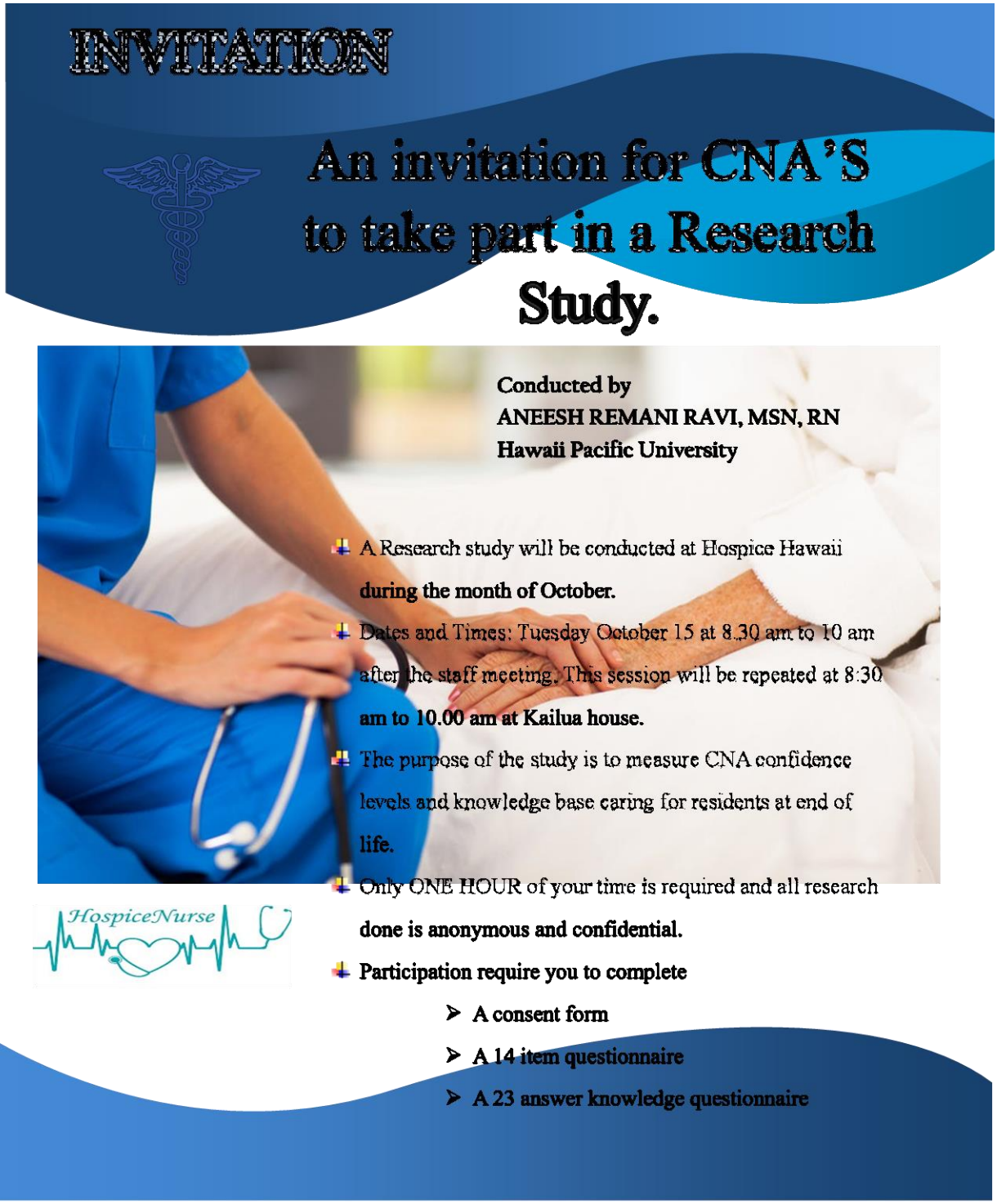
_____ _____
(Signature of Subject) (Date)

INVESTIGATOR STATEMENT

I have discussed the above points with the subject or the legally authorized representative, using a translator when necessary. It is my opinion that the subject understands the risks, benefits, and obligations involved in participation in this project.

_____ _____
(Signature of Investigator) (Date)

Appendix B: Invitation for CNAS to Take Part in the Research Study



Appendix C: Nursing Assistant Knowledge Assessment Questionnaire

Please complete the following 23 question assessment by marking the letter you believe BEST answers the question.

1. Which of the following items is a common sign of pain in the patient who cannot communicate with words?
   a. Change in bowel pattern
   b. Relaxed facial expression
   c. Change in activity level
   d. Increased appetite
2. 50 year old man is dying of lung cancer. As you enter his room, you find him moaning and moving around in bed. When you ask what is wrong, he says his pain is really bad. You know that he received IV medication for his pain. What is your best response?
   a. Help him to lie back down and fix his pillows
   b. Check the medication record to see what dose of morphine he received
   c. Notify the nurse to report that he is still complaining of pain
   d. Assure him that the medicine will work soon
3. Which of the following answers about pain is true?
   a. Patients with chronic pain have higher blood pressure
   b. The patient knows best about his own pain
   c. A patients body language is the best indication of his pain level
   d. Pain experts can know a patient's pain level by observation
4. A possible sign of shortness of breath is when the patient
   a. Is unable to laugh while talking
   b. Experiences movement in his chest and abdomen when breathing
   c. Experiences increased sleepiness throughout the day
   d. Has a chronic, moist cough
5. Which of the following is the most likely to help relieve a patient's nausea?
   a. Distracting the patient by talking with her about her favorite activity
   b. Offering a hot washcloth for her neck and forehead
   c. Opening the window to let fresh air in the room
   d. Suggesting you go for a walk to help activate her digestive tract
6. Which one of the following is a sign of restlessness at end-of-life
   a. Daytime sleepiness
   b. Repeated "picking" behavior
   c. Frequent urination
   d. Bluish fingernails
7. A patient at end-of-life reports a pain level of 6 on a 1-10 scale and requests pain medication. A short time later you walk by the room and see him laughing at a TV show. Which statement best describes the patients behavior?
   a. He is addicted to the pain medication and wants his next dose
   b. He is temporarily distracted from the pain
   c. He is probably receiving too much pain medication
   d. He probably has a pain level less than 6 out of 10
8. Which signs and symptoms will the nursing assistant probably observe when a patient is very near death?

a. Little response to voice or touch, lack of eye blinking, decreased urine output
b. Lack of eye blinking, increased urine output, bluish feet
c. Increased sensitivity to sounds, irregular breathing and apnea, bluish feet
d. Lack of eye blinking, small amounts of dark colored urine, increased respirations

9. Jim is a 40 year old patient dying of pancreatic cancer. He is married and has 2 young children. One day he tells you that he isn't sleeping and says "I can't stop worrying about all that has to be done around the house. How will my wife manage when I'm gone? Which is the best answer?
   a. Try not to worry. I'm sure she'll find someone else to help
   b. Maybe you should write things down so she'll know where to start
   c. Do you want to talk to the nurse or social worker about it?
   d. This must be very upsetting to you. Tell me more about what's going on
10. Which of the following BEST describes chronic pain?
   a. Pain that lasts more than two weeks
   b. Pain that causes a change in vital signs
   c. Pain that sometimes gets better but doesn't go away
   d. Pain that does not respond to treatment
11. Mrs. Rosales, a Mexican Hispanic patient with lung cancer, mentions to you that she can't stop coughing because she had an argument with her husband. Your BEST response is:
   a. Do you want the nurse to speak to your husband?
   b. You remind her that it's her cancer causing the cough
   c. Ask her to tell you more about how this argument started the cough
   d. Suggest she contact her traditional healer for help
12. Culture influences how patients and providers make healthcare decisions. Which of the following statements describes a major value in US health care?
   a. Death is an accepted part of the health care system
   b. It's ok to withhold information as long as it's in the patient's best interest
   c. Medical treatment focuses on what works and not on scientific facts
   d. People have the right to direct their own lives and make their own decisions
13. The most important reason to control symptoms at the end-of-life is to:
   a. Help families and caregivers feel better
   b. Decrease medical costs
   c. Improve patient's quality of life
   d. Decrease the need for personal care
14. The nursing assistant enters the patient's room and finds the patient's granddaughter trying to feed her lunch. The family member shouts "Grandma quit being so stubborn. If you don't eat you'll starve to death". What is the best response?
   a. You don't have to shout. She can still hear you
   b. Why don't I take over and help her to eat. She will eat for me
   c. It must be hard for you when she doesn't want to eat
   d. She's not going to starve to death
15. For patients who are very close to death, which one of the following is the MOST cause of moist respirations

a. Medication side effects
b. Unrelieved pain
c. Poor mouth care
d. Decreased swallow reflex

16. A "Good Death" is best described as a death that
    a. Occurs in the patient's home with family present
    b. Happens before unpleasant symptoms appear
    c. Reflects the individual patient's and family's wishes and values
    d. Is managed without the use of high tech intervention
17. Which of the following is a COMMON sign at end-of-life?
    a. Bleeding
    b. Seizures
    c. Fatigue
    d. Uncontrollable pain
18. Which of the following statements are true about end-of-life care?
    a. A nursing assistant often leaves the field because of the emotional stress of working with dying patients
    b. A good end-of-life team is able to predict when a patient will die
    c. Death may be less difficult when a skilled nursing assistant is providing help to patients and their families
    d. The focus of end-of-life care is to extend the amount of time the patient will live
19. Which is the BEST example of a way to prevent skin beakdown?
    a. Assist the patient to wash daily with soap and warm water
    b. Use disposable briefs w/tape tabs for the bed bound patient to decrease irritation from urine
    c. Change the patient's position from complete side-lying to his back then to other side every 2 hours
    d. Elevate the patient's heels by using a pillow under his calves and ankles
20. Which of the following is the MOST important observation t o report to the licensed staff?
    a. The patient reports nausea after walking to the bathroom
    b. The patient' s vomit is dark brown and has the look of coffee grounds
    c. Talking about the clinic where She had chemotherapy makes her feel nauseated
    d. The patient throws up first thing every morning before eating breakfast
21. Which statement about delirium is FALSE?
    a. Delirium often changes over 24 hours, sometimes getting worse and sometimes improving.
    b. Delirium usually comes on slowly over 4 days or weeks.
    c. There is no effective treatment for delirium
    d. Delirium seldom occurs in end of life patients
22. An unconscious patient is no longer speaking. What aspect of patient care is still appropriate?
    a. Observing for pain
    b. Frequent vital signs
    c. Daily Weights
    d. Encouraging Fluids

23. What best describes the nursing assistant role on end of life care?
    a. Working independently with patients and families
    b. Primarily assisting with the emotional needs of the patient
    c. Providing comfort care to the patient before and at the time of death
    d. Providing medical treatment to the patient.

Appendix D: Nursing Assistant- Self-Evaluation of End of Life Skills

Please complete the following questionnaire by completely filling in the bubble for the response that best describe your assessment of your skill in caring for dying residents and their families.

In general, how effective do you think that you are in the following skills?

1. Communicating with terminally ill residents and their families

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

2. Observing and reporting common end-of-life symptoms such as pain and shortness of breath.

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

3. Observing for and reporting side effects of pain medications

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

4. Using non-drug therapies for common end-of-life symptoms such as pain and nausea

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

5. Recognizing and respecting resident's and family's spiritual practices at the end of life

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

6. Providing emotional support to residents and family members at the end of life

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

7. Caring for residents from different cultural groups at the end of life

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

8. Coping with family/resident conflicts about end-of -life care

   Not at all effective Very Effective

   0 1 2 3 4 5 6 7 8 9 10

9. Caring for and preparing the body at the time of death

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10

10. Discussing the goals of care with residents, families and other team members

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10

11. Meeting my own self-care needs when working closely with residents who are dying and their families

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10

12. Discussing the role of hospice in the care of terminally ill residents

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10

13. Providing physical care of dying residents

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10

14. Working with other team members to provide effective end-of -life care

Not at all effective Very Effective

0 1 2 3 4 5 6 7 8 9 10