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The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of
Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness

Presented to the Faculty of the School of Nursing

The George Washington University

In partial fulfillment of the requirements for the degree of

Doctor of Nursing Practice

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Spring 2018

The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness

Abstract

Background: Palliative care nursing provides care for the relief of pain and suffering throughout the course of a patient's chronic, serious illness. Hospital-based nurses need to be equipped with palliative care nursing knowledge to provide optimal care for patients and their families to improve the quality of life. Lack of education in pain and symptom management and communication about goals of care can result in a suboptimal and high cost of care.

Objectives: To determine if a brief palliative care nursing education can improve the knowledge of hospital-based nurses about palliative care nursing.

Methods: A cross-sectional quantitative pre-posttest design used a convenience sample of 73 nurses from oncology (n=26), geriatric (n= 24), and medical-surgical (n=23) units. A paper-pencil survey was used to collect data. A brief palliative nursing education served as an intervention for the study, with a pretest and posttest comparison for improvement. A Palliative Care Quiz for Nursing (PCQN) was used to assess knowledge in palliative care. Data entry and analysis were done using Excel and SPSS 24.

Results: Out of 73 nurses selected, 61 (83.5%) were able to participate. Paired *t*-test was used to compare pretest and posttest scores (t value -12.044, P = <0.001). The analysis revealed a highly significant finding that a brief palliative care nursing education was effective in improving nurses' knowledge in palliative care.

Conclusions: Nurses' knowledge improved after a brief palliative nursing education. It was recommended that palliative nursing education should be included as part of a continuing education for nurses.

Background

Palliative care (PC) is an approach that improves the quality of life for patients and their families facing problems associated with chronic, serious illness (World Health Organization [WHO], 2015). It is a specialized medical field that involves physical, psychological and spiritual assessment, management of pain and other symptoms with the diagnosis of serious illness, throughout treatment, and at the end-of-life (Kelly & Meier, 2010). Palliative care services integrate the expertise of interdisciplinary team providers and coordinate care to address the complex needs of patients with chronic, serious illness and their families.

Palliative care is a specialty that provides care for the relief of suffering throughout the course of a patient's serious, chronic illness. There is an increased need for palliative care due to the increasing number of people with chronic illness. There are 47.6 million people aged 65 years and older, and this number is predicted to increase to 72.8 million by 2030 (Center for Disease Control and Prevention [CDC], 2013). There is an increased burden of chronic, serious illness due to the increased aging population and advancing technology. The rising burden of chronic, serious illness, such as cancer, congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), strokes, Alzheimer's, dementia, human immunodeficiency virus (HIV), end-stage renal disease, depression, and the aging population increase the global need for palliative care services. Chronic, serious illnesses are conditions that have uncontrolled symptoms that tend to worsen over time and eventually cause death despite medical management. Pain, symptom management, goals of care, and caregiver burden are major issues in the management of patients with chronic, serious illness.

The Institute of Medicine (IOM) reported that many American adults have not addressed their end-of-life care partly because of lack of awareness and education related to palliative care

services (IOM, 2014). The Regence Poll (2011) reported that 71% believed that it is important to enhance the quality of life for seriously ill patients even if it means a shorter life, compared to 23% who favored every medical intervention to extend a life. When medicine can no longer change the eventual outcome of illness, patients may want to discuss their poor prognosis and impending death. This conversation may be uncomfortable and daunting to some nurses. The effectiveness of this encounter depends on nurses' knowledge and level of comfort to discuss EOL issues. The lack of communication skills to discuss end-of-life issues and lack of competency in symptom management are some of the limiting factors to effectively manage pain and suffering of patients with chronic, serious illness and their families.

The National Consensus Project [NCP] (2009) defined palliative care as an art and science of care with a philosophy that lies in an organized structure of care delivery that requires competent knowledge of pain and symptom management and interpersonal skills with patients and families receiving palliative care services. The American Society of Clinical Oncology (ASCO) presented an opinion that substantial evidence demonstrated better patient and caregiver outcomes if palliative care is started in concurrence with standard cancer care at initial diagnosis of malignancy (Smith et al, 2012). In addition, the lack of competency to provide optimal palliative care services can lead to inappropriate health care spending and an exorbitant cost of care.

Problem Statement

The complexity and nature of care required for palliative care patients can be a stressor to nurses and can pose a threat when working with palliative care patients. Due to the complexity of palliative care, nurses are often unprepared to care for patients with terminal or chronic, serious illness. The lack of proper training and education in palliative care nursing can create negative

attitudes that can impact care outcomes. Knowledge and personal belief affect decision making and clinical practice. Palliative care has no clear guidelines or standards for clinical practice (von Gunten & Ferrell, 2014). The concept of “palliative care” and “advance care planning” are not well understood. The lack of clear guidelines in palliative clinical practice prompted recent initiatives to recommend the need for palliative care education and training as a requirement for nursing and other healthcare professions (von Gunten & Ferrell, 2014). Palliative care nursing education can improve nurses’ knowledge, improve communication skills, and promote positive attitudes about end-of-life care.

The 2011 Public Opinion Strategies found that most Americans believe that palliative care should be made available to all hospitals (Center to Advance Palliative Care [CAPC], 2011). The majority of palliative care programs in the United States (U.S.) started as inpatient hospital palliative care consultation based in oncology, general medicine, and geriatrics. According to CAPC, there is still inadequate access to palliative care for millions of Americans living with chronic, serious illness despite the continued growth of U.S. hospitals having palliative care programs (CAPC, 2015). They reported an increase of inpatient palliative care teams from 53% in 2008 to 63% percent in 2011. In 2015, 75% of all hospitals in the United States were providing palliative care services (CAPC, 2016). The increasing demand for palliative care services requires the need for education among hospital-based nurses to provide effective palliative care for patients with chronic, serious illness and their families.

Purpose/Aim of the Study

The purpose of this study was to determine the effectiveness of a brief palliative care nursing education for improving the knowledge in palliative care nursing among hospital-based nurses caring for patients with chronic, serious illness.

Research Question

Does a brief palliative care nursing education improve the knowledge of nurses caring for patients with chronic, serious illness receiving palliative care in the hospital setting?

Hypothesis

Palliative care nursing education will improve nurses' knowledge related to care of patients with chronic, serious illness receiving palliative care in the hospital setting.

Significance

The lack of inclusion of palliative care nursing in undergraduate nursing curricula warrants the need for palliative care education for nurses who provide care for patients with chronic, serious illness. The meaningful contribution of palliative care nursing education is providing nurses with knowledge in pain and symptom management, and communication skills to discuss goals for care and end-of-life issues with patients and families. Providing education for nurses about palliative care nursing can produce highly competent, confident, and skilled nurses who will provide safe, optimal and cost-effective care. The result of this study offers an education intervention to improve the knowledge in palliative care nursing among hospital-based nurses, and ultimately improve the care of individuals receiving palliative care. It may also show the value of including palliative care nursing within the context of nursing education in general.

Literature Review

Why Palliative Care Nursing Education?

Historically, Americans are known to live in a death-denying society. This orientation has impacted nurses' education about the care of patients at the end of life. Nurses have a prominent

role and responsibility to educate patients and their families about their care. Nurses who work in palliative care must have an appropriate education. The World Health Organization (2015) identified that lack of palliative care education is a major barrier to providing safe and optimal palliative care services. In addition, the lack of preparedness to care for palliative care patients due to lack of knowledge makes it a stressor for nurses. Nurses that are educated in palliative care can effectively help patients and their families attain an optimal comfort care and management of pain and other symptoms.

Inadequate resources like staff shortages, increased workload and lack of time to attend palliative care education sessions were identified by McDonnell, et al (2009) as challenges in providing palliative care education to nurses. In addition, Grant, et al (2013) cited negative attitudes and misinformation about palliative care by multidisciplinary team members as the most frequent barriers to implementing palliative care education among critical care nurses. Nurses and other hospital staff need to be empowered through education to effectively assess and identify patients that will benefit from palliative or supportive care services (CAPC, 2016). Innovative strategies and online resources are currently available for healthcare professionals especially nurses, to assist in the education related to palliative care.

Lack of Education in Palliative Care

Three studies were identified that look at nurses' knowledge and attitudes regarding palliative care (Kassa, Murugan, Zewdu, Hailu & Woldeyohannes, 2014; El-Nagar & Lawend, 2013; Ayed, Sayej, Harazneh, Fashafsheh & Eqtaït, 2015). One quantitative cross-sectional survey related to nurses' knowledge about palliative care in India (Prem, Karvannan, Kumar, Karthikbabu, Syed, Sisodia & Jaykumar, 2012), and one descriptive survey on the analysis of palliative care education needs of registered nurses in nursing home in Ireland (McDonnell,

McGuigan, McElhinney, McTeggart & McClure, 2009). Two studies were conducted in the United States (U.S.) related to nurses' knowledge of palliative and end-of-life care (Callahan, Breakwell & Suhayda, 2011; Saylor, Vernoooy, Selekmán & Cowperthwait, 2016). Four studies were reviewed related to describing the effect of the End-of-Life Nursing Education Consortium (ELNEC) course on nurses' knowledge of palliative care (Grant, Wiencek, Virani, Unam, Munevar, Malloy & Ferrell, 2013; Boon-Han, Hyun-Sook, Su-Jeong, Sung-Eun & So-Hi, 2012; Kelly, Thrane, Virani, Malloy & Ferrell, 2011; Kim, Kim, Yu, Kim, Park, Choi & Jung, 2011).

Kassa, et al (2014) studied 341 nurses who responded to a survey about the assessment of knowledge, attitudes, and practice towards palliative care. Their findings revealed that 104 nurses had good knowledge about palliative care and 259 nurses had favorable attitudes towards palliative care (Kassa, et al, 2014). El-Nagar and Lawend (2013) surveyed nurses' palliative care knowledge by studying a convenient sample of 30 registered nurses (RNs) in the pediatric ward and intensive care units. They reported that 50% answered correctly about giving Morphine as the standard analgesic in chronically ill children in the pretest compared to 76.7% of respondents in the posttest (El-Nagar & Lawend, 2013). The study of El-Nagar and Lawend (2013) concluded that nurses have increased confidence to care for palliative care children after a palliative care education.

A study by Ayed, et al (2015) investigated the nurses' knowledge and attitudes towards palliative care. The researchers found that out of 96 nurses surveyed only 20.8% had good knowledge of palliative care, and 6.2% of nurses had good attitudes towards palliative care despite findings that 57 nurses (59.4%) had previous palliative care training (Ayed, et al, 2015). Ayed, et al (2015) concluded that nurses in their study had poor knowledge, but attitudes towards palliative care were moderate. They recommended that palliative care should be included in the

national curriculum of nurse education. The lack of adequate knowledge in palliative care nursing was underscored by Khader, Jarrah & Alasad (2010). The study found that nurses were not prepared to care for the dying, and they have negative attitudes towards a dying patient that can affect the quality of end-of-life care, such as reflection of their negative emotions in the scene of death and dying (Khader, Jarrah & Alasad, 2010). The authors concluded that the lack of inclusion of end-of-life education in the current nursing curricula may have contributed to lack of preparedness and negative attitudes among nurses in their study, and they recommended the ELNEC course for nurses who intend to work with palliative care patients to obtain palliative care knowledge and promote positive attitudes towards care of the dying (Khader, Jarrah & Alasad, 2010).

A quantitative cross-sectional study of nurses' knowledge in palliative care was conducted by Prem, et al (2012). A survey of palliative care knowledge using a palliative care knowledge test (PCKT) was taken by 363 nurses in a multispecialty hospital. There were less than 35% of nurses who had knowledge about pain management essential for people receiving palliative care. This study did not evaluate interventions to improve palliative care knowledge among nurses, but the authors recommended palliative care education to improve palliative clinical practice (Prem, et al, 2012).

McDonnell, et al (2009) conducted a descriptive survey study using mail survey questionnaires employed by Whitaker, et al in 2006 to identify the palliative care education needs of registered general nurses (RGNs) and health care assistants (HCAs) working in nursing homes. The study found that out of the 686-total population of RGNs and HCAs employed in nursing homes, 359 participants (RGNs=205, 60%; HCAs=154, 45%) completed the questionnaires. The results of the study concluded that nurses are not educated to care for the

dying patients, and nursing assistants receive little training for providing care in nursing homes (McDonnell, et al, 2009). In addition, 93% (n=334) of participants indicated a willingness to attend palliative care education within the work venue and during work hours to prevent disruption of work schedule. This study recommended the need for managerial support in the development and delivery of palliative care educational programs for nursing home staff, as well as the use of innovative educational strategies to maximize attendance to palliative care education (McDonnell, et al, 2009).

Interventions for Education in Palliative Care Nursing

Callahan, Breakwell and Suhayda (2011) conducted a pretest-posttest study to determine changes in palliative care knowledge and end-of-life care, and perceived effectiveness in palliative care skills using a Palliative Care Knowledge Examination (Weissman, 2005) and the Self-Assessment Survey adapted from the End-of-life Attitudes Survey by the City of Hope Pain/Palliative Care Resource Center (City of Hope Beckman Research Institute, 1999). There were 62 student registered nurse anesthetists [SRNAs] (master's level student enrolled in anesthesia program) who participated in the study. There were 39 SRNAs who completed the self-assessment survey and indicated that the course helped improve their effectiveness in a 9 of the 10 dimensions. The Palliative Care Knowledge Examination revealed an overall improvement in knowledge and attitudes related to palliative care with a statistically significant improvement on the posttest from a paired comparison of means ($t = -7.31$, $df = 61$, $P = .001$). The authors recommended that adding palliative care content to nurse anesthesia programs, and end-of-life dimensions to clinical simulations will enrich SRNA's experience and expand their palliative care skills (Callahan, Breakwell & Suhayda, 2011).

Saylor, et al (2016) conducted a quasi-experimental pretest-posttest pilot study to measure self-efficacy and attitudes of health professional collaboration using 34 hospital nurse interns (registered nurses [RNs] in adult medical-surgical units), together with nursing students, physician interns, and medical students doing a palliative care simulation module as part of their education. The study revealed that RNs have the greatest improvements in self-efficacy among other health professionals (ANOVA overall mean self-efficacy before and after palliative care simulation $F_{1,96} = 71.58$, $P = .001$; pre: mean, 2.64 [confidence interval, 2.60-2.74]; post: mean, 3.01 [confidence interval, 2.94-3.01], $P = .001$). Saylor, et al (2016) concluded that palliative care education through the simulation approach demonstrated significant improvement in building RNs' knowledge and skills related to palliative care.

Few studies have shown that use of ELNEC education intervention can improve palliative care knowledge among nurses (Kelly, et al, 2016; Grant, et al, 2013; Boon-Han, et al, 2012; Kim, et al, 2011). Kelly, et al (2016) conducted a study in California nursing homes using 351 nurses with 308 respondents that revealed a mean rating of 8.76 out of 10 in the pre-course evaluation on nurses' receptiveness of end-of-life education, and a mean rating of 8.17 ($P < 0.001$) 12 months after the ELNEC course. Kelly, et al (2016) reported that the reason for lack of improvement in the mean rating 12 months after the ELNEC course was lack of time to passing on the lessons learned. The researchers also reported that there were delays holding an education program for nurses working at the long-term care facility due to the inability of nurses to be relieved from patient care (Kelly, et al, 2016).

A study by Grant, et al (2013) provided eight (8) hours of ELNEC critical care train-the-trainer course to educate critical care nurses in a California hospital. The study was funded by the Archstone Foundation. There was a total of 388 participants and 359 (93%) nurses were

funded by the Archstone, and the other 29 (7%) were non-funded nurses or other allied healthcare professionals. The overall response rate for 359 nurses was 94%. The combined six (6) and 12 months survey from the participant's rating of teaching effectiveness from a pre-course average was 5.9 to a post-course average of 6.9. The perception that palliative care education is effective in a work setting increased from a pre-course rating of 4.86 to a post-course rating of 6.41. Overall, all participants across the four (4) courses rated ELNEC as very effective in improving end-of-life palliative care education in their work setting (mean score 8.05) (Grant, et al, 2013).

ELNEC-Geriatric was studied by Boon-Han, et al (2012) in Korea with 128 respondents (45.2% staff nurses; 73.4% hospital nurses) completing the questionnaire. The Palliative Care Quiz for Nursing (PCQN) was used to evaluate nurses' knowledge pre- and post ELNEC-Geriatric course. The researchers reported that approximately 89% of nurses had previous experience caring for dying patients and attending various hospice and palliative care training programs. Boon-Han, et al (2012) concluded that the mean of the total PCQN score was 12.75 out of 20 after ELNEC-Geriatric course participation, and participants of their study reported over average satisfaction with the ELNEC-G program. Boon-Han, et al (2012) recommended that ELNEC-G be reintroduced in the long-term care facility in Korea to increase nurse' competency as educators to promote quality palliative care in the long-term care settings.

Another study was conducted in Korea that surveyed 111 hospital nurses who attended the ELNEC course (Kim, et al, 2011). The study used a pretest and posttest design using the PCQN tool to evaluate nurses' knowledge of hospice and palliative care. Results of the study revealed that the average level of Korean nurses' knowledge of hospice and palliative care was 12.5/20 at the beginning of the course, and the level increased after the completion of the course.

Kim, et al (2011) recommended that the ELNEC course should be provided to nurses regularly and should be evaluated for continuous improvement and effectiveness.

The quality of care received by palliative care patients depends on nurses' knowledge and skills in symptom management and end-of-life care. Currently, nurses are not allowed to practice in a palliative care specialty without prior education in palliative care. Palliative care nursing education will help nurses improve their skills, provide competent assessment and optimal pain and symptom management that can improve nursing practice. The limited opportunities for ongoing palliative nursing education and the variability of nurses' education and training are among the reasons nurses are unprepared to provide palliative care (Pesut, et al, 2013; Kaasalainen, et al, 2011). The literature reviewed supported the evidence that palliative care nursing education improves nurses' knowledge in palliative care nursing. Barriers and gaps in implementing palliative care nursing education in studies reviewed were identified. These gaps include misinformation about palliative care and negative attitudes towards care at the end of life. The lack of nurses' knowledge in palliative care nursing can create a disconnected link between a patient-centered focus of care and a scientific approach to care. It is important to address, clarify, and correct any misconceptions in the knowledge of palliative care nursing to optimize care delivery and improve clinical practice.

The study described in this paper was aimed to determine if a brief presentation in palliative care nursing education can improve the palliative care nursing knowledge of hospital-based nurses caring for patients with chronic, serious illness. The pre-and post-test results of the PCQN was used to validate that nurses' knowledge improved after a brief palliative care nursing education.

Theoretical Foundation

The theoretical framework for this study is based on Mezirow's (1991) Transformative Theory of Adult Learning. Mezirow's (1991) main focus of Transformative Learning is reflecting rationally and critically on one's assumptions and beliefs. Understanding the essence of palliative care and end-of-life issues promote adaptation of positive behavior that could influence optimal care delivery and safe nursing practice. Enhancement of the present knowledge and skills through education enable nurses to develop confidence in performing assigned tasks. Educators in Transformative Learning facilitate knowledge through critical reflection and critical self-reflection to translate the central meaning of education that motivates an individual to have a positive learning experience recognizing their individual perspectives, values, and beliefs.

Palliative nursing education provides nurses with the knowledge to understand the end-of-life experience, pain and symptom management, goals of care, and advance care planning. Cultural influence, personal values, and beliefs can impact a person's ability to understand end-of-life issues. Education will help maintain a balance of emotion and knowledge in making decisions through critical thinking and self-reflection to make rational decisions. Through palliative nursing education, nurses will learn to interpret, reinterpret and reflect their experience, and communicate their feelings to construct a feeling of respect and empathy that promotes a positive transformation to learning.

Nurses are educated to care for patients at various stages of illness but their role in dealing with patients and families at the end-of-life is not well emphasized. Lack of education in palliative care nursing can bring about low self-confidence, low self-esteem, and feelings of uncertainty in performing assigned tasks with fear that care may not be appropriate. Nurses who lack knowledge and training in palliative care can get overwhelmed. Honoring patient's wishes and understanding family's preference of care towards their loved ones can be difficult to handle.

With palliative care nursing knowledge, nurses can effectively provide care with dignity and respect honoring both the patient and family's wishes. If nurses received appropriate education and training in the care of dying patients, positive attitudes will be developed and they will be less likely to withdraw from the care of patients at the end-of-life. Mezirow's (1991)

Transformative Theory of Adult Learning (see Figure 1) is an appropriate theoretical framework that describes the phenomenon of how palliative care nursing education can improve knowledge in the care of patients and families with chronic, serious illness receiving palliative care.

Definition of Variables

The variables in this study are palliative nursing education as the independent variable and nurses' knowledge as the dependent variable. See Table 4 Definition of Variables. The demographic data include age, gender, religion (Christian, Jewish, Muslim, atheist/other), highest nursing education (doctoral, masters, bachelor, associate degree), years of work experience as a nurse, previous palliative care experience or training (yes or no), and previous palliative care education (yes or no).

Methods

Research Design

This research project was designed to answer the question if a brief palliative care nursing education will improve nurses' knowledge in palliative care nursing. A cross-sectional quantitative pretest-posttest survey design was used to evaluate outcomes of a palliative care nursing education. After the educational intervention, the pretest and post-test results of the PCQN were compared for each participant to determine if there was a change in knowledge about palliative care nursing. This survey design was selected as it could answer the research

question using the pretest and post-test scores, and there was a need for a rapid turnaround in data collection (Creswell, 2014). Quantitative data were analyzed using SPSS 24 software to identify differences in the outcome variables.

Study Sample

This research project was a pilot study with a limited time scope. A convenience sample of 73 hospital-based nurses from an oncology unit (n=26), a medical-surgical unit (n=23), and a geriatric unit (n= 24) were invited to participate. There were 61 (83.5%) nurses who participated in the brief palliative care nursing education. With a type 1 error or alpha of .05, type II error of .20, a statistical power of .80, a medium effect size of 0.5, and a two-tailed test, the estimated sample size to detect significant differences using a paired sample *t*-test is 73 participants (Cohen, 1987).

Setting

The study was conducted in the oncology, geriatric, and medical-surgical units of a 700-bed hospital in a major city in the Northeastern region of the United States. This setting is experiencing increasing numbers of people who are readmitted after being treated for problems associated with chronic, serious illness, particularly on these three mentioned units. Improving education of nurses about palliative care nursing can improve nurses' knowledge in palliative care. In addition, nurses with palliative nursing education can help patients and their families understand the value of palliative care to minimize pain and suffering and plan for appropriate goals of care related to the chronic illness trajectories to attain a better quality of life.

Recruitment of Sample

Recruitment of participants was coordinated through the director of nursing and each unit's nurse manager. Inclusion criteria to recruit samples were full-time, and part-time nurses of the oncology, geriatrics, and medical-surgical units. Exclusion criteria include nurses on vacation, leave of absence, and on sick leave when the pilot study was conducted. Lecture flyers were distributed to three units (oncology, geriatric, and medical-surgical unit) during the researcher's initial meeting with the three unit managers two weeks before conducting a lecture. Researcher contact information was provided on the flyers for correspondence. Unit managers were informed by the researcher of the date and time of the palliative care nursing education lecture. An email was sent by three unit managers to all staff nurses indicating the schedule of a brief palliative care nursing education lecture. Nurses were also personally approached by each unit manager to determine if they were interested in participating in a brief palliative nursing education lecture. Once nurse participants were identified to volunteer for the study, the researcher provided each interested participant with informed consent forms to consider for participation in the research study.

Intervention

A 40-minute palliative care nursing education lecture was developed as the intervention for this study. The content of the lecture was adapted from a premier textbook on palliative nursing (Ferrell, Dahlin & Coyne, 2016), and a national consensus curriculum developed by the City of Hope and American Association of Colleges of Nursing (AACN) (AACN, 2018). Lecture content included a brief overview of the philosophy and principles of palliative care as it relates to the chronic illness trajectory, definition of chronic illness, psychosocial models of pain, the meaning of pain and challenges to manage pain, and overview of other symptoms

encountered in palliative care patients. The education content was delivered using a power point presentation.

Lectures were provided by the researcher and conducted twice a week on three units (oncology, medical-surgical, and geriatric units) until all nurses had the opportunity to attend. The palliative care nursing education lecture took place during participants' normal work hours, specifically 11:00 am for the morning shift, and 10:00 pm for the night shift.

Instrument and Measurement

The demographic form was developed to describe the study participants. The form included the variables of age, gender, religion, highest nursing education, years of work experience as a nurse, previous palliative care experience, and previous palliative care education. See Demographic Form in Appendix A.

The second survey instrument is the Palliative Care Quiz for Nursing (PCQN). See Appendix B for the PCQN Tool developed by Ross, McDonald & McGuiness (1996), which measures knowledge of palliative care nursing. The PCQN tool was used with permission from the authors. The PCQN tool was used for the pretest and post-test to measure differences in knowledge before and after a brief palliative care nursing education. The pretest and posttest questions contain similar content. The PCQN tool is a 20-item questionnaire that tests nurses' knowledge of pain, symptom management and basic knowledge of palliative care, answerable by "true", "false", and "don't know". A high PCQN score indicates better knowledge. A PCQN good knowledge is equal to or greater than 75% of a total PCQN score, while poor knowledge is less than 75% of the total PCQN score (Ross, et al, 1996). The test-retest reliability correlation

coefficient was 0.56. The internal consistency of the 20-item quiz was 0.78 indicating high internal consistency.

Research Ethics

Institutional Review Board (IRB) approval was obtained from the institution where data was collected and the George Washington University (GWU) IRB before implementing the research study. Nurse participants were informed by the researcher that participation in this study was voluntary. Informed consent was obtained from nurse participants who voluntarily participated in the study. See Research Informed Consents in Appendix C and D. The informed consent forms were completed prior to the palliative care nursing education lecture.

The researcher provided the information to nurse participants on the purpose and significance of the study. Random unique identifiers were assigned to each participant to maintain anonymity. To protect confidentiality and to match the pretest-posttest data, each participant was identified by their unique identifier number written in the pretest and posttest questionnaires. Participants were assured that responses would be confidential, and it would not affect their employment whether they participated or did not participate.

Data Collection, Procedure, and Timeline

Data were collected using a paper-pencil survey from nurse participants. A paper-pencil survey is a more feasible strategy to obtain data than email surveys given nurse's limited access to emails while at work (Wyse, 2012). A paper-pencil survey offers minimal work disruption given nurses' busy schedule while in the line of duty (Creswell, 2014). Data were collected during work hours to have minimal disruptions of nurse's working environment. Eligible nurse

participants were identified through their consent to participate, attending the full 40-minute brief palliative care nursing education lecture and completed the pretest and posttest.

The total amount of time spent by each nurse participant for this study is 60 minutes. The palliative care nursing education lecture took 40 minutes, with an additional 10 minutes to fill out pretest and demographics, and 10 minutes for the posttest. Prior to a palliative care nursing education lecture, nurse participants were given a random unique identifier number to include in the demographic sheet and pretest questionnaire survey. The nurse participants placed the completed demographic and pretest survey in an envelope and placed it in a pretest collection box. The palliative care nursing education lecture started after all nurses completed the pretest. After the lecture is completed, a posttest survey was given to all participants to complete. The same unique identifier number was used by each participant for the posttest survey. Completed posttest surveys were placed in an envelope in a posttest collection box.

Data collection was conducted only by the researcher. Data collection was completed in one month. Collected data were kept in a locked cabinet in a locked office. Double-locked security was maintained as per institution's protocol. The timeline for this project is illustrated in the GANTT chart in Table 5.

Data Analysis Plan

The completed pretest and posttest questionnaires were collected and hand-scored by the researcher, then data were entered into Excel database. Data analysis was performed using Statistical Package for Social Sciences (SPSS) version 24. Data analysis was double-checked for accuracy by a project team and a faculty statistician. The answer to the PCQN questions was coded as 1 (correct), 2 (incorrect and don't know). Data entry for analysis of pretest and posttest

variables were coded as 1 (pretest) and 2 (posttest). Frequency and percentage were reported for each demographic variable. The correct answer to each PCQN question (total 20 questions) was tabulated using descriptive statistics, and McNemar test to identify the frequency, percentage and P value. Mean, standard deviation, level of significance, *t* value and p-value were reported for overall correct scores. A paired sample *t-test* was conducted to evaluate the overall differences between pretest and posttest scores related to change in knowledge about palliative care nursing.

Results

The purpose of this study was to determine the effectiveness of a brief palliative care nursing education for improving the knowledge in palliative care nursing among hospital-based nurses. A total of 73 nurses were identified to participate in this study and 61 (83.5%) nurses from oncology (n=25), geriatric (n=21), and medical-surgical (n=15) units volunteered to participate in the brief palliative care nursing education. The other potential participants were unable to participate as six (6) nurses were on vacation leave, three (3) nurses were on leave of absence, one (1) nurse was out on disability, and two (2) nurses were on sick leave. The demographic data were used to describe the participants. This information was reported in percentage in Table 1, Demographic Data of Nurse Participants. The majority of nurse participants were between the ages of 23 to 32 years old (44%), with a range of 23 years to 62 years. The participants indicated several different religious backgrounds, however, the majority were Christians (57%), followed by Atheist/other (25%), Muslim (10%), and Jewish (8%). There were 72% who had bachelor's degree, 15% had an Associate degree, and 13% had a Master's degree. The participants work experience as a registered nurse (RN) ranged from less than five (5) years to greater than 26 years. Most of the participants did not have previous palliative care experience (65.6%), nor previous palliative care education (59%).

The frequency and percentage of pretest and posttest correct answers from all 20 PCQN questions were tabulated using a McNemar test. This is illustrated in Table 2. Frequency and Percentage Distribution of Correct Answers in PCQN Pretest and Posttest. There were seven (7) questions that showed a significant increase in knowledge from the Pretest to the Posttest. First, Question #12 responses indicate the nurse participants had significant improvement about the philosophy of palliative care as it relates to its compatibility with aggressive treatment (pretest 11.4%; posttest 42.6%; $p = <.001$). Second, Question #10 indicated their understanding that during the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment for severe dyspnea (pretest 73.8%; posttest 96.7%; $p = <.001$). Third, Question #13 responses indicated the nurse participants improved in their knowledge regarding the use of placebos in pain management (pretest 55.7%; posttest 83.6%; $p = <.001$). Fourth, Question #14 indicated their understanding that high doses of codeine cause more nausea and vomiting than morphine (pretest 41%; posttest 85.2%; $p = <.001$). Fifth, Question #16 indicated the nurse participants' understanding that Demerol is not an effective analgesic for chronic pain (pretest 39.3%; posttest 83.6%; $p = <.001$). Conversely, Question #2 indicated their understanding that morphine is the standard used to compare the analgesic effect of other opioids showed an increase of knowledge from 49.2% in the pretest to 88.5% in the posttest ($p = <.001$). Lastly, Question #18 indicated the nurse participants understanding that manifestations of chronic pain are different from those of acute pain (pretest 64%; posttest 88.5%; $p = <.001$). However, Question #8 showed there was no variance on knowledge related to bowel regimen when the patient is on opioid therapy, as all participants (100%) answered correctly in both the pretest and posttest.

The overall mean of correct answers on the pretest was 10.75 with a standard deviation of 2.67, and an overall mean of correct answers on the posttest was 14.14 with a standard deviation of 2.23 (see Paired Samples Statistics in Table 3A). The paired difference of the pretest and posttest total correct answers were calculated using a paired *t*-test which revealed a *t*-value of -12.044, *df*= 60, and *P*<0.001 (see Paired Sample *t*-Test in Table 3B). This indicates a high statistical significance in the improvement of knowledge in palliative care nursing after a brief palliative care nursing education.

Table 1: Demographic Data of Nurse Participants

Age (years)	Frequency (n=61)	Percentage (100%)
23-32	27	44.00%
33-42	14	23.00%
43-52	12	20.00%
53-62	7	11.00%
>62	1	2.00%
Gender		
Female	52	85.00%
Male	7	12.00%
Other	2	3.00%
Religion		
Christian	35	57.00%
Jewish	5	8.00%
Muslim	6	10.00%
Atheist/other	15	25.00%
Nursing Education		
Doctoral	0	0.00%
Masters	8	13.00%
Bachelor	44	72.00%
Associate Degree	9	15.00%
RN work experience (years)		
< 1 year	5	8.20%
1-5 years	24	39.00%
6-10 years	14	23.00%
11-15 years	9	15.00%
16-20 years	5	8.20%
21-25 years	2	3.30%
>26 years	2	3.30%
Previous palliative care experience		
Yes	21	34.40%
No	40	65.60%
Previous palliative care education		
Yes	25	41.00%
No	36	59.00%

Table 2: Frequency and Percentage Distribution of Correct Answers in PCQN Pretest-Posttest

Questions	Pretest: Correct Answers-Frequency (%)	Posttest: Correct Answers-Frequency (%)	P value
1.Palliative care is appropriate only in situations where there is a downhill trajectory or deterioration	45 (73.8%)	41 (67.2%)	.503
2.Morphine is the standard used to compare the analgesic effect of other opioids	30 (49.2%)	54 (88.5%)	<.001*
3.The extent of the disease determines the method of pain treatment	25 (41%)	22 (36.1%)	0.664
4.Adjuvant therapies are important in managing pain	55 (90.1%)	58 (95.1%)	.508
5.It is crucial for family members to remain at the bedside until death occurs	36 (59%)	44 (72.1%)	.039
6.During the last days of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation	18 (29.5%)	31 (50.8%)	.002
7.Drug addiction is a major problem when morphine is used on a long-term basis	24 (39.3%)	40 (65.6%)	.002
8.Individuals who are taking opioids should also follow a bowel regimen	61 (100%)	61 (100%)	“NA” no variance
9.The provision of palliative care requires emotional detachment	45 (73.8%)	39 (64%)	.210
10.During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea	45 (73.8%)	59 (96.7%)	<.001*
11.Men generally reconcile their grief more quickly than women	10 (16.4%)	6 (9.8%)	“NA” no variance
12.The philosophy of palliative care is compatible with that of aggressive treatment	7 (11.47%)	26 (42.6%)	<.001*
13.The use of placebos is appropriate in the treatment of some types of pain	34 (55.7%)	51 (83.6%)	<.001*
14.In high doses, codeine causes more nausea and vomiting than morphine	25 (41%)	52 (85.2%)	<.001*
15.Suffering and physical pain are synonyms	33 (54.1%)	31 (50.8%)	.815
16.Demerol is not an effective analgesic in the control of chronic pain	24 (39.3%)	51 (83.6%)	<.001*
17.The accumulation of losses renders burnout inevitable for those who seek work in palliative care	18 (29.5%)	23 (37.7%)	.227
18.Manifestations of chronic pain are different from those of acute pain	39 (64%)	54 (88.5%)	.001*
19.The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate	31 (50.8%)	36 (59%)	.125
20.The pain threshold is lowered by anxiety or fatigue	22 (36%)	34 (55.7%)	.012

Table 3A: Paired Samples Statistics

	Mean	Number	Standard Deviation	Std. Error Mean
Pair 1: Total Correct.1 Pretest	10.7541	61	2.67492	.34249
Total Correct. 2 Posttest	14.1475	61	2.22738	.28519

Table 3B: Paired Samples *t*-Test (Paired Differences)

	Mean	Standard Deviation	Standard Error Mean	95% Confidence Interval of the Difference (Lower)	95% Confidence Interval of the Difference (Upper)	<i>t</i> value	df	Sig. (2-tailed) p-value
Pair 1: Total Correct.1	-	2.20060	.28176	-3.95704	-2.82984	-12.044	60	.000
Total Correct.2	3.39344							P<0.001

Discussion

Palliative care nursing is a specialty that provides care for the relief of suffering throughout the course of a patient's serious chronic illness. The increasing demand for palliative care services in the hospital requires skilled nurses to provide palliative care nursing. Lack of knowledge in pain, symptom management, and communication on the goals of care can impact the quality of care provided to patients and their families.

The finding of this study demonstrated a highly significant difference in nurses' knowledge of palliative care nursing after a brief palliative nursing education (2-tailed $p = <0.001$). This finding was supported by the study conducted by El-Nagar and Lawend (2013) who concluded that palliative care education increase nurses' knowledge and confidence in the care of chronically ill children. Callahan, Breakwell, and Suhayda (2011) also supported the finding that palliative care education provides an overall improvement in knowledge and

attitudes of SRNAs in expanding their palliative care skills. A similar study by Saylor, et al (2016) supported the evidence that after a palliative care simulation education there was a significant improvement in building nurses' knowledge and skills related to palliative care. Specifically, the knowledge of Morphine as a standard to use for comparing the analgesic effect of other opioids indicated a highly statistically significant difference in the pre-post education intervention in this study ($p < .001$).

Study Limitations

The setting and timing of data collection are limitations to this study. Despite the fact that conducting a study during nurses' work hours sounds feasible, the reality is that nurses have unpredictable patient loads that can interrupt their attendance in a brief palliative nursing education. Measurement of nurses' knowledge immediately after a brief palliative nursing education can provide an immediate recall of knowledge that can affect the posttest scores. This can be considered as a weakness in data collection. It is therefore difficult to determine if the knowledge gained from a brief palliative care nursing education is consistent with the actual care provided as an end result.

Implications/Recommendations for Practice, Policy, and Research

Although a brief palliative care nursing education improved nurses' knowledge in palliative care in this study, it was recommended that palliative nursing education should be included as part of a continuing education program for nurses. This would improve and optimize their knowledge in palliative care that can improve clinical practice. More research is needed to clarify the findings that a brief palliative nursing education can improve nurses' knowledge in

palliative care. This, in turn, can improve the quality of care provided to patients with chronic, serious illness receiving palliative care in the hospital setting.

Conclusions

With the increasing demand of palliative care services, the need to prepare nurses to provide competent pain and symptom management and effective communication skills in discussing goals of care for patients with chronic, serious illness is vital. Palliative care nursing education can prepare nurses to improve the quality of care and quality of life of patients with chronic, serious illness.

Based on the result of this study, the nurses' knowledge in palliative care improved after a brief palliative care nursing education. The findings of this study revealed a high statistical significance in the improvement of nurses' knowledge in palliative care after a brief palliative nursing education. Therefore, it was concluded that a brief palliative care nursing education is an effective intervention for improving knowledge in palliative care among hospital-based nurses caring for patients with chronic, serious illness.

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Table 4: Definition of Variables

Variable Name	Variable Type and Form	Theoretical Definition	Operational Definition
Palliative care nursing education	Independent variable/Categorical, Binary	Provision of knowledge through a brief palliative nursing education about pain, symptom management, advance care planning, end-of-life, bereavement	Outcomes of palliative care nursing education measured on nurses' knowledge (1 = pre-test score and 2 = post-test score)
Nurses' knowledge of palliative care	Dependent variable/Continuous, Numeric, Ratio	Nurses' knowledge of palliative care before and after a brief palliative care nursing education	Number of correct answers on Palliative Care Quiz for Nursing (PCQN) measures knowledge: a 20-item answerable by (1) "true", (2) "false" and "don't know"
Age	Demographic/Continuous, Ratio	Nurses participants' age in years	Nurses' age in years
Gender/Sex	Demographic/Categorical, Nominal	Nurses participants' gender	Nurses' gender: Male (M), Female (F), other
Religion	Demographic/Categorical, Nominal	Nurses participants' religion	Nurses religion: Christian, Jewish, Muslim, Atheist/other
Highest nursing education	Demographic/Categorical, Nominal	Nurses participants' highest level of education	Nurses highest education: doctoral, Masters, bachelor, associate degree
Years of work experience as a nurse	Demographic/Continuous, Numeric, Ratio	Nurses participants' years of work experience	Work experience as a nurse: months, years
Previous palliative care experience	Demographic/Binary	Nurses participants' previous palliative care experience	Previous palliative care experience as a nurse: yes or no
Previous palliative care education/training	Demographic/Binary	Nurses participants' previous palliative care education	Previous palliative care nursing education: yes or no

Table 5: GANTT Chart of Project Timeline

The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness

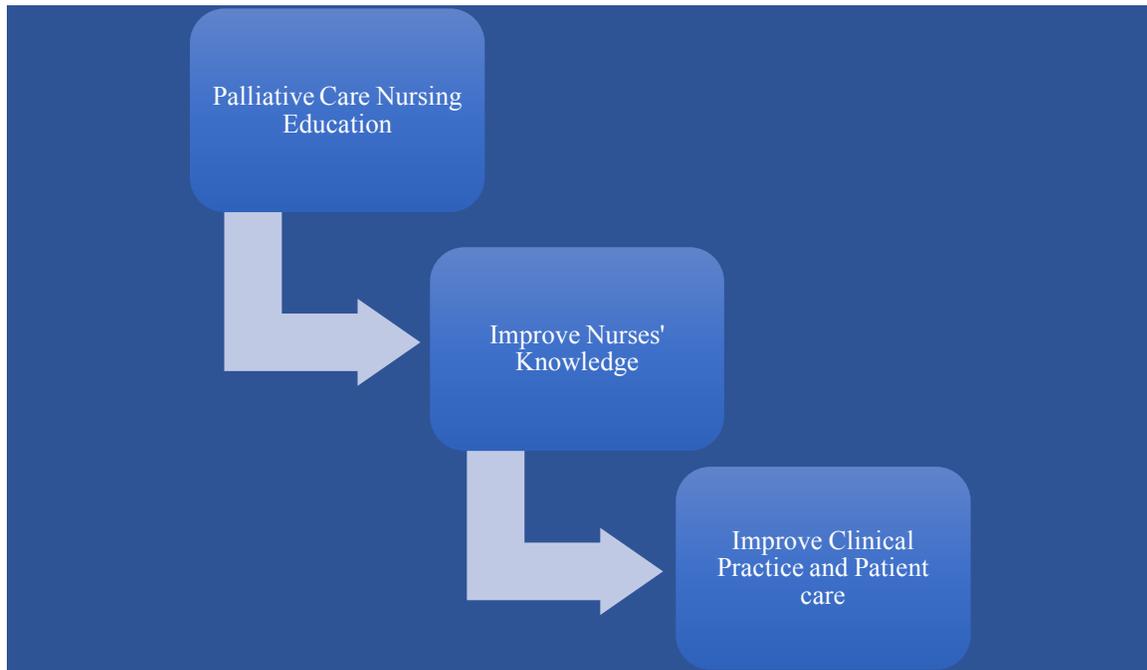
Activity	May 2017	June 2017	July 2017	August 2017	September 2017	October 2017	November 2017	December 2017	January 2018	February 2018	March 2018	April 2018	May 2018
Final Proposal Submission to GWU													
MMC IRB Committee Review / Revision as indicated													
Researcher's Briefing with three Unit Managers													
Implementation of educational intervention**													
Data Collection*/Researcher's Analysis													
Regular Meetings with Project Advisors (GWU) and MMC administrators													
Data Compilation and Analysis													
Preparation of Research Report per GWU program requirements / submission													
Dissemination of Results per GWU and MMC requirements													

*Data collection for one month, alongside with intervention; then data analysis for another two months

**Didactic lecture/power-point presentation, two sessions each week conducted at each unit (oncology [K6], medical-surgical [B5], and geriatric unit [K5]).

1. Philosophy and principles of palliative care in the chronic illness trajectory
2. Meaning and importance of pain management, and challenges to pain management
3. Overview of other symptoms encountered by patient and families with chronic, serious illness using the biopsychosocial model of pain

Figure 1: Mezirow's Transformative Theory of Adult Learning



Appendix A

**Study Title: The Effect of Palliative Care Nursing Education to Improve Knowledge in
Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness**

Demographic Questionnaire

Unit/Department: _____

Your response is confidential

Please check the appropriate spaces:

1. Age: ____ years
2. Sex: ____ Male ____ Female
3. Religion: ____ Christian ____ Jewish ____ Muslim ____ Atheist/other
4. Highest nursing education: ____ doctoral ____ masters ____ bachelor ____ associate degree
5. Years of work experience: ____ years ____ months
6. Previous palliative care experience: ____ yes ____ no
7. Previous palliative care education: ____ yes ____ no

Appendix B

Study Title: The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness

Palliative Care Quiz for Nursing (PCQN) measurement

(Used with permission from Dr. Frances Fothergill Bourbonnais)

Please circle your answer following each statement.

1. Palliative care is appropriate only in situations where there is evidence of a downhill trajectory or deterioration.

True

False

Don't Know

2. Morphine is the standard used to compare the analgesic effect of other opioids.

True

False

Don't know

3. The extent of the disease determines the method of pain treatment.

True

False

Don't Know

4. Adjuvant therapies are important in managing pain.

True

False

Don't Know

5. It is crucial for family members to remain at the bedside until death occurs.

True

False

Don't Know

6. During the last days of life, the drowsiness associated with electrolyte imbalance may decrease the need for sedation.

True False Don't Know

7. Drug addiction is a major problem when morphine is used on a long-term basis.

True False Don't Know

8. Individuals who are taking opioids should also follow a bowel regimen.

True False Don't Know

9. The provision of palliative care requires emotional detachment.

True False Don't Know

10. During the terminal stages of an illness, drugs that can cause respiratory depression are appropriate for the treatment of severe dyspnea.

True False Don't Know

11. Men generally reconcile their grief more quickly than women.

True False Don't Know

12. The philosophy of palliative care is compatible with that of aggressive treatment.

True False Don't Know

13. The use of placebos is appropriate in the treatment of some types of pain.

True False Don't Know

14. In high doses, codeine causes more nausea and vomiting than morphine.

True False Don't Know

15. Suffering and physical pain are synonyms.

True

False

Don't Know

16. Demerol is not an effective analgesic in the control of chronic pain.

True

False

Don't Know

17. The accumulation of losses renders burnout inevitable for those who seek work in palliative care.

True

False

Don't Know

18. Manifestations of chronic pain are different from those of acute pain.

True

False

Don't Know

19. The loss of a distant or contentious relationship is easier to resolve than the loss of one that is close or intimate.

True

False

Don't Know

20. The pain threshold is lowered by anxiety or fatigue.

True

False

Don't Know

Appendix C

The George Washington University

Washington, DC

Informed Consent for Participation in a Research Study

Title of the Study: “The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness”

Investigator: Beverly Lunsford, Ph.D., RN, FAAN, Assistant Professor, GWU SON

CoPI: Madelyn Rose Balicas MS, ANP-BC, Maimonides Medical Center

Investigator Contact Information: bklunsfo@email.gwu.edu

Vctyron50@gwu.edu

1) Why am I being invited to take part in a research study?

We invite you to take part in a research study because you are one of the nurses in oncology unit (K6), geriatric unit (K5); and medical-surgical unit (B5) at Maimonides Medical Center who routinely takes care of patients needing palliative care.

2) What should I do about a research study?

The researcher will explain the research study. You may ask questions related to the study before deciding to participate. Participation is voluntary, and even if you decide to participate, you can quit at any time. Your employment status will not be affected in any way should you choose not to take part or withdraw from the study at any time.

3) Who can I talk to if I have questions?

If you have questions, concerns, or complaints or think the researcher has hurt you, talk to the research team Dr. Beverly Lunsford (202-994-6726), or Madelyn Rose Balicas (917-855-7992). This research is being overseen by an Institutional Review Board ("IRB"). You may talk to them at 202-994-2715 or via email at ohrirb@gwu.edu if you have questions, concerns, or complaints that are not being answered by the research team or if you wish to talk to someone independent of the research team, or you have questions about your rights as a research subject.

4) Why is this research being done?

The purpose of this study is to determine if there is a change in knowledge of hospital-based nurses about palliative care nursing after a brief palliative care nursing education. The rising burden of chronic, serious illness and the lack of education in communication about goals of care and pain and symptom management can result in a suboptimal and high cost of care in this population. Palliative care nursing education can improve the knowledge of hospital-based

nurses to provide optimal care to patients with chronic, serious illness and their families to improve the quality of life.

5) How long will I be in the study?

We expect that you will be in this research study for one hour (60 minutes): 10 minutes for completion of demographics and pretest, 40 minutes for brief palliative care lecture, and 10 minutes for completion of posttest.

6) How many people will take part in this research study?

We expect about 73 people will take part in the entire study.

7) What happens if I agree to participate in the research study?

If you agree to participate in the research study, you will be asked to sign an informed consent form. After consent is signed, a demographic and pretest form will be completed within 10 minutes. After completion of demographics and pretest, a brief palliative care nursing education lecture will be provided for 40 minutes. Posttest will be completed within 10 minutes immediately after the lecture. A timeline for the whole study is 60 minutes. The researcher will provide the brief palliative care nursing education lecture with the use of a power point. The venue of the lecture will be in K6, K5, B5 units during the morning shift (11:00 am) and night shift (10:00 pm).

8) What happens if I agree to be in research, but later change my mind?

Your employment status will not be affected in any way should you choose not to take part or withdraw from the study at any time, and even if you decide to participate you can quit at any time.

9) Is there any way being in this study could be bad for me?

There are no physical risks associated with this study. Any information that could possibly identify you as a participant will not be included in published articles or presentations. You will not be paid for participating. There are no costs to you for participating in this research.

10) What happens to my information collected for the research?

The records for this study may be reviewed by the GWU IRB and MMC IRB responsible for overseeing research safety and compliance. If data will be retained for future research, data will be stored per GWU and MMC protocol. Data will be accessed only by PI and co-PI and will be stored for three years.

By signing below, you agree that the above information has been explained to you and you have had the opportunity to ask questions. You understand that you may ask questions about any aspect of this research during the course of the study and in the future. Your signature documents your permission to take part in this research.

Printed name of subject

Date

Signature of subject

Date

My signature below documents that the information in the consent document and any other written information was accurately explained to, and apparently understood by, the subject, and that consent was freely given by the subject.

Signature of witness to consent process

Date

Appendix D

Maimonides

Medical Center

4802, 10th Ave., Brooklyn, NY 11219

RESEARCH INFORMED CONSENT

TITLE OF RESEARCH STUDY: “The Effect of Palliative Care Nursing Education to Improve Knowledge in Palliative Care of Hospital-Based Nurses Caring for Patients with Chronic, Serious Illness”

Principal Investigator: Madelyn Rose Balicas, MS, ANP-BC (cell: 917-855-7992)

Department: Nursing

IRB #: 2017-07-02

You are invited to take part in a research study being conducted by Madelyn Rose Balicas, a doctoral student at the George Washington University (GWU). The purpose of this study is to determine the knowledge of nurses about palliative care nursing in the management of chronic, serious illnesses after participating in a brief education intervention. You are being asked if you want to take part in this study because you are one of the nurses in K6, K5, and B5 at Maimonides Medical Center (MMC) who routinely takes care of patients needing palliative care. Taking part in this study is completely voluntary, and even if you decide to participate, you can quit at any time. Your employment status will not be affected in any way should you choose not to take part or withdraw from the study at any time. You will be one of approximately 73 nurses taking part in this study in K6, K5, and B5 at Maimonides Medical Center. The total amount of time you will spend in this study is 60 minutes. If you agree to participate, you will participate in a 40-minute brief palliative care nursing education lecture. You will be asked to complete a demographic questionnaire and pretest before the lecture. After the lecture, you will be asked to complete a post-test. Completion of the demographic information, pretest, and posttest is expected to take 20 minutes. There are no physical risks associated with this study. You will not be paid for participating. In any published articles or presentations, any information will not be included that will identify you as a subject. The records for this study may be reviewed by the departments of GWU and MMC responsible for overseeing research safety and compliance. If you agree to take part in this study, please sign below.

Questions about the research and how to withdraw from a study may be directed to Madelyn Rose Balicas, telephone: (917)8557992, pager 6824; Dr. K. Reilly, MMC phone# (718) 283 8541, Maimonides Medical Center, Institutional Review Board: (718) 283 7253, and Patient Relation Department: (718) 283-7212

Print Name of Adult Research Participant

Signature of Adult Research Participant

I have read this form and all my questions about this research have been answered to my satisfaction. By signing, I acknowledge that I have read the consent and accept all of the above and volunteer to participate in this research study. My contact information is provided above

Date signed: Time: ____: ____ am/pm

Print Name of Investigator Obtaining Informed Consent**Signature of Investigator Obtaining Informed Consent**

In addition to advising the person authorizing the research about any appropriate alternatives to research participation, I have offered an opportunity for further explanation of the risks and discomfort which are or may be, associated with this research, and to answer any further questions.

Date Signed: Time: ____: ____ am/pm