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An Educational Program to Improve African American Women’s Knowledge and Self Efficiency in Seeking Treatment for Endometrial Cancer

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

Doctor of Nursing Practice

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An Educational Program to Improve African American Women's Knowledge and Self-Efficiency in Seeking Treatment for Endometrial Cancer

A doctoral project submitted in partial satisfaction
of the requirements for the degree of
Doctor of Nursing Practice

by

Lauren Elise Rosenthall

November 2023

Dedication

This study is dedicated to my grandmother and mother who are endometrial cancer survivors. My mother was diagnosed with endometrial cancer in 2020. My mother was fortunate enough to be diagnosed in the early stages of endometrial cancer and received early treatment. Her experience with endometrial cancer placed a desire in my heart to find innovative ways to decrease the health disparities related to endometrial cancer in the African American community.

To my loving husband, Royshun, my two beautiful daughters Laila and Lia, and my family. Your patience, encouragement, and love gave me the strength to complete this study. I am forever grateful.

Acknowledgments

I would like to thank God for his love and his grace that allowed me to complete this study. I would also like to express my gratitude and appreciation to my committee chair Dr. Catherine Garner, and committee members Dr. Donna R. Atobajeun and Dr. Julie M. Lane for their guidance, patience, and support during this process. Your dedication and commitment made the project a success.

Abstract

In the United States, there is a significant difference in the survival rate for endometrial cancer for African American women when compared to women of other ethnic groups, specifically White women. There is supporting evidence that supports that morbidity and mortality rates for endometrial cancer increase if diagnosed in later stages. There are many contributing factors to a patient receiving an early diagnosis of a disease. One of the key determinants to early diagnosis of endometrial cancer is understanding risk factors, and what symptoms require further evaluation. An educational program was developed to identify knowledge deficits in the African American community regarding the risk factors, symptoms, diagnosis, treatment, and self-efficacy in seeking treatment for endometrial cancer. This quantitative study was conducted in a community-based setting and the targeted population was African American women aged 50 or older, postmenopausal, and living in a large Metropolitan area in Tennessee. Prior to the educational presentation, the 24 participants completed a questionnaire using the Likert Scale to assess their knowledge of risk factors, symptoms, treatment, and self-efficacy in seeking treatment of endometrial cancer. After education was provided by the parish nurse, participants were asked to complete a posteducational questionnaire evaluating their knowledge and feelings of self-efficacy in seeking treatment for endometrial cancer. Upon completion of the preeducational survey and the posteducational survey, a two–tailed paired sample *t* test was completed for each question to determine the significance of the educational program on the participant's knowledge and self-efficacy in seeking treatment for endometrial cancer. The analysis of the pre- and posteducational surveys showed a significant increase of knowledge of endometrial cancer after completion of the educational program. There was not a significant increase in confidence in seeking treatment based on the survey results. Nurses can use this educational framework in multiple healthcare settings to provide culturally sensitive education for African American women.

Keywords: Endometrial Cancer, African American women, heath education, self-efficacy

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Chapter 1: Introduction

Uterine cancer, also known as endometrial caner, is the cause of death for many women. In the United States, there is a significant difference in the survival rate for African American women when compared to White women who are diagnosed with endometrial cancer. Health education can play an essential role in improving health outcomes and reducing health disparities. This project aims to determine if an educational program that focuses on risk factors, diagnostic tests, and treatment of endometrial cancer will increase the knowledge and self-efficiency of African American women in seeking treatment for endometrial cancer.

Overview of Problem Statement

It is estimated that uterine cancer is more common in White women than in African American women, and African American women have a 90% higher mortality rate than White women with endometrial cancer (Doll et al., 2020). From 2015 to 2019, deaths from uterine cancer increased by approximately 1% each year. In 2020, an estimated 97,370 people worldwide died from uterine cancer (Cancer.Net, 2023). The 5-year survival rates for White and Black women with the disease are 84% and 63%, respectively (Cancer.Net, 2023). Black women are more likely to be diagnosed with more aggressive endometrial cancers with lower survival rates.

The POI for this DNP project is: In postmenopausal women of the African American community will an educational program on risk factors, diagnostic tests, and treatment improve knowledge and self-efficiency in seeking treatment for endometrial cancer. My hypothesis for my scholarly project is if there is an increase in African American women's knowledge of risk factors, diagnostic tests, and treatment of endometrial cancer, then there will be an increase in self-efficacy in seeking treatment. If the results are statistically significant and suggest that knowledge improves self-efficacy in seeking treatment for endometrial cancer in the African American community, it can be used in nursing theory and in clinical practice. It is important for nurses and other members of the healthcare profession to understand and prepare for patients who are knowledgeable and desire to become active members of their healthcare team. Nursing theory is centered around the way we provide care and our interactions with our patients. The outcomes of my project have the potential to not only impact African American women's confidence in seeking care but may also impact how nurses interact with African American women who are more knowledgeable and more assertive in seeking and requesting evidence-based treatment for symptoms that could be related to endometrial cancer.

Background

According to the American Cancer Society (ACS; 2019), endometrial cancer is the most common gynecological cancer in the United States. African American women have a higher probability of poorer prognosis and mortality related to endometrial cancer. Although African American women have a less favorable outcome related to endometrial cancer, it is more common in White women. There are internal and external factors that may contribute to less favorable health outcomes in relation to endometrial cancer in the African American community.

Internal Factors

There are several risk factors associated with endometrial cancer. According to the ACS (2019), risk factors for endometrial cancer include obesity, type 2 diabetes, family history, use of an intrauterine device, radiation therapy to the pelvis, abnormal hormone levels, and history of breast or ovarian cancer are all risk factors for developing endometrial cancer. Women who are more at risk for endometrial cancer can make lifestyle modifications to help decrease the risk for endometrial cancer and they can qualify for diagnostic screenings.

Endometrial cancer is abnormal cell growth in the inner lining of the uterus; there are two types of endometrial cancers (ACS, 2019). Endometrial cancer is highly curable if found in the early stage. Grade 1 and Grade 2 are type 1 endometrial cancers and usually do not spread outside the uterus; Type 2 endometrial cancer is more aggressive and likely to grow outside the uterus and has a poorer prognosis (ACS, 2019).

External Factors

Environmental factors can negatively affect health equity. Environmental factors such as the lack of access to healthcare, air pollution, and chemicals are common factors that can increase the risk of disease. Many health disparities can be attributed to the lack of access to adequate and quality healthcare and chronic conditions. Health disparities are a reflection of "the conditions in the environment in which people are born, live, learn, play, worship, and age affect a wide range of health, functioning, and quality of life outcomes and risk" (Chinn et al., 2021). One environmental factor that is more likely associated with African American women is the use of hair straightening products. The National Institute of Environmental Health Sciences noted that women who used chemical straightening products were at higher risk for uterine cancer compared to women who did not use straightening products. The NIH discovered that women who used hair straightening products more than four times in any prior year had a probability of developing uterine cancer at twice the rate as those who did not use them (National Institute of Environmental Health Sciences, 2022).

Mortality Rate

The mortality rate of endometrial cancer increases if diagnosed in later stages; only 53% of Black women receive an early diagnosis (Doll et al., 2020). There are many contributing factors to a patient receiving an early diagnosis of a disease. One of the key factors to early diagnosis is understanding what symptoms require further evaluation. Irregular bleeding, painful intercourse, postmenopausal bleeding, painful urination, and a mass in the pelvic area are all signs of endometrial cancer that should be understood to be abnormal and presented to a provider for further evaluation (ACS, 2019). If there is a delay in seeking evaluation or if proper diagnostic tools are not offered, it can delay the diagnosis and treatment of endometrial cancer.

When a patient recognizes abnormal bleeding or other signs of endometrial cancer, lack of access to care and treatment options can also adversely affect patient outcomes. There are four stages of endometrial cancer; determining the stage of endometrial cancer directly affects treatment and prognosis of survival. There are two systems used for staging endometrial cancer the International Federation of Gynecology and Obstetrics (FIGO) and the American Joint Committee on Cancer TNM staging system; Both systems stage endometrial cancer by three factors which include the size of the tumor, if the tumor has spread to nearby lymph nodes and if cancer has spread to other organs or lymph nodes of the body (ACS, 2019). The correct staging of endometrial cancer and prompt evidence-based treatment directly correlates with survival rates (ACS, 2019).

Survival Rates

The SEER Database tracks 5-year relative survival rates for endometrial cancer. The survival rate is determined by how far cancer has spread; it groups cancers into three groups: localized, regional, and distant (ACS, 2021). The survival rate is provided at initial diagnosis only. There are other factors that contribute to the survival rate of endometrial cancer and as treatment options improve it is expected that survival rates will follow.

Purpose

The objective of this project was to improve knowledge deficits in African American women related to recognizing risk factors and symptoms, screening, and diagnostic tools, and treatment options for endometrial cancer. There are currently no standard or routine screening tests for endometrial cancer; endometrial cancer can be detected by Pap test, a transvaginal ultrasound, or endometrial sampling (National Cancer Institute, 2021). Without standard and routine guidelines for screening for endometrial cancer, it can result in delayed diagnosis. Many African American women experience chronic abnormal bleeding related to fibroids and endometriosis and it can make it difficult for them to determine what constitutes abnormal bleeding and require further evaluation.

U.S. Black women have a high prevalence of fibroids or leiomyomas, which are benign tumors of the uterus. The prevalence of fibroids has been associated with abnormally heavy and irregular menstrual cycles (Doll et al., 2020). African American women having an increased probability of abnormal bleeding may be a direct correlation with the inability to identify abnormal bleeding and when to seek further evaluation and treatment. The absence of routine screening guidelines and the ability to recognize symptoms of endometrial cancer can lead to late diagnosis of endometrial cancer. African American women with endometrial cancer are less likely to undergo a hysterectomy which leads to a significant difference in survival than White women (Randall & Armstrong, 2003).

Understanding the importance of the correlation between early diagnosis and treatment and its effect on survival rate is essential to create an educational tool for African American women. Educating women to identify abnormal bleeding and diagnostic test for endometrial cancer can be the first step to decreasing the disparity in survival outcomes once diagnosed with endometrial cancer. African American women who are postmenopausal will be the selected population. A survey will be completed before the selected population receives education. This survey will be used as a performance measure for the evaluation of comprehension posteducation. The survey will access the knowledge of risk factors, symptoms, diagnostic testing, and a risk factor for endometrial cancer. Recognizing the knowledge gap and providing an educational tool will likely lead to earlier diagnosis of endometrial cancer and an increased probability of self-efficiency of African American women seeking treatment for endometrial cancer.

Significance

In general, endometrial cancer has a high survival rate if diagnosed and treated in the early stages. African American women are more likely to be diagnosed with endometrioid subtypes, such as clear cell, serious, and carcinosarcoma which are usually high grade and have a poorer prognosis (Fucinari et al., 2021). Recognizing early symptoms of endometrial cancer and treatment equality is imperative to decreasing mortality rates related to endometrial cancer. With proper recognition of abnormal bleeding, adequate diagnostic testing, and surgical treatment my mother was diagnosed with stage 1 of endometrial cancer, and the cancer was surgically removed via hysterectomy.

African American women are more likely to be diagnosed with advanced-stage disease, less likely to receive surgical intervention, and have more molecular markers for aggressive disease (Doll et al., 2017). It is important to understand why African American women are diagnosed with endometrial cancer at later stages and to properly educate them on symptoms, screening, and treatment for endometrial cancer.

This project will benefit both the African American community and the healthcare profession. There is currently no screening tool or screening guidelines for endometrial cancer. The lack of screening guidelines can result in a delay in diagnosis and treatment. This educational program can be used as an empowerment tool for women to request diagnostic screenings if they have risk factors or symptoms of endometrial cancer. Healthcare providers can use this educational program to educate their clinical staff and patients on the racial disparities associated with endometrial cancer. Through education providers and patients can work together to increase the knowledge and self-efficiency of African American women seeking treatment for endometrial cancer.

This approach is unique because it promotes responsibility and accountability for both the patient and the provider in seeking knowledge of endometrial cancer. The educational program will equip African American women with an educational tool to recognize risk factors, symptoms, screening and diagnostic tools, and treatment options for endometrial cancer. Through education, African American women have the knowledge and confidence to have open communication with providers when discussing diagnostic screening and treatment of endometrial cancer. This educational tool can be used by providers in clinical settings and in health outreach programs to improve African American women's knowledge and self-efficiency in seeking treatment for endometrial cancer.

Nature of the Project

Evidenced-based information on risk factors, symptoms, screening and diagnostic tools, and treatment options for endometrial cancer were reviewed and used to develop an educational program for African American women. There was a quantitative questionnaire to assess the baseline knowledge of African Americans in a community setting. After education was provided, there was a postassessment to analyze the knowledge and perceived self-efficiency to seek treatment for endometrial cancer. This was an education project based on Knowles theory of adult education which was used to guide the development of the education program.

Practice-Guided Question

In postmenopausal women of the African American community (patient population) does an educational program on risk factors, diagnostic tests, and treatment (intervention of interest) improve the knowledge (comparison intervention) and self-efficiency in seeking treatment for endometrial cancer (outcome)?

Table 1

PICO Components/Question

PICO	Component
Patient Problem	African American Women 50 and older (average age of menopause) in the Metropolitan area in Tennessee
Intervention	Educational program on the risk factors, symptoms, diagnostic test and treatment of endometrial cancer
Comparison	Pre- and posteducation assessment of knowledge and self-efficiency
Outcome	Improved knowledge and self -efficiency in African American women recognizing risk factors, symptoms and treatment of endometrial cancer

Scope and Limitations

The scholarly project included only African American women who are aged 50 or older and located in a large metropolitan area in Tennessee. The age limit was set to capture women who are more likely to be postmenopausal. Other ethnic groups were not included in the study. The study targeted women in the African American community only in an effort to decrease health disparities in relation to uterine cancer for this particular population. There are some limitations to the study. Because only a small group of women were included in the study, the results may not be applicable to other African American women in different communities. The study was held in a church because it is a community setting that serves as a safe and familiar for participants.

Definition of Key Terms

Amenorrhea. Defined as the lack of menstruation (MedicineNet, 2021).

Endometrial cancer. A type of cancer that begins in the lining of the uterus (Mayo Clinic, 2022).

Self-efficacy. The self-confidence to successfully perform a task (WebMd, 2022). Postmenopause is defined as the time after which a woman has experienced 12 consecutive months of amenorrhea (MedicineNet, 2021).

Summary

African American women are more likely to receive a delayed diagnosis and treatment of endometrial cancer which lead to poor health outcomes and in most cases, death related to endometrial cancer. It is important to collect quantitative data to understand and assess what knowledge gaps may be present in the African American community that prohibit self-efficiency in seeking treatment for endometrial cancer. This project provides an opportunity to identify any cultural practices or beliefs that may contribute to poor health outcomes. The project findings can validate the need for an educational program specifically for the African American community to equip African American women with the knowledge and confidence to identify signs and symptoms of endometrial cancer and seek evidence-based treatment. Through education, there is potential to significantly decrease health disparities associated with African American women and endometrial cancer.

Chapter 2: Literature Review

The purpose of this chapter is to provide a literature review of scholarly research that will serve as background and context for the PICO question: Does an educational program that focuses on risk factors, diagnostic tests, and treatment of endometrial cancer increase the knowledge and self-efficiency of African American women in seeking treatment for endometrial cancer? The following key terms were used to conduct scholarly research for my PICO question: *African American women and endometrial cancer*, *menopause and abnormal bleeding*, *endometrial cancer and risk factors*, *endometrial cancer and diagnostic screening*, *endometrial cancer and treatment*, *endometrial cancer and symptoms*, *abnormal bleeding and African American women*, and *mortality and endometrial cancer*. Search engines used to locate scholarly articles included: the Abilene Christian University library database, science direct, PubMed, and Google Scholar. The 10 articles included in the literature review were published within the last 5 to 7 years and are peer-reviewed full text articles. These articles were chosen to provide context for risk factors and treatment of endometrial cancer and insight into the physical and social barriers that may impact the self-efficacy of African American women seeking treatment for endometrial cancer.

Theoretical Framework

Malcolm Knowles' theory of adult education was used to guide the development of the education program and to guide this project. Knowles' theory of andragogy was chosen because it requires reflection and understanding of how adults learn, process, and apply new information. Knowles' theory is based on five principles: the assumption of self-concept, adult learning experiences, readiness, orientation, and motivation (Health-related Funding, 2016). These principles were considered in all phases of the research study. The educational content selected considered the experiences of African American women regarding common symptoms and risk factors for endometrial cancer. The educational program also considered racial disparities in healthcare and how they might affect self-efficacy in seeking treatment and positive health outcomes.

The goal of the research study was to provide education that will result in increased knowledge and self-efficiency for African American women seeking treatment for endometrial cancer. The theoretical framework chosen requires consideration of experiences, the participant's willingness to learn, and the potential benefit of the information provided. The objectives of the educational program were specifically chosen for the population selected. The information presented was delivered in a way participants can understand and in a safe and supportive environment. Participants who identify with the information provided can use the opportunity to find independence and improve their health outcomes in relation to endometrial cancer.

Literature Review

Endometrial Cancer in the African American Community

Doll et al. (2020) conducted a qualitative study to examine the prediagnostic experiences of African American women who were diagnosed with endometrial cancer. The study included 15 women whose ages ranged from 31 to 72 years of age. The participants of the study self-identified as Black and African American and lived in the United States. The qualitative study was conducted in an interview style and adhered to Consolidated Criteria for Reporting Research (COREQ). The interview focused on three events: menopause, the onset of vaginal bleeding, and diagnostics experience after symptoms disclosure (Doll et al., 2020). There were five consistent themes that were discovered in the qualitative content analysis: (a) unclear definition of normal vs abnormal menopause, (b) misinterpretation of bleeding symptoms in the context of previous or familiar reproductive health events, (c) disclosure of vaginal bleeding cued by a waiting period or worsening symptoms, (d) vague responses from health care professionals that did not communicate the risk, and (e) shock or surprise at the eventual diagnosis (Doll et al., 2020).

Doll et al. (2020) admitted to the strengths and weaknesses of the clinical study. Some weaknesses of the clinical study include a lack of a geographically diverse cohort, a small sample size that may reflect an over or under-represented women in the African community as related to healthcare access, and other barriers in association with endometrial cancer. One of the article’s strengths is its ability to shed light on some barriers to the treatment of endometrial cancer and confirm the need for interventions to address high mortality rates among African American women and the importance of early diagnosis and its relation to cancer prognosis.

Racial Disparities Among African Americans With Endometrial Cancer

Javadian et al. (2021) conducted a literature review of all English published scientific literature up to January 2021 reporting histopathologic, genetic, and molecular factors associated with racial disparities in a patient with endometrial cancer. The article noted that racial disparity is a major factor affecting survival in patients with endometrial cancer in the United States; and the mortality rate of endometrial cancer is 2.5 times higher for African American women in comparison to White women (Javadian et al., 2021). This statistical fact represents one of the largest racial disparities in mortality among common cancers.

The data used for review was obtained using search engines such as PubMed, Medline, and the Cochrane Library. In relation to histology, pathogenic types, and endometrial disparity the article noted that histology alone does not account for the worse survival of Black endometrial cancer patients. A study of data from the Surveillance, Epidemiology, and End Results (SEER) program showed that Black in comparison to White patients had worse survival in every histological category, stratified by stage, grade, age, and rare aggressive tumor types accounted for a higher percentage of deaths in Blacks (53%), compared to Whites (36%) patients (Javadian et al., 2021). In relation to Hereditary Cancer and Genetic Predisposition, the article found there is no current evidence that suggests that race and ethnicity are associated with Lynch Syndrome which would increase the risk of developing endometrial cancer.

The literature review completed for the research study also focused on racial differences in MicroRNAs. The authors discovered that altered DNA methylation, along with increased microRNA expression levels in African American women are associated with cancer drug resistance in this patient population (Javadian et al., 2021). The literature reviewed examined the relationship between targeted racial disparities and specific proteins. It was noted that African American women have a higher frequency of p53 overexpression. Higher levels of p53 have been linked to more aggressive tumor characteristics, including lymph node metastases, poor differentiation, and deep myometrial invasion (Javadian et al., 2021). In conclusion, the author noted that there is potential to improve patient outcomes by classifying tumors into molecularly categorized subgroups, in addition to the four TCGA groups to develop better predictive modules of cancer progression and therapeutic approaches (Javadian et al., 2021).

Huang et al. (2020) conducted a study to examine if adherence to evidence-based treatment recommendations for endometrial cancer could mitigate survival disparities between Black women and White women. The author used the National Cancer Database to identify women who were treated for endometrial cancer from 2004 through 2016. Inclusion criteria for the study included Black and White women who were diagnosed between 2015 and 2016 and underwent a hysterectomy. The study established five evidence-based quality metrics which included: surgical treatment within 6 weeks of diagnosis (Q1); use of minimally invasive surgery (stage I-IIIC; Q2); pelvic nodal assessment (high risk tumors; Q3); adjunct radiation (high intermediate risk; Q4); and systematic chemotherapy (stage III-IV; Q5; Huang et al., 2020). The data reviewed focused on mortality rates of 30 and 90 day and 5-year survival rates compared between Black and White women.

The study included 310, 208 women, 11.3% were Black women and 88.3% were White women. It was determined that Black women were less likely than White women to receive Q1 (65.8 vs 75.6), Q2 (58.5 vs 72.9%), Q3 (71.3 vs 74.2%), and Q5 (72.7 vs 73.2%; $p < .05$ for all; Huang et al., 2020). The study suggests that African American women receive inferior care overall and experience poorer outcomes. The author was transparent and referenced other similar studies with both similar and different study outcomes. It is noted in the study that evidenced - base care does not eliminate racial disparities in outcomes, but the delivery of evidence-based care improves outcomes for both Black and White women. The study suggests that more research to pinpoint reasons for delayed diagnosis, differences in tumor biology, and response to treatment may reduce racial disparities in endometrial cancer (Huang et al., 2020).

Mukerji et al. (2018) conducted a population-based analysis to compare survival between Black and White women with endometrial cancer less than 50 years of age. The clinical data were obtained from the National Cancer Database. The targeted population for the sample included women who were less than age 50 with a diagnosis of endometrial cancer who underwent a hysterectomy from 1998 to 2012 (Mukerji et al., 2018). Exclusion criteria included women who underwent preoperative radiotherapy and those without histologic confirmation.

The sample size was appropriate it included 35,850 women from a national database. Sampling methods used included the Kaplan-Meir curves and the multivariable cox proportional hazard models (Mukerji et al., 2018). The Kaplan-Meir curves were used to observe the survival rate by race. The multivariable Cox proportional hazard model was used to observe the difference between race and survival while considering the other clinical, demographic, and pathological differences of the sample cohort selected (Mukerji et al., 2018).

The results of the clinical study were visible in flow charts and tables. The study did not have a hypothesis. Despite the clinical study not having a hypothesis, its objective was clear, and the clinical study met the objective provided. The results determined that African American females are more likely to have an advanced-stage disease with poorer survival outcomes compared to Caucasian women. The P-value for all variables tested was < 0.05 which is clinically significant.

Although the clinical study supported the data that concludes African American women are more likely to have a higher mortality rate than White women with endometrial cancer they did admit to some weaknesses. Some weaknesses mentioned were the study lacked data on the cause of death, follow-up care, treatment of recurrent disease, and body mass index. These variables could affect patient outcomes and survival rates. This study focuses on outcomes for women who are most likely not postmenopausal this can be helpful in my project of interest because it identifies that African American Women are more likely to have advanced and aggressive diseases at an early age. Understanding these factors emphasizes the importance of educating women in the African American community on risk factors, symptoms, and treatment of endometrial cancer.

Risk Factors of Endometrial Cancer

Washington et al. (2020) conducted a questionnaire survey on health behaviors and knowledge of risk factors for endometrial cancer. The research study included 231 women who were agreeable to completing a survey during a routine gynecologic visit. Convenience sampling method was used. The median age of the participants was 56 years old and 87% of the participants were Caucasian women and the majority of the women had a college or graduate degree. The responses of the participants were based on a 5-level Likert Scale. The questionnaire included questions that were validated and provided by the World Health Organization, Center for Disease Control and Prevention, and the Harvard Forums of Health Survey (Washington et al., 2020). The study results noted that 52% of the sample population did not know that obesity increased the risk for endometrial cancer. The study reinforced prior studies that also concluded there was a knowledge deficiency surrounding the effects of obesity and endometrial cancer.

There were some limitations to the study, the most obvious limitation is that the sample population does not represent the whole population in relation to endometrial cancer. Also, because of the economic and educational status of the population included in the study, it can be assumed that there is some bias toward the knowledge gap in relation to individuals of a more diverse population. Despite possible bias noted, the survey concluded that 92% reported that their gynecologist or primary care physician has never discussed the risk factors for endometrial cancer with them (Washington et al., 2020).

Clarke et al. (2018) conducted a systematic review and meta-analysis of English studies published from 1977 through January 2017 that focused on the prevalence of postmenopausal bleeding in women with endometrial cancer and the risk of endometrial cancer in women with postmenopausal bleeding. The review completed followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The studies reviewed included a large sample of 40,790 women (34,432 women with postmenopausal bleeding and 6,358 women with endometrial cancer; Clarke et al., 2018). The pooled prevalence of postmenopausal bleeding was 91%, irrespective of the tumor stage. According to Clarke et al. (2018), the early detection of women who present with postmenopausal bleeding has the potential to capture 90% of endometrial cancer even though most women with postmenopausal bleeding with not be diagnosed with endometrial cancer.

The author was transparent and noted several weaknesses in the study. One weakness noted was the inability of the study to consider the differences between histologic findings, stage, and grade of tumors and most studies reviewed were cross-sectional and did not include prospective follow-up. Despite weaknesses noted in the article, the author provided valid information that can be used to develop evidence-based interventions for women who present with the complaint of abnormal bleeding postmenopause.

Diagnostic Screening for Endometrial Cancer

Initial diagnostic testing is usually completed either via transvaginal ultrasound or endometrial biopsy. Jain et al. (2022) conducted a single-center retrospective study on women with histologically proven endometrial cancer who underwent MRI examination of the pelvis between October 2017 and May 2020. The study's objective was to determine if Magnetic resonance imaging (MRI) has been shown to be an accurate imaging technique for the preoperative assessment of local staging of endometrial cancer and for evaluating the depth of the myometrial invasion. The median age of the women in the cohort was 59.4 and the most predominant symptom was postmenopausal bleeding or menorrhagia.

The study concluded that overall, the apparent diffusion coefficient minimum was significant in differentiating grades of endometrial cancer (Jain et al., 2022). The study has one obvious limitation which is its limited sample size. Despite the study's limitations, it was successful in initiating the clinical significance of using a noninvasive radiological assessment of endometrial cancer.

Evidence-Based Treatment for Endometrial Cancer

Dholakia et al. (2020) conducted a retrospective cohort study that used data from the National Cancer Database. The targeted population included women who were diagnosed with endometrial cancer between 2004 and 2014. The multivariable logistic regression model was used to obtain the odds ratio and to display the relationship between variables (i.e., age, stage, insurance, hospital type, histology, etc.; Dholakia et al., 2020). The Chi-square test was used to evaluate the frequency distributions of the tumor, and hospital characteristics according to race and ethnicity. The Univariate Cox proportional hazard regression model was used as a statistical analysis to estimate the association between overall survival and guideline-concordant treatment.

The authors used a large sample (30,426 women) to complete the study and inclusion and exclusion criteria were clearly stated in the article. The results were consistent with current literature that has determined that non-Hispanic Black women experience higher mortality than any other race or ethnicity (Dholakia et al., 2020). The study concluded that guideline-concordant treatment was associated with improved survival. The data also concluded that there was no difference in guideline-concordant treatment according to race or ethnicity.

The research study had many strengths. The data collected had a large sample size, and it was an unbiased study. The inclusion and exclusion criteria were clear, and the population was not limited to one geographic area. The authors admitted to some weaknesses in the study; the database did not offer qualitative data to explain why guideline-concordant treatment was not provided, which the authors believe would have added value to the study.

Endometrial Cancer Mortality and Survival Factors

Fucinari et al. (2021) conducted a clinical research study to estimate the survival rate of high-grade endometrial cancer cases and determine what factors impact survival for non-

Hispanic White women and non-Hispanic Black women. The participants of the study were selected based on the diagnosis of high-grade endometrial cancer who underwent a hysterectomy at Karmanos Cancer Institute or Ford Health System between 1998 and 2017. The sample size included 382 women. The researcher conducted a research study using a nonprobability sample. There were clear exclusion criteria mentioned in the article that included low-grade, no tumor, or stage IV disease. The methods of the research study were presented logically, and three different outcomes were assessed. The three outcomes assessed during the clinical study included: overall survival, endometrial carcinoma survival accounting for the competing risk of other causes of death, and progression-free survival (Fucinari et al., 2021).

The researcher used different methods to assess different outcomes and variables. The Kaplan Meir method and Cox proportional hazard modeling were used for assessing the effects of demographic and clinical variables on survival outcomes. The results were linked back to the literature review and the hypothesis was supported by the quantitative data provided in the table and charts in the article. In the study, it was determined that non-Hispanic Black women with BMI < 25 had the poorest overall survival rate compared to non-Hispanic White women with BMI < 25.0; Non -Hispanic Black women had the poorer progression-free survival than non-Hispanic White women (Fucinari et al., 2021). The study concluded that BMI and race interact and directly affect the association with high-grade endometrial cancer survival.

The study had many strengths. The participants of the study were chosen by nonprobability sampling with clear inclusion and exclusion criteria. Although the sampling size data could be considered appropriate, some may argue that it is not indicative of the whole population because the data were limited to hospitals in the Detroit, Michigan area. A broader study covering a larger geographical area could provide validity.

EBP Search Methodology

Scholarly articles were collected and reviewed to analyze the relationship between endometrial cancer and postmenopausal African American women. The process started by identifying the disproportionate survival rate of African American women who are diagnosed with endometrial cancer compared to other women of different ethnicities. After the population was identified, social, physical, and general factors related to endometrial cancer and outcomes were researched. Once the population was identified, and an analysis of the literature was completed. The PICOT question was used as a guideline to examine the literature and apply evidence-based strategies to carry out the scholarly research project.

Findings

Racial disparities are present among African American women diagnosed with endometrial cancer. African American women's perception of abnormal bleeding, vague knowledge of abnormal menopause symptoms, and hesitancy to seek treatment directly impacts the survival rate for African American women diagnosed with endometrial cancer. African American women tend to have one or more risk factors for endometrial cancer and are unaware of their risk. All these factors contribute to a higher mortality rate and poorer health outcomes. Poor health outcomes related to cancer are centered around early diagnosis. The World Health Organization supports education and health promotion to improve public health awareness of different cancer symptoms and encourage individuals to seek care when they arise (World Health Organization, 2017).

Summary

In general, endometrial cancer has a high survival rate if diagnosed and treated in the early stages. African American women are more likely to be diagnosed with endometrioid subtypes, such as clear cell, serious, and carcinosarcoma which are usually high-grade and have a poorer prognosis (Fucinari et al., 2021). Recognizing early symptoms of endometrial cancer and treatment equality is imperative to decreasing mortality rates related to endometrial cancer. With proper education regarding obesity, abnormal bleeding, adequate diagnostic testing, and surgical treatment of endometrial cancer, African American women may have increased self-efficiency in seeking treatment and early diagnosis.

African American women are more likely to be diagnosed with advanced-stage disease, less likely to receive surgical intervention, and have more molecular markers for aggressive disease (Doll et al., 2017). It is important to understand why African American women are diagnosed with endometrial cancer at later stages and to properly educate them on symptoms, screening, and treatment for endometrial cancer. Understanding the importance of the correlation between early diagnosis and treatment and its effect on survival rate is essential. An educational tool to identify and bridge the knowledge gap for African American women is needed. Educating African American women and empowering them to become self-efficient in seeking early treatment for endometrial cancer can be the first step to decreasing the disparity in survival outcomes once diagnosed with endometrial cancer.

Chapter 3: Research Method

The purpose of this chapter was to discuss the methods used to create and implement the research project. Quantitative methods were used to generate a questionnaire and survey to fulfill the project design. The data were collected from participants in a selected population and analyzed to determine reliability and validity. The selected population, demographics of participants, and project setting were appropriate for the research project. This section will explain the rationale, process, and resources used to design and complete the research project.

Project Design

An educational program was developed to identify and address common knowledge gaps, life experiences, and perceptions present in women of the African American Community that may result in the delay in self-efficiency in seeking treatment for endometrial cancer. The educational program consisted of current literature that included the risk factors, diagnostic tests, and treatment of endometrial cancer. The educational program was based on Knowles' theory of adult education. Health literacy in the African American community was considered during the developmental and delivery phase of the educational program.

Interprofessional Collaboration

During the developmental phase of the educational program, there was an interprofessional collaboration with a small group of community members that included both nursing and education professionals. After the educational program was revised based on the literature review, the educational program was presented to the church leaders and Abilene Christian University Institutional Review Board (IRB) before it was presented to the targeted population. Interprofessional collaboration facilitated appropriate educational content delivered in a safe and ethical environment to conduct the study.

Practice Setting

The practice setting was a community church. The community church is representative of the targeted population of the research study. The church is in a predominantly African American community. The practice setting was chosen intentionally to provide a safe, natural, and familiar environment for participants. A formal request was sent to the servant leader of the women's support ministry. After review, the request was presented to the pastor for approval. Permission was granted from the selected site and the process to obtain approval from the IRB was completed (see Appendix A).

Target Population

Participants were selected based on race, age, menopausal status, and geographic location. The target population for the research study was African American women aged 50 or older, postmenopausal, and living in a large metropolitan area in Tennessee. There were no specific occupational, educational, religious, or locality requirements. Recruitment for participants included flyers, public announcements, and social media.

Instruments/ Measurement Tools for Data Collection

A quantitative design was chosen for this research project because it provides insight into participants' experiences, perceptions, and behaviors and allows researchers to analyze the process and patterns of human behavior (Morgan et al., 2022). The scholarly project used a quantitative design to identify knowledge barriers, patterns, perceptions, and behaviors of African American women as it relates to endometrial cancer (see Appendix B). A quantitative questionnaire was completed by participants before education was provided on the risk factors, symptoms, diagnosis, and treatment of endometrial cancer (see Appendix C). After education was provided participants completed a posteducational questionnaire evaluating their knowledge and feelings of self-efficacy in seeking treatment for endometrial cancer (see Appendix D). Validity and reliability were established during the research study with constant and consistent comparison of data provided from the participant’s responses. Permission to use survey/questionnaire tool was received (see Appendix C).

Analysis Plan

Participants for the study represented a convenience sample. Participants recruited for the study were 50 or older and of African American descent and postmenopausal (see Appendix D). Women were recruited from several communities in a large the metropolitan area in Tennessee and were agreeable to complete the educational session and pre- and postsurvey.

Data for this project were collected using a quantitative questionnaire. The pre- and posteducation questionnaires included closed-ended questions, a 5-item Likert scale, and true or false responses. Permission was granted to use the questionnaire located found in Table 4 from *Increasing Awareness of Uterine Cancer Risk and Symptoms by Using Campaign Materials from Inside Knowledge: Get the Facts About Gynecologic Cancer* (Novinson et al., 2019). This questionnaire focuses on public knowledge and behaviors related to uterine cancer. The questions included in the survey allowed the participants to reflect on their knowledge of menstruation, postmenopausal transition, use of hormone therapy, and family history. The questionnaire included closed-ended questions that address the demographics of the study group. The demographic questions requested that participants disclose their age, race, sex, occupation, educational level, household income, marital status, number of children, religious affiliation, and place of residence. The questionnaire focused on the knowledge of risk factors, diagnostic screenings, treatment of endometrial cancer, and confidence in seeking treatment for abnormal symptoms suggestive of endometrial cancer. All questionnaires were written in English, self-administered, and paper based.

Protecting patient information and maintaining confidentiality during the data collection process was a priority. Before information was collected from participants, they were required to sign a consent form. The consent form explained the process of the study and what was expected of them during the study. There were open conversations regarding confidentiality before consent and during the research study to maintain trust between the participants and me.

The collection and management of data were completed using the dominant approach. The dominant approach requires confidentiality during research planning and during the research process including data collection, data cleaning, and dissemination of results (Kaiser, 2009). This approach requires researchers to remove all identifiers that would identify participants. All experiences and questionnaire responses were still used and analyzed in the quantitative research project. Data analysis of qualitative research focuses on the exploration of values, meanings, beliefs, thoughts, experiences, and feelings characteristics of the phenomenon under investigation and categorizing data, and recognizing patterns (Wong, 2008). The experiences and cultural values of postmenopausal African American women were explored to determine similarities and differences in experiences that may affect self-efficiency in seeking treatment for endometrial cancer.

Risk/Benefits

There was minimal risk to participating in the research study. There was a potential risk of emotional discomfort when participants were asked to recall experiences and access their knowledge of important factors related to endometrial cancer. If participants experienced emotional distress during the research study, they had the option to discontinue the study at any time. Participants were also provided with the option to speak privately to voice any concerns or thoughts. The participants may benefit from the research study by identifying and filling in any knowledge gaps associated with the risk factors, symptoms, diagnostic tests, and treatment of endometrial cancer.

Methodology Appropriateness

The quantitative design method was used because of its ability to access and measure the knowledge and confidence related to endometrial cancer and how these factors can affect outcomes. The study provides insight into the specific experiences of African American women that may directly or indirectly lead to the inability to identify and manage risk factors and symptoms and seek treatment for endometrial cancer.

IRB Approval and Process

The IRB approval process began after permission was granted from the scholarly project host site. Permission to apply for IRB approval was granted after a successful proposal defense and approval by the student chair and committee. An application was placed for IRB approval and was granted before the research study began. After the clinical study is completed, all deidentified data will be stored in accordance with the IRB policy and destroyed at the end of the allotted period.

Feasibility and Appropriateness

The research setting was chosen to provide a natural and comforting setting for participants in hopes that the participants would feel comfortable sharing beliefs, values, and experiences in an in-depth manner. There is a very minimal cost to complete the research project. No fee is required to host the research study in the community church. Approval was granted by the pastor and church leaders. There were no barriers to receiving approval to host the research study group. A specific date and time were selected, and participants were notified. The community church selected has adequate space, lighting, and seating to conduct the research project.

Summary

An educational program was developed based on the literature review to identify and address knowledge gaps in the African American community in relation to endometrial cancer. There was a collaboration between educational, nursing, and church leaders to provide appropriate educational content in a safe and familiar environment. A quantitative study was completed to assess the experiences and patterns of African American women that may affect their self-efficiency in seeking treatment for endometrial cancer. There was minimal risk to participants who participated in the study.

Chapter 4: Data Analysis and Results

There is a significant difference in the survival rate for African Americans diagnosed with endometrial cancer when compared to White women. An educational program was developed to identify knowledge deficits in African American women recognizing risk factors, screenings, diagnostic tools, and treatment options for endometrial cancer. The educational-based intervention included a total of 24 participants. The study was conducted in a community–based church in a large metropolitan area in Tennessee. The intervention consisted of an educational program on endometrial cancer that was presented by a parish nurse. Prior to the educational presentation, a quantitative questionnaire using the Likert Scale was completed by participants to assess their knowledge of risk factors, symptoms, and treatment of endometrial cancer. After education was provided by the parish nurse, participants were asked to complete a posteducational questionnaire evaluating their knowledge and feelings of self-efficacy in seeking treatment for endometrial cancer.

Data Collection

The target population was African American women aged 50 or older, postmenopausal, and living in a large metropolitan area in Tennessee. The data collection tool used for the study was a quantitative questionnaire consisting of 10 questions that used the Likert Scale to assess the participant's knowledge of risk factors, symptoms, and treatment of endometrial cancer and their feelings of self-efficacy in seeking treatment for endometrial cancer. Protecting patient information and maintaining confidentiality during the data collection process was a priority. Before information was collected from participants, they were required to sign a consent form. The consent form explained the process of the study and what was expected of them during the study. Each participant was assigned an alternative identification to protect the privacy and the questionnaire responses provided by the research participants. Participant responses were collected and stored in accordance with the dominant approach to protect each participant's privacy.

Data Analysis

The participants in the study consisted of 24 participants who were of African American descent, aged 50 years or older, female, postmenopausal, and live in a large metropolitan area in Tennessee. During the discussion period, some participants shared their desire to participate in the study because of their family history of endometrial cancer and other gynecologic cancers. Upon completion of the preeducational survey and the posteducational survey a two-tailed paired sample *t* test was completed for each question to determine the significance of the educational program on the participant's knowledge and self-efficacy in seeking treatment for endometrial cancer.

Question 1 (Q1) of the pre- and posttest assessed how participants would rate their knowledge of risks for endometrial cancer before and after the educational training. The result of the two-tailed paired samples *t* test was significant based on an alpha value of .05, $t(22) = -5.13$, $p < .001$, indicating the null hypothesis can be rejected. This finding suggests the difference in the mean of Q1_Pre_Points and the mean of Q1_Post_Points was significantly different from zero. The mean of Q1_Pre_Points was significantly lower than the mean of Q1_Post_Points. The results are presented in Table 2. A bar plot of the means is presented in Figure 1.

Table 2

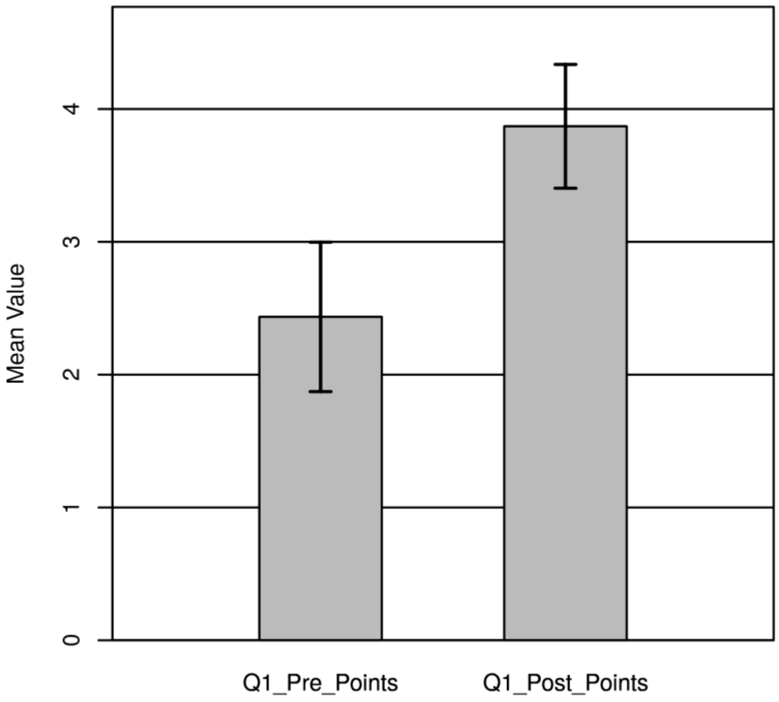
Results of Paired Sample 1 t *Test*

Q1_Pre_Points		Q1_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
2.43	1.38	3.87	1.14	5.13	< .001	1.07

Note. *N* = 23. Degrees of Freedom for the *t*-statistic = 22. *d* represents Cohen's *d.*

Figure 1

The Means of Q1_Pre_Points and Q1_Post_Points with 95.00% CI Error Bars



Question 2 (Q2) of the pre- and posttest assessed how participants would rate your knowledge of symptoms of endometrial cancer before and after the educational program. The result of the two-tailed paired samples *t* test was significant based on an alpha value of .05, *t*(21) = -6.34, *p* < .001, indicating the null hypothesis can be rejected. This finding suggests the

difference in the mean of Q2_Pre_Points and the mean of Q2_Post_Points was significantly different from zero. The mean of Q2_Pre_Points was significantly lower than the mean of Q2_Post_Points. The results are presented in Table 3. A bar plot of the means is presented in Figure 2.

Table 3

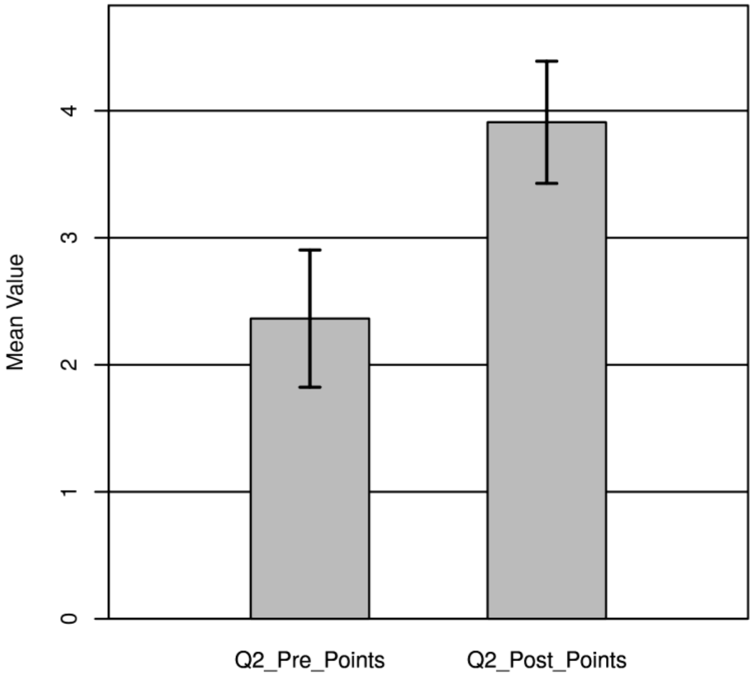
Results of Paired Sample 2 t *Test*

Q2_Pre_Points		Q2_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
2.36	1.29	3.91	1.15	6.34	< .001	1.35

Note. *N* = 22. Degrees of Freedom for the *t*-statistic = 21. *d* represents Cohen's *d*.

Figure 2

The Means of Q2_Pre_Points and Q2_Post_Points with 95.00% CI Error Bars



Question 3 (Q3) of the pre- and posttest assessed how participants would rate their knowledge of the treatment of endometrial cancer before and after the educational program. The result of the two-tailed paired samples *t* test was significant based on an alpha value of .05, *t*(23) = -7.21, *p* < .001, indicating the null hypothesis can be rejected. This finding suggests the difference in the mean of Q3_Pre_Points and the mean of Q3_Post_Points was significantly different from zero. The mean of Q3_Pre_Points was significantly lower than the mean of Q3_Post_Points. The results are presented in Table 4. A bar plot of the means is presented in Figure 3.

Table 4

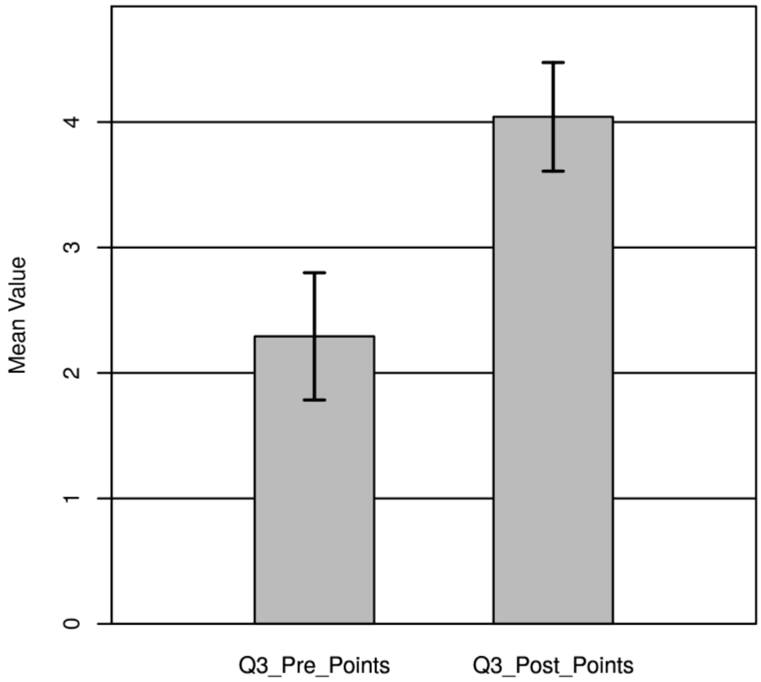
Results of Paired Sample 3 t *Test*

Q3_Pre_Points		Q3_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
2.29	1.27	4.04	1.08	7.21	< .001	1.47

Note. *N* = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d*.

Figure 3

The Means of Q3_Pre_Points and Q3_Post_Points with 95.00% CI Error Bars



Question 4 (Q4.) of the pre- and posttest assessed how participants would rate their knowledge of where endometrial cancer is located in the body before and after the educational program. The result of the two-tailed paired samples *t* test was not significant based on an alpha value of .05, *t*(23) = 1.00, *p* = .328, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the meaning of Q4_Pre_Points and the mean of Q4_Post_Points was not significantly different from zero. The results are presented in Table 5. A bar plot of the means is presented in Figure 4.

Table 5

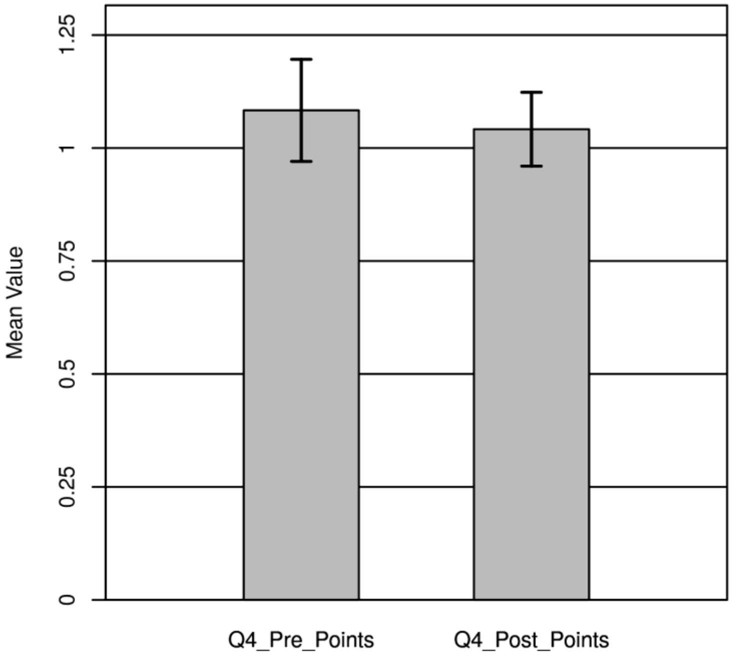
Results of Paired Sample 4 t *Test*

Q4_Pre_Points		Q4_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
1.08	0.28	1.04	0.20	1.00	.328	0.20

Note. *N* = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d*.

Figure 4

The Means of Q4_Pre_Points and Q4_Post_Points with 95.00% CI Error Bars



Question 5 (Q5) of the pre- and posttest assessed how participants would rate their knowledge of what stage endometrial cancer is often detected and what is the most common symptom that usually prompts women to seek treatment before and after the educational program. The result of the two-tailed paired samples *t* test was significant based on an alpha

value of .05, $t(23) = 4.05$, $p < .001$, indicating the null hypothesis can be rejected. This finding suggests the difference in the mean of Q5_Pre_Points and the mean of Q5_Post_Points was significantly different from zero. The mean of Q5_Pre_Points was significantly higher than the mean of Q5_Post_Points. The results are presented in Table 6. A bar plot of the means is presented in Figure 5.

Table 6

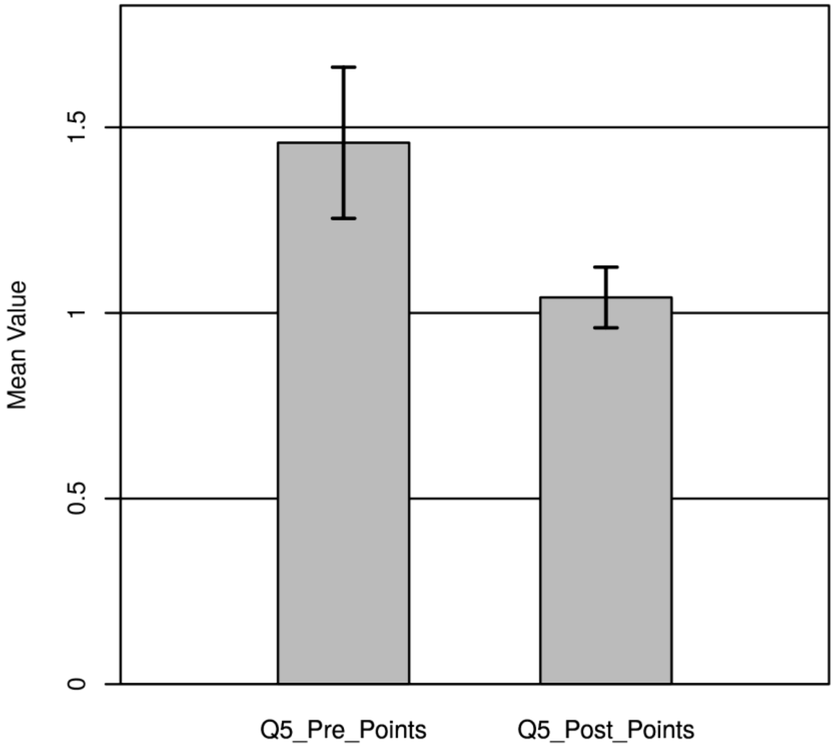
Results of Paired Sample 5 t *Test*

Q5_Pre_Points		Q5_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
1.46	0.51	1.04	0.20	4.05	< .001	0.83

Note. $N = 24$. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d*.

Figure 5

The Means of Q5_Pre_Points and Q5_Post_Points with 95.00% CI Error Bars



Question 6 (Q6) of the pre- and posttest assessed how participants would rate their knowledge of symptoms of endometrial cancer before and after the educational program. The result of the two-tailed paired samples *t* test was not significant based on an alpha value of the pre- and posttest assessed how participants would rate their knowledge of symptoms of endometrial cancer before and after the educational program. 05, *t*(23) = 0.81, *p* = .426, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the mean of Q6_Pre_Points and the mean of Q6_Post_Points was not significantly different from zero. The results are presented in Table 7. A bar plot of the means is presented in Figure 6.

Table 7

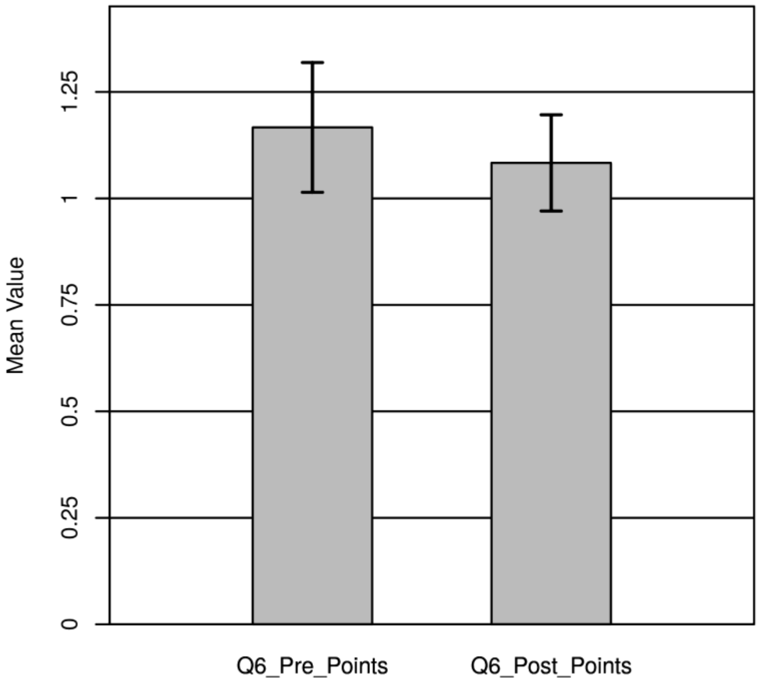
Results of Paired Sample 6 t *Test*

Q6_Pre_Points		Q6_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
1.17	0.38	1.08	0.28	0.81	.426	0.17

Note. N = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d.*

Figure 6

The Means of Q6_Pre_Points and Q6_Post_Points with 95.00% CI Error Bars



Question 7 (Q7) of the pre- and posttest assessed how participants would rate their knowledge of the treatment of endometrial cancer before and after the educational program. The result of the two-tailed paired samples *t* test was not significant based on an alpha value of .05, *t*(23) = 1.14, *p* = .266, indicating the null hypothesis cannot be rejected. This finding suggests the

difference in the mean of Q7_Pre_Points and the mean of Q7_Post_Points was not significantly different from zero. The results are presented in Table 8. A bar plot of the means is presented in Figure 7.

Table 8

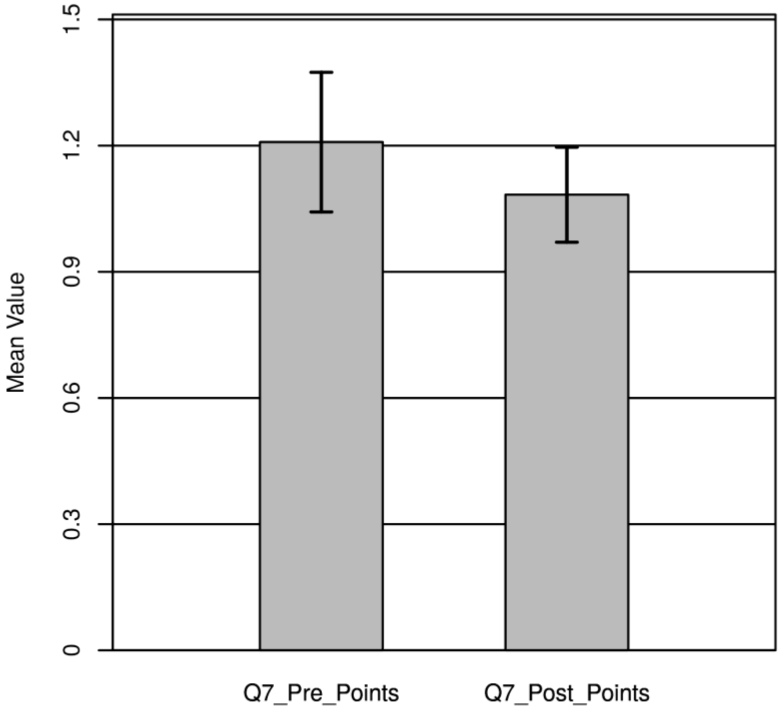
Results of Paired Sample 7 t *Test*

Q7_Pre_Points		Q7_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
1.21	0.41	1.08	0.28	1.14	.266	0.23

Note. N = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d.*

Figure 7

The Means of Q7_Pre_Points and Q7_Post_Points with 95.00% CI Error Bars



Question 8 (Q8) of the pre- and posttest assessed how participants would rate their confidence to talk to their doctor about gynecological cancer before and after the educational program. The result of the two-tailed paired samples *t* test was not significant based on an alpha value of .05, *t*(22) = -0.66, *p* = .517, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the mean of Q8_Pre_Points and the mean of Q8_Post_Points was not significantly different from zero. The results are presented in Table 9. A bar plot of the means is presented in Figure 8.

Table 9

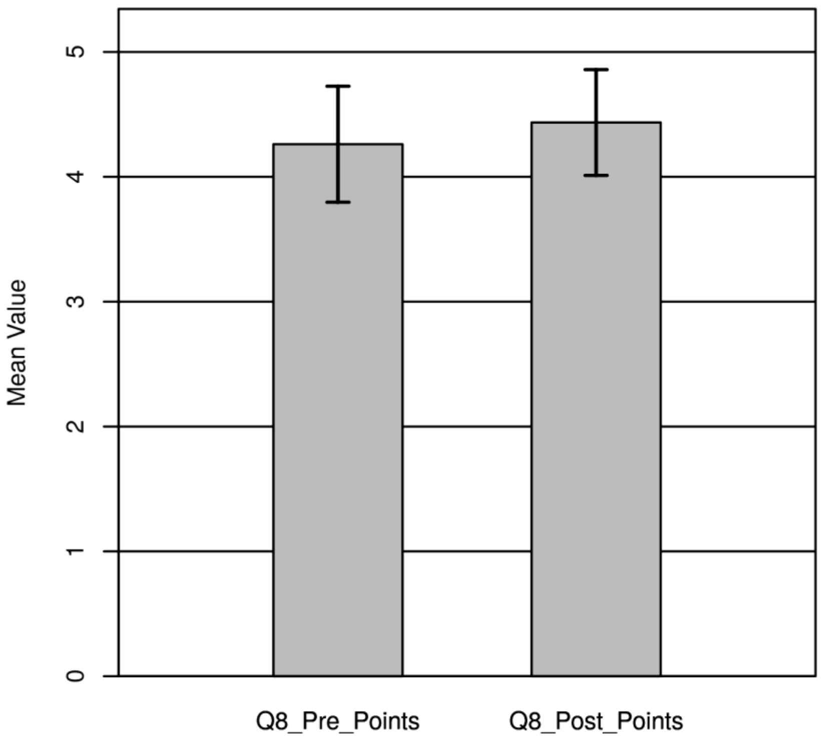
Results of Paired Sample 8 t *Test*

Q8_Pre_Points		Q8_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
4.26	1.14	4.43	1.04	-0.66	.517	0.14

Note. N = 23. Degrees of Freedom for the *t*-statistic = 22. *d* represents Cohen's *d.*

Figure 8

The Means of Q8_Pre_Points and Q8_Post_Points with 95.00% CI Error Bars



Question 9 (Q9) of the pre- and posttest assessed how participants would rate their confidence to talk to their doctor about symptoms that may be gynecologic cancer before and after the educational program. The result of the two-tailed paired samples *t* test was not significant based on an alpha value of .05, *t*(23) = -1.12, *p* = .273, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the mean of Q9_Pre_Points and the mean of Q9_Post_Points was not significantly different from zero. The results are presented in Table 10. A bar plot of the means is presented in Figure 9.

Table 10

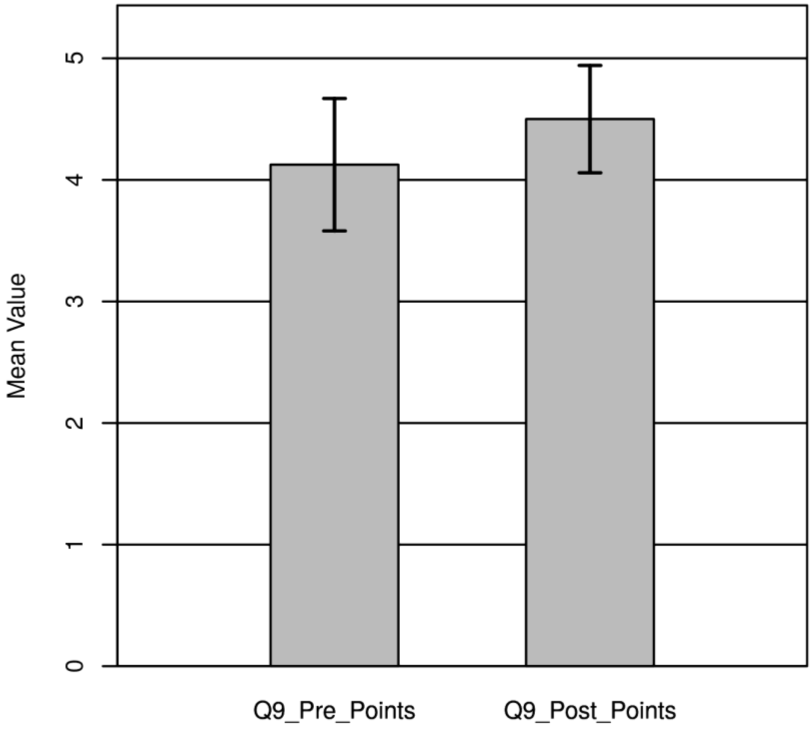
Results of Paired Sample 9 t *Test*

Q9_Pre_Points		Q9_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
4.12	1.36	4.50	1.10	-1.12	.273	0.23

Note. N = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d.*

Figure 9

The Means of Q9_Pre_Points and Q9_Post_Points with 95.00% CI Error Bars



Question 10 (Q10) of the pre- and posttest assessed how participants would rate their confidence to seek treatment if they were experiencing signs and symptoms of gynecologic cancer before and after the educational program. The result of the two-tailed paired samples *t* test

was not significant based on an alpha value of .05, *t*(23) = -0.92, *p* = .366, indicating the null hypothesis cannot be rejected. This finding suggests the difference in the mean of Q10_Pre_Points and the mean of Q10_Post_Points was not significantly different from zero. The results are presented in Table 11. A bar plot of the means is presented in Figure 10.

Table 11

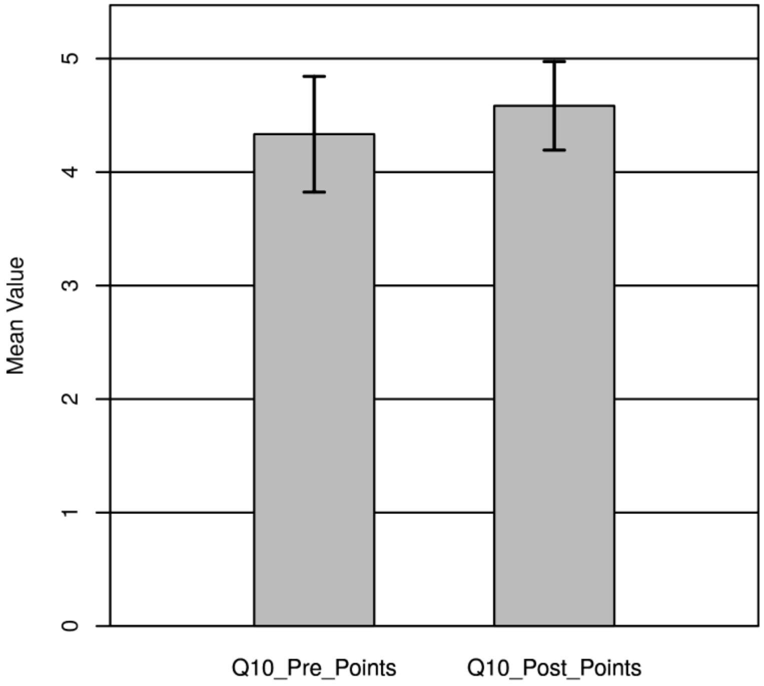
Results of Paired Sample 10 t *Test*

Q10_Pre_Points		Q10_Post_Points				
M	*SD*	*M*	*SD*	*t*	*P*	*d*
4.33	1.27	4.58	0.97	-0.92	.366	0.19

Note. N = 24. Degrees of Freedom for the *t*-statistic = 23. *d* represents Cohen's *d.*

Figure 10

The Means of Q10_Pre_Points and Q10_Post_Points with 95.00% CI Error Bars



Limitations

Limitations of the study include the small sample size and lack of participants to share experiences, barriers, patterns, perceptions, and behaviors as they relate to endometrial cancer.

Summary

The results of the study show the benefits of providing education to African American women regarding the risk factors, screenings, diagnostic tools, and treatment options for endometrial cancer. It also gives a perspective on the value of creating an educational program that can be used by a parish nurse to provide health education to similar communities that suffer from health disparities such as endometrial cancer. The study may create some bias because some patients may feel more comfortable participating in a clinical study because of the comfort and familiar setting that the community-based setting provides.

Chapter 5: Discussion, Conclusions, and Recommendations

The study has a specific focus on the use of health education in the community setting to improve knowledge of endometrial cancer. The purpose of the study was to identify knowledge deficits in the African American community regarding the risk, symptoms, diagnosis, treatment, and self-efficacy in seeking treatment for endometrial cancer. I implemented an educational program in a community-based setting by collaborating with the parish nurse to educate participants and facilitate the pre- and postassessments of their knowledge and confidence in seeking treatment for endometrial cancer. There were some limitations to the study which included a small sample size and limiting patient participation to women over the age of 50. Many of the participants' responses reflected that they felt confident in seeking treatment for endometrial before the educational presentation was delivered did not change significantly with the educational program. Despite the lack of significant change of confidence for most participants, there was a significant improvement in most participants' knowledge of the risk, symptoms, and treatment of endometrial cancer. This chapter will discuss in depth the research findings and the recommendations for future research for endometrial cancer in the African American community and its correlation to the DNP Essentials.

Discussion of Findings

The research questionnaire for this study assessed each participant's knowledge of risk, symptoms, treatment, and self-efficacy in seeking treatment for endometrial cancer. Adult education has been used as an intervention to improve knowledge and improve the ability of individuals to apply new information. The study results showed the educational program improved the participants' knowledge of symptoms, risk factors, and treatment of endometrial cancer. The study and its findings show the importance of Malcolm Knowles' theory of adult education. Knowles' theory is a theoretical framework that encourages adults to become active participants in learning, processing, and applying new information motivation (Health-related Funding, 2016).

The participants of the study reported a greater sense of knowledge of endometrial cancer after completion of the educational program. There was not a significant increase in confidence in seeking treatment based on the survey results, however, there was a general report of confidence in participants speaking with their provider and seeking treatment for symptoms of gynecologic cancer before the educational presentation was delivered. This study supports Malcolm Knowles' theory that successful educational programs should consider the population included in the study, their experiences, and their willingness to learn. The educational study was conducted in a community–based location that provided a safe and supportive environment that provided an opportunity for participants to increase their knowledge and promote independence in improving their health outcomes in relation to endometrial cancer. The findings of this study support the concept that health education promotes improved knowledge and awareness of symptoms of endometrial cancer that requires further evaluation and treatment.

This study supports current findings that suggest the lack the health education to identify risk factors, symptoms, and treatment for endometrial cancer can result in increased negative health outcomes. Studies have shown that patients with gynecologic cancer symptoms are unaware of when to seek care for symptoms of endometrial cancer and other gynecologic cancers which lead to a delay in treatment and an increase in morbidity and mortality (Novinson et al., 2019). These findings have future implications in clinical and community nursing that implicate that health education can increase the knowledge of risk, symptoms, and treatment of endometrial cancer in the African American community. Nurses can utilize this educational program and theoretical framework to educate African American women in multiple healthcare settings to improve knowledge of endometrial cancer and promote early detection and treatment. Nursing leadership can use this educational framework in order to address health disparities related to endometrial cancer in the African American community.

Due to limitations in both sample size and the willingness of patients to share personal experiences, it would be beneficial to repeat the study with a larger sample size as well as include an online option for participants to participate. Even with the study limitations, the results display a significant increase in the knowledge of participants with the use of health education. The intervention should be implemented in community-based settings and in public health outreach programs for African American women to promote increased knowledge and self-efficacy in seeking treatment for endometrial cancer and other gynecological cancers.

Recommendation for Future Research

The study should be repeated with a larger sample size and greater diversity in geographical area, and possibly patient demographics. Other areas of research to consider in relation to knowledge and self-efficacy in seeking treatment for endometrial cancer in the African American community include education attainment, socioeconomic status, and healthcare provider knowledge of Americans ‘experiences and barriers to seeking treatment of endometrial cancer. There is not much literature to determine those influences on health outcomes for African American women and endometrial cancer.

The concept of health education for African Americans in a community–based setting can be explored to determine its impact on health disparities related to endometrial cancer and beyond. Individuals and communities need formal education on diseases, symptoms, appropriate diagnostics, treatments, and when to seek further evaluation and treatment from their healthcare providers (Bhattad & Pacifico, 2022). Health education and health promotion have been proven to be beneficial in current literature to improve patients' knowledge and self-management skills. This research could lead to an increase in community health initiatives to educate individuals who suffer from health disparities in community–based settings and other healthcare settings.

The educational program and framework could be applied to public health programs and community- health projects for health promotion and to provide health education to vulnerable communities such as the African American community. In the future nurses and other members of the interdisciplinary team could use the educational framework in multiple healthcare settings to provide culturally sensitive education for African American women. The educational program could improve a patient's knowledge of endometrial cancer and also provide an opportunity for healthcare providers to become culturally aware of African American women's experiences, barriers, or knowledge deficits that result in a delay in seeking treatment for endometrial cancer.

Relationship to the DNP Essentials

DNP Essential I establish the principles of the foundational principle of scientific underpinnings for practice. This DNP Essential highlights the importance of nursing practice and its impact on well-being, the pattern of human behavior, and nursing actions that influence positive changes in health (American Association of College Nursing, 2018). This study aligns with this DNP essential because it focuses on nurses providing health education based on the needs and behaviors of an individual or community, they are serving to promote well-being and positive changes in health. The educational study, presentation, and study setting considered the target population and the whole health of the individuals in the community to create an intervention that promotes optimal health.

DNP Essential III describes how the DNP-prepared nurse can use the principle of clinical scholarship and analytical methods for evidence-based practice. The study provided an opportunity to design and implement an educational program based on literature and evidence-based practice to promote timely care for women seeking treatment for endometrial cancer. After the implementation of the quality improvement project, the clinical study provided an opportunity to analyze the data, identify patterns of knowledge deficits in the African American community, and identify gaps in the literature for further clinical research to improve clinical practice.

DNP Essential VII focuses on clinical prevention and population health to improve the Nation's health. The study provided an opportunity to analyze and identify specific knowledge deficits of endometrial cancer in the African community in efforts to improve population health. The study's clinical setting was based in the community to evaluate different strategies for health education outside of an institutionalized setting. The clinical study was developed and implemented to address health promotion and improve health outcomes for African American women in relation to morbidity and mortality caused by endometrial cancer.

Summary

Health promotion and health education are evidence-based interventions that have been used in multiple healthcare settings. Implementing a population-specific educational program in a community-based setting has provided insight into health education in combination with a pre- and postassessment by a nurse leader in the community can benefit, individuals and help identify specific knowledge deficits of diseases in a vulnerable community who experiences health disparities. Though this study was small, it showed the positive outcomes of health education and identified areas for future research in the African American community in relation to endometrial cancer. These findings contribute to current research by introducing an innovative educational program that can be used across all traditional and nontraditional healthcare settings to identify and improve self-management skills for African American women to identify risks, symptoms, and treatment of endometrial cancer and to seek treatment for endometrial cancer in a timely manner. Based on the results of this study health education in a community-based setting can effectively increase the knowledge of risks, symptoms, and treatment of endometrial cancer in the African American community.

Christian Growth and Development

During the process of developing and implementing this research study I have consistently reflected on my growth as a Christian. God has placed a calling on my heart to serve his people through health education and health promotion, specifically individuals and communities that suffer most from health disparities. In the beginning of this project, I experienced some indecision on how I could best serve African American women and improve their health outcomes for endometrial cancer. As I completed the research and developed the educational program, I experienced a revelation on how God could use me through community-based service. In previous years I have always served in an institutionalized clinical setting. After analyzing the results of the study and acknowledging the significant impact community-based education has in the African American community, I have surrendered the restricted ideas I had of nursing and committed to becoming a servant leader in healthcare.

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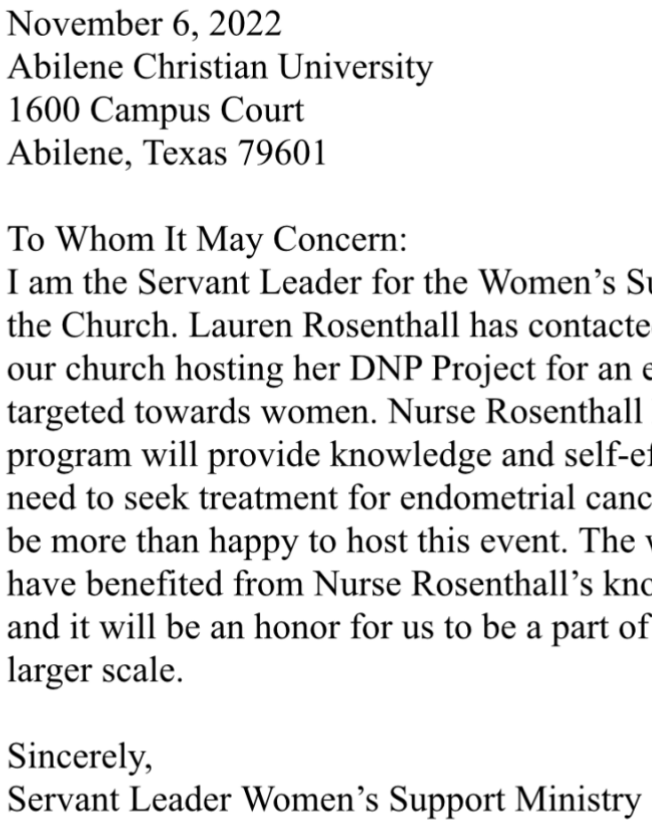
Appendix A: Site Permission Letter



November 6, 2022
Abilene Christian University
1600 Campus Court
Abilene, Texas 79601

To Whom It May Concern:

I am the Servant Leader for the Women's Support Ministry at the Church. Lauren Rosenthall has contacted me in regards to our church hosting her DNP Project for an educational session targeted towards women. Nurse Rosenthall has stated this program will provide knowledge and self-efficacy for those who need to seek treatment for endometrial cancer. Our church will be more than happy to host this event. The women of the church have benefited from Nurse Rosenthall's knowledge in the past, and it will be an honor for us to be a part of her presenting on a larger scale.

Sincerely,
Servant Leader Women's Support Ministry

Appendix B: Questionnaire of Knowledge and Behaviors Related to Uterine Cancer

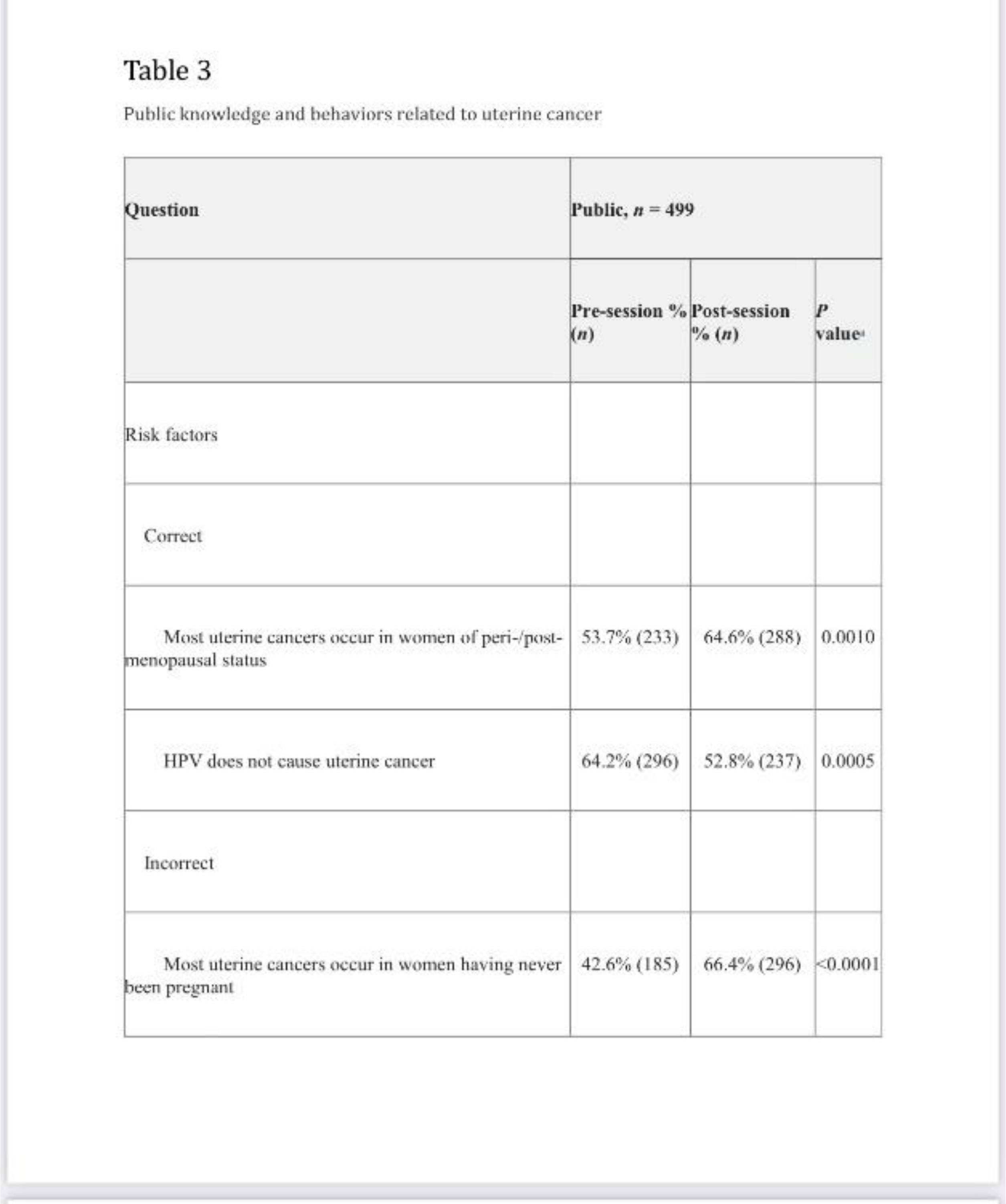
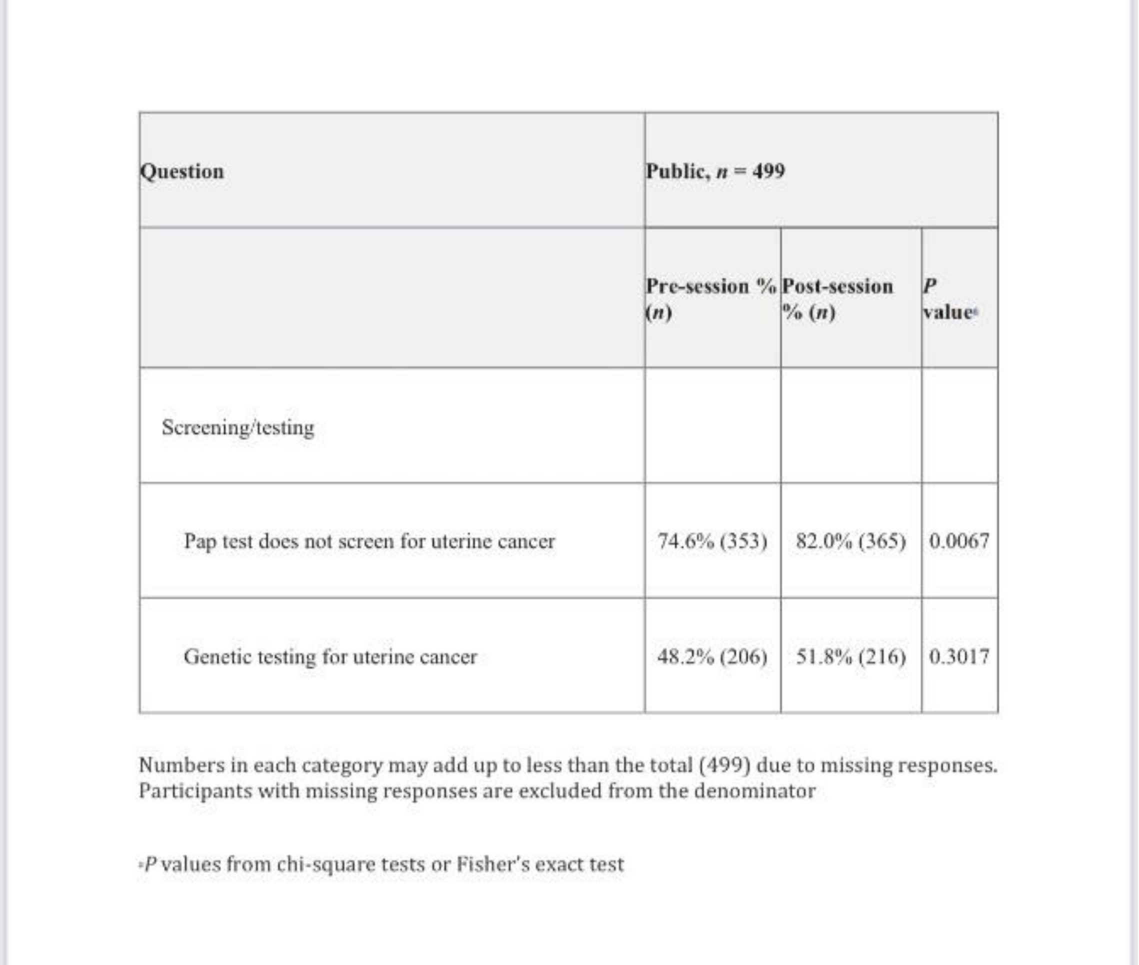


Table 3

Public knowledge and behaviors related to uterine cancer

Question	**Public, *n* = 499**		
	Pre-session % (*n*)	**Post-session % (*n*)**	***P* value**
Risk factors			
Correct			
Most uterine cancers occur in women of peri-/post-menopausal status	53.7% (233)	64.6% (288)	0.0010
HPV does not cause uterine cancer	64.2% (296)	52.8% (237)	0.0005
Incorrect			
Most uterine cancers occur in women having never been pregnant	42.6% (185)	66.4% (296)	<0.0001



Question	Public, *n* = 499		
	Pre-session % (*n*)	**Post-session % (*n*)**	***P* value[a]**
Screening/testing			
Pap test does not screen for uterine cancer	74.6% (353)	82.0% (365)	0.0067
Genetic testing for uterine cancer	48.2% (206)	51.8% (216)	0.3017

Numbers in each category may add up to less than the total (499) due to missing responses. Participants with missing responses are excluded from the denominator

[a] *P* values from chi-square tests or Fisher's exact test

Appendix C: Permission to Use Survey/Questionnaire Tool

Lauren,

You are welcome to use the questionnaire for your research. I am out of the office this week, but I can also look in my files and see if I can pull some more user friendly documents to go with the survey as well. IÂ'll do that when I get back next week. If you havenÂ't hea from me again by next Friday, please feel free to follow back up to remind me.

-Mary

From: Lauren Rosenthall [redacted]
Sent: Wednesday, November 30, 2022 11:34:55 PM
To: Puckett, Mary (CDC/DDNID/NCCDPHP/DCPC) [redacted]
Subject: Permission to Use Questionnaire Tool

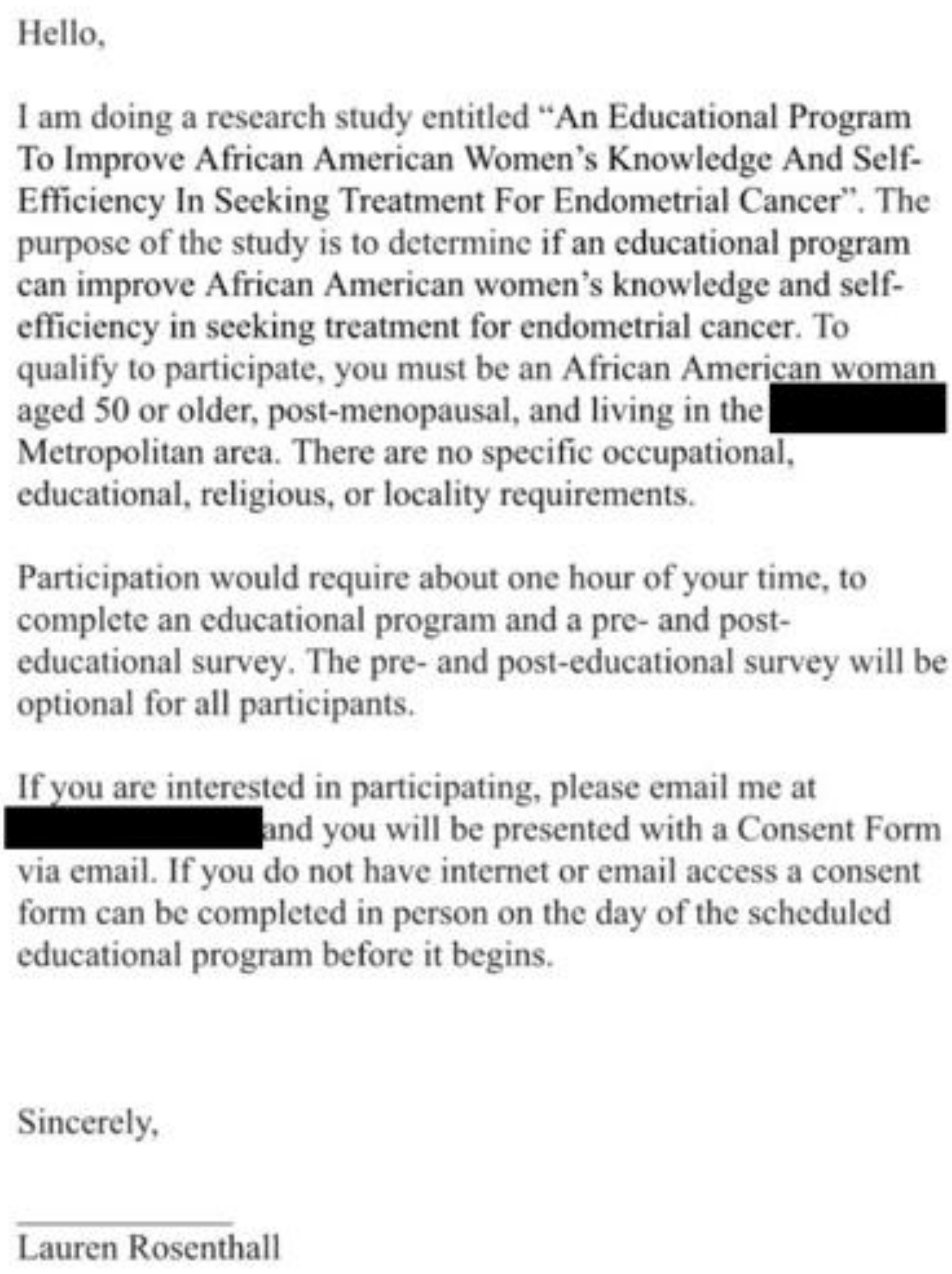
ABILENE CHRISTIAN UNIVERSITY

16633 North Dallas Parkway

Ste 800

Addison, Texas 75001

Appendix D: Recruitment Letter



Hello,

I am doing a research study entitled "An Educational Program To Improve African American Women's Knowledge And Self-Efficiency In Seeking Treatment For Endometrial Cancer". The purpose of the study is to determine if an educational program can improve African American women's knowledge and self-efficiency in seeking treatment for endometrial cancer. To qualify to participate, you must be an African American woman aged 50 or older, post-menopausal, and living in the [redacted] Metropolitan area. There are no specific occupational, educational, religious, or locality requirements.

Participation would require about one hour of your time, to complete an educational program and a pre- and post-educational survey. The pre- and post-educational survey will be optional for all participants.

If you are interested in participating, please email me at [redacted] and you will be presented with a Consent Form via email. If you do not have internet or email access a consent form can be completed in person on the day of the scheduled educational program before it begins.

Sincerely,

Lauren Rosenthall