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Integration of Early Palliative Care in Oncology Patients: Improving Nursing Knowledge and Confidence

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INTEGRATION OF EARLY PALLIATIVE CARE IN ONCOLOGY PATIENTS:
IMPROVING NURSING KNOWLEDGE AND CONFIDENCE

by

Jacqueline Hurteau

A Major Paper Submitted in Partial Fulfillment

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Abstract

Palliative care integrated with standard oncology care in cancer patients has been shown to provide a number of beneficial clinical outcomes. Despite the evidence, the utilization of palliative care in the oncology population continues to be inadequate. The purpose of this program development, quality improvement project was to improve nurses' knowledge regarding palliative care and the benefits of its early implementation in the oncology population, as well as to improve their confidence regarding palliative care consultations to providers. An educational intervention was designed and a pre and post-test were utilized to determine the effect of the intervention. This program development, quality improvement project demonstrated that the implementation of nursing education regarding palliative care within the oncology population increased nurses' knowledge in palliative care, specific to the oncology population, as well as confidence in recommending appropriate palliative care consultations to providers.

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Background/Statement of the Problem

As medical technology and healthcare in the developed nations continue to advance, we have seen a shift in the major causes of morbidity and mortality. Many diseases that were once fatal are now treatable and the focus has shifted to the management of chronic diseases.

Cancer continues to be one of the top contributors to morbidity and mortality throughout the world. Cancer is the second leading cause of death in the United States, with a projected 609,640 deaths in 2018 (National Cancer Institute, 2017). While cancer survival rates continue to increase with new and improved cancer treatments, patients continue to experience significant morbidity. Morbidity is defined by the National Cancer Institute (2017) as having a disease, symptoms of disease, or medical problems caused by treatment. Patients with cancer often have considerable symptom burden that is not only associated with the cancer itself, but the aggressive treatment regimens as well. Physical symptoms such as pain, dyspnea, neuropathy, nausea, vomiting, and constipation, along with the psychological distress that patients experience can lead to poor quality of life throughout the patient's experience with cancer. These disturbances can persist long after the patient's disease is cured and can result in prolonged suffering.

Palliative care is a specialty area within healthcare designed to provide symptom relief to patients with chronic, life-limiting diseases. Palliative care along with standard oncology management has been found to be beneficial for oncology patients and is currently recommended by The National Comprehensive Cancer Network (NCCN) to be integrated into routine cancer care (NCCN, 2017). While the benefits of palliative care in oncology patients has been shown, it is frequently underutilized or applied later within

the disease trajectory (Greer, Jackson, Meier, & Temel, 2013). The late introduction of palliative care significantly reduces the impact it has on the patient.

There are several barriers to the implementation of early palliative care involvement in the oncology patient. At the time of a patient's diagnosis with cancer, the main objectives are to attain the pertinent diagnostics and begin appropriate treatment as quickly as possible. Due to the focus on primary treatment, the role of palliative care may be overlooked. Other barriers to the implementation of palliative care include provider characteristics, patient aversion to palliative care, and misconceptions about the role of palliative care (Geer et al., 2013).

Nurses are the primary healthcare members who spend extended periods of time with patients. They continuously assess patients' tolerance to treatment, helping to manage pain and other adverse symptoms, and provide psychosocial support to patients in their times of need. Inpatient oncology nurses are in an ideal position to identify additional unmet patient needs that could be alleviated with the support of palliative care. The purpose of this program development, quality improvement project was to explore the effectiveness of an educational intervention for inpatient oncology nurses regarding the benefits of early integration of palliative care services for the oncology population. A further aim of this project was to improve nursing knowledge and confidence in recommending appropriate palliative care consultations to providers.

Next, a review of the literature will be presented.

Literature Review

A literature review was conducted using the databases CINAHL, PubMed, and Medline. Search terms included: Palliative care, cancer, oncology, education, barriers, misconceptions, utilization, nursing, cost, and benefits. The search terms were utilized in varying combinations to yield appropriate results. Data publication ranged from the years 2003 to 2018.

Cancer

Cancer is a very powerful word that can elicit a plethora of emotions and is often one of the most frightening things that a patient can hear from their provider. While people associate cancer with sickness and death, there is wide prognostic variability to the disease. Cancer at the most basic form is the abnormal, rapid division of cells within the body that can extend into surrounding tissues. These cells can travel throughout the body via the blood stream or lymphatic tissue and form tumors in other locations (National Cancer Institute [NCI], 2017). When cancer cells impede on the function of normal cells by either obstructing or invading normal tissue, it can cause serious health concerns or even death.

Cancer is extremely taxing on our healthcare system. It is one of the primary causes of death worldwide and the second leading cause of death in the United States, with an estimated 609,640 projected deaths for the year 2018 (NCI, 2017). While cancer survival rates continue to slowly increase due to improved screening and treatments, so does the financial burden of cancer on the United States Healthcare System (Mariantto, Yabroff, Shao, Feuer, & Brown, 2011). Due to the aging population, the increasing amount of cancer research, and the development of novel cancer treatments, the total

expenditure of cancer-related treatment in the United States in 2010 was an estimated \$125 billion and is projected to increase to nearly \$158 billion by 2020 (Mariotto et al., 2011).

Oncology Patients and Symptom Burden

Patients with cancer are faced with a multitude of challenges due to their disease itself and the treatments that are used in hopes of curing them. Cancer can result in many unpleasant symptoms, due to compression of nerves, vessels, and surrounding tissue from the growth of tumor cells. Symptoms from cancer often arise once the disease has metastasized or grown to a significant size that impedes on normal bodily functions. Patients who are undergoing active treatment for cancer with chemotherapy, immunotherapy, radiation, surgery, or a combination of modalities can also have significant side effects directly from the treatment. While cancer treatment can often help to improve survival, it has been shown to increase the number of symptoms that patients can experience (Kim, Dodd, Aouizerat, Jahan, & Miaskowski, 2009).

The adverse effects of both cancer and the treatments can range from mild to severe in patients and can change throughout the course of the disease. Symptoms differ between individual patients due to the type of cancer and the treatments that are utilized to control or cure the disease; however, there are a cluster of symptoms that are fairly common in cancer patients. In a systematic review of the prevalence and impact of multiple symptoms in oncology patients, 18 studies were examined and found that the most prevalent symptoms that cancer patients experience include fatigue (62%), worrying (54%), nervousness (45%), dry mouth (42%), insomnia (41%), sadness (39%), irritability (37%), pain (36%), drowsiness (36%), and distress (34%) (Kim et al., 2009). Other

common symptoms for cancer patients include nausea, vomiting, neuropathy, anorexia, constipation, diarrhea, and dyspnea. Between 40%-61% of patients experienced more than one of these symptoms concurrently, while 22% to 30% of patients experience more than five symptoms (Kim et al., 2009).

Symptoms can become extremely distressing for patients and can result in a substantial impact on a person's quality of life and their ability to function independently throughout their experience with the disease. In oncology patients, the Eastern Cooperative Oncology Group (ECOG) performance status scale is utilized to determine the functional status of patients undergoing treatment. The scale measures the patient's ability to carry out normal tasks and to perform self-care activities. Patients with increased severity of symptoms or a higher number of symptoms have been shown to have poorer ECOG scores (Kim et al., 2009). Increased symptom burden is also strongly correlated with poorer quality of life and increased psychological distress in cancer patients (Kim et al., 2009). Four of the studies that were reviewed in Kim et al. (2009) report demonstrated that an increase in the number of symptoms or significant symptom distress were positively correlated with decreased physical and psychological quality of life. Kim et al. (2009) also found that those with fewer symptoms had higher quality of life scores.

The management of symptoms in cancer patients is an imperative part of quality cancer care. Not only is inadequate management of symptoms distressing for the patient, but it can also impede on their cancer treatment. Many cancer treatment modalities have toxicities, such as nausea, vomiting, peripheral neuropathy, diarrhea, weight loss, mucositis, and decline in a patient's ECOG status. In many of these therapies, there are

dose-limiting toxicities. Thus if adverse side effects resulting from the treatment reach a certain threshold, a dose reduction or cessation of the current treatment may be necessary (Kim et al., 2009).

Palliative Care

The focus of palliative care, unlike traditional medicine is not aimed at curing disease, but rather focuses on the prevention and control of the symptoms that accompany it. The World Health Organization (WHO) (2018) defines palliative care as:

“An approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual” (para. 1).

Often times, palliative care is utilized to control adverse symptoms that are difficult to manage, such as pain, shortness of breath, nausea and vomiting, and other physical symptoms that result in significant distress. Palliative care not only focuses on physical problems resulting from disease, it also addresses the constellation of psychological, spiritual, and emotional distress that results from living with a life-threatening illness. Palliative care incorporates the patient’s and family’s needs, values, beliefs, and culture into the treatment plan in order to appropriately identify patient wishes and provide holistic, patient-centered care (National Comprehensive Cancer Network, 2017).

Palliative care services are appropriate for both children and adults with serious health issues. Those who typically have the greatest need for palliative care services are those individuals with chronic or life-limiting diseases, such as cardiovascular disease,

cancers, chronic respiratory diseases, diabetes, chronic liver disease, acquired immunodeficiency syndrome, and progressive neurological disorders (WHO, 2018).

There are no specific qualifying factors that patients must meet in order to be eligible to enroll in palliative care, and enrollment can occur at any time throughout the entire disease continuum.

Palliative care teams are comprised of a multidisciplinary team of medical doctors, nurses, pharmacists, social workers, case managers, and chaplains with specialty training and/or certification in palliative care (Swami & Case, 2018). Patients are typically referred to palliative care specialists by their primary medical team and patients can be seen either as an inpatient or outpatient. The palliative care team often works in conjunction with the patient's primary medical team to develop a comprehensive treatment plan that is conducive with the patient's wishes and goals. The conjoined treatment plan often includes management of the primary disorder along with aggressive symptom control in order to provide the patient with the best clinical outcomes (Swami & Case, 2018).

In the United States (U.S), there continues to be an increased demand for palliative care. As medical technology continues to advance and communicable diseases are becoming better controlled through infection control and improved treatment, chronic diseases have become a main priority. In 2012, the Center for Disease Control and Prevention (CDC) (2017) estimated that about half of all adults (117 million people) had one or more chronic health conditions, and one in four adults had two or more chronic health conditions in the US. Chronic diseases now contribute to a significant proportion of morbidity and mortality in the United States, accounting for seven of the top 10

leading causes of death in 2014 (CDC, 2017). Due to this high prevalence of chronic disease within the country and the probability that chronic diseases will continue to rise in the near future, the necessity of quality palliative care will continue to rise.

Palliative Care versus Hospice

The concept of hospice care focuses on providing symptom control and emotional support to patients and families with life-limiting illnesses, much like that of palliative care. While the philosophy and conceptual model of palliative care and hospice are very similar, there are some substantial differences pertaining to the eligibility for care and the benefits provided by the two specialties.

Patients enrolled in hospice receive aggressive treatment to control unwanted symptoms and to ease the transition to death as painlessly as possible. The aim of hospice is not to cure disease or halt death, but to ensure that the patient is comfortable while they live out the rest of their life. While patients can enroll for palliative care at any point through the disease trajectory, enrollment in hospice services can only be done once two physicians certify that the patient has six months or less to live (Swami & Case, 2018). Hospice offers medications to manage symptoms, constant phone access to care, medical equipment, and care from nurses, physicians, chaplains, and social workers (Swami & Case, 2018).

Barriers to Palliative Care

While not all patients with cancer or other life-limiting diseases require palliative care, the literature has shown that palliative care provides substantial clinical benefits for many patients. Research suggests that approximately 16% of patients not receiving specialty palliative care could benefit from their services, while only a very small

percentage of individuals who receive palliative care do not benefit (Johnson et al., 2010). Although the risk-benefit ratio of consulting palliative care is extremely low, there continue to be many patients who would benefit from their services, yet do not receive them. There are several influencing factors that are both patient, provider, and system specific that can serve as barriers to the implementation of palliative care services.

One of the primary characteristics of patients who are referred to palliative care includes those with advanced disease processes (Johnson et al., 2010). These patients typically have more severe physical symptoms and those that are difficult to control, such as pain, nausea, or weight loss. While palliative care can certainly benefit patients experiencing physical symptoms, there are a multitude of other issues that palliative care can assist with. Psychosocial issues including anxiety, depression, poor social support systems, spiritual conflict, and emotional distress can be equally weighing on an individual with a life-limiting disease and are often overlooked by providers as indications to consult palliative care (Johnson et al., 2010). While psychosocial issues may not be as apparent to providers as the manifestation of physical symptoms, they can significantly affect the patient's quality of life and tolerance to treatment. Therefore, those patients with psychosocial complications rather than physical manifestations may not be identified as requiring palliative care.

Educational gaps in providers are one of the greatest barriers in the implementation of palliative care in patients. There is a general lack of knowledge regarding what palliative care is and what services it provides throughout the medical community (Johnson et al., 2010). Some providers also believe that they should be able to independently manage all of their patient's symptoms, which can contribute to

hesitancy in referring patients to palliative care (Johnson et al., 2010). Many providers will wait until patients' symptoms are very severe or difficult to manage prior to collaborating with a palliative care provider. Due to the lack of education regarding the specialty, providers may be resistant to palliative care, thinking that it is suggestive of giving up hope and transitioning to end of life care.

Communication is an integral part of providing care to patients. Healthcare providers must ensure that patients and families understand the information presented to them. Reluctance or the incapability to clearly communicate realistic outcomes to patients and families can lead to a lack of understanding regarding severity of disease and mistrust in the healthcare team. Poor communication can thus further result in continuing treatment that may not necessarily be beneficial to the patient and may lead to late referral to palliative care (Johnson et al., 2010).

Misconceptions and a general lack of knowledge regarding the services that palliative care provides is another identified barrier to quality palliative care for patients. Palliative care, although substantially different from hospice care, is often viewed as one in the same in the eyes of members within the community (Johnson et al., 2010). The hospice model of care is concentrated on providing holistic symptom management and psychosocial support to both the patient and family during end of life, carrying the philosophy of dying with dignity (Meier, McCormick, & Lagman, 2018). Hospice is generally offered to patients who have either exhausted all feasible treatment options, or those who have decided to forego any further treatment for life-limiting illnesses. In contrast to palliative care, when patients are enrolled in hospice, they do not receive any form of treatment with the intention of curing disease or prolonging life. Patients also

must have a life expectancy of 6 months or less in order to qualify for hospice. Many individuals remain under the impression that patients are unable to receive active treatment such as chemotherapy or radiation once referred to palliative care. Therefore, patients and family members may have an aversion to the idea of palliative care and decline consultation based on misunderstandings.

Access to palliative care can also serve as a barrier to its implementation. While palliative care has expanded since its establishment in the late 1990s in the United States, there are still patients who are unable to be seen by a palliative care provider. There are areas within the country (primarily rural regions) where access to palliative care providers is challenging. Along with the increasing demand for palliative care, the number of palliative care providers is currently insufficient to meet the needs of the population and will remain deficient in the near future (Kamal et al., 2017). In the United States, there are approximately 6,600 board certified palliative care providers whom currently practice (Kamal et al., 2017). Based on the current population and need of palliative care physicians within the country, there is a shortage of approximately 18,000 palliative care providers (Kamal et al., 2017). In addition to the inadequate workforce, another contributing factor to the limited access is the increasing age of the overall population, which will inevitably intensify the demand for palliative care services due to the increased prevalence of chronic diseases and cancers (Kamal et al., 2017). It is estimated that the number of patients eligible for palliative care services will increase about 20% in the next 20 years, which will further impair access to palliative care (Kamal et al., 2017).

Cost of Palliative Care

The primary goal of healthcare professionals is to provide compassionate, high-quality care to patients. While it would be ideal to only need to focus on providing humanitarian care for patients, providers must also be conscientious of cost, both out of pocket expenses to patients and expenditures of the healthcare system. Comparisons between interventions and their outcomes must be analyzed in order to conclude whether or not the expense is worth the benefit. While the addition of a consulting service would often be viewed as an expense to the healthcare system, the addition of palliative care to standard oncology actually has economic benefits to the healthcare system.

Palliative care in itself is not a profitable specialty when compared to other disciplines, such as surgery or cardiology. Instead, palliative care yields economical benefits by helping to avoid additional costs. In a randomized controlled trial by Brumley, Enguidanos, & Cherin (2003), patients who were enrolled in a palliative care program were found to have a 45% decrease in healthcare costs when compared to patients who received standard care. Considerable expenses were saved due to reduced emergency department visits, hospital days, skilled nursing facility days, and physician visits.

Avoiding hospitalizations and emergency department visits are some ways in which palliative care can significantly affect the total healthcare expenditure of oncology patients. Brumley et al., (2007) conducted a randomized controlled trial to evaluate the economic impact of a home-based palliative care program for patients with terminal illnesses. The intervention included usual patient care plus a palliative care program that consisted of an interdisciplinary palliative care team that provided education to patients and families regarding medications, self-management skills, and crisis intervention

within the home (Brumley et al., 2007). The palliative care team also managed patient symptoms and provided additional medical and social support. The control group consisted of patients who received usual care only. The study found that patients who received palliative care had significantly lower costs of care when compared to the control group. The group receiving palliative care was found to have fewer emergency department visits and hospital admissions, which attributed to significantly lower health care costs (Brumley et al., 2007). The adjusted mean cost for intervention patients totaled \$12,670 (+/- \$12,523) while the control group cost was \$20,222 (+/- \$30,026) (Brumley et al., 2007).

Within the hospital setting, palliative care consultations have also been found to reduce costs. There have been mixed results on the effect of palliative care consultations on total length of stay for patients (Smith & Cassel, 2009). Some data suggests that inpatient palliative care referrals can reduce total length of stay for patients, while there are contradictory studies that have found no significant difference in length of stay. One reason may be attributed to the fact that palliative care is not routinely consulted upon admission, possibly skewing the results. While the effects on total length of hospital stay is inconclusive at this time, palliative care consultations have been associated with shorter lengths of stay within intensive or critical care units (Smith & Cassel, 2009). The cost of one day's stay within an intensive care unit bed is substantially higher than regular medical beds (\$3,500 per day vs. \$1,500 per day), due to the more advanced technology required to care for these patients, necessary procedures, and amount of monitoring required by nursing staff (Smith & Cassel, 2009). Therefore, by reducing the total number of days spent in the intensive care unit, palliative care consultations have the

potential to save the healthcare system thousands of dollars per patient, per day.

The cost of cancer treatments is very high, in fact, the total U.S. expenditure for cancer related costs were estimated to be 125 billion dollars in 2010 and are expected to continue to rise in the future (Mariotto et al., 2011). Costs related to cancer are typically highest during the initial diagnosis of disease, plateau during the maintenance course of their disease, and then significantly increase during their last year prior to death (Kaye et al., 2017). In *Costs of Cancer Care Across the Disease Continuum*, Kaye et al. (2017) reviewed the costs of 428,300 Medicare beneficiaries with various types of cancer. They found that mean expenditures across all cancer sites were \$14,381 during the initial phase, \$2,471 during the maintenance phase of treatment, and \$13,458 during end of life (Kaye et al., 2017). This phenomenon of increasing cost surrounding death is typically due to increased need for hospitalization and intensive treatments that are often futile. By helping to clarify patient goals and values, palliative care patients may also avoid the cost of additional treatments or procedures, which can reduce healthcare expenditures.

Palliative Care in Oncology

As previously mentioned, oncology patients are extremely susceptible to a wide range of both physical and psychological turmoil secondary to their disease that can have a significant impact on their quality of life. Palliative care within this unique population has been well studied and has shown to be useful to many patients.

Clinical Guidelines for Palliative Care in Oncology

While palliative care is still a relatively new medical specialty, the research has indicated that it provides a multitude of beneficial clinical outcomes for oncology patients. This has led to multiple oncology organizations, including the National

Comprehensive Cancer Network, The European Society for Medical Oncology, and The American Society of Clinical Oncology to recommend the use of palliative care services in conjunction with standard oncology care (Smith et al., 2012).

The National Comprehensive Cancer Network (2018) is a “non-profit alliance for leading cancer centers that is devoted to improving the quality, effectiveness, and efficiency of cancer care so that patients can live better lives” (para. 1). The NCCN develops evidence-based, current resources for clinicians, with guidelines on cancer screenings, prevention, and treatments, along with supportive care recommendations. A set of comprehensive guidelines was constructed by the NCCN for the use of palliative care in oncology patients that encompasses screening, indications for its use, symptom management, and issues surrounding the transition to hospice. It is notable that all of the NCCN’s recommendations for palliative care are based on level 2A evidence, meaning that the evidence is based on at least one controlled study without randomization.

While access to palliative care services and utilization of their consultation continues to expand in the United States, there remains to be areas within the country where palliative care services are not readily available to patients. Access to palliative care services is one of the integral standards of care in the NCCN guidelines, recommending that institutions have available palliative care specialists for patients and develop cancer programs that integrate palliative care into both standard oncologic care and for patients with specialty palliative care needs (NCCN, 2017).

It is also imperative that patients who could benefit from palliative care consultations are identified, so that they can benefit from their services. While there are no standard screening processes that are currently recommended, institutions should

screen cancer patients to help identify patients that have palliative care needs. It is recommended that patients be screened for palliative care needs at the time of diagnosis, at appropriate intervals throughout their disease, and as clinically indicated, such as disease progression or significant symptom burden (NCCN, 2017). Institutions without formal screening processes or those who only screen a fraction of their oncology patients may fail to identify a number of patients who would benefit from palliative care consultations.

Educational deficits in providers and members of the healthcare team have been identified as a critical barrier to the implementation of palliative care in patients. Along with screening measures and access to palliative care services, the NCCN also recommends the implementation of educational programs to all health care members to help enhance knowledge, skills, and attitudes concerning to palliative care (NCCN, 2017).

In addition to the standards of palliative care, the NCCN has also developed a comprehensive list of indications that warrant palliative care assessment and interventions that can be found valuable to providers caring for oncology patients. The indications for palliative care referral includes patients with: uncontrolled symptoms, moderate to severe distress related to diagnosis or treatment, significant physical or psychological comorbidities, complex psychosocial needs, poor prognostic awareness, resistance to engage in advance care planning, high risk of poor pain management, concerns regarding disease course or decision making, need for invasive procedures, patient or family request for palliative care, and patient request of hastened death (NCCN, 2017). It is recommended that patients with one or more of the previously listed

indicators require a comprehensive plan of care by a multidisciplinary team of palliative care specialists (NCCN, 2017). These indications for the utilization of palliative care can be extremely helpful to providers for they include several pertinent psychosocial patient factors that are routinely overlooked.

The timing of palliative care referrals in oncology patients is a topic that has received considerable attention within the oncology community. Data supports early intervention with palliative care for certain cohorts of oncology patients, but it remains unclear when palliative care should be consulted for a majority of patients. The NCCN recommends that early consultation or collaboration with palliative care should be considered to help improve patients' quality of life and survival but fails to indicate a precise time frame in which the consult should occur (NCCN, 2018). The American Society of Clinical Oncology (ASCO) in 2014 concluded that palliative care should be integrated with standard oncology care early in the disease trajectory for patients with metastatic disease and/or high symptom burden (NCCN, 2017). In 2016, ASCO revised their recommendations stating that palliative care should be standard for all oncology patients with advanced disease (NCCN, 2017). Therefore, it is evident based on multiple recommendations that patients with metastatic disease benefit from early integration of palliative care and palliative care should be instituted as part of routine oncology treatment. More research is needed to identify the ideal timing of palliative care referral for patients without advanced or metastatic disease.

Evidence of Palliative Care Utilization in Oncology Patients

Based on clinical recommendations from multiple institutions, there are many oncology patients that could potentially benefit from the addition of palliative care

specialists to their treatment team. While the evidence continues to support the beneficial outcomes from palliative care consultation, there remains to be variable utilization of their services in oncology patients.

In a chart review study performed by Hui et al. (2012), investigators examined records of patients who had died as a result of advanced cancer. The researchers aimed to identify the proportion of patients who had received a palliative care consultation. After reviewing 1,691 charts, there were 816 eligible patients that were included within the study. Only 366 patients, or 45% of the patients who had died as a result of their cancer had had palliative care consultations prior to death (Hui et al., 2012). The study also found that the timing of palliative care consults were very late in the disease trajectory, close to the patient's death. The majority of patients included within the study that had a palliative care consultation were referred at a median of one to two months prior to death, and had a median of only one visit with palliative care providers (Hui et al., 2012). This significantly limits the effectiveness that palliative care interventions can provide to patients and also hinders the access to appropriate hospice care.

Another retrospective, cross-sectional analysis of inpatients with gastrointestinal and thoracic cancers was performed by Gani, Enuman, Conca-Cheng, Canner, and Johnston (2018) to assess the utilization of palliative care in this patient population. A total of 282,899 patients met inclusion criteria for the study, and researchers found that 24,100 (8.5%) patients received palliative care consultation during their admission (Gani et al., 2018). This study also investigated patient characteristics that were associated with palliative care consultation while in the hospital. They found that patients with longer hospital length of stays (28.3% vs. 45.9%), those who had postoperative complications

(5.4% vs. 9.4%), and patients who died within the hospital setting (5.4% vs. 44.1%) had an increased likelihood of being seen by palliative care than other patients (Gani et al., 2018).

Zimmermann, Shinde, Kasi, Litzow, & Huddleston (2016) also studied patterns of palliative care utilization and end-of-life care in adult patients with cancer who died as inpatients at the Mayo Clinic by performing a chart review. Inclusion criteria for patients incorporated within the study were those who had died due to terminal malignancies, which was identified by their international classification of disease (ICD) 9 codes. A total of 159 patients who died secondary to advanced malignancy were identified in the study. Zimmermann et al. (2016) found that only 57% of patients who died during their hospitalization were seen by palliative care while in the hospital, and only 19% of patients had seen palliative care as an outpatient prior to death. The timing of consultation was also examined, and patients were found to have a palliative care consult median of 3.5 days prior to death (Zimmermann et al., 2016).

Improvements in healthcare utilization related to palliative care. Patients with metastatic or advanced cancers often require a great deal of health care resources. These patients often have multiple physician visits due to treatment regimens and management of adverse effects. When disease progresses, or symptom burden becomes great, these patients may require emergency department visits or hospital admissions. Greater utilization of resources is expensive and can be extremely burdensome on the patient and their loved ones. Healthcare utilization in oncology patients during their last month of life has been shown to substantially increase, specifically due to increased emergency department visits, hospital admissions, and intensive care unit admissions.

This intensive treatment near the end of life for oncology patients is associated with poorer quality of life, decreased caregiver satisfaction with end of life care, while showing no improvement on patient survival (Greer et al, 2013). Palliative care has been found to assist in decreasing the need for healthcare utilization in oncology patients by means of improved symptom management and better patient comprehension of prognosis.

Rabow, Dibble, Pantilat, & McPhee (2004) conducted a randomized controlled trial to evaluate the outcomes of an outpatient palliative care consultation service for patients with cancer, advanced chronic obstructive pulmonary disease, and advanced congestive heart failure. The intervention group was enrolled in a one-year program that provided care from a specialized interdisciplinary palliative care team of physicians, nurses, pharmacists, and ancillary services. The control group received standard care. There were a total of 90 patients who participated in the study. Multiple factors including physical and psychological symptoms, patient satisfaction with care, advanced care planning, and utilization of healthcare resources were assessed within the study. In terms of healthcare utilization, patients in the intervention group were found to have significantly lower rates of utilization compared to patients in the control group. The intervention patients were found to make fewer visits to their primary care provider (7.5 vs. 10.6 visits; $P=.03$) and fewer visits to urgent care (0.3 vs. 0.6 visits; $P=.03$) (Rabow et al., 2004).

Benefits of Palliative Care

The goal of palliative care is to provide holistic patient care by promoting healing and relieving suffering for those with chronic or life-limiting diseases. Not only does this

encompass the physical symptoms that occur secondary to disease or treatment, but it also focuses on the psychosocial impact that living with disease can result in. The introduction of high quality palliative care has been shown to provide a multitude of benefits for oncology patients, and can result in a significant improvement of overall quality of life.

Improvements in physical symptoms with palliative care. The physical symptoms of disease can be extremely distressing for patients coping with illness. Pain, dyspnea, nausea and vomiting, constipation, insomnia, and anorexia are frequently occurring side effects of both cancer and their treatments. The primary reason for referral to palliative care is due to physical symptoms. Palliative care specialists have received intensive training concerning the management of challenging symptoms that make them especially skilled in assisting the primary oncology team in caring for patients with intensive symptom burden.

In a quasi-experimental study conducted by Gomez-Batiste et al. (2010) the effectiveness of palliative care services on symptom control in patients with advanced cancer was evaluated in multiple palliative care centers throughout Spain. A total of 203 patients were included in the study and were assessed for multiple symptoms including breakthrough pain, anorexia, nausea/vomiting, constipation, insomnia, dyspnea at rest, and dyspnea with movement. Symptom severity was evaluated in each patient upon enrollment in the palliative care program and then again at seven and at 14 days. Symptom severity was assessed using a Likert Scale, with zero being no symptom burden at all, to 10 being the worse imaginable. Each symptom evaluated within the study had significant improvements; both at day seven and at day 14 following palliative care

interventions. Moderate to severe symptom severity (>4 on numerical rating scale) decreased in: anorexia (49% to 31.2%), nausea/vomiting (12.4% to 2.9%), insomnia (35.2% to 13.3%), dyspnea at rest (13% to 4.7%), and dyspnea on movement (41.3% to 24.6%). There were also dramatic improvements in both pain management and constipation. At the beginning of the intervention, there were 61 patients (30.2%) with a pain score of greater than four within the past 24 hours. Pain management was significantly improved in these patients at both intervals, with a total of only 15 patients (7.4%) experiencing pain greater than a four at the end of the intervention. The severity of constipation was also measured using the same Likert scale. There were 68 patients (34.2%) suffering from constipation that was greater than a 4 out of 10 at the initiation of the intervention, which subsequently decreased to 33 patients (16.6%) at day 7 and 16 patients (8%) at day 14 (Gomez-Batiste et al., 2010). While pain and constipation are common side effects of patients with cancer, a palliative care program can provide useful to many oncology patients to assist with quality symptom management.

Lefkowitz et al. (2014) conducted a study to evaluate the impact of an inpatient palliative care consultation service on symptom burden in gynecologic oncology patients. Lefkowitz et al. (2014) performed a chart review and identified gynecologic oncology patients who were admitted into the hospital between 2012 and 2013 and received palliative care consultations. A total of 129 patient charts were utilized for the study. Symptom severity was assessed prior to the consultation of palliative care, the day after consultation, and day of discharge. The Edmonton Symptom Assessment System (ESAS) was used to evaluate symptom intensity of pain, anorexia, fatigue, depression, anxiety, nausea, and shortness of breath. Prevalence of moderate to severe symptoms

was analyzed and statistically significant improvements in symptom management were seen for pain (66%), anorexia (58%), fatigue (60%), and nausea (58%) from day one of palliative care consultation to the day of discharge. Symptom improvement was also noted after one day of palliative care consultation for pain (50%), fatigue (55%), and nausea (53%) (Lefkowitz et al, 2014). The study concluded the addition of a palliative care consultation service improves symptom management with gynecologic oncology patients. While the population that was studied is especially narrow, the beneficial outcomes have the potential to be applied to other oncology patients with high symptom burden.

Improvements in psychosocial factors with palliative care. In addition to improvement of physical symptoms with palliative care, it has also been shown to have significant improvements on psychosocial factors associated with cancer. One study that investigated the psychosocial effects of palliative care in patients with advanced cancer was the Project ENABLE II conducted by Bakitas et al. (2009). This study was a quantitative, randomized controlled trial that was intended to determine the effects of specialized palliative care services on quality of life, symptom control, depression, and hospital admissions in adult oncology patients. This study was conducted in an outpatient setting in northern New England. The experimental group had advanced practice registered nurses with palliative care specialties conduct routine, phone-based educational sessions with their patients, in addition to standard oncology care. The control group received standard care, where palliative care was available upon the provider's request. Patients were selected for the trial if they were diagnosed within eight to 12 weeks with a cancer of the gastrointestinal tract, breast lung, or genitourinary tract,

and had a prognosis of approximately one year (Bakitas et al., 2009). Baseline and routine reassessments were performed using multiple registered instruments, including the Karnofsky Performance scale (functional status), Edmonton Symptom Assessment Scale, Center for Epidemiological Study – Depression Scale, and the Functional Assessment of Chronic Illness Therapy-Palliative Care Scale. Data was collected over a period of five years with a total of 322 participants. The Bakitas et al. (2009) study found that patients receiving the intervention showed a statistically significant improvement in quality of life and mood/depression in comparison to the patients that received the standard care. Over the course of 13 months, quality of life scores in the control group decreased, while scores in the intervention group had improved or remained the same (mean [SE], 4.6 [2]; $P=.02$) (Bakitas et al., 2009). Lower depressed mood was also identified in the intervention group (mean [SE], -1.8 [0.811]; $P=.02$) when compared with the control group.

Quality end of life related to palliative care. While the goal of palliative care is to relieve and prevent suffering, it does not aim to delay or prevent death. Many patients with advanced cancer who receive palliative care treatment will eventually die from their disease. High quality treatment during the end-of-life is extremely important not only for symptom control in the patient, but psychosocial support for the family and loved ones. Key indicators of death quality in oncology patients include enrollment in hospice services more than three days prior to death, emergency department visits in the last 30 days of life, intensive care unit admissions in the last 30 days of life, use of chemotherapy within the last two weeks of life, and place of death (Barbera et al., 2015). Palliative care

prior to the immediate requirement for end of life care has been shown to have significant effects on patient decision-making surrounding death and dying.

Seow et al. (2014) conducted a retrospective cohort study to assess the impact of a community-based specialist palliative care program on quality end of life indicators. A total of 6,218 charts of patients who were deceased were reviewed for hospitalizations within the last two weeks of life, emergency department visits in the last two weeks of life, and death within the hospital. The intervention group consisted of 3,109 patients who received specialized palliative care within their home. Intervention patients were cared for by a team of palliative care physicians and nurses, who managed symptoms, provided education, coordinated services, and were available to the patients around the clock for issues that arose. Those patients in the control group received standard care. The study found that patients who received the community base palliative care treatment had significantly lower rates of all three measures in comparison to the control group. The risk of being admitted to the hospital during the last two weeks of life was reduced by 33% and the risk of visiting the emergency department during this time frame was reduced by 25%. The risk of dying in the hospital was also substantially decreased in the palliative care group, with a risk reduction of 50% (Seow et al., 2015).

Early Intervention of Palliative Care

Early integration with palliative care services in oncology patients is a relatively new topic in healthcare that has had much attention in recent years. There have been multiple high quality studies demonstrating the beneficial impacts of earlier addition of palliative care along with standard oncology care.

The ENABLE III study, performed by Bakitas et al. (2015) was a randomized controlled trial design to determine the effects of the timing (early initiation versus delayed) of palliative care services on patients' survival time, along with symptom control, and psychological impact. The study took place in multiple outpatient cancer clinics, along with medical centers and community outreach clinics in northern New England. Participants were screened prior to inclusion in the study; requirements of participation included adult patients with advanced-stage solid tumors or hematologic malignancies, a prognosis of six to 24 months, and the ability to answer baseline questionnaires (Bakitas et al., 2015). In total, 207 patients were enrolled and randomized to the two study groups (early versus delayed intervention). Patients in the early intervention group received initial outpatient palliative consultation, followed by weekly telephone sessions by an advanced practice registered nurse. The delayed intervention group received standard care with the option for palliative care referral at the primary oncologist's request. Quality of life, symptom intensity, and mood were assessed using registered assessment tools at the beginning of the trial, and at regular intervals. One-year survival, resource utilization, and place of death were obtained via patient medical records. Findings from the Bakitas et al. (2015) study revealed that the one-year survival rate was significantly improved in patients who were in the early intervention group (difference, 15%; $P = .33$). Median survival in patients who received early intervention with palliative care was 18.3 months while the delayed group survival times was only 11.8 months. Healthcare utilization of patients in the early intervention group, including emergency department visits, hospital admissions, and admission into the intensive care unit were lower when compared to the delayed group, but was not statistically significant.

Other dependent variables studied did not have any statistically relevant data to support the intervention utilized (Bakitas et al., 2015).

Zimmermann et al. (2014) conducted a quantitative study, using a cluster-randomized controlled trial design to assess the effect of early initiation of palliative care services on overall quality of life in patients with advanced cancer diagnoses. This study took place in an outpatient oncology center, which included 24 medical oncology clinics, in Toronto, Canada between December 2006 and February 2011. A total of 451 adult patients with a stage IV cancer and estimated prognosis of six to 24 months were studied in the trial. The interventional group received palliative care consultation with routine follow up via phone calls and monthly outpatient clinic appointments, along with a 24-hour telephone service for emergencies. The control group received standard oncology care, however referrals were not denied to those in the control group. Although the trial was randomized, it was unable to be completely blinded, however no patients in either group were aware of the interventions that the opposite group received (Zimmermann et al., 2014). Data was collected using five different registered assessment tools that measured quality of life, quality of life at the end of life, symptom severity, satisfaction with care, and problems with medical interactions. At the three-month interval, there were significant improvements in the intervention group when compared to the control group in quality of life (+2.46 [15.47] vs -3.95 [14.21], $p=0.07$), quality of life at end of life (+3.04 [8.33] vs -0.51 [7.62], $p=0.0003$), and symptom severity (-1.34 [15.47] vs -3.95 [14.21], $p=0.05$) (Zimmermann et al., 2014).

Temel et al. (2010) performed a non-blind, randomized controlled trial, quantitative study to determine the effect of early palliative care integration on patients

diagnosed with metastatic non-small-cell lung cancer on quality of life and mood. In this study, 151 patients diagnosed with metastatic non-small cell lung carcinoma and an ECOG of zero to two were chosen and divided randomly into two groups. The control group received standard care. The experimental group received both early palliative care along with standard care. Patients in the experimental group had an initial meeting with palliative care services followed by routine monthly outpatient follow up visits. Patients in both groups were assessed for quality of life and depression using the multiple registered assessment scales prior to the intervention and at 12 weeks' time. Other measures that were analyzed in the study were survival time, hospital admissions, chemotherapy administration 14 days before death, and location of death. Patients who were in the early palliative intervention group were found to have better quality of life, less depressive symptoms (16% vs. 38%), and longer survival time than those in the control group (11.6 months vs. 8.9 months) (Temel et al., 2010).

Earlier palliative care referrals have also been associated with improved quality of end-of-life care for patients with advanced cancer. In a retrospective chart review performed by Hui et al. (2014) the impact of timing and setting of palliative care referral on quality of end-of-life care in cancer patients was evaluated. The charts of patients who were consulted by palliative care early (greater than 3 months prior to death) were compared to those who had later referrals. Primary outcomes that were evaluated included emergency department visits, hospitalizations, and ICU admissions within the last 30 days of life, along with hospital deaths. In comparison with the patients who received a late consultation, those patients who had early referral were found to have significantly improved quality of end-of-life indicators. There were significantly fewer

emergency department visits (39% vs. 68%; $P < .001$), hospitalizations (48% vs. 81%; $P < .003$), and ICU admissions (4% vs. 14%; $P = .001$) within the last 30 days of life, and hospital deaths (17% vs. 31%; $P = .004$) in patients with early referrals compared to those with later referral to palliative care (Hui et al., 2014).

The Role of Nursing in Palliative Care

Oncology nurses are in a very unique position when it pertains to patient care. Often times, nurses are the healthcare professionals devoting the most time to their patients. Nurses are continuously assessing patients' tolerance to treatment, monitoring side effects, and providing psychosocial support to patients in need. Therefore, nurses are in an ideal position to assess for unmet palliative care needs in the oncology population.

As described previously, educational gaps continue to be one of the main barriers to the implementation of palliative care in patients with unmet needs. Prem et al. (2012) conducted a quantitative cross-sectional survey to evaluate nurses' knowledge regarding palliative care. The survey took place in a multispecialty hospital and utilized the palliative care knowledge test (PCKT), a validated and reliable tool, to evaluate palliative care knowledge of the 363 nurse participants. The PCKT is a test consisting of 20 questions regarding the philosophy of palliative care, pain management, dyspnea, psychiatric issues, and gastrointestinal problems. The total average score of the PCKT was 7.16 +/- 2.69 (35.8%) (Prem et al., 2012). This concluded that nursing knowledge regarding palliative care was insufficient.

Along with educational inadequacy, attitudes, beliefs, and previous experiences can also weigh on the decision to involve palliative care in the comprehensive care team.

Ugur, et al. (2017) examined the perceptions of nurses towards palliative care along with obstacles in its implementation. A prospective descriptive study design was used, where 120 nurses at a Turkish hospital were surveyed. The survey consisted of multiple questions regarding perceptions of what palliative care provides, palliative care training, and self-efficacy in the ability to provide palliative care for patients. Nurses identified that palliative care education was deficient with a total of 83.4% stating that training was either partially sufficient or insufficient, and 75.9% of nurses reported that they would like to receive palliative care training (Ugur et al., 2017). The study also revealed that a majority of nurses (91.7%) believe that palliative care is a humanistic right for patients and support the implementation of palliative care in patients with life-threatening disease. While nurses are in favor of palliative care services to help patients with holistic care, it was also identified that many nurses have inadequate knowledge regarding the role of palliative care, when it should be implemented into patient care, and family support that palliative care provides (Ugur et al., 2017).

In response to inadequate nursing education regarding palliative care, Harden, Price, Duffy, Galunas, & Rodgers (2017) conducted a quality improvement project consisting of an educational seminar aimed at improving nursing knowledge, skills, and attitudes concerning palliative care in the oncology population. The project consisted of a pre and post-test design with an educational curriculum on palliative care to better educate inpatient oncology nurses at a hospital in Michigan. There were a total of four, one-hour classes held for the nurses and the curriculum consisted of modified material from the End of Life Nursing Education Consortium, a well-recognized palliative care educational program. The education included an overview of palliative care and its role,

pain management, symptom management, and strategies for communication. A total of 36 nurses completed both the pre-test and post-test surveys. There was a statistically significant improvement in nursing knowledge when comparing the pre-test mean scores ($X=3.5$, $SD = 0.64$) to post-test scores ($X = 4.2$, $SD = 0.54$) ($p=0.000$) (Harden et al., 2017). Attitudes of nursing staff in regards to palliative care were also evaluated within the study. Mean scores regarding nursing attitude also improved from before the intervention ($X=3.5$, $SD=0.74$) compared to after the intervention ($X=4$, $SD = 0.58$, $p=0.002$) (Harden et al., 2017). Nurses also reported that after the educational intervention, they felt more comfortable in discussing advanced care planning ($p=0.011$), code status ($p=0.004$), and withdrawing life support from a dying patient ($p=0.000$) (Harden et al., 2017). In addition to the pre and post-tests, nurses were also asked to record the number of conversations they had with their patients regarding palliative care to evaluate behavior change. There was a statistically significant change regarding behavior, with an increased percentage from 34% to 54% of nurses having three or more conversations regarding palliative care with patients after the intervention (Harden et al., 2017).

In summary, current research supports the early integration of palliative care in the oncology population, due to the multiple clinical benefits that it can provide to patients. While multiple cancer institutions recommend the early integration of palliative care, barriers remain to its implementation in the healthcare field. Supporting nursing education that highlights the importance of early palliative care has the potential to increase the utilization of palliative care in the oncology population.

Next the theoretical frameworks will be discussed.

Theoretical Frameworks

The theoretical frameworks utilized for the development of this project included Orem's theory of self-care deficit and the logic model.

Orem's Self-Care Deficit Theory

Orem's self-care deficit theory is composed of the general concepts of self-care, self-care deficit, and nursing systems theory, which all play an important role in the care of the palliative care patient. Self-care is described as "health-related activities performed by individuals on their own behalf to maintain life, health, and wellbeing" (Desbiens, Gagnon, & Fillion, 2011, p. 2115). Deficits in self-care arise when illness or debilitation result in the individual being unable to care for themselves.

The severity of self-care deficit can range from lack of knowledge to complete inability to perform routine physical care of one's self. Orem classifies the severity of self-care deficits as wholly compensatory, partially compensatory, and support or educational systems. At the wholly compensatory level, the patient is unable to provide routine self-care activities, even with assistance, and depend on others for their basic physical needs. In the partially compensatory system, the patient is able to perform some elements of self-care, but do require assistance with particular tasks. And at the supportive or educational system the patient is independent with their self-care, but require support and education from others in order to better cope with their illness and symptoms (McEwen & Wills, 2011). In all of these systems, patients have some level of self-care deficits and nursing provides different levels of assistance with their self-care, while supporting autonomy and assisting patients to provide for themselves as much as possible.

Life-limiting illnesses are one of the main concepts identified in Orem's self-care deficit theory, where the goal of caring for the patient is to enhance their overall quality of life. This is particularly important knowledge for nurses caring for oncology patients in the palliative care setting. This concept of Orem's theory is to emphasize the maintenance of comfort and dignity for the patient. The theory also focusing on psychosocial support, where family, friends, and nursing are to assist in providing an environment where the patient has a feeling of security in a time of uncertainty (Desbiens et al., 2011).

Palliative care and end-of-life patients have a specific set of needs that are unique to each individual. Nurses are required to have a specific set of skills in order to make the patient comfortable, while also supporting the patient and family members during a time of uncertainty and vulnerability. Orem's self-care deficit theory provides useful concepts regarding caring for the palliative care patient. By assisting the patient in their ability to care for themselves, the nurse is able to improve the overall quality of life of the patient, while also encouraging patient autonomy during their disease process.

The Logic Model

The logic model was used to guide this project. The steps included the planned work, its implementation, and the intended results within the development the program. Planned work consisted of the resources needed, also known as inputs, such as financial, human, organizational, and community factors. The implementation involved program activities, including the processes, tools, events, technology, and actions that were required to generate the intended outcomes (W.K. Kellogg, 2004). The model also identified the anticipated results of the program, which included the outputs, outcomes,

and impact of the program. Outputs consisted of the direct results of the program activities. Outcomes included the changes in participants' behaviors, knowledge, and skills. The impact of the program involved the resulting change occurring on a larger scale, such as on an institutional level (W.K. Kellogg, 2004).

The framework of the Logic Model was utilized from the Logic Model Development Guide (W. K. Kellogg, 2004) in order to illustrate the development and implementation of the educational intervention of this project (Appendix A).

Procedures

Application of the Logic Model. The framework of the Logic Model was utilized from the Logic Model Development Guide (W. K. Kellogg, 2004) in order to illustrate the development and implementation of the educational intervention of this project (Appendix A).

Situation. According to NCCN's palliative care guidelines (2017), early implementation of palliative care in oncology patients should be integrated into routine oncology care, due to the substantial benefits that it can provide to patients and families. Palliative care is often underutilized in the oncology population due to a number of barriers, one being inadequate knowledge.

Inputs. Inputs included the resources that were required to implement the program activities. Necessary inputs for this program included support on both an administrative and managerial level. Staff willingness to participate in the project was imperative, and included both the time expended on partaking in the program, and the effort required to complete the pre and post-tests. Physical resources also included the written educational material that was distributed to participants along with the pre-tests

and post-tests. A computer was utilized to analyze the data upon the completion of the pre and post-tests.

Program activities. The program activities included the actions required to implement the program. The activities included the development of an educational program regarding palliative care and the benefits of its early implementation in the oncology population, along with the development of a pre and post-test that evaluated the course outcomes. Data collection and analysis of the results were also included within the program activities.

Program content and outcomes. The content of the educational program was based on the needs assessment and was developed after reviewing the pertinent literature surrounding palliative care and the benefits of early intervention of palliative care in oncology patients. The education was developed in a power point format and accompanying printed materials were also created and distributed to participants. An identical pre-test and post-test were created for participants to complete.

The purpose of the project was to increase oncology nurses' knowledge regarding palliative care and its early implementation in the oncology population, and to increase nursing confidence in recommending palliative care consultations to providers. The projected outcome of the program was to have improved scores on the post-test surveys, in comparison to the pre-test surveys, after the implementation of the educational intervention.

Outputs. The outputs included the products of the program activities, which consisted of the delivery of an educational program to the inpatient oncology staff nurses along with the associated pre and posttest surveys. The educational program was

developed from evidence-based literature regarding palliative care and was presented to staff in a power point format at the scheduled sessions.

Outcomes. Outcomes included the changes in participants' behavior, knowledge, and skills during and after the program. Outcomes can be categorized as short or long-term effects, where short-term effects are seen within one to three years and long-term effects are seen within four to six years (W.K. Kellogg, 2004). The intentional outcomes of this project were to increase nurses' knowledge of palliative care and the benefits of early integration of palliative care in the oncology population, along with increasing confidence in recommending palliative care consultations to providers. Outcomes of this project were intended to be short-term.

Assumptions and external factors. Assumptions made during the construction of this project were that staff nurses have an interest in palliative care education and were willing to participate in the project, with the completion of both pre and post-tests. It was also assumed that there would be ample managerial and institutional support behind the development of an educational program regarding palliative care.

External factors included the influences that could potential impact the implementation of the program. These included staff willingness to participate in the project and time constraints of the nurses.

Next, the methods will be discussed.

Method

Purpose

The purpose of this project was to explore the effectiveness of an educational intervention for inpatient oncology nurses regarding the benefits of early integration of palliative care services for the oncology population in order to thus improve nursing knowledge and confidence in recommending appropriate palliative care consultations to providers.

Design

The design was a program development, quality improvement project consisting of a pre-test and post-test, with an evidence-based educational intervention regarding palliative care services. The questionnaires were designed to evaluate nursing knowledge and confidence in recommending palliative care consultations to providers.

Sample/Site

This project was conducted on a 25-bed inpatient hematology/oncology unit located in a 247-bed teaching hospital in New England. The sample for this project consisted of a convenience sample of all registered nurses working on this unit. Inclusion criteria consisted of all full-time and part-time nurses who work on this unit. Those who are float nurses, per diem nurses, or advanced practice nurses, along with all non-nursing staff were excluded from this project. There were 25 registered nurses on 4B who meet criteria for participation in the project. The goal was to recruit at least 50% of eligible nurses on the unit to participate in the project.

Procedures

Permission and approvals. Administrative approval was requested and obtained from both the chief nursing officer of the hospital as well as the unit manager, prior to project implementation. The institutional review board of The Miriam Hospital was asked to make a determination that this project was not research, which was approved. The affiliated college was also asked for approval of this project, due to the utilization of human subjects, which was granted.

The participants in the project did not include any vulnerable populations, and the subjects were all cognitively intact. Participation was free from coercion and participants did not receive any form of compensation for their involvement in the project.

An email was sent to all registered nurses on the designated unit, describing the purpose of the project, along with a description of the educational material covered (Appendix D). A flyer was also posted in the unit's break room, which listed the dates and times of the educational seminars (Appendix F).

A pre-test and a post-test (Appendix B) was distributed to the eligible nurses who attended an educational seminar that discussed the benefits of palliative care services in the oncology population. There was an informational letter (Appendix E) that was attached to the pretest prior to the intervention explaining that participation was voluntary, and submissions would remain anonymous. Implied consent was assumed if the participant completed the pre and post-tests.

A preamble was conducted prior to the start of the intervention reiterating that participation was voluntary, and all submissions would remain anonymous. All nurses remained anonymous while submitting their tests and no identifying information was

obtained from participants. Pre and post-test surveys were stored in a locked file cabinet in the principal investigator's office at the designated site until completion of the project.

Attached to the back of the test was a program evaluation form, in which participants left feedback regarding whether course objectives were met, the quality of the presenter, and if the information discussed is applicable to their nursing practice (Appendix C).

Educational Session. A pre-test and a post-test was distributed to the eligible nurses who attended an educational seminar that discussed the benefits of palliative care services in the oncology population, the utilization of a palliative care screening tool, and strategies that can be utilized to recommend palliative care services to providers. A pre-test was distributed prior to the intervention, which staff were given five minutes to complete.

The educational information was given in a lecture-type PowerPoint format and written material was also distributed to participants. The course content outline, along with the projected objectives is illustrated in Table 1 below.

Table 1: *Course content and objectives*

Table 1	Course Content	Objectives
	Introduction of palliative care: Definition and role of palliative care	Participants will be able to define palliative care and its role
	Palliative care vs. Hospice	Participants will be able to identify the differences between palliative care and hospice
	Palliative care referral criteria	Participants will identify clinical indications for palliative care referrals
	When to consult palliative care	Participants will identify appropriate intervals to consult palliative care
	Clinical outcomes of palliative care	Participants will identify the clinical benefits of palliative care
	Clinical outcomes of early palliative care in the oncology population	Participants will identify clinical benefits of early palliative care in oncology patients
	How to recommend palliative care to patients, families, and the care team	Participants will feel confident in discussing and recommending palliative

The information was presented over the course of approximately 15 minutes, in order to limit the amount of time spent, and assist in increasing availability for the staff members. Discussion of the material and completion of the post-tests took a total of 10 minutes following the intervention. There were a total of eight educational seminars in which staff had the opportunity to attend, with four held during day shift and four held during night shift to ensure availability for all eligible staff. Participants were able to attend the session while they are at work, which increased accessibility for staff to attend.

Measurement. The desired outcome of this project was to show that an educational program regarding palliative care services increased nurses' knowledge regarding early intervention with palliative care services and also increased confidence in recommending palliative care consults to providers. This outcome was evaluated based on the comparison of the pre and post-tests following the educational intervention.

The pre and post-test surveys contained a total of 10 questions, with eight of the questions targeting knowledge and two questions regarding nursing confidence (Appendix B). The questions in the tests were constructed to assess nursing knowledge regarding palliative care and the benefits of its early integration. Test questions were derived from the course objectives and were constructed by this writer. The test questions were reviewed by five oncology certified nurses along with a clinical nurse specialist with experience in both palliative care and oncology to assess the content and clarity of the questions.

Data Analysis

Descriptive analyses were utilized to interpret results from each question. The pre and post-tests were evaluated at the conclusion of the project and were compared and appraised for group trends. Knowledge-based questions and confidence-based questions were examined independently. Visual illustrations were utilized to display the results.

There was additionally a program evaluation attached to the post-test, which was completed by participants. The data from the program was then disseminated on the unit on a poster board and will also be sent to upper administration.

Next, the results will be presented.

Results

Thirteen out of 24 eligible registered nurses (N=13, 54%) participated in the program development, quality improvement project. Eleven of the thirteen completed both the pre-test and post-test, for a total participation rate of 46% (N=11). Nine out of the eleven (82%) who completed the post-tests completed the program evaluation. For the purpose of data analysis, only those who completed both the pre-test and post-tests were included.

Questions one through eight consisted of multiple-choice questions where answers were either correct or incorrect. These questions are available for review in Appendix B. Questions one through eight were utilized to determine the mean test scores. Pre-test and post-test scores were then analyzed for improvement. Figure 1 below demonstrates the mean pre-test versus post-test scores.

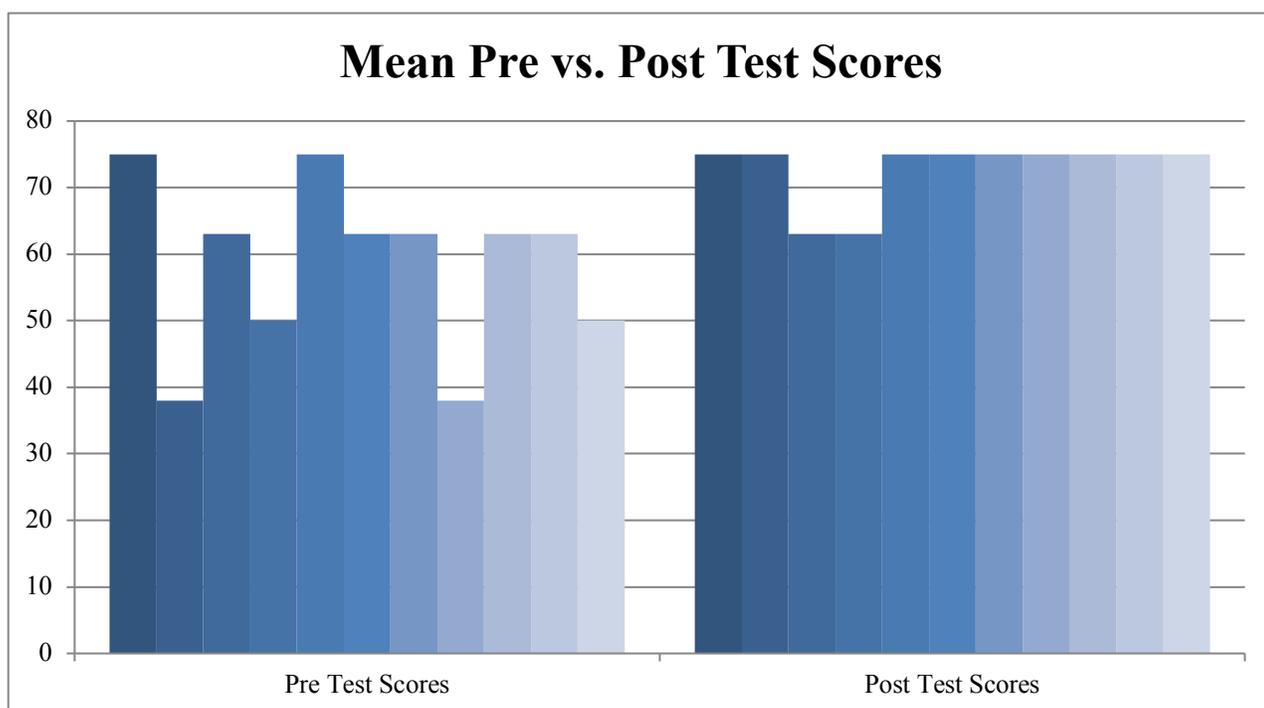


Figure 1 – Comparing pre-test and post-test mean scores (n=11).

There was an observed improvement in the overall test scores when comparing pre-test to post-test results. The overall mean score of all of the completed pre-tests was 58.2%, with a range from 38% to 75%. The scores of the completed post-tests were improved when compared to the pre-test scores, with a mean of 72.8%, and a range from 63% to 75%.

There were three questions that showed improvement in the post-test analysis. Question one assessed nursing knowledge regarding the goal of palliative care. Question one had a mean of 54% in the pre-test, compared to 82% in the post-test. Question three asked nurses about barriers to the implementation of palliative care. Mean test scores for question three improved from 64% correct in pre-test response to 91% in the post-tests. Question four targeted knowledge in the differences between palliative care and hospice, which improved from 54% in the pre-test to 100% in post-test.

Questions six and seven in the pre and post-test were multiple answer questions regarding indications for palliative care referral and the benefits of early palliative care, respectively. These questions had consistently poor scores, with zero percent correct on both the pre-test and the post-test.

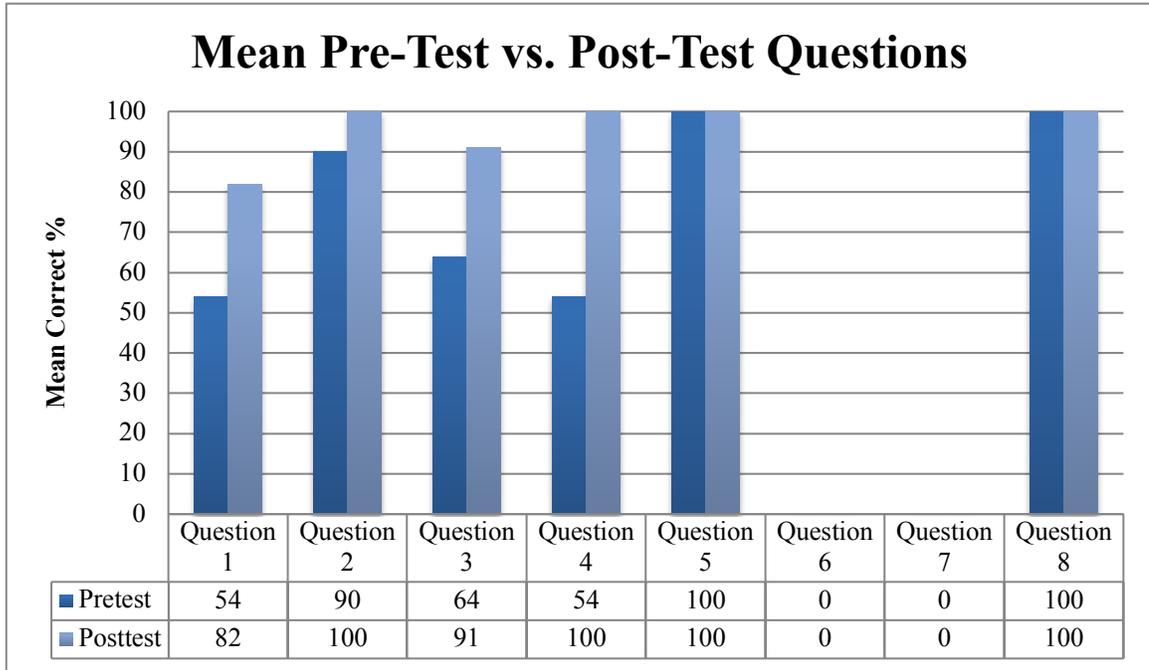


Figure 2 – Comparing individual question responses in pre-tests vs. post-tests

Questions nine and ten were Likert-scale questions that were converted to numerical scores for the purpose of data analysis. The numbers one through five were used to analyze the data, with 1-strongly agree, 2-agree, 3-neither agree nor disagree, 4-disagree, and 5-strongly disagree.

Question nine assessed nurses’ confidence in being able to recommend palliative care services to patients and family members. The pre-test mean score for question 9 was 2.45 and the post-test mean score was 1.73, with a lower score showing increasing levels of confidence. In the pre-test results, there were three nurses (27%) who either disagreed or strongly disagreed in being confident in recommending palliative care. In the post-test results, all of the nurses who answered the questionnaire either strongly agreed or agreed with being confident in recommending palliative care.

Figure three is displayed below and represents the participants' responses for questions nine in both the pre-test and post-test.

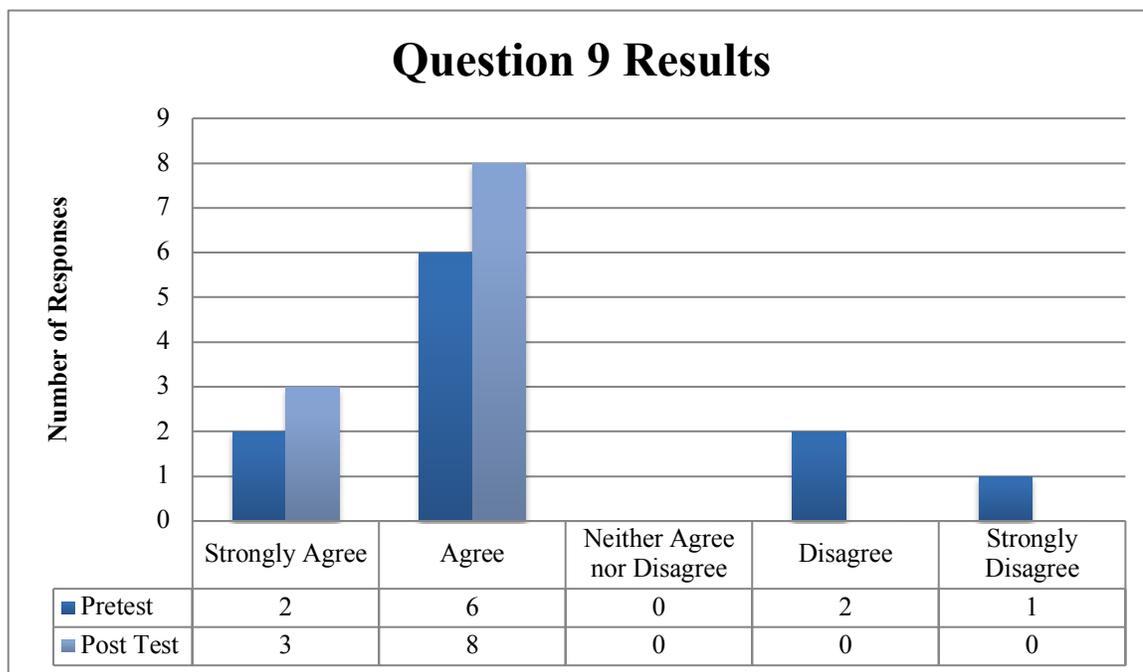


Figure 3 – Comparing question nine pre-test and post-test responses.

Question 10 assessed nurses' confidence in recommending a palliative care consultation to providers. The pre-test mean score for question 10 was 2.27 and the post-test score was 1.73, again, with lower scores indicating increased levels of confidence. In the pre-test submissions, there were four nurses (36%) who neither agreed nor disagreed or disagreed in being confident. In the post-test, all nurses who completed the questionnaire either strongly agreed or agreed with being confident in recommending a palliative care consultation to providers.

Figure four is displayed below and represents the participants' pre-test and post-test responses for question 10.

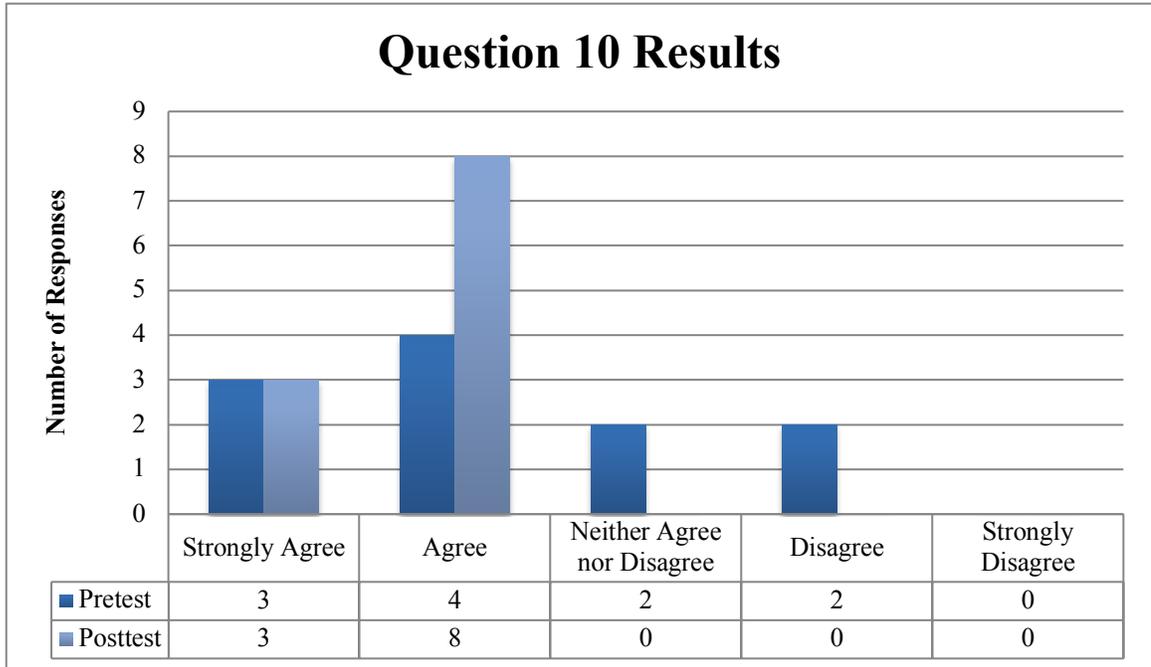


Figure 4 - Comparing question 10 pre-test and post-test responses

Out of the eleven participants who completed the program development, quality improvement project, nine also completed a program evaluation (n=9; 81%). The program evaluation assessed how well the program objectives were met, the quality of the presenter, and applicability of the program material into clinical practice. The program evaluation was based on a Likert-scale, with scores representing the following: 5 – strongly agree, 4 – agree, 3 – neutral, 2 – disagree, and 1 – strongly disagree. For the purpose of data evaluation, scores were calculated into means for the three categories, with scores closer to five being more favorable. For the program objectives, the average mean was 4.81. The average mean of the quality of presenter was 5.0. For the evaluation of applicability into clinical practice, the average mean was 4.89.

Next, the summary and conclusions will be presented.

Summary and Conclusions

Cancer patients with metastatic disease often have poor prognoses even with the best available treatments. While disease-aimed treatments can be useful in halting disease progression, these patients routinely have symptoms from their disease that can significantly impact their quality of life. Current best evidence, including two randomized controlled trials, the ENABLE study by Bakitas et al. (2015), and “Early palliative care for patients with metastatic non-small-cell lung cancer” by Temel et al. (2010), support the early integration of palliative care for patients with advanced cancers. Early intervention with palliative care within the oncology population is now highly recommended by oncology organizations, including the NCCN (2017) and ASCO (2017), yet many oncology patients still fail to receive them in a timely manner (Zimmermann et al., 2016).

Nurses, out of all healthcare providers, spend the most time with patients and are therefore in an ideal position to recognize any unmet palliative care needs that the patient may have. Thus, nurses could potentially be utilized as an asset in identifying patients who should receive palliative care. One of the identified barriers to the implementation of early palliative care is lack of education, both on a nursing and provider level (Johnson et al., 2010). Educational programs have been shown to help increase knowledge, improve attitudes, and boost confidence regarding palliative care in nurses (Harden et al., 2017). The purpose of this program development, quality improvement project was to increase nursing knowledge of palliative care and improve nurses’ confidence in discussing palliative care with families, patients, and providers.

This program development, quality improvement project consisted of a pre-test, intervention, and post-test regarding palliative care in the oncology population on an inpatient oncology unit. Prior to the project implementation, institutional review board approval was obtained through The Miriam Hospital and Rhode Island College. An informational email regarding the details of the project was sent to eligible nurses on the unit and a flyer was posted with the dates and times in which the program would be held. A total of eight educational programs were held in which eligible nurses could attend. Pre-test were completed prior the educational intervention and post-test were completed immediately afterwards. No identifying information was obtained from subjects and test results were kept completely anonymous. Mean test scores along with individual questions were analyzed to determine whether the educational program increased knowledge of palliative care and boosted confidence in discussing palliative care with patients, families, and providers.

A total of 11 nurses out of a possible 25 completed both the pre-test and post-test for a response rate of 44%. The overall mean test score improved from 58.2% on the pre-tests to 72.8% on the post-tests, which demonstrated increased knowledge of palliative care following the intervention. These results are similar to those of Harden et al.'s (2017) quality improvement project, which consisted of a similar framework regarding palliative care education for nurses. In Harden et al.'s (2017) study, nurses' knowledge also increased after a one-hour educational program was provided.

In analysis of individual questions, there was an improvement in questions one (54% to 82% [goal of palliative care]), three (64% to 91% [barriers to implementation of palliative care]), and four (54% to 100% [screening for palliative care]). Questions six

and seven had consistently poor responses, both in the pre-test and post-test. Both of these questions consisted of a “select all that apply” format, and therefore may have contributed to the poor response rates. These questions require the test taker to select multiple alternatives in which more than one response can be correct. These types of questions can be more challenging for test takers as they allow for several correct answers and provides less of an opportunity for guessing (MGH Institute of Health Professionals, 2018). Therefore, select all that apply questions require a higher degree of critical thinking than standard multiple-choice questions. In question six, which asked about indications for palliative care consultations, six nurses (55%) were able to identify all of the correct indications for consultation, while also including incorrect indications in the pre-test. In the post-test, nine nurses (82%) were able to identify the correct indications while also including incorrect indications. This could indicate that participants did gain some degree of knowledge regarding the indications for palliative care consultations within the population. Question seven was regarding the benefits of early palliative care. In the pre-test five of the nurses (45%) were able to correctly identify the benefits of early palliative care, while also including incorrect answers. In the post-test nine (82%) of the nurses were able to identify the correct responses, while also including an incorrect response. The incorrect response that all nine of the nurses included in the post-test was A - improved pain management. Within the program development, quality improvement project, improvement in pain management was discussed as one of the benefits of palliative care, but was not identified as a benefit of early palliative care. Due to constraints in nursing workload, which was a limitation of this project, nurses may have had inadequate time and repeated distractions that

potentially inhibited their ability to fully interpret the information. While the nurses did not fully answer this question correctly, there was a demonstrated improvement between the pre-test and the post-test results.

Question nine was concerned with discussing palliative care with patients and families. It is important for nurses to feel comfortable in discussing palliative care with both patients and families in order to answer concerns and questions, and to also clarify misconceptions surrounding palliative care. By being knowledgeable and confident in palliative care, nurses could potentially help patients and families feel more comfortable in having palliative care providers be a part of the care team. Participants were more likely to strongly agree or agree with feeling confident in discussing palliative care with patients and family members after the education was provided. Harden et al. (2017) likewise found that nurses were more likely to have conversations about palliative care with patients and family members after education was provided. These researchers also found that nurses were more comfortable discussing palliative care issues with patients and family members after the education (Harden et al., 2017).

Question ten was regarding nurses recommending palliative care consultations to providers. Participants demonstrated increased confidence levels after the educational information was provided in this program development, quality improvement project. Because nurses are the healthcare providers that have the most exposure to the patient's health care experience, it is important that nurses are able to make recommendations to providers regarding patient care. By feeling more confident in recommending palliative care to providers, the nurse is better able to advocate for their patient and has the potential to increase palliative care consultations and therefore reduce patient suffering.

The increased confidence levels found in the participants eludes that focused education in palliative care can help improve nursing self-confidence regarding palliative care.

The purpose of the program evaluation was to elicit feedback from the participants regarding the program development, quality improvement project.

Participants identified that the program objectives of the project were met, with a mean score of 4.81 out of a possible five. The quality of the presenter had a mean score of 5.0 out of a possible five. Participants also found that the content provided was applicable into their clinical practice, with an average mean of 4.89.

There were several identified limitations of this program development, quality improvement project. Time limitations were one of the most significant limitations encountered. The educational program occurred during nurses' shifts when they were caring for patients, which resulted in multiple interruptions during the program. These interruptions affected the entire group and disrupted the presentation of the information. While the program was intended to be 30 minutes in length, it was often shortened due to time restrictions that the nurses faced. There were also several occasions in which nurses were unable to attend because they were too busy during the time frame in which the program was held. In Harden et al.'s (2017) study, they offered multiple one-hour classes to nurses, which were not held during the nurses' shifts. This may have provided participants with a more uninterrupted and comprehensive educational experience.

Another limitation of the project was the small sample size, secondary to a small number of nurses staffed on the unit who were eligible to partake in the project. The small sample size was also in part due to time constrictions placed on the staff, resulting in their inability to participate. Knowledge regarding palliative care may also have been

affected by nurses' previous experience in this field and total experience as a nurse, which was not accounted for in this project.

Despite the limitations of this project, this program development, quality improvement project did demonstrate that nurses had improved knowledge regarding palliative care in the oncology population and had increased levels of confidence following an educational program. In the future, dedicated palliative care educational programs should be provided to both nurses and providers working in oncology for further improve competency in this field.

Next, recommendations and implications for advanced practice nurses will be presented.

Recommendations and Implications for Advanced Practice Nursing

The advanced practice registered nurse (APRN) should be up to date on best practices and should possess the ability to translate research into their practice and educate others. Palliative care is an imperative part of comprehensive cancer care, and should be incorporated into standard practice for this patient population (NCCN, 2018). As APRNs, the adult gerontology acute care nurse practitioner should be familiar with this field and must be able to recognize when palliative care is appropriate for these patients.

The NCCN (2017) has identified that institutions should develop educational programs for palliative care. Lack of education regarding palliative care continues to be one of the main barriers to its implementation (Johnson et al., 2010). Nurse practitioners have the potential to increasingly identify patients with palliative care needs through education. Nursing education and training has been reported to be inadequate (Ugur et al., 2017). Since nurses are the ones who have the most direct contact with patients, educating nurses on palliative care may help to identify which patients could potentially benefit from consultations. In order to support nursing education, APRNs can create educational programs to help nurses recognize which patients could benefit from palliative care. Not only can this help to increase nursing knowledge regarding palliative care, but it can also help improve nurses' comfort level in discussing palliative care with patients and families (Harden et al., 2017). By opening the dialogue about palliative care, it could also theoretically decrease the stigma and misconceptions surrounding it.

Not only should nurses be educated on palliative care, but advanced practice providers and physicians should also receive formal education regarding palliative care

(NCCN, 2017). Physicians and other providers continue to have misconceptions regarding the goals of palliative care, which can have a significant impact on their patients (Johnson et al., 2010). Providers with these misconceptions may be less likely to consult palliative care for their patients. APRNs can help to clarify these misconceptions by providing education that includes the goals and benefits of palliative care, economical impacts, and early palliative care within the oncology population should be discussed. Education concerning palliative care should also be implemented on a broader spectrum. Medical and nursing school curriculum should consist of education regarding palliative care. The public should also be further educated on palliative care, as a more knowledgeable populace could result in less opposition and misconceptions regarding this field of medicine.

Institutional policies and procedures can have a significant impact on the autonomy of nursing practice. APRNs have the ability to help change institutional policies and procedures. APRNs working with the oncology population or among other patients with palliative care needs should be involved on an institutional level by asking to be included in the deciding bodies who establish policies regarding palliative care. APRNs should also help to establish specific palliative care consultation criteria and measures to help identify patients who could benefit from palliative care referrals (Perrin & Kazanowski, 2015).

Nurse driven protocols utilize specific criteria that help to guide nursing practice and are becoming more popular within institutions. Nurse driven protocols for palliative care consultations can be effective in the more prompt recognition of palliative care needs and could result in more referrals for patients with unmet needs. By utilizing

specific consultation criteria, nurses could independently refer patients to a palliative care specialist (Radwany et al., 2009). This could potentially prompt recognition of palliative care needs and result in earlier palliative care consultations.

The NCCN (2017) currently recommends screening patients with a validated screening tool upon diagnosis and then at appropriate intervals afterwards.

Hospitalizations for oncology patients can signify deteriorating performance status, disease progression, or increasing symptom burden, and therefore is an ideal time to screen for palliative care needs. The utilization of a validated palliative care screening tool could also be applied into institutions in order to quickly and accurately identify patients who could benefit from palliative care consultations (Glare, Semple, Stabler, & Saltz, 2011). Automated practice reminders for these validated palliative care screening tools upon admission could also be implemented within the system to help distinguish patients with palliative care needs. Another strategy that has been identified to assist in identifying patients who could benefit from palliative care consultations and obtaining these consultations is the presence of a palliative care nurse champion or nurse practitioner for the unit (Perrin & Kazanowski, 2015). By having a resource with additional training and experience in palliative care present on the unit, these individuals can appropriately advocate for palliative care consultations with providers.

Further research should be conducted to identify programs that can adequately educate nurses on palliative care and increase nursing confidence in discussing and recommending palliative care to patients and providers. Further research should also be conducted to assess whether nurse driven palliative care consultation protocols can be effective for correctly identifying and referring oncology patients to palliative care. The

current literature supports early palliative care for oncology patients but fails to specify exactly when these patients should be referred (NCCN, 2017). Therefore, a specific time frame in which palliative care should be consulted for oncology patients should be examined.

The goal of this program development, quality improvement project was to evaluate oncology nurses' knowledge and confidence regarding palliative care within the oncology population. This project helped to identify that there is a need for continued education regarding palliative care for oncology nurses. Dedicated educational programs for palliative care should be implemented for oncology nurses outside of their shifts caring for patients in order to adequately increase nursing knowledge.

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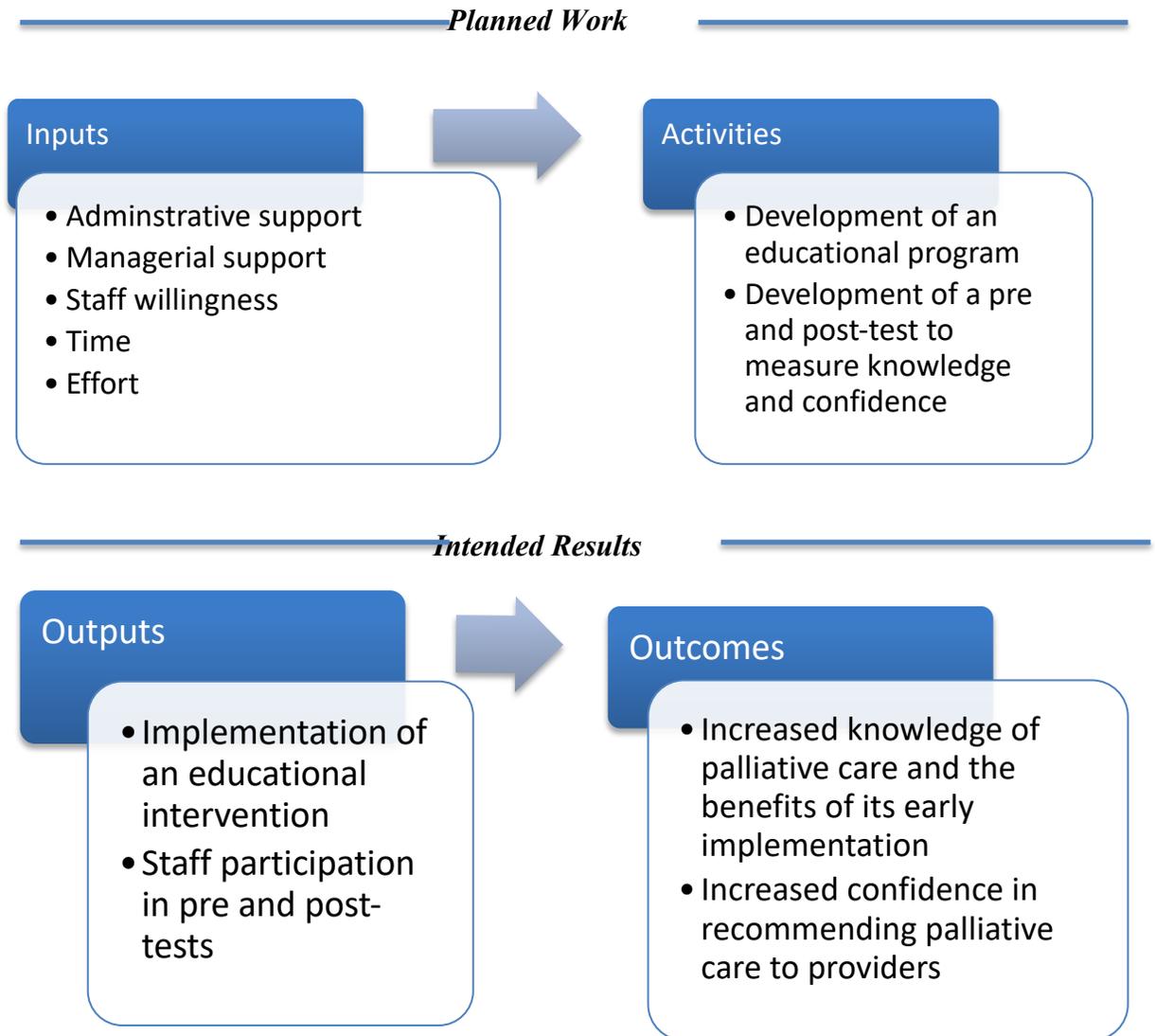
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Appendices

Appendix A

Early Implementation of Palliative Care Logic Model

Situation: Early implementation of palliative care in oncology patients should be integrated into routine oncology care, due to the substantial benefits that it can provide to patients and families, although it is frequently underutilized.



Appendix B

Pre and Post-Test Survey

This test is to assess your knowledge and confidence regarding palliative care in oncology patients.

All test submissions will remain anonymous. Please deposit your test in the sealed box when you are done.

Please circle the correct response.

1. The goal of palliative care is to:
 - a. Provide appropriate pain management
 - b. Provide end-of-life care
 - c. Alleviate physical and psychosocial suffering**
 - d. Treat complications from disease

2. Palliative care requires that a patient abandon treatment aimed at curing disease
 - a. True
 - b. False**

3. All are barriers to the implementation of palliative care **except** for:
 - a. Lack of provider education
 - b. Patient misconceptions regarding palliative care
 - c. Availability of palliative care providers
 - d. All are barriers to the implementation of palliative care**

4. Hospice differs from palliative care in that:
 - a. Patients must have a DNR (do not resuscitate) order
 - b. Patients must have a prognosis of 6 months or less**
 - c. Patients cannot receive any medical treatment

5. Oncology patients should be screened for palliative care needs
 - a. At the time of diagnosis
 - b. Each visit with the oncologist
 - c. When admitted to the hospital
 - d. All of the above**

6. Palliative care should be consulted in cancer patients when there is/are:
(Select all that apply)
 - a. New metastatic cancer diagnosis**

- b. A requirement for chemotherapy or radiation treatment
 - c. Resistance to engage in advanced care planning**
 - d. Patient nearing end-of-life
 - e. Frequent emergency department visits or hospital admissions**
7. The benefits of early palliative care can include:
(Select all that apply)
- a. Improved patient understanding of illness/prognosis
 - b. Decreased healthcare utilization at end of life
 - c. Improved quality of life
 - d. Decreased depression and anxiety
 - e. All of the above**
8. Early palliative care can improve cancer patient survival rates
- a. **True**
 - b. False
 - c. Unsure

Please indicate your confidence level for the following questions (Circle your response):

9. I feel confident in my ability to discuss palliative care with patients and family members
- a. Strongly agree
 - b. Agree
 - c. Neither Agree nor Disagree
 - d. Disagree
 - e. Strongly Disagree
10. I feel confident in recommending palliative care consultations to providers.
- a. Strongly agree
 - b. Agree
 - c. Neither Agree nor Disagree
 - d. Disagree
 - e. Strongly Disagree

Appendix C
Program Evaluation Form

Please complete the program evaluation after finishing the course

Course: Integration of Early Palliative Care in the Oncology Patient

Date:

5 = Strongly Agree 4 = Agree 3 = Neutral 2 = Disagree 1 = Strongly Disagree

Program Objectives	5	4	3	2	1
Able to define palliative care & its role					
Able to identify indications for palliative care referral					
Able to identify appropriate timing of palliative care consultation					
Able to identify benefits of palliative care					
Able to identify benefits of early palliative care					
Able to feel confident in discussing and recommending palliative care to others					

Quality of Presenter	5	4	3	2	1
The instructor was knowledgeable about the course subject					
The instructor was prepared and organized					
The instructor had an effective presentation style					
The instructor utilized time effectively					

Evaluation	5	4	3	2	1
I have increased my knowledge on the subject matter					
I will be able to apply the knowledge learned in this course to clinical practice					

Additional Comments or Suggestions:

Appendix D

Email Script

Dear 4B Registered Nurses,

My name is Jacqueline Hurteau and I am a graduate student at Rhode Island College. Part of the curriculum requires that I complete a master's project; therefore I have decided to develop a quality improvement project for oncology nurses.

You are being asked to take part in a quality improvement project titled Integration of Early Palliative Care in Oncology Patients: Improving Nursing Knowledge and Confidence. The purpose of this project is to develop an evidence-based education program for nurses regarding palliative care in the oncology population.

All full time and part time nurses on the unit are invited to participate, and participation is completely voluntary. If you wish to participate, you will be asked to attend a 15 minute educational program, along with the completion of both a 10 question multiple choice pre-test and post-test, which should each take approximately 5 minutes to complete.

Should you have any questions about this project, please feel free to contact me at Jhurteau_3535@email.ric.edu or 401-450-1531. You may also contact my mentor Kara Misto at kmisto@lifespan.org or 401-793-3617.

Thank you for taking the time to read this email and for your potential participation!

Sincerely,

Jacqueline Hurteau RN, BSN OCN

Jhurteau_3535@email.ric.edu

Rhode Island College

Appendix E

Informational Letter

To all 4B Registered Nurses,

You are being asked to take part in a quality improvement project titled Integration of Early Palliative Care in Oncology Patients: Improving Nursing Knowledge and Confidence. The aim of this project is to develop an evidence-based educational program for nurses regarding palliative care in the oncology population. Jacqueline Hurteau, a student at Rhode Island College and an employee of Lifespan is conducting this quality improvement project in conjunction with the Principal Investigator, Kara Misto.

All full time and part time nurses on the unit are invited to participate, and participation is completely voluntary. If you wish to participate, you will be asked to attend a 15 minute educational program, along with the completion of both a 10 question multiple choice pre-test and post-test, which should each take approximately 5 minutes to complete. There are no questions that should cause discomfort. If you do not want to complete either test, or attend the educational program, you are free to choose not to and may withdraw participation at any time.

If you do choose to participate, this project may increase your knowledge regarding palliative care in the oncology patient. The tests from this project will be kept confidential and anonymous, and none of the information you provide will have your name, or other identifying information on it. Tests will be placed in a sealed box after completion and the program developer, Jacqueline Hurteau will be the only one to have access to the test results.

Should you have any questions about this project, please feel free to contact Jacqueline Hurteau at Jhurteau_3535@email.ric.edu or 401-450-1531. You may also contact the principal investigator Kara Misto at kmisto@lifespan.org or 401-793-3617.

Thank you for your consideration in participating in this project.

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