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Effect of Using Culturally Sensitive Education in Increasing Mammogram Use and Breast Cancer Awareness: African Female Immigrants

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**EFFECT OF USING CULTURALLY SENSITIVE EDUCATION IN INCREASING
MAMMOGRAM USE AND BREAST CANCER AWARENESS:
AFRICAN FEMALE IMMIGRANTS**

by

GERTRUDE MUMBA-KAUNDA

EVIDENCE-BASED PRACTICE PROJECT REPORT

Submitted to the College of Nursing and Health Professions
of Valparaiso University,
Valparaiso, Indiana

in partial fulfillment of the requirements

For the degree of

DOCTOR OF NURSING PRACTICE

2016

Gertrude Mumba-Kaunda _____ 5.9.16
Student Date

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Advisor Date

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2016



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DEDICATION

This EBP project is dedicated to my late mother “bamayo” Mrs. Winnie Yombwe Mumba, I miss her dearly, and she has been a source of support, motivation, and inspiration. This EBP project is also dedicated to my other departed loved ones for whom preventative and accessibility to health care was but a dream.

ACKNOWLEDGMENTS

Thank you to Dr. Nola Schmidt for her help and tremendous support throughout this journey. Her giving, teaching spirit, excellent and exceptional mentorship is something I cannot put a price on, I am very grateful.

To my beloved husband Joseph Gordon Kaunda, thanks for being a great partner/friend, believing in me, encouraging me and ensuring that I stayed on course and not procrastinate. To my children Jacob and Chawa for giving me space when I needed it. To my siblings Maybin, Jocelyn, Pritchard, Winnie and Chanda thanks. To my father your constant belief that it shall come to pass is appreciated. Humphrey thanks for always pushing me to accomplish more and more.

Michiana Malawi church thank you for allowing me to implement my project at the church, and Sabina Bett thank you for willing to share your story. My family and friends thanks for your encouraging words, prayers and support. To God be the glory.

PREFACE

“Life only demands from you the strength you possess. Only one feat is possible- not to run away.”

Dag Hammarskjöld

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ABSTRACT

Despite the advances in medical technology, breast cancer is the most common cancer among women and is the second leading cause of death in African-American and Caucasian women in the United States. Mammography has shown to be one of the best methods to reduce late detection of breast cancer. The American Cancer Society recommends monthly self-breast examination (SBE), clinical breast examinations every 3 years, and yearly mammography starting at the age of 40. Despite the recommendations, there is still significant disparity among different racial groups, when it comes to death rates, which can be attributed to low screening rates. The breast cancer screening rates are lower for certain subgroups, including low-income African-American and Hispanic women. The purpose of this evidence-based project was to determine if culturally sensitive education, based on evidence of best practices, would affect mammography screening and breast cancer awareness among African female immigrants. An extensive literature review revealed that culturally sensitive educational strategies can improve breast cancer awareness and mammography use among minority immigrants. The Health Belief Model (Janz & Becker, 1984) and the Model of Diffusion of Innovation (Rogers, 1995) were used to guide this project. African immigrants were recruited from a local immigrant church in the Midwest. Apart from the culturally sensitive awareness session, an African immigrant/breast cancer survivor also spoke to the participants. Project evaluation included the use of a breast cancer awareness measurement as a pre- and post-test. Three months post-implementation, a telephone survey was completed to determine if the participants underwent mammogram screenings. Descriptive statistics, non-parametric tests, and paired *t* tests were used to analyze the data. The project consisted of 14 participants. At the end of this project, 60% (*n* = 6) of participants who were eligible for mammogram self-reported that they had completed mammogram screening. The EBP project significantly increased the participants' awareness of breast cancer. Findings support the importance of using culturally sensitive awareness among immigrants in mammogram use and breast cancer awareness.

Keywords: immigrant, mammogram, breast cancer awareness, intervention and best practice

CHAPTER 1

INTRODUCTION

Considering the current changes in the world's economy and demographics, providing culturally competent care is of prime importance for healthcare delivery (Campinha-Bacote, 2002). For example, understanding immigrant women's cultures can help healthcare professionals to increase awareness concerning mammogram screening and breast cancer awareness (BCA). When healthcare personnel are culturally competent, healthcare is more likely to be delivered to immigrant populations in an efficient manner. Cultural competence or awareness entails conducting a "self-examination and an in-depth exploration of one's cultural and professional background" (Campinha-Bacote, 2002, p. 180). This knowledge is an additional tool for healthcare providers to possess. The specific issues that need addressing are "health-related beliefs and cultural values, disease incidence, and prevalence and treatment efficacy" (Campinha-Bacote, 2002, p.182). In a nutshell, to become culturally competent, one has to be able to incorporate cultural constructs, such as cultural knowledge and skills, into his or her practice, and one must also desire to acquire cultural knowledge and engage in meaningful culturally-based encounters (Campinha-Bacote).

Doctor prepared nurses (DNP) graduate in various specialties, and the expectation is that they should be able to serve diverse populations. The DNP degree focuses on clinical results; thus, it is vital for a DNP to use the advanced practice knowledge to improve patient outcomes (Fain, Asselin, & McCurry, 2008). Also, DNPs are expected to use their "proficient knowledge in organizations and system leadership roles and for clinical nursing education in professional nursing programs" (Fain et al., 2008, p. 36). Other roles assumed by advanced practice nurses (APNs) include, but are not limited to, addressing health disparities using competent culturally advanced nursing interventions and evaluating the complex health interventions for their effectiveness.

Background

Even with the advances in technology, breast cancer is the most common cancer among women and is the second cause of mortality in African-American and Caucasian women in the United States of America (USA) (American Cancer Society [ACS], 2014). Mammogram has been shown to be one of the best methods that to reduce late detection of breast cancer (Centers for Disease Control and Prevention [CDC], 2015). The ASC (2014) recommends monthly self-breast examination (SBE) with every three-year clinical breast examination (CBE) and a yearly mammogram starting at the age of 40.

There is an enormous disproportion when it comes to the number of deaths due to breast cancer among black people as compared to other populations. According to the ACS (2014), breast cancer is one of the most common types of cancer in women, as 1 in 8 women will develop breast cancer in their lifetime. The death rate from breast cancer is 21.5% in all races in the USA. However, among whites, the death rate is 20.9%, while in blacks it is much higher at 30.2%. Rates are much lower for Asian and Pacific Islanders (11.2%) and Hispanics (14.1%). The incidence rates also vary among blacks (121.2), whites (122.8), Hispanics (92.1) and Asian Pacific Islanders (67.9). The overall incidence rate for all races is 122, according to 2011 data from the CDC (2015). While at times Hispanics and African-Americans have lower incidence rates of incidence of cancers, their prognoses at the time of diagnosis is poor (Consedine, Tuck, Ragin, & Spencer, 2014). Hurtado-de-Mendoza et al. (2014) report that, despite the fact that African-American women are less likely to be diagnosed with breast cancer, they continue to bear a disproportionately higher mortality burden for breast cancer compared to their Caucasian counterparts. Even though there are established benefits associated with screening, many women do not comply with the recognized breast cancer screening guidelines. African-American women have the lowest survival rates when compared to all other races. The high mortality rate is usually attributed to late detection and lack of screening.

The population of foreign-born Africans has been increasing steadily over the last few decades (United States Census Bureau, 2014). In 2008, there were 80,000 African-born immigrants, and that number increased to 1.6 million as of 2012. Consendine et al. (2014) report that the National Census Bureau groups all black people together, making no distinction between black people of African origin, Caribbean descent, or African Americans; however, it is important to recognize and differentiate the differences in genetics, cultures, and customs of black people. Consedine et al. (2014) note that racial “labels are arbitrary and do not map clearly onto patterns of biological, environmental, or psychosocial risk...their patterns of risk and exposure vary, and endorse different values, beliefs, and expectancies regarding cancer-related health” (p. 906). Pavlish, Noor and Brandt (2010) concur that an information gap regarding immigrant health disparities currently exists. Studies involving African immigrants, a population that is increasing in the U.S., are limited. Based on census data, the foreign-born population makes up almost 4% of the general U.S. population (United States Census Bureau, 2014). When compared to the general U.S. population, African immigrants have less accessibility to healthcare, which could be partially caused by a lack of health insurance. Evidence shows that, compared to U.S.-born natives, foreign-born nationals are less likely to have received a mammogram in the past 2 years (Reyes & Miranda, 2015). In addition, immigrants experience unique problems arising from language and cultural differences that may be barriers to their ability to seek and obtain healthcare (Harcourt et al., 2014).

Statement of the Problem

To help reduce cancer and promote early cancer detection, the United States Preventative Services Task Force has established the Healthy People 2020 goals (Healthy People, 2015). One primary goal of Healthy People 2020 is to reduce the number of new cases of cancer, illness, death, and disability that results from cancer. For example, there is a specific goal is to decrease the rate of death from breast cancer from 20.7 deaths per 100,000 to a rate of 10 deaths per 100,000. Another target is the reduction of late detection of breast cancer.

Based on 2007 data, 44.3 women per 100,000 women were identified as late breast cancer detection. The aim is to reduce this rate number to 42.1 per 100,000.

Due to the unique customs and health seeking behaviors of African female immigrants, it is imperative for APNs to include African cultural values in healthcare when promoting patient-centered care. In African nations, due to the lack of universal health insurance and the use of preventative healthcare, Africans do not usually see providers for preventative reasons. Thus, it is important for all stakeholders to be aware of this fact when advocating the use of mammogram and SBE because immigrants continue to practice their customs despite being away from their countries of origin. Limited research exists regarding the health gaps of immigrant women, particularly regarding cancer screening as well as significant barriers that deter them from seeking healthcare related to their breasts (Alcazer-Bejeranor, 2014). Immigrant women who have recently moved might have limitations based on their ability to understand what healthcare services are available to them, or they may encounter communication barriers. Moreover, limited resources, such as income and healthcare insurance, can be factors preventing women who have just immigrated from accessing screening services. These women will prioritize the necessities, such as food, shelter, clothing and education, for their family members over their own health matters, and consequently, they often ignore their own needs, including their needs for healthcare. In African culture, a woman is expected to hold multiple roles, thus making it a challenge for one to find time to take care of herself when she is expected to take care of the entire family. The possibility that the provider may be a male could also serve as a barrier, especially for women who are part of Muslim and members of male-dominated cultures where the man is expected to make decisions for the woman. It is a taboo for women in certain cultures to expose themselves to males and only the women's husbands are permitted to see the women's naked bodies, making the protection of women's modesty of the utmost importance. When men are the primary care providers or radiology technicians, removal of clothing during a mammogram can create a dilemma for

women seeking mammogram screenings. In addition, some women may have a fatalistic view of cancer; some immigrant women do not think it will change the course of the disease (Moorley, Corcoran, & Sanya, 2014). Due to the limited literature on African immigrants, research pertinent to other related cultures were used in this evidence-based practice (EBP) project.

It is critical for APNs to assess whether African female immigrants understand and remember the information they receive about cancer screening. Research shows that a recommendation from a healthcare provider is the most important reason patients cite for having cancer screening tests (Wee, McCarthy, & Phillips, 2005). This EBP project was developed to identify and implement best practices using culturally sensitive intervention for increasing mammogram use and breast cancer awareness among African female immigrants. It is the hope of this DNP student that the findings from this EBP project will provide evidence that supports the use of culturally sensitive strategies for reducing late breast cancer detection by increasing mammogram use among African immigrant females. In addition, this DNP student hopes that the results of this study can be used by other APNs when providing care to immigrant women.

Goal of the Project

The purpose of the project was to increase the use of mammogram and BCA by women who are African immigrants via culturally sensitive methods. The intent of the EBP project was to promote use of mammogram and increase BCA with the goal of reducing late breast cancer detection, as recommended by Healthy People 2020 (Healthy People, 2015), which often results in early mortality or increased morbidity. Early cancer detection is highly recommended because it contributes to reducing metastatic cancer, patient mortality and the costs associated with late cancer diagnosis.

Purpose of the Project

The purpose of the EBP project was to implement a culturally sensitive intervention among African female immigrants that would help in raising awareness and help in preventing breast cancer. With the assistance of the local church elder and the women ministry, the project was implemented at a local church, in the Midwest, that is comprised primarily of African immigrants. The goal of this project was to encourage the immigrant women from Africa who worship at the church to consider being screened for breast cancer as part of their healthcare. In doing so, screening was supposed to help reduce late detection as well as mortality rates that result from late detection of breast cancer.

PICOT Format

The question and problem at hand was as follows: "*In African female immigrants, what is the effectiveness of using culturally sensitive education in increasing mammogram use and breast cancer awareness over a three-month period?*" The population that was being targeted in the capstone project comprised of African female immigrants. Any African-born female immigrant could participate in the project, regardless of age or how long she had been in the country.

The EBP project was implemented in a local church because this particular church has quite a substantial number of female immigrants from Africa. Some of the families have limited resources, lack health insurance, and do not know how or choose not to seek medical help when the need arises. And the complexity of healthcare makes it difficult for most women to participate in preventative care. Conducting a project of this magnitude at this particular location was very beneficial to this target population in numerous ways. For example, the use of mammogram is encouraged to help in the prevention and detection of early breast cancer. Further, implementing this EBP project empowered the women, as they were educated and provided with pertinent information to increase their BCA and were equipped with the confidence necessary to undergo mammogram screening.

CHAPTER 2

THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

Doctoral prepared nurses are adequately prepared to find and utilize evidence from research studies when implementing change in practice. Inquiry begins with a clinical question regarding a current practice. For example, this EBP project focused on the effectiveness of culturally sensitive education to increase breast cancer screening among female African immigrants. To be able to implement this evidence-based change, it is important to find the best evidence that supports the proposed interventions.

The purpose of this EBP project was to increase to increase mammogram screening and BCA among female African immigrants. According to Melnyk and Fineout-Overholt (2011), the purpose for undertaking EBP is to improve patient care and outcomes. Additionally, the authors state that if the care that is delivered to patients is outdated, the patients are at risk of receiving inadequate and substandard care. In this chapter, a review of the evidence and theoretical frameworks used to guide this EBP project is presented. Also, a review of the literature regarding breast cancer awareness using mammogram and BCA is discussed, appraised, and applied to the clinical question.

Theoretical Framework

Health Belief Model

Overview. The theoretical framework that was used for this EBP project was the Health Belief Model (HBM) (Janz & Becker, 1984). Based on the literature review, it is evident that most of the interventions used in studies about mammogram use and BCA of minority women were based on this model (Han et al., 2009; Lee et al., 2014; Schoueri-Mychasiw, Campbell, & Mai, 2013; Wang et al., 2014). Han et al. (2009) recommend the importance of using theory-based tailored approaches as they are more than likely to enhance screening interventions. The HBM is one of the first theories of health behavior. The HBM was used to explain why only a

few people were participating in disease prevention and detection. Developed in 1950 by a social psychologist of the United States Public Health, the HBM has since been revised (Champion & Skinner, 2008; Janz & Becker, 1984).

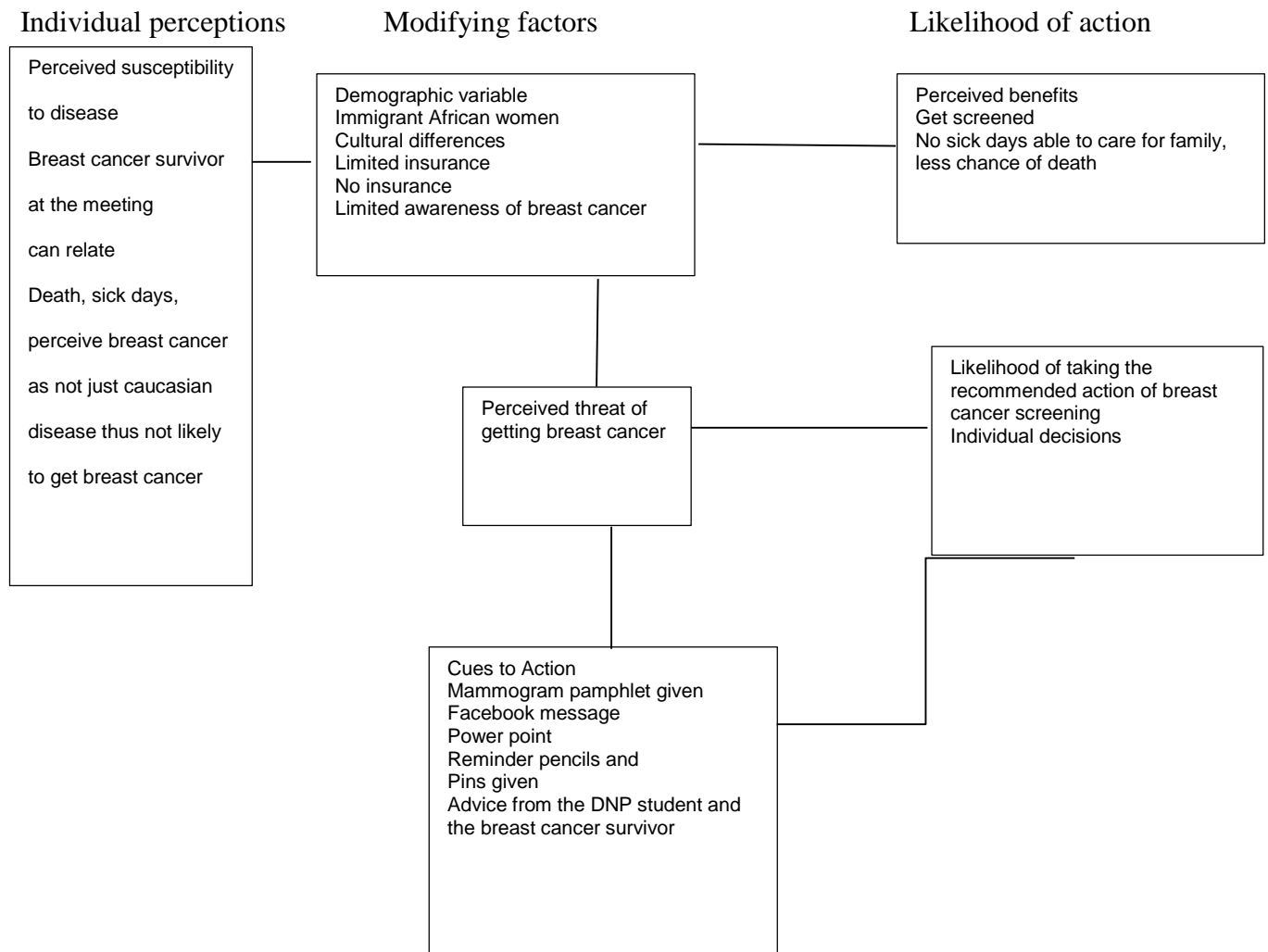
The HBM has been used extensively to guide research in immigrant populations. For example, Wang et al. (2012) applied the HBM model by conducting a randomized study to compare “viewing a culturally tailored video” to “viewing a generic video and reading a fact sheet.” In order to create an effective video, cultural beliefs and knowledge were added to the video using the HBM as a framework (Wang et al.). In a meta-analysis involving studies conducted with minority women, 6 of 18 studies used the HBM either alone or in combination with other theories (Han et al., 2009). Schoureri-Mychsiw et al. (2013) used this model in their synthesis of past interventions designed to increase mammogram screening by minority women living in Canada. Specifically, they used the HBM to identify interventions that addressed perceived barriers and perceived benefits. According to the HBM (Butterfield, 2013), the perceiver will eventually decide what he or she wants to do in accordance with his or her belief system. The choice to take action is placed on the involved party.

According to Janz and Becker (1984), the HBM consists of the following dimensions: (a) perceived susceptibility, (b) perceived severity, (c) perceived barriers and (d) perceived benefits. If individuals are aware that they may get a disease or condition, then they are more likely to take the necessary action to prevent the disease from occurring if they perceive that the benefits they would get from the behavior are beneficial to them.

Application of HBM to EBP Project. The HBM (Janz & Becker, 1984) was selected for this EBP project because it has been used to guide many studies, similar to the proposed project. This doctoral student perceived benefits associated with the utilization of this particular model. Each of the four elements of the HBM was used in addressing and implementing the EBP project (Figure 2.1). These included the person's perception of: (a) the severity of a potential illness, (b) the person's susceptibility to that illness, (c) the benefits of taking a

Figure 2.1

Adaptation of the Health Belief Model



Source: Adapted from Janz & Becker, 1984, p. 4.

preventive action, and (d) barriers to taking that action. Additionally, the project included cues to action. For example, to address the perceived severity of breast cancer among the female immigrants, the following steps were initiated. The women were educated about the implications of the lack of screening for breast cancer; further, pertinent statistics related to costs and time lost from work due to illness were shared with them regarding the impact of the disease on people from Africa or Black people. Notions associated with the fatalistic concept (regarding if ones get cancer) were replaced with the hope of early detection and cure, neither of which is related to late detection or diagnosis with cancer. Also, women were provided with statistical information on the impact of cancer on black women. By doing this, the women were made aware of their susceptibility when it comes to breast cancer related to other women. After talking to women, they were informed of the nearby resources available to them. Solutions to barriers (i.e., costs, lack of knowledge and not being aware of the available resources when it comes to breast cancer screening) were discussed with the women. The EBP project was designed to help tackle the perceived benefits of taking the action of mammogram screening. The cues to action were the reminder pins, pencils, and the mammogram pamphlet that was given to the participants. The discussion included a brief discussion on SBE, but no actual demonstration was conducted.

Strengths and Limitations of HBM for EBP Project. One strength of using the HBM for this EBP project was the possibility of increasing the awareness African female immigrants about mammogram recommendations. Increasing awareness can act as a catalyst for changes in behavior, thereby increasing rates of mammogram screening. Because the EBP project involved health promotion, another strength was the fit of the HBM because of its focus on health promotion. There is substantial evidence that supports the idea that spousal involvement increases mammogram screening; this may either increase the female African immigrant uptake or decrease it, depending on whether the spouses perceive benefits

associated with their wives undergoing mammograms. Spousal involvement may also serve as a cue for the women to get the mammogram screening.

Lack of mammogram screening among female African immigrants is very prevalent. This lack of preventative medicine use is linked to their beliefs and culture. A limitation of applying the HBM to this EBP project is that at certain times it may be difficult to alter an individual's perception because of lack of adequate time to implement the EBP project. Another limitation may be due to fears among the African immigrant women when it comes to seeking healthcare screenings. This fear is often due to the perceived seriousness of what may occur via self-declaration of their immigration statuses. Also, current universal insurance regulates the need for individuals to apply for insurance, which may cause the women to stay away from seeking healthcare because they may not have the resources that would enable them to obtain insurance. It is also important to recognize that some health behaviors may not be cultural, but rather are personal habits that may create additional barriers for women when it comes to seeking mammogram screenings. Finally, there is no evidence that the HBM has been applied to situations involving women who are African immigrants; therefore, its applicability to this population was assumed. Because the HBM is a cognitively based model, when it comes to cultural factors, it is limited regarding consideration for such (Champion et al., 2008; Janz et al., 1984).

EBP Model

Model of Diffusion of Innovations

Overview. After a thorough review of several potential frameworks for the EBP project, the model of diffusion of innovations (DOI) (Rogers, 1995) was chosen for use in this particular project. This model is also referred to as the DOI model. According to Rodgers:

Diffusion is a process by which innovation is communicated through certain channels over time among members of a social system and innovation, this type of innovation

usually involves new ideas...while communication is a process by which participants create and share information with one another to reach a mutual understanding. (p. 6). Due to the uncertainty of the newness of the ideas among the message receivers, it makes embracing new ideas difficult. Diffusion also is viewed in terms of social change (Rodgers, 1995). For example, in the US health care system, most teaching about is conducted in the offices of primary care providers. Using culturally sensitive education in community settings is an innovation to reach those who may not have access to primary care providers.

According to Steury (2013) and Rodgers (1995), the main concepts of the DOI Model are (a) innovation, (b) communication channels, (c) social system, and (d) time. Innovation is an idea that is perceived as new by the person or social system to whom or to which the information is communicated. The information idea does not necessarily have to be new for it to be considered new. As long as it is a new idea to that person, then it can be considered "new." It can be regarded as a new innovation to the perception of the receiver if the receiver has already been made aware of the information but had not taken a favorable attitude toward the idea. Also, the newness of knowledge can also be expressed in terms of "knowledge, persuasion or decision to adopt" (Rodgers, 1995, p. 11). The individual adoption varies from individual to individual. Communication is the mode by which the information is transmitted when there is a new idea. Another determinant on how well the EBP can be implemented is the social system, which includes the relative advantage, compatibility, complexity, trialability, and observability. While time is the actual period it may take for the idea to be acknowledged to the projected recipient. The time taken may vary from hours to years.

The DOI consists of five step process. These stages include; "knowledge, persuasion, decision, implementation and confirmation" (Rodgers, 1995, p.22). The degree by which an individual or unit readily adopts an innovation is referred to as innovativeness. The difference in which individuals or units adopt the innovation leads to the categorization of persons or groups.

There are five adopter categories, which include the innovators, early adopters, early majority, late majority, and laggards. Kaminski (2011) describes the early adopters as individuals that are enthusiastic and ready to take risks. They get motivated by the idea of them being change agents. The early adopters are the type of group when recruiting that can be used as peer educators should that be needed in the project. The second group are early majorities, these are the type of individuals who are visionaries and do can make good leaders for the project. The early majorities usually join in the projects after the risk takers and are attracted by the latter group when embracing new ideas. The third group of innovators is the early majority. This group of innovators is also referred to pragmatists because they do not like to take risks. They are cautious and want to hear the progress of the innovation before getting on board with the idea. The change agent, this would be an ideal group to contact after the initial group has completed the mammogram that way they know that other people have already taken the lead and give them the progress of the procedure and cost involved if any. The fourth group is the late majority, which consists of conservatives who would easily give into peer pressure. Since they can only be motivated by their need to keep up with the trend, it is a good idea to inform them about why it is necessary to do the procedure and also notify them of the number of people that have undergone the process so that they can conform to the group standards. Last but not the least; the other group is called the laggards. This last group is composed of skeptics, individuals who doubt the reasons for adopting the new innovation.

Application of DOI to EBP Project. In the proposed project, the innovation was a cultural educational session was used to change perceptions about breast cancer screening. Information using culturally sensitive education on ways to prevent breast cancer by using mammography was provided during a group session. The information discussed included the perceived barriers to help increase breast cancer screening adoption among African female immigrants. The social system was the US health care system, with a focus on primary care providers to prescribe mammograms for screening. To address the concept of communication,

the breast cancer awareness project was communicated to other nurses and other members of the health care community at the EBP symposium as an oral and poster presentation. The use of culturally sensitive education was also communicated as an integrative review to the *Journal of Immigrant and Minority Health*. The time for the adoption of this innovation was 3 months due to time constraints for the project. The EBP project was implemented as an sessions at a local immigrant church, the participants were given up to three months to complete the mammogram screening. The time period that was proposed was not adequate.

Strengths and Limitations of the DOI for EBP Project. The strength of the DOI model is that it can be implemented among health care providers that are at different levels of adoptions. Since it can be used among health care providers at different levels of adoption, the early adopters can help the laggards in embracing the change (i.e., if the perceived barrier were the inconvenience of sourcing or identifying them then early adopters could help laggards to know where to find these women (immigrants), either using the churches or community organizations who deal with immigrant communities). One potential limitation may involve providers who do not see the urgency in adopting culturally sensitive education, which can cause a delay in implementation.

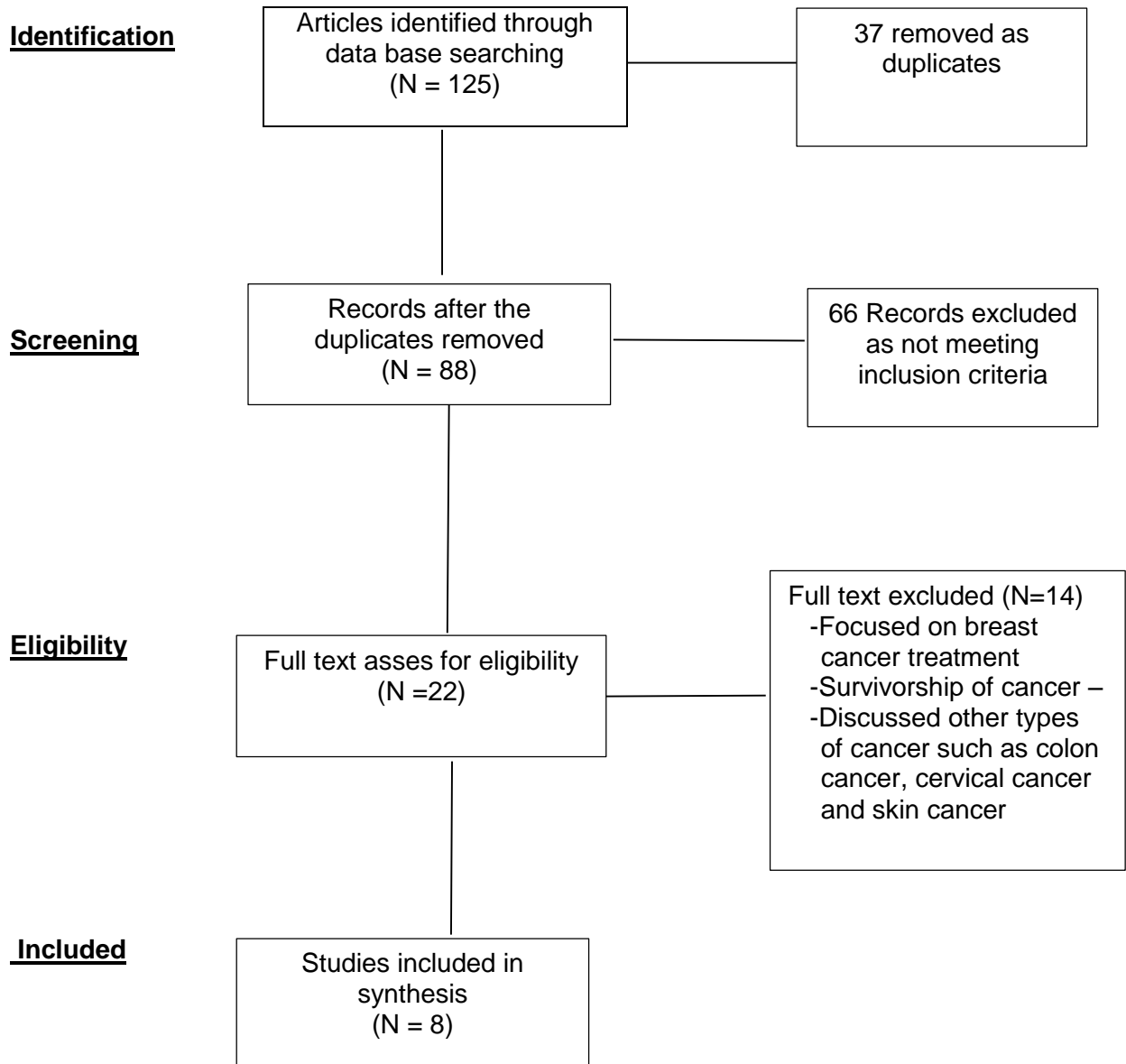
Review of Literature

Literature Search

A search of relevant literature was conducted to find evidence about breast cancer screening and strategies to increase awareness using culturally sensitive strategies among African female immigrants that will eventually help in preventing breast cancer. Findings were assembled, analyzed, and synthesized to determine best evidence. During analysis, it was discovered that most of the literature comprises studies involving minority populations other than African female immigrants, as there was little insufficient literature that discussed African immigrants specifically. When it comes to African populations, most of the research is focused on barriers to care of cancer and not solutions.

Search engines. Database sources that were searched include CINAHL (Cumulative Index to Nursing and Allied Health Literature), ProQuest, MEDLINE (Medical Literature Analysis and Retrieval System Outline) via PubMed, Joanna Briggs Institute, Cochrane Library, PsychArticles, and ERICK. The medical subject heading terms (MeSH) system were used to explore keywords for consistency and applicability. This DNP student met with a Valparaiso University librarian to ensure that a thorough literature search was conducted. The keywords “immigrant*,” “mammogram*,” “breast cancer awareness*,” “intervention*” and “best practice*” were used to search databases for literature involving human subjects that were published in English since 2008. These terms were used in various combinations to obtain the greatest number of results from these databases. Searches included peer-reviewed articles, systematic reviews, meta-analyses, practice guidelines, clinical trials, randomized controlled trials (RCTs), qualitative studies, descriptive studies, and EBP. Duplicate citations from among the searched databases were eliminated, leaving a total of 88 abstracts, all of which were initially reviewed to determine which evidence met the inclusion criteria. Inclusion criteria were articles were published since 2008, published in the English language. Out of the 125 abstracts, 37 of the articles were excluded due to being duplicates (Figure 2.2). The DNP then reviewed and selected 88 articles because they seemed to have met the inclusion criteria. Upon further review, it was determined that some of these articles addressed barriers to care and did not discuss the interventions to the obstacles like English as a second language, cultural barriers, beliefs, attitude to care, perspectives on healthcare. For example, an article that addressed the impact of salon workers on mammogram screening among immigrant people that was excluded too for it was not relevant to the topic. Other articles were also excluded because they focused on survivorship after cancer care and other articles also focused on other types of cancer such as colorectal and cervical cancer screening. After this through review, 22 articles were read in full and after that only 8 articles met the full criteria relevant to the topic and were used in the final review (Table 2.1).

Figure 2.2

Prism Flow Review of Literature

Adapted from Moher, Liberati, Tetzlaff, & Altman, (2009).

Table 2.1

Database search results

Database	Number of articles	Duplicates	Used for Review
CINAHL	45	9	4
ProQuest	53	11	3
ERICK	7	7	1
PUBMED	18	10	5
Joanna Briggs Institute	2	0	0
Cochrane Library	0	0	0

Description of Levels of Evidence. To analyze the research, the appraisal method by Melnyk and Fineout-Overholt (2011) was used and also additional appraisal for the quality of the reviewed studies the DNP student used the Critical Appraisal Skills Programme (CASP, 2014) and the results were found to be excellent quality (Table 2.2). According to Melnyk and Fineout-Overholt, appraising evidence critically is essential in the EBP process. This process is necessary to obtain evidence that is valid, reliable, and applicable to support a clinical inquiry. Further, the level and quality of evidence determine the strength of the evidence. The level of evidence can directly allow for sufficient confidence to facilitate action and implementation of a change practice (Melnyk & Fineout-Overholt). For this project, the seven levels of the Hierarchy of Evidence provided by Melnyk and Fineout-Overholt were utilized. Level I evidence comes from systematic reviews or meta-analysis of random controlled trials, making this the best available evidence. Level II involves evidence from well-designed random control trials. Level III includes evidence obtained from well-designed controlled trials without randomization, such as quasi-experimental designs. Level IV contains evidence from a well-designed case-control and cohort studies. Level V involves evidence from systematic reviews or descriptive and qualitative studies. Level VI encompasses evidence from single descriptive or qualitative studies. And Level VII includes evidence from the opinion of authorities and/or reports of expert opinions.

Appraisal of Relevant Evidence

The final appraisal included the sample of 8 articles. A summary of the articles can be found in Appendix A.

Level-I evidence. According to Melnyk and Fineout-Overholt (2011), a meta-analysis is a type of evidence that is “based on several random controlled trials. It generates an overall summary statistic that represents the effect of the intervention across multiple studies” (p. 13). In this review, there were three sources of evidence at Level I. For a meta-analysis conducted by Han et al. (2009), the goal was to determine if the interventions intended to increase mammography screening among asymptomatic ethnic minority women were useful. The

Table 2.2

Level of evidence

Author(s)	Level of evidence	Database
Han et al. (2009)	I	ProQuest & PubMed
Lu et al. (2012)	I	PubMed
Schoueri-Mychasiw et al. (2013)	I	PubMed, CINHAL & ProQuest
Lee et al. (2014)	II	CINHAL
Lee-Lin et al. (2015)	II	CINHAL & ProQuest
Wang et al. (2012)	II	ProQuest & PubMed
Kagawa-Singer, et al. (2009)	IV	CINHAL
Maxwell et al. (2011)	IV	PubMed

researchers used 23 studies from the 142 thoroughly reviewed full-text articles that were analyzed. The participants in the studies included African Americans, Asians, and Hispanics. The types of studies used were quasi-experimental, group level assignments and community-based studies. The samples ranged from 100 to over 5,000 participants. Interventions that were compared for effectiveness included:

- (a) individual intervention (e.g. one-on-one counseling, tailored and non-tailored letters and reminders, and telephone counseling, (b) system directed (e.g., provider prompts), (c) access enhancing (e.g., mobile vans and reduced-cost mammogram), (d) social network (e.g., peer educators and lay advisors), (e) community education, (f) mass media education and (g) multiple strategies (combinations of the intervention approaches listed above". (p. 4)

The theories used included the HBM, Social Learning Theory and Transtheoretical Model of Change, and were deemed helpful in making personalized, tailored interventions. Additionally, the usage of a theory-based methodology was found to be more efficient than non-theory-based interventions. Most of the studies evaluated by the authors included the use of culturally targeted approaches. The studies used single or multiple intervention strategies. Six studies did use access-enhancing strategies, which promoted low- or no-cost mammograms, mobile vans or vouchers. (Han et al.). After analyzing the results, the authors "determined that access-enhancing strategies were the strongest intervention approach: Leading to an increase in mammography use by 18.9% (95% confidence interval [CI] = 10.4–27.4), followed by individually directed interventions in a healthcare setting (17.6%; 95% CI = 11.6–24.0)" (Han et al., 2009, p. 6). In African American women, the use of combined approaches was deemed more efficient when compared to other ethnic groups. The rate of mammography use by minority women in the treatment groups receiving multiple interventions improved by 7.8% (Han et al.). The largest increase in mammography use of (15.5%) was found in access- enhancing interventions tailed by individually directed interventions (9.9%) (Han et al.). The use of lay

health workers only showed a small improvement and for that reason, it is advisable to employ this method of intervention only in small community settings (Han et al.). The authors also found that individual strategies such as reminder letters, telephone calls, or personal contact, do increase mammography use. Based on the combined results, “the overall mean weighted effect size for the 23 studies was 0.078 ($Z= 4.414$, $p, .001$) with a 95% CI of 0.043 to 0.113, demonstrating that the interventions were effective in improving mammogram screening among minority women” (Han et al., 2009, p. 5).

Schoueri-Mychasiw et al. (2013) conducted a systemic review of eight peer-reviewed publications. The authors chose to use the HBM and PRECEDE-PROCEED models due to the appropriateness of the two models in understanding experiences of health behavior in the development of interventions in improving mammography screening. Using the PRECEDE-PROCODE model, the emphasis of the review was to assess the needs of the target group prior to implementing any changes. Four of the study designs used the pre-post comparison, three studies compared a control and comparison intervention method, and one study compared the population screening data 3 years before the intervention with the sample of women in the study. The sample sizes among the studies ranged from 34 to 2,064 women. One study did not indicate the sample size that was used. The types of interventions used varied and included that targeted knowledge and language. Two studies showed no significant differences while the other six studies indicated an increase in the screening ranging from 5% to 70% (Schoueri-Mychasiw et al.). The study with the highest screening rate of 70% employed a small sample population and involved a one-on-one intervention in home settings. According to the authors, the goal should be about implementing interventions that target barriers to increasing the screening among immigrant and minority women.

Lu et al. (2012) conducted a search in 15 databases, including gray literature, for evidence. PRISMA statement was used in reporting the reviews of the studies. The six reviewers were divided into three groups of two each. A total of 37 studies were included for

review; however, due to the heterogeneous nature of the studies, a meta-analysis was not possible. Apart from breast cancer, included in the review were cervical cancer screening studies too. To assess the quality of the included RCTs, the Jadad scoring system was used. Owing to the heterogeneity of the interventions and conclusions, no recommendation was deemed satisfactory to measuring the quality of the observational studies included in the review interventions targeting patients included two types:

Individual-based interventions, which included culturally sensitive print or audiovisual materials, home education visits, screening reminders, case management, mobile screening services, free or subsidized screening services; and group based interventions, which included community-based, workplace-based, church-based, and grocery-store-based group education and media campaigns. (Lu et al., 2012, p. 4)

Due to variation in the study populations and their geographic locations, the results differed significantly. Thus, the result of the intervention was more effective was neither conclusive nor generalizable to any particular. Special attention to cultural and social factors should be considered before choosing a method to be used in promoting cancer screening. Being culturally competent is likely to help health care workers overcome language and cultural barriers and lead to increase in screening in Asian populations. The researchers concluded that, while interpreting results or adopting particular interventions, the vast cultural diversities among Asian women should be considered (Lu et al.).

Level-II evidence. Melnyk and Fineout-Overholt (2011) report that the “purpose of the randomized controlled trial is to compare the efficacy or effectiveness of the research design in producing an outcome, without it being by chance” (p. 113). The benefit of using this design is that it gives confidence in knowing the cause and effect.

Lee et al. (2014) conducted a two-group cluster randomized, longitudinal, controlled study over 2 years. The goal of the study was to introduce a couple’s intervention to assess whether it could help increase breast cancer screening among Korean American (KA)

immigrants. The couples were recruited from among 50 KA religious organizations in Cook County, Illinois. The researchers recruited 428 KA women. The study participants had to be first-generation KA immigrants to be part of the sample group. Couples were randomly assigned to the control group (n = 217) or the KA culturally sensitive group (n = 211). For the culturally sensitive intervention, known as the Korean Immigrants and Mammography Culture-Specific Health Intervention (KIM-CHI) program, the authors developed a Korean-language film in DVD format. KIM-CHI was “designed to change non-adherent KA women’s culture-specific beliefs and improve spousal support to promote adherence to mammography screening” (Lee et al., 2014, p. E186). To develop the video, the HBM was used to identify cultural variables that create barriers such as health beliefs were included in the video. Additionally, the Kleinman’s model of illness and spousal support was used. The Suinn-Lew Asian Self-Identity Scale (SL-ASIA), which is “widely used and has an internal consistency reliability of 0.75-0.91 with established concurrent and construct validity was used to measure the level of acculturation” (Lee et al., 2014, p. E188). To analyze data, “descriptive data were utilized, using means with standard errors (SEs) for continuous variables and proportions for categorical and binary variables” (Lee et al., 2014, p. E188). According to Lee et al. (2014), the support and encouragement of family members played an essential role among the women because those that received that were supported and encouraged were four times likely to get unlike those that did not. The logistic regression models were used to measure the probability of getting a mammogram at 15 months (Lee, et al., 2014). The researchers found that culturally targeted intervention that focuses on “variables are commonly known to affect mammography use (i.e., perceived susceptibility, seriousness, benefits, barriers, and spousal support), was effective in improving mammography uptake in KA women” (Lee, et al., 2014, p. E189). DVD messages consisted of constructs of perceptions. In this particular study, it was found that culturally sensitive methods intended to improve mammogram use were efficient (Lee et al., 2014).

Wang et al. (2012) conducted a RCT comparing the efficacy of the three armed randomized interventions using the HBM to guide the study. The sample included 664 Chinese-American women, from the Washington, DC and New York City areas, who were over 40 years of age and non-adherent to annual mammography screening guidelines. Each of three-arm versions of the study consisted of 221 women. The trained bilingual interviewers “utilized a computer-assisted telephone interview (CATI) system to conduct baseline and two follow-up assessments” (Wang et al., 2012, p.1926). Immediately after baseline assessments were completed, women were randomly assigned to one of three groups: (a) the culturally targeted video (b) a generic video, and (c) a fact sheet (control) for promoting mammography screening among Chinese-American immigrants. The study outcome of self-reported mammography screening was assessed 6 months post intervention. Knowledge, Eastern cultural views, and health beliefs were measured before and after the intervention. The videos were comprised of the components themes of the HBM “perceived susceptibility, perceived severity, perceived benefits, and perceived barriers” (Wang et al., 2012, p. 1925), also knowledge was included as an additional variable. Only one video included Chinese cultural beliefs, and it served to debunk the cultural myths having to do with luck and karma as well as fatalistic ideas or the notion that one should only see a physician when he or she is sick. To analyze the main intervention effect, logistic regression including two models was used. The two methods included “standard, which is the maximum likelihood estimates, and Bayesian approaches to obtain treatment effect parameters; using the two methods yielded similar estimates” (Wang et al., 2012 p.1927). According to the researchers, among low-aculturated women, those who viewed the cultural intervention video experienced a significant increase in mammography use over the control group; however, similar results were not found among high-aculturated women. Among the participants that viewed a generic video (as compared to the control group) whether they had low- or high-acculturation groups, no increase in mammogram screening was noted. Among the subgroup of women who had never had a mammogram, neither intervention led to a statistically

significant increase in the odds of obtaining a mammogram compared to the print control group. Despite the results not being significant, “the cultural video led to an 81% increase in the odds of obtaining a mammogram compared with the print control” (Wang et al., 2012, p. 1928). According to the researchers, the women who perceived that they had fewer barriers post-intervention were likely to undergo screening for breast cancer using mammogram.

Lee-Lin et al. (2015) conducted a RCT among 300 women in Portland, Oregon. The aim of this study was to, “test the efficacy of a theory-driven, culturally responsive, targeted breast health educational program (TBHEP) in increasing mammogram screening among Chinese-American immigrant women in Oregon compared to similar women who were part of a brochure control group” (Lee-Lin et al., 2015, p. 174). The HBM and the Transtheoretical Models were used to guide the study. The convenience sample of women was obtained from the Asian Community Organization. It had been noted that 70% of the people who belong to the Asian Community Organization do not have insurance and live below the poverty level. The researchers evaluated the efficacy of a TBHEP compared to a brochure control group in increasing mammogram screening. To measure the results, the TBHEP Foreign Born Chinese Women’s Questionnaire, developed with the (Cronbach alpha ranged from .71 to .89) (Lee-Lin et al.), validation of the content of the questionnaire was completed by using the cultural experts and critiqued by the ten Chinese-American immigrant women who represented the targeted population (Lee-Lin et al., 2015). Post-intervention analysis at 3, 6 and 12 months showed “significantly more women in the intervention group reported having completed a mammogram compared to the control group” (Lee-Lin et al., 2015, 177). Further,

“both the TBHEP intervention and brochure control groups produced an increase in screening mammograms; however, significantly more women in the intervention group (59.2%, 68.7%, and 71.4%) had completed mammograms than in the control group (18.3%, 26.8%, and 42.5%) at 3, 6, and 12 months post-intervention respectively.” (Lee-Lin et al., 2015, p. 175)

Using culturally targeted intervention extensively increased one-time mammogram completion among Chinese-American immigrant women. It is likely that this same intervention can be used for African immigrant women who are without health insurance. When offered at a reduced-cost or fully funded mammogram screenings, there is a greater chance that more African immigrant women will undergo testing just as the Chinese immigrant women in the study did.

Level-IV evidence. According to Melynk and Fineout-Overholt (2011), level IV “consist of well-designed case-control and cohort studies” (p. 10). Evidence at this level is moderately strong evidence.

According to Kagawa-Singer et al. (2009), The Life Is Precious program is the first study in the United States designed to increase breast cancer screenings among Hmong women. This study was a 3-year community collaborative research project that “intended to promote breast self-examination, clinical breast examination, and mammography use among Hmong women in central and southern California, 53% of women live in poverty and 84% of whom earn less than 200% of the federal poverty line” (Kagawa-Singer et al., 2009, p. S467). Health literacy among Hmong women who are older than 50 years of age is poor, and educational attainment in both Laos and the United States are extremely low. The Hmong are “unfamiliar with Western biomedical concepts, and screening technology and medicines constitute additional challenges to appropriate uses of prevention and early detection services” (Kagawa-Singer et al., 2009, p. S467). The researchers used a quasi-experimental cohort design with two intervention cities (Fresno and San Diego) and one comparison city (Long Beach) (Kagawa-Singer et al., 2009). Due low levels of breast cancer screening among the Hmong women, that were found after the evaluation of the records of 1997-1999, hence the initiation of this project. (Kagawa-Singer et al., 2009). The unique breast cancer education workshop programs were designed by the researchers in the two intervention cities, with a goal of enrolling 150 women and 150 men. Hmong men were specifically included in this outreach, due to their roles as “the primary

decision-makers among Hmong families and communities” (Kagawa-Singer et al., 2009, p. S468). The education sessions were conducted in culturally appropriate places, including temples and community buildings. Due to lack of formal education among the Hmong, especially new immigrants, cultural communication strategies, such as storytelling, playing cultural games and eating food, were used to help make the experience more familiar to the participants (Kagawa-Singer et al., 2009). The authors used bivariate analyses to examine whether substantial differences existed between groups (i.e., intervention vs. comparison) by using the test (for categorical data) and *t* test. It was determined that rates of breast cancer screening were higher in women that had participated in the group intervention. Knowledge and attitudes regarding screenings “increased and improved respectively between baseline and follow-up in both the comparison and intervention communities addressing literacy issues” (Kagawa-Singer et al., 2009, p. S470). Due to the Hmong population’s limited English-speaking abilities, using “innovative educational and assessment strategies appropriate to their literacy levels and congruent with their culturally familiar modes of learning new information were key elements to the effectiveness of this intervention design” (Kagawa-Singer et al., 2009, p. S471).

Maxwell et al. (2011) evaluated the feasibility, acceptability, and potential effect of a small-group video intervention led by trained Chinese-American lay educators. The lay teachers were involved in recruiting and educating recruited Chinese-American women who were not up to date on mammography screening for breast health education. Additional assessment involved assessing the acceptability of this format and its potential effectiveness in increasing screening among group attendees. The lay educators conducted the training using the following three formats: (a) viewing a soap-opera style video in Chinese language that encouraged screening; (b) facilitating structured discussion among participants about barriers to screening and strategies to overcome barriers; and (c) disseminating information on local resources and providers for low- or no-cost mammograms. “The video production was guided by the HBM, and a previous study previous studies which demonstrated efficacy in changing knowledge, beliefs

and screening intentions after women in the target audience viewed it individually” (Maxwell et al., 2011, p. 3). The University of California approved the study protocol and materials, which involved nine lay educators conducting “breast health tea time workshops”. The education was conducted in community settings and private homes. The sessions began with participants watching a culturally tailored video promoting screening and moved on to a question-and-answer session and distribution of print materials. Breast health information workshops were piloted at churches, community-based organizations, and private residences. Lay health educators facilitated the question and answer session and distributed a Chinese pamphlet titled “Breast Health: Learn the Facts” as well as and a list of local facilities providing low- or no-cost screening mammograms. Chinese culturally-based beliefs were addressed in the video in a many ways (Maxwell et al., 2011). The participants were engaged a soap-opera-style story (i.e., a story that depicted a Chinese breast cancer survivor’s 50th birthday) which conveyed reality and cancer stigma. Information delivered by a Chinese female physician viewed as a medical authority figure. Cultural beliefs addressing fatalism and cancer, yin-yang balance in the body, attitudes toward Western examination, social and family support, and family history, were all depicted in the soap-opera-style video. The physician presented statistical data relevant to Asian women, and metaphors to help women understand their risks as well as how and why regular mammograms save lives. The researchers discussed ways to overcome language barriers and embarrassment. Variations in knowledge and attitudes from pre- to post-survey were analyzed. Results showed that the small-group video intervention was successful in increasing knowledge and positively influenced attitudes and cultural beliefs regarding mammography screening and mammography utilization. Most notable, during the follow-up period, was the change in attitudes regarding whether or not mammograms are needed in the absence of symptoms. According to Maxwell et al. (2011), “this pilot study demonstrates the feasibility of recruiting and training Chinese American lay educators to conduct small-group

sessions that serve to promote mammography screening via by culturally tailored videos in community settings” (p. 8).

Synthesis of Critically Appraised Literature to Support the EBP Project

There is evidence to support many culturally sensitive strategies that increase use of mammogram and increase breast cancer awareness of immigrant women. The use of the breast cancer survivor was used as this resonated well with the women when a breast cancer survivor talked to them to help them understand that breast cancer is not the end of life but can be treated if treated early (Wang et al., 2012). The use of the theory to guide the EBP project was deemed useful as described by Lee-Lin et al. (2015), Wang et al. (2012) and Schoueri-Mychasiw et al. (2013). Use of reminders (Schoueri-Mychasiw et al. 2013) and the use of subsidized resources Lee-Lin et al. (2015) was also used by directing women to free mammogram screening to help curb the barrier to getting screened. Also, the use of spousal support was found to be useful in increasing breast cancer awareness per (Lee at al., 2014 & Kagawa-Singer et al., 2009). In summary, a delay in screening for breast cancer care leads to late cancer detection that causes early mortality. To promote the use of mammogram and increase breast cancer awareness among immigrant populations, using culturally sensitive methods is recommended.

Best Practice Model Recommendation

After conducting a literature review, the DNP student had established that there was a dire need to establish a culturally sensitive awareness among female African immigrants to increase mammogram and BCA among this population. African female immigrants in the United States need to be able to understand the benefits of the screenings, and they need to be made aware of the resources available to them so that they will be more inclined to undergo screenings. The literature also supports the need to implement culturally tailored interventions. The location of the project provided a special type of network that enabled the DNP student to target not just African female immigrants but their spouses as well if they decided to participate

by virtue of them being the head of the houses or decision makers. The intervention was tailored to each participant's needs based on African cultures and beliefs. The DNP student was confident that utilizing the HBM (Janz & Becker, 1984) and Model Diffusion of Innovations (Rogers, 1995) was going to help in realizing a successful implementation of the EBP project.

CHAPTER 3

IMPLEMENTATION OF PRACTICE CHANGE

Doctoral nurses are well prepared to execute EBP projects through inquiry of the current practices and analysis of the available literature, which allows them to investigate the best available methods that will lead to the best outcomes for patients. According to Nardi and Diallo (2014), due to both growth and progression, nursing research has “simultaneously widened its targets and sharpened its focus on the outcomes of healthcare design, delivery, and education. APN scholars are contributing to knowledge creation, application, and analysis” (p. 229). Stiffler and Cullen (2010) concluded that most DNP programs “stress the importance of evidenced practice and the best use of credible research findings” (p. 272). It is vital for doctorally prepared nurses to be able to use EBP information in order to be clinically savvy when employing the best available evidence. It is also necessary for DNPs to serve as models of practice change. Chapter 3 addresses the method and implementation of the practice change that was utilized for this EBP project. The PICOT question that was answered in this EBP project is: *In African female immigrants, how effective is the use of culturally sensitive education in increasing, the use of mammogram screening and breast cancer awareness over a period of three months? A detailed outline of the method employed will allow for future interventions that can be replicated. This chapter focuses on participants, setting, outcomes, intervention, planning, data collection and management, data analysis, and protection of human subjects.*

Participants and Setting

The proposed EBP was implemented in a church that is comprised primarily of immigrant families from Africa. This particular church was selected because the project manager has occasionally worshiped there. The DNP student had engaged in conversations with several people from this church and immigrant community, hence the awareness of a lack

of use of preventative medicine among many of the individuals at this particular church/immigrant community. The conversations between the DNP student with people from this church suggested that there was a lack of insurance, lack of adequate time available to visit primary care providers, and an essential lack of awareness about preventative care, specifically about breast cancer and mammogram use. In addition, there is no health ministry in this particular church, and implementing this project was an opportunity to help address this lack of service.

According to the members of the church, there are several reasons for establishing churches for immigrant families. For example, the church helps the families to stay in touch, and it creates opportunities to worship in a manner that is culturally familiar to the immigrant families. The immigrant church also creates an opportunity for the elderly to pass on traditions to the younger generations. Peterson (1990) reports that, among black populations, age is not a continuum but represents life's accomplishments and serves to indicate that the aged are sources of wisdom. Elderly people are looked upon with admiration due to their status in society as being those who can pass down oral traditions words of wisdom to younger generations. It is believed that, at present, by virtue of their African heritage, black women continue to pass along traditions to the younger people. Church is also viewed as a place where one can get emotional and material support, which underscores why this is such an important institution for blacks.

The church where the EBP was implemented is located in the Midwest, near the Michigan-Indiana state line; therefore, most individuals live in the state of Michigan, though some reside in Indiana. The church is part of a larger organization church, which is a denominational church. Though the church is small in terms of membership, it is operational via local members and reports directly to the church world headquarters, which is located in the U.S. According to the church organization (Seventh Day Adventist Church, 2015), one of the church's fundamental beliefs has to do with its members sustaining physical health apart from spiritual health, as the human body is believed to be a temple of God. For that reason,

maintaining and abstaining from things that can harm the body is encouraged. While there are several churches in the area that primarily cater to immigrant families, this particular church was selected, as stated above, because the DNP student has occasionally worshiped there, and have had discussions with church members about their lack of use of preventative care services. There is no health ministry to promote prevention care, which suggests that the implementation of a culturally sensitive EBP is suitable for this particular church.

The church where the EBP project was implemented has existed for 9 years. Initially, church members rented space from another church, and they held meetings once a month. As the immigrant population in the area grew, more immigrant families desired to worship in a way that was familiar to them, so the church meetings increased from monthly to weekly. The church does have its local leadership, and authorization to implement this project was sought from the elder of the church.

The goal was to get a minimum of 20 participants for this project, and there were 40 potential available participants. To be included in the study, participants had to be immigrant women from Africa. Participants' husbands were encouraged to attend, as evidence suggests that the head of the household and primary earner is generally involved in making healthcare decisions for the family (Kagawa-Singer et al., 2014). Recruitment of the subjects was conducted via word of mouth, through the announcements at the church and the bulletin boards, through the church's Facebook page, my own Facebook page and with flyers (Appendix B). The information contained in the advert included the date of the presentation, the presenter's name, and the topic to be presented. Men, whether they were husbands or not, were not being targeted for this project, but again, they were encouraged to attend the meeting since culture deems them heads of their households and major decision makers for their families.

Outcomes

The primary aim of this project was to increase mammography screening among participants, and the secondary purpose was to increase breast cancer awareness. Follow-up

phone calls 3 months after culturally sensitive education was used to determine whether or not women had mammograms. Findings of breast cancer awareness were validated by data from a pretest/posttest breast cancer awareness survey. Pretest/posttest surveys (Appendixes C & D) were utilized to assess baseline awareness regarding mammograms and breast cancer, and a post-survey was provided as second measurement after the culturally sensitive educational session. The pretest/posttest design was chosen for use in this project because it seemed to be a better fit in measuring the effects of the education that was conducted at the church. According to Grimshaw, Campbell, Eccles, & Steen (2000), doing a pre/posttest design method regarding intervention is useful when evaluating the effect of implemented guidelines or strategies.

Intervention

This EBP project was implemented via a culturally sensitive educational session with the goal of increasing both mammogram screenings and breast cancer awareness among African immigrant women. The HBM was used to guide the educational session. The DNP student had established an agreed upon date and time to meet with the participants. Due to other issues that occurred on the proposed meeting day, which was a Friday, the meeting was postponed because the keys to the church could not be located, thus a lack of access to the building hindered the implementation. The educational session occurred the next day. Another day was added to answer questions that participants had raised during the educational session. As a result, the entire educational intervention lasted 6 hours, rather than the 50 minutes that was originally proposed. Though the primary subjects are women, the women's husbands were encouraged to attend by virtue of the men being the heads of their households and instrumental in making family health decisions.

The doctoral student, who is a master's prepared APN, is knowledgeable regarding breast cancer and already involved in educating patients in health promotion strategies in her practice at an outpatient clinic setting, conducted the group educational sessions. She created

an outline indicating both the time and content to be covered during the session was prepared (Appendix E). The content of the educational session included an explanation of the study, the signing of consent forms (Appendix F), and completion of the demographic survey (Appendix G). Before education began, participants completed the pre-test questionnaire (Appendix C); the participants were enabled to decide whether or not they wanted to be a part of the EBP project. The content presented included information regarding the risks associated with breast cancer, the signs associated with breast cancer, screening procedures, and the available resources for mammogram screening. The educational content provided was based on factual information regarding breast cancer that had been published via the National Cancer Institute (NCI, 2015) and the ACS (ACS, 2014). A portion of the session included a presenter who is an African female immigrant and breast cancer survivor. This presenter helped undermine the myths held by Africans that they do not require screening. By putting a face to cancer, this presenter made it a reality for the project participants. The reason the breast cancer survivor was included is because evidence shows that there is an increase in mammogram screening when a breast cancer survivor with whom individuals can relate is presented as an example (Wang et al., 2014). There is strong evidence in the existing literature that suggests that breast cancer survivors serve to increase screening and awareness among minority and immigrant women (Wang et al., 2014). In addition to the presentation part of the group teaching session, time was also allocated to allow for participants' questions and concerns to be addressed. The participants spent time asking questions about health care in America and other issues that the women endure as immigrants such as getting used to all new culture that is different from those associated with their countries of origin. This interest accounts for why the time was significantly extended. It was important to the DNP student to be sensitive to the needs of the participants and thus she let the education session go beyond the scope that was originally planned.

The post-test (Appendix D) was given on the same day as the formal teaching session. The second meeting with the women was an informal meeting after lunch and only served to answer any additional questions the women may have had.

After the presentation, reminder magnets, pins, and pencils were given to the participants. Using her resources, the DNP student ordered the pins and pencils from an online source; the pencils read, "Get your mammogram today" and the pins read words such as "hope," "faith," and "courage." These are the words that are most widely used in cancer awareness campaigns, due to the devastating effects of the disease, and these pins were ordered during the breast cancer awareness period. The words used on the pins were selected by default by the supplier. After the teaching session, the participants evaluated the teaching session to provide the DNP student with feedback regarding the effectiveness of the session (Appendix H). A follow self-reported survey was completed by the DNP student to find out if the participants completed the mammogram screening (Appendix I).

Planning

Prior to the day of the project implementation in April 2015, a meeting was held with the church elder in order to get permission regarding the date and the type of project that the DNP student was planning on implementing. Basic explanations about breast cancer and how the project would be beneficial to the church at large were given to the church elder, who accepted and advised DNP student to wait to proceed until he got approval from the rest of the church board members. After the board approved the project, a contract was signed in May 2015. Subsequent to this, another meeting with the women's group leader was held so that she could assist with coordinating the women. This is the woman to whom the DNP student had to explain to in detail what exactly the subject was about and how much time the project would involve. The women's ministry leader was met, a month prior to the implementation of the project. The African breast cancer survivor was also contacted 3 months before the presentation. Communication between the parties was via telephone, text, and Facebook prior to meeting at

her house. Two weeks before the implementation, we agreed on the date and time for the project implementation. The church leader for the women's group was very instrumental in helping advertise the event. Ahead of the event, the DNP student had to ensure that the food was prepared so as to make the class informal and to have available cultural snacks for the participants, but coincidentally there was a potluck too at church. Pamphlets about breast cancer and how to get free screenings were ordered to distribute to the women. Further, pins and pencils were ordered to give to the women post-presentation as reminders. Before the presentation, women were notified of the meeting through Facebook messages and an announcement in the church bulletin.

To aid in the presentation of the EBP project, a teaching plan was made so that it would be known in advance what content was going to be presented and how long it was going to take to deliver the message (Appendix E). In addition to the teaching outline, the DNP student also prepared copies of the consent form (Appendix F), pre-and post-teaching surveys (Appendix C and D) and post-teaching evaluation (Appendix H). The PowerPoint presentation included information about breast cancer and was in English and translated into Chichewa, which is one of the main languages in Malawi. To aid the women in offsetting the cost associated with the transportation necessary for them to attend the meeting, \$10 gas cards were purchased for all participants, and the cards were handed to them at the conclusion of the presentation on the first day.

Data

Measures and their reliability and validity. To measure the primary outcome of whether or not participants obtained a mammogram within the 3 months following the educational session, the DNP student made a phone call to each woman and asked whether she had completed the mammogram screening. During this process, the DNP student found out that some woman had not undergone screenings during this time because they were up to date and not yet due for a screening or were younger than 40 years of age. The self-report method

was used because studies utilized in the review used this method to determine whether or not the individuals had mammograms (Kagawa-Singer et al., 2009; Lee et al., 2014; Lee-Lin et al., 2015; Maxwell et al., 2011).

To measure the secondary outcome of breast cancer awareness, a pre/post survey was given. All of the questions from the Breast Cancer Awareness Measure (BCAM) (Linsell et al., 2010) were used, as this tool helps to assess and evaluate the impact of the culturally sensitive intervention on participant awareness. The surveys (Appendices C and D) were modified to include mammogram screening. The BCAM tool has been validated for use among women of different social backgrounds, making it a valid tool to use among low-income or migrant women (Linsell et al., 2010). The readability of the BCAM was great and greater than 90% of the women found it suitable. The BCAM also showed “sensitivity to change when an intensive psycho intervention was conducted” (p. 1379). The test/re-test reliability of the BCAM was found to be moderate to good and the percentage of exact agreements was high for most of the items; inconsistencies were due primarily to the progress in score in the second questionnaire (p.1377).

Data collection. The DNP student collected data from all of the participants who were willing to be part of the project. The data collected include both demographic information and the BCAM information. Data (demographic information and pre-test surveys) were collected prior to the teaching session and after the teaching, the posttest and satisfaction surveys were given. Three months after the presentation, additional data (Appendix I) were collected to determine whether or not those who attended the session had mammograms. Concerning the first parts of the data collection, participants provided the requested information themselves by filling out surveys, but the data associated with the follow-up required the DNP student to make telephone contact with each participant using the phone number each woman had provided during the teaching session.

Management and analysis. The doctoral student entered the data into SPSS 22. The data were collected and entered into the computer, which was password protected and accessible only to the doctoral student. Two other individuals had access to the data. A statistician helped with the management and analysis of the data and the professor served as an advisor to the DNP. Descriptive statistics were used to describe the sample. Descriptive and inferential statistics were used to describe the outcomes.

Protection of Human Subjects

Before the initiation of the proposed project, it was assumed that consent was implied when the participants agreed to turn in surveys; however, the IRB requested that formal consent forms be used (Appendix F). To assure participants of their autonomy, there were statements on the forms letting them know that they were free to fill out or to not fill out the forms. The participants were all protected through the IRB, and they were free to sign up to be part of the proposed EBP project and free to withdraw from the project at any time. For example, if the participants determined that what they initially signed up for was contrary to what they later encountered during the EBP project, then they were free to withdraw from the project. Of the initial 15 participants, all remained to the end of the class except for 1 who left prior to completing the post test.

The church members were not coerced into being part of the study; however, a gift card in the form of a gas card for the amount of \$10.00 was given to participants to help offset some of their expenses associated with driving to the church for the meeting. The gas cards were financed via the doctoral student's personal resources.

Minimal risks were expected from the EBP project. There were no inherent risks for participating in the educational session. An example of an expected risk included the slight discomfort some participants who went through with the mammography may have experienced during the procedure. It is possible that some of the women who elected to have mammograms could have been found to have breast cancer. None of the participants reported any positive

breast cancer screenings; however, one participant reported that she was found to have a cyst. A follow-up ultrasound showed the cyst was benign, and it was recommended that she follow up in a year. The possibility of cancer being detected is likely to cause anxiety, stress, and financial burden to both insured and under-insured women. Mammogram testing may cause a financial burden through co-payments for services. In addition, the mammogram test itself can cause some minor discomfort or pain during the procedure. Written and verbal information was provided to the women with regard to nearby subsidized mammogram services and clinic locations.

Strategies to protect confidentiality were and still being implemented. No information was used in the final report that will identify individuals because all of the information obtained in this study was reported as aggregated data. All participants were treated in a fair manner and with respect. The privacy of the participants was kept by ensuring that, when they signed in, they were given code numbers. These numbers were used as identifiers on the forms that the participants filled out. The code numbers and their corresponding names and telephone numbers, kept on a separate sheet of paper, were for the purpose contacting the women after three months to find out if they completed their mammogram screenings. Data is password protected on the computer and stored by the primary project coordinator. A list linking names and code numbers is kept separate from the coded surveys. Information is being stored in the primary investigator's home in a safe. The data shall be stored for up to 5 years and shall thereafter be shredded. The data shall be presented in public as aggregated data, without personal identifiers. The EBP project faculty advisor may also have access to the data.

CHAPTER 4

FINDINGS

The EBP project, which was conducted in Michigan, was designed to determine whether or not using culturally sensitive awareness had an impact on mammogram use and breast cancer awareness among African female immigrants. The PICOT question for the EBP project was: *“In African female immigrants, what is the effect of using culturally sensitive education in increasing mammogram use and breast cancer awareness in three months?”* The primary goal was to increase mammogram use and the secondary goal was to increase BCA so that the women would be more aware of mammogram screening/use as this is a reliable method of reducing late cancer detection. In this chapter, the data analysis of the project will be discussed. The project evaluation was conducted by a DNP student, by analyzing the participant’s mammogram use and breast cancer awareness post EBP project implementation. The participants answered the pre- and post-test questionnaire that measured the women’s breast cancer awareness. Additional questions addressed the women’s experience with mammogram screening. The data were analyzed using differential statistics.

Participant Characteristics

Fifteen immigrant women were enrolled in the EBP project. Prior to the project session, three women showed interest but did not stay to take part in the project. Fifteen women took the pretest and participated in the education, and of these, only one did not complete the posttest. The final sample consisted of 14 women. Demographic information was collected using questions designed by the project manager (Appendix G).

Age

The participants’ ages ranged from 28 to 58 years. Three participants did not state their ages. The women’s mean age was 40.75 with a standard deviation of 8.013 years.

Immigration status

All of the participants were African female immigrants (Table 4.1). The participants' countries of origin are Malawi and Zambia. The majority of the participants were from Malawi (n = 12), making up 83.3% of the sample, and the other participants (n = 2) made up 16.7% of the sample. Participants had been in the U.S. from less than 6 months to more than 5 years, with most of the participants (66.7%) having been in the U.S. for over 5 years.

Education

In general, this group of women was well-educated. Four (28.5%) of the individuals had a minimum level of high school education and the other 10 (71.4%) women were college educated.

Family Status

Of the 14 participants, 1 was a widow, 1 was single, and 12 participants were married. While most of the women had children, 1 woman had no children. Four of the participants had two children each. Seven participants had three children each, and four of participants had four children each.

Previous Mammogram Screening

Five (35.7%) of the participants reported having previously had a mammogram, and one of the women was younger than 40 years of age. No explanation was given by the participant as to why she had received the mammogram prior to 40 years old. The participants were still accessible and no attrition was encountered. The information obtained was recorded on form (Appendix I) created by the DNP student and information obtained was safely kept and entered into the SPSS.

Table 4.1

Sample Characteristics (N = 14)

Variable	Frequency (%)	Cumulative (%)
Marital Status:		
Married	1 (7.14)	7.14
Single	12 (85.71)	92.85
Widow	1 (7.14)	100.00
Number of children:		
None	1 (7.14)	7.14
Two	4 (28.57)	35.71
Three	7 (50.00)	85.71
Four	2 (14.28)	100
School level:		
12th Grade	4 (28.57)	28.57
College	10 (71.43)	100
Years of residency:		
<6 months	1 (7.14)	7.14
1-2 years	2 (14.28)	21.42
3-5 years	2 (14.28)	35.70
>5	9 (64.29)	100.00

Breast Cancer Awareness

The adapted Breast Cancer Awareness Measurement tool (Linsell et al., 2010) was used to measure the BCA among the participants. The instrument (Appendix C and D) consisted of questions about signs of breast cancer, methods of breast cancer diagnosis, and testing frequency. Linsell et al. piloted the tool with a diverse group of women. It was ranked by a panel of experts about the content of the measurement from good to very good. Validation of the BCA tool was carried out among 1,035 women. The Kappa statistic (SD) for breast cancer awareness had a total score of 0.44 (0.06). The knowledge for breast cancer symptoms was 0.56 (0.09), the age-related breast-checking Kappa was 0.61 (0.07), and the breast checking was 0.70 (0.05).

Patient Satisfaction

Satisfaction with the education session was also measured using a posttest questionnaire (Appendix H) that was given to the participants to test if they were satisfied with the cultural awareness session. The questions asked were: (a) was the instructor knowledgeable (b) was the environment conducive for learning (c) was the teaching culturally sensitive (d) did the teaching meet your expectations, and (e) If the education session increased the participants their breast cancer and mammogram awareness.

Change in Outcomes

The PICOT question for this project is: *In African female immigrants, what is the effect of culturally sensitive education on mammogram use and breast cancer awareness in three months?* SPSS statistical software version 22 was used to analyze the data. In addition, descriptive statistics and the non-parametric tests were used. The non-parametric test was appropriate for this project because the sample involved only a small number of participants. To compare the pre- and post-test results, a paired *t* test was used to analyze the effect of the intervention. The Wilcoxon signed rank test was also used to compare the scores of the number of correct answers to questions regarding the signs and symptoms of breast cancer.

Mammogram Use

Post-intervention, 60% of the women over the age of 40 had undergone mammogram screening ($n = 10$). Of the four remaining women, two women were up to date with their screenings, and the final two did not undergo mammogram screening (Table 4.2). No relationship was noted in terms of years of U.S. residency and the mammogram screening. The other four participants were not included in the mammogram use analysis because they were less than 40 years old, which is a recommended start age for mammogram screening. Results are tabulated on Table 4.2.

Breast Cancer Awareness

To measure BCA, the questionnaire consisted of questions to determine if participants were aware of the signs and symptoms of breast cancer. Several signs of breast cancer were listed and participants were asked to indicate whether or not that was a sign of breast cancer. There were also questions regarding the frequency of testing for breast cancer and methods of testing. The mean pre-test score for the all the sum total of signs of breast cancer was 4.93 ($SD = 2.92$), while the mean post-test score for the signs of breast cancer sum was 7.93 ($SD = 2.55$). The total perfect score possibility was 9 correct answers. The post-test scores were significantly higher than the pre-test scores. The actual total score for signs of breast cancer, which consisted of summing the responses to the nine breast cancer signs questions, was assessed using the Wilcoxon Signed Rank Test was ($p = .003$). The test was re-run using the non-parametric t -test and showed ($p = 0.001$), which indicated positive increase in the awareness among the immigrant women with regard to breast cancer signs awareness ($t(13) = -4.220, p = 0.001$). Table 4.3 indicates the individual breast cancer signs analysis of pre-test and post-test analysis. Tables 4.4 and 4.5 indicate participants' breast cancer knowledge.

Table 4.2

Mammogram Screening Follow up

Mammogram status	N =10 *	%
Obtained mammogram	6	60
Did not get mammogram	2	20
Up to date	2	20

*4 women were under the age of 40 (1 of the 4 women, had a mammogram before the session)

Table 4 .3

Breast Cancer Awareness

Question	Pretest (N = 14)	Posttest (N = 14)	Significance
Nipple Position change	8	12	$p < 0.040$
Location of Nipple	7	12	$p < 0.019$
Skin Redness	8	12	$p < 0.040$
Dimpling or puckering of breast skin	6	12	$p < 0.008$
Pulling in of Nipple	5	12	$p < 0.003$
Nipple Discharge or Bleeding	8	13	$p < 0.019$
Breast Lump	13	14	$p < 0.336$
Shape of Breast changes	8	12	$p < 0.040$
Size of Nipple or Breast Change	7	11	$p < 0.040$

Table 4.4

Breast Cancer Signs Knowledge

Question	Pre-test	Post-test
	(N =14) (SD)	(N =14) (SD)
Do you know breast cancer signs	4.93 (<i>SD</i> = 2.92),	7.93 (<i>SD</i> = 2.55).

Table 4.5

Knowledge about Mammograms

Question	Response Rate Frequency (%)	
	Pretest (N = 14)	Posttest (N = 14)
Likely Candidate		
20 year old woman	2(14.3)	1(7.1)
30 year old woman	1(20)	1(7.1)
50 year old woman	6(42.9)	4(28.6)
Woman of any age	2(14.3)	6(42.9)
No response	3(21.4)	2(14.3)
How to Screen		
Chest X-ray	1(7.1)	0
Mammogram	9(64.3)	11(78.4)
Blood Test	1 (7.1)	0
No response	3(21.4)	3 (21.4)
Frequency of Screening		
Every six months	1 (7.1)	0
Yearly	1 (7.1)	12(85.7)
Every two years	7 (50)	0
Every five years	1(7.1)	0
No response	3(21.4)	2(14.3)
Likelihood of test		
Not likely	2(14.3)	1(7.1)
More than likely	6(42.9)	10(71.4)
Less likely	2(14.3)	1(7.1)
No response	4(28.6)	2 (14.3)

Women were assessed regarding their knowledge as it related to the general warning signs of breast cancer. The mean score for pre-test was 1.60 ($SD = .507$), and the corresponding post-test mean score was 1.93 ($SD = .258$) (the higher the number the more likely one was aware of the signs of breast cancer), and the ($p = 0.019$). This was a significant finding, indicating there was an increase in awareness of breast cancer warning signs among the project participants ($t(14) = -2.646, p = 0.19$).

The participants were asked about their awareness regarding likely mammogram candidates; the choices included, (a) 30-year-old woman, (b) a 20-year-old woman, (c) a 50-year-old woman, and (d) any woman regardless of age. Two women did not respond to this question during the pre-test, and during the post-test, three women did not provide answers (Table 4.5). Of the participants, 20% chose the answer of a woman aged 30 years old in both the pre-test and the post-test, 14.3% answered this question correctly, and 6.7% chose the 20-year-old woman as the candidate for mammogram. The post-test showed a decrease of 7.1% with regard to correct answers, and as for the actual correct answer, the pre-test indicated that 40% of the women answered correctly, while the post-test indicated that only 28.6% of the women answered correctly. Of the remaining participants, 20% chose a woman of any age as the answer during the pre-test, and 42.9% chose this answer during the post-test.

To test awareness regarding the methods used to screen for breast cancer, the participants were presented with the following choices (a) chest x-ray, (b) mammogram, and (c) blood test. In both the pre- and post-test, 6.7% of the participants did not answer the question, 21.45% in the pre-test and 20% in the post-test chose chest x-ray as the answer, and the rest of the participants chose mammogram as the answer, making up 66.7% in the pre-test and 73.3% in the posttest (Table 4.5).

As for the question regarding mammogram frequency, the choices included, (a) every 6 months, (b) yearly, (c) every 2 years, and (d) every 5 years. Of the participants, 20% did not

respond in the pre-test, and 6.7% did not answer in the post-test. Of those who answered in the pre-test, 6.7% chose every 6 months, 53.3% chose yearly, 13.3% chose every two years, and 6.7% chose every five years. The post-test scores indicated that 13.3% chose every six months, and 80% chose every year.

Patient Satisfaction

The participants filled in a satisfaction survey post the EBP project session. All 14 participants completed the survey. Based on the results (Table 4.6), all the participants were highly satisfied with the knowledge of the DNP student. The church where the session was held considered it to be an appropriate location for the EBP project. Fourteen participants considered the teaching to be culturally sensitive, except one. The EBP project met all the participants expectations based on their responses and all the participants reported that the EBP project did increase their mammogram awareness and BCA.

Conclusion

The results showed an increase in mammogram screening, breast cancer awareness and the participants were satisfied with the culturally sensitive session that was conducted during the EBP project.

Table 4.6

Patient Satisfaction

	Frequency (N = 14)	%
Knowledge of Instructor		
Was very knowledgeable	14	100
Somewhat knowledgeable	0	0
Not knowledgeable	0	0
Environment Conducive for Learning		
Very conducive	14	100
Somewhat Conducive	0	0
Not conducive	0	0
Teaching Culturally Sensitive		
Very culturally sensitive	13	93.3
Somewhat culturally sensitive	0	0
Not culturally sensitive	1	6.7
Teaching met the Expectation		
Met the expectation	14	100
Somewhat met the expectation	0	0
Did not meet the expectation	0	0
Session Increased BCA and MU		
Yes	14	100
No	0	0
Somewhat did	0	0

CHAPTER 5

DISCUSSION

The purpose of the EBP project was to determine if implementing culturally sensitive education would result in an increase in mammogram use and breast cancer awareness among female African immigrants. The analysis was completed for the 14 participants who participated in the project. Before the start of the project, three additional women had signed up, but they chose not to stay for the project implementation; this quick withdrawal may have been due to the timing of the class, as these particular women had their children with them and may have been rushing to get home. It also seemed as though these women just happened to be at the church on the day of the session, and this was not something of which they had planned to be a part of the EBP project. The project was completed during the day just after church and a church potluck had both finished. The EBP project participants were already at the church on the day of the class, and because they had been at the church since 9:00 AM and the class began at 2:00 PM, it is reasonable to assume that the participants were tired by the time the class started. Despite this, the attrition from the 15 participants was very low; only 1 individual failed to complete the post-test fully. The outcomes demonstrated that of the 14 participants, 10 participants were eligible for mammogram screenings. Of the 10, 6 participants completed their screenings, 2 were up to date, and 2 did not complete their screenings. Of the two who did not complete their mammograms, one had previously completed a mammogram, though it was not up to date, and the other one had never before had a mammogram. The pre- and post-test scores demonstrated an increase in BCA. There was a significant difference between the patients' pre- and post-test scores with regard to breast cancer awareness. The total for the BCA signs mean pre-test score was 1.60, and the BCA post-test mean score was 1.93. There was a statistically significant increase in participant awareness ($p = 0.19$). The related samples

Wilcoxon signed rank test for the awareness of the total of BCA signs was significant at $p < 0.003$.

Explanation of Findings

The findings are consistent with the literature. The access enhancing interventions were found to make a significant impact on mammogram use as previously reported (Han et al., 2010; Lee et al., 2014). For example, this particular project was conducted at a time during which mammograms were offered at a free or subsidized price for those who are uninsured or underinsured. The immigrant women who did not attend the EBP project implementation education session contacted the DNP student wanting to know where to get the free screening. Since the immigrant women got in touch after the free mammogram campaign was completed; they were given information about other resources that help women to obtain mammograms. This is a state-funded mammogram and cervical cancer prevention program. In the states of Indiana and Michigan, this service is referred to as the Breast and Cervical Cancer Project (BCCP), and it is available to assist uninsured women, provided they are residents of an applicable state and county.

Targeting barriers was also cited in the literature as another method used to increase both mammogram use and breast cancer awareness. In the EBP project, the primary obstacle that was addressed had to do with making mammography available to the participants. During the presentation the language barrier was addressed by having an interpreter translate the PowerPoint presentation; however, none of the participants made use of this intervention. Though the literature (Han et al., 2010; Kagawa-Singer et al., 2013; Lee et al., 2014; Schoueri-Mychasiw et al., 2014) indicated that using the participants' native languages reaped an increase in breast cancer awareness, this particular project did not note that it made any impact on the ability of the women to understand the content of the teaching. It was observed, however, that occasionally during the session, the participants spoke in their common/native languages amongst themselves to relay messages or to emphasize some points. Further, the use of a

breast cancer survivor significantly impacted previous studies (Lu et al., 2013; Maxwell et al., 2012; Wang et al., 2013), which reported a significant increase in mammogram use and breast cancer awareness based on the inclusion of a breast cancer survivor in the studies. As part of the EBP project, a breast cancer survivor volunteered as a guest speaker and spoke to the women about breast cancer. The goal of her participation was to help women better understand that they are not immune to the disease and that it is not just a disease that affected Caucasians or people from certain countries. As in the other studies, the use of a breast cancer survivor showed an increase in mammogram use in this EBP project. The session was held in a local immigrant church; as such, collaboration with immigrant and minority groups may be helpful in implementing preventative care as evidenced by Kagawa-Singer et al. (2009) and Lee-Lin et al. (2014).

Literature did support the use of spousal support in enhancing mammogram use as demonstrated in the study (Lee et al., 2014). Before the implementation of the project, the goal was to involve men, but this did not happen because they were just passively involved as they has another meeting to attend. For future projects, it may help greatly if information is sent with the women to their various homes so that they may share that information with their husbands. According to Wang et al. (2014) and Lee et al. (2014), the use of video did show to make a difference among the participants. A video was not used in this EBP project because a breast cancer survivor was a guest speaker. In future projects, it is recommended to use the breast cancer survivor still in person rather than a video, just in case the participants have questions that could be addressed immediately. Language (Kagawa-Singer et al., 2009) did not seem to impact the ability of the women to attend the teaching session nor the mammogram screening appointment. Comparing this group of women to the immigrant population in California (Kagawa-Singer et al.), the education level of women in this EPB project was relatively higher

compared to the Hmong group in California; therefore, the use of cultural explanation may have being useful in Hmong women but not for this group of women.

Evaluation of the Theoretical Framework

Health Belief Model. The HBM (Janz & Becker, 1984) was utilized in the EBP project for explaining the participant's behavior. This theory is appropriate to use when addressing disease prevention. In this case, to increase mammogram use is a primary prevention method for breast cancer among women. The theory was also used in past studies that addressed mammogram use and breast cancer awareness among minority women (Han et al., 2009; Lee et al., 2014; Schoueri-Mychasiw et al., 2013; Wang et al., 2014). According to Han et al. (2009), studies that include the utilization of theories serve to increase screening intervention. Thus, using the HBM was more fitting for this EBP project, which is consistent with other studies that were found in the literature. This theory helps nurses to understand why only certain people pursue preventative care. For example, for this particular project, post-implementation, many participants had their mammograms right away, while some waited until the very last minute to do it. During the cultural awareness session, some women cited lack of use of preventive care in their countries of origin as one reason for not being aware of the services in the area. Women stated that the lack of sharing of information was a major hindrance in their communities. During the meeting, secrecy (i.e., immigrants who have been here for a longer period does not disseminate this information to newer immigrants) was discussed as one reason why the newer immigrants do not know about certain services available to them in the U.S. After further discussion, however, it was found that even some immigrants who have been in the U.S. for more than 5 years were not aware of and had not undergone mammogram screening.

The HBM (Janz & Becker, 1984) was of significant help to the DNP student while designing the framework for the presentation for the cultural awareness session. The this EBP project these concepts of the HBM were used: (a) perceived susceptibility, (b) perceived severity, (c) perceived barriers and (d) perceived benefits. To help make the participants aware

of their susceptibility to cancer, the information regarding what makes them susceptible to cancer was presented. The current statistics about breast cancer were presented, and the African female breast cancer survivor was invited to the breast cancer awareness session to help the women become more aware of the fact that they are not excluded from getting breast cancer. The severity of the problem, concerning late detection of breast cancer, was explained to the women. The women were told that late detection can lead to death and can separate the women from their families. This tactic was employed because the women value their families, and avoiding being separated from them seemed like a good motivator to get them to pursue preventative care. Further, the women were told how costly late detection can be. The perceived barriers were also discussed using the HBM; issues discussed included lack of resources and lack of familiarity with the resources in the area and a general lack of screening in their countries of origins. Finally, the HMB was also used to discuss the benefits of being screened, and these benefits included early detection and prevention of early mortality due to late detection.

The HBM (Janz & Becker, 1984) helped considerably in guiding the flow of the EBP project concerning increasing mammogram use and breast cancer awareness. Another way in which the theory helped to guide the EBP project had to do with barriers (e.g., the participants' countries of origin and their cultural beliefs) that prevent immigrant women from being screened. For example, perceived susceptibility was addressed through the use of the breast cancer survivor who helped increase awareness. Also, modifying variables were incorporated into the awareness session, and the benefits associated with screenings were discussed.

HBM (Janz & Becker, 1984) is useful to use because "it incorporates fear or fear of the threat of disease as a motivation for action" (McCullagh, 2009, p. 294). The disadvantages have to do with the involved parties not seeing themselves as being susceptible to getting breast cancer; if they do not believe that they are likely to get breast cancer, and then they are unlikely

to undergo screening. The HBM involves addressing barriers, and if solutions are not presented to participants, then they are less likely to be screened.

Evaluation of Evidence-Based Model Framework

Diffusion of innovation. The EBP model framework that was used in the EBP project was the Model of Diffusion of Innovation (DOI) (Rogers, 1995). The DOI model was used to explain how new ideas are transmitted and implemented. This new idea could be something that nurses or other health care professionals are unfamiliar with, or it may be something that is already known but not actively used by the involved parties. Using this model was fitting for this EBP project because of the newness of the idea that was being transmitted, which is the culturally sensitive education, is also a new idea among nurses and other health care providers. The parts of the framework that were utilized in the project included the main concepts: (a) innovation, (b) communication channel, (c) social system and (d) time.

Innovation. The innovation was the use of the culturally sensitive education about breast cancer awareness and mammogram. According to the literature (Han et al., 2010; Kagawa-Singer et al., 2013; Lee et al., 2014; Lee-Lin et al., 2014.; Schoueri-Mychasiw et al., 2014.; Wang et al., 2014), the use of culturally sensitive interventions was deemed effective in implementing the change using cultural sensitive strategies.

Communication. The culturally sensitive intervention designed to help increase mammogram use and breast cancer awareness among immigrant women was communicated to colleagues, nurses, nurse educators and other healthcare workers who attended the EBP project presentation symposium. A poster was completed. Also the DNP student disseminated the information as an integrative review to the *Journal of Immigrant and Minority Health*, awaiting feedback from the journal for possible publication. There are also plans to implement this same EBP project at other local community immigrant churches in future.

Social system. It seems that the health care system is resistant to change related to the delivery of culturally sensitive care. For decades, there has been abundant nursing evidence

about strategies regarding the delivery of culturally sensitive care. In the health care system, most patient teaching about mammograms occurs during appointments with primary care providers; however, for individuals such as immigrant women, access to preventative care is limited. Delivery of the necessary screening and education in a church environment encouraged greater use of mammogram by the women. Another example of resistance is that no other health care providers were willing or able to be engaged in this project. In the future, it is hoped that other health care providers will adopt this innovation as a result of the dissemination of this project to them through the journal and the report that will be available in the library for public use.

Time. To significantly change practices so that health promotion strategies are culturally sensitive, more time will be needed. While 3 months was adequate time to implement the teaching strategy and observe that women did get mammograms, it will take significantly more time for a strategy such as the one in this EBP project to be adopted as the standard way for delivering health promotion care.

Recommended Changes

If the project were to be repeated, some changes might result in greater participation or better outcomes. For example, informing the participants of the project and its aim far ahead of time, as this would give them time to think about the project rather than just show up after seeing 2 weeks' worth of project advertisements. Conducting the project over a series of sessions could help to convince some participants to attend who were otherwise not inclined because timing may have served as a barrier that prevented them from attending the EBP project education session. In fact, some people asked about the meeting several weeks later, and the DNP student had to talk to them one-on-one. Thus, holding education sessions at different times would allow for more people to get the chance to attend.

Another modification that could be made to the EBP project would be to ensure that men actively attend the meeting. This was supposed to be part of the intervention, but it did not

occur, probably because the meeting was held on a day when the men had to attend a church board meeting of their own and could not stay to be part of the meeting. The men were made aware of the session, but they could not adjust their schedules, so they were only able to stay for the introductory part of the meeting. As such, the actual impact of the men serving as support to the women could not be accounted for.

Another change that the DNP student would incorporate into the meeting would be to include information regarding cervical cancer screening. Though the topics of the meeting were breast cancer and mammography, the women were interested in learning about cervical screening as well. Thus, as the project is being implemented, it may be an excellent idea to incorporate some information about cervical cancer. Another reason why this would be a good idea is that one of the funding programs that help with mammograms also help with cervical cancer screenings, and providing the participants with more information could better prepare them for what to expect such that they may be able to take greater advantage of the program available to them.

Strengths of the EBP Project. The major strength of this EBP project was that women did follow-up and obtained mammogram screenings. Sixty percent of the eligible candidates completed the screening, 20% were up to date, and only 20% were unable to complete the mammogram screening.

There were other strengths of the project. For example, it was based on a strong body of evidence. In order to implement this project, the DNP student incorporated the evidence from the literature regarding the use of the theoretical framework and EBP. The project had a very low attrition rate. Most people completed the project and after the 3-month follow-up, it was evident that most people had completed their mammograms. Further, many people who did not attend the meeting have asked for details regarding how they can be screened. This project created a platform for the women to start talking about the health issues they are facing. Including the breast cancer survivor in the project helped the women to better understand the

seriousness of the disease, and it allowed them an opportunity to ask questions of someone (the breast cancer survivor) who was very accommodating. The guest speaker happens to be of the same faith as the participants, and this created an atmosphere of trust and helped to make the speaker someone with whom the participants could identify. Having the meeting at the church services created an atmosphere that was neutral, and it meant that people were not too intimidated to share their views. People felt comfortable in the meeting, and they were able to speak in their native languages, which helped to bring the point's home.

Limitations of the EBP Project. One EBP project weakness includes the implementation time as there was a need to do the project over a longer period. Since this was a BCA project, it could have been beneficial to the women for this project to be completed over the entire month of October to help allow all of the women (including those who were not available when the meeting was held) to access the information. In addition, a goal of the project was to include the men, but on the day of implementation, the men were busy with the church board meeting. And as much as they wanted to be part of the project meeting, they were only able to be a part of the introduction, which introduced the topic but did not go into the details regarding the topic. Regardless, the men were very supportive, and some of them actually wanted to be part of the meeting because, as they pointed out, they could get breast cancer as well.

There were limitations related to the questionnaires. The DNP student could have made the questions slightly more uniform to avoid any possible confusion to the participants. The survey may not have been clear enough to some people since it did not explicitly say that they had to answer each of the listed questions, some women may have assumed that all they needed to do was tick the answer that they were familiar with. Also, maybe for future references, it may be good practice to try pilot the questionnaire before using it in a project, as it may help clarify some confusion in the questionnaire and changing it may have been easier unlike doing the project then try to change it later.

Another limitation is that the EBP project was not designed in a way to substantively change the way information about mammogram and breast cancer is delivered by health care professionals. While the practice of the DNP student was changed, no other health care providers were engaged in the project to adopt a culturally sensitive approach to educating patients.

Implications for the Future

Practice

After implementing the EBP project, it is evident that using culturally sensitive intervention is useful for increasing BCA and mammogram use. Nurses and other care providers need to incorporate culturally sensitive awareness in their everyday practices. It is important to have the nurses become culturally aware and provide culturally sensitive competent care. If the nurses become culturally competent, this will help them to be aware of what will work best when delivering EBP to various populations, not just Africans. Providing EBP care would not just produce significant results, but may also reduce costs associated with delivering preventative care. It is important for doctoral prepared nurses to be able to disseminate pertinent EBP findings to the other nurses so that they may help to implement these changes such that they can become part of the daily practice and will be of benefit to different populations. It is important for nurses to be aware that it is not because the immigrants are not interested in undergoing mammogram screenings; rather, it just might be that the proposed preventative measure may not be something that is regularly done due to the lack of resources in their countries of origin. This EBP project also creates an opportunity for the nurses to provide care outside of the usual healthcare setting, as they can target other places around the communities where people come together and will benefit from interventions that lead to increased preventative care.

Theory

The findings from this EBP project support the use of the HBM (Janz & Becker, 1994) when implementing practices. As explained earlier in the process, the use of the HBM was found to be helpful in creating the foundation regarding what to do and what to incorporate in the EBP project. Despite the theory not being intended to stimulate intervention strategies, it can help with client problem solving by simply altering the belief client system (Butterfield, 2013). It was thus evident that, based on the literature review, this model was fitting for use in the EBP project. The other theories that could have fit this EBP project include the Health Promotion Model (Pender, Murdaugh & Parson, 2006) and the Self-Efficacy Theory (Bandura, 1995).

Research

During the analysis of the literature, it was revealed that most research involved Asian immigrants, as none was found that directly addressed African Immigrants. Thus, it is highly recommended that further studies be conducted regarding this population so that the EBP projects or other replicated studies are not just implied. The lack of actual studies regarding African immigrants suggests that there is a need to conduct further research that will include other minority groups, which can help increase the delivery of evidence-based care to this population rather than simply care based on assumptions, which can be costly.

Education

Incorporating cultural competence into nursing programs is vital so that it can help in increasing cultural awareness of immigrant populations. As evidenced, this is a growing population in the U.S., thus being more aware of and familiar with their culture would better enable nursing professionals to understand their beliefs and values, which may in turn help in delivering care in a competent manner using EBP. Since using culturally sensitive means of intervention is effective in increasing breast cancer awareness, then the incorporation of teaching that will encompass this will enable the nurses to provide culturally competent care. The need to be culturally competent is not just directed at the students, but the educators too.

Conclusion

The use of culturally sensitive intervention was effective in increasing mammogram use and breast cancer awareness in African female immigrants after 3 months. The DNP student found that using cultural interventions by addressing barriers and increasing awareness in a cultural manner was effective. The female participants felt that this was a necessary implementation, and they felt that it was beneficial for raising awareness about not only breast cancer but also about other essential services about which they may not have been aware since being in the U.S. Additionally, this project was seen as a possible pathway to other health-related services that could be adopted in the future that could benefit the immigrants. This EBP project is meant to be a starting point regarding practice recommendations in increasing breast cancer awareness and mammogram screening use. Due to the increase in the number of immigrants in the U.S., there is a need to promote research to help enhance preventative care among the immigrant population. According to the Institute of Medicine (2001), it is important to individualize patient care so that patient needs, values, and preferences are honored. As for people in the health care system, their roles and functions should not just be based on their respective training and experiences; rather, it should also be evidence-based. This EBP project has equipped the African female immigrants who participated with techniques regarding how to combat breast cancer through awareness and the ability to recognize the signs and symptoms of breast cancer, and it provided them with information regarding screening via mammogram.

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ACRONYM LIST

ACS: American Cancer Society

APN: Advanced Practice Nurse

BCA: Breast Cancer Awareness

BCAM: Breast Cancer Awareness Measurement

CBE: Clinical Breast examination

CDC: Centers for Disease Control

EBP: Evidence Based Practice

DNP: Doctor in Nursing Practice

KA: Korean Americans

KIM-CHI:

MU: Mammogram Use

NIH: National institute of Health

PICOT: Population, Intervention, Comparison, Outcome, Time

RCT: Randomized controlled Trial

SBE: Self Breast Examination

TBHEP: Targeted Breast Health Educational Program

USA: United States of America

U.S: United States

BIOGRAPHICAL MATERIAL

Mrs. Gertrude Mumba-Kaunda graduated with a diploma in pharmacy from her native country of Zambia and worked in both government and private sectors. The position as a Pharmacy Technologist made her realize the gap in health seeking behaviors among the people. Gertrude decided to pursue a degree in nursing so that she can work closely with patients, focusing on preventative care. Gertrude graduated with an associate's degree in nursing from Lake Michigan College, Benton Harbor MI in 2005. She worked in the acute and long-term care at Lakeland Hospital in St. Joseph Michigan as well as other nursing home facilities in the surrounding areas of Berrien County, Michigan and St Joseph County, Indiana. She proceeded to advance her career in nursing by obtaining a bachelor's of science in nursing at Indiana University of South Bend in 2008. Gertrude received a Master's Degree in Nursing with a concentration in Family Nurse Practitioner from Purdue University Calumet in 2013. She is currently board certified by the American Nurses Credentialing Center (ANCC). Gertrude is working as an internal medicine Nurse Practitioner with underinsured, uninsured and homeless through the federal health qualified clinics (FHQC) in Northern Indiana. Her background in Zambia and her current role sparked her interest in mammogram screening and raising breast cancer awareness among immigrant populations/women. After completing her Doctoral in Nursing Practice, Gertrude desires to continue working with the underserved population so that she can continue to promote preventative healthcare and make a difference in these communities.

APPENDIX A
Summary of evidence

Author(s) LOE	Sample/Settings	Design/Intervention(s) Comparison	Findings/Recommendations
Han et al. (2009) Level 1	23 studies were analyzed	Meta-analysis study Interventions reported: <ul style="list-style-type: none"> • Individual directed • Access enhancing • Social network • Community Education • Mass media 	The intervention that yielded the biggest increase at 15.5% in mammogram screening use was the access enhancing methods. Cultural strategies ethnically matched interventions and material results were significant in improving mammography screening. A bigger effect size noted in theory-based interventions.
Kagawa-Singer et al. (2009) Level IV	The sample consisted of Hmong women aged 40 years and older that men	Cohort quasi experimental study. "3- to 4-hour education sessions were conducted by trained Hmong health educators in a culturally acceptable location and Hmong-language educational materials (brochure, video, and flipchart) developed in conjunction with the community outreach staff and the advisory boards at all 3 sites" (p. S468)	All 3 modalities of interventions showed significant increases between baseline and at follow-up.
Lee et al. (2014) Level II	428 married Korean American (KA) couples, first generation immigrants	Randomized longitudinal controlled trial using two groups Korean language film in DVD format featuring Korean Immigrants and mammography-Culture Specific Health Intervention (KIM-CHI). The KIM-CHI video was made to help promote compliance among KA women using culture specific beliefs and promote spousal support with mammography screenings.	KIM-CHI group showed a significant increase in mammography uptake compared to the control group. At 15 months the KIM-CHI group were twice more likely to get mammogram compared to the control group.
Lee-Lin et al. (2015) Level II	"A convenience sample of Chinese-American immigrant women was recruited from Asian community organizations in the Portland, Oregon, Metropolitan area. Sample was 300 Chinese-American immigrant women" (p.174) To guide the interventions, the Health belief Model and the Trans-theoretical Model were used in the study	Randomized controlled study Culturally targeted breast cancer screening educational intervention (n = 147) or a mammography screening brochure published by the National Cancer Institute (n = 153). Intervention: The two-part intervention consisted of group teaching with targeted, theory-based (TBHEP) messages followed by individual counseling sessions. Comparison: The Chinese version of the two-sided color brochure developed by the National Cancer Institute that was given to the control group.	At all points in time (3, 6 and 12 months), "significantly more women in the intervention group reported having completed a mammogram compared to the control group..." (p. 179). "The TBHEP intervention had a large effect (71.4%) on mammogram completion at 12 months post intervention. Both the TBHEP intervention and brochure control groups produced an increase in screening mammograms; however, significantly more women in the intervention group (59.2%, 68.7%, and 71.4%) had completed a mammogram than in the control group (18.3%, 26.8%, and 42.5%)" (p. 178).
Lu et al. (2012) Level I	18 studies were in the final sample.	Meta-analysis study Interventions reviewed included: <ul style="list-style-type: none"> • individual-based interventions • health care professionals included cultural awareness culturally sensitive print • community based group education using media and audiovisual materials 	No significant evidence to support the effectiveness of home visits according to the researchers. Personal visits (with video or leaflets) were found to be more effective than sending written translated materials by postal mail. A two-hour cultural awareness training program was provided to general practice reception staff. There was a significant increase in mammogram screening attendance among Asian women as compared with the control group (9% vs. 4%, p = 0.04)" (p. 12). According to Lu et al. (2012) "media-led culturally sensitive education campaign was not found to be effective among Vietnamese Americans in California ...In addition, interventions targeting individuals through direct mail and phone counseling were more effective than a monthly newsletter intervention (50% vs. 32%, p = 0.002)" (p. 11).

<p>Maxwell et al. (2011) Level IV</p>	<p>Los Angeles County, California. 103 Chinese American were recruited Through phone calls and face-to-face invitations. Two women were ineligible due to having had their last mammogram within 12 months prior to the educational group session and were excluded from the analyses.</p>	<p>Pilot study</p> <p>Viewing a soap opera style video in Chinese language that encouraged screening; facilitating structured discussion among participants about barriers to screening and strategies to overcome barriers; and disseminated information on local resources and providers for low- or no-cost mammograms.</p>	<p>Researchers suggested that “the small-group video intervention increased knowledge and positively influenced several attitudes and cultural beliefs regarding mammography screening, as well as mammography utilization. Most influential with regards to mammography screening during the follow-up period was the belief that mammograms are needed in the absence of symptoms”(p. 893)</p> <p>According to the researchers both the cultural and generic videos were equally acceptable and more efficacious in promoting screening knowledge and intentions than printed material. Research showed intention to obtain mammography screening significantly and strongly correlates with actual screening behavior.</p>
<p>Wang et al. (2012) Level II</p>	<p>664 Chinese-American women immigrants >40 in Washington, DC and New York City areas. Health Belief Model framework was used in the study.</p>	<p>Three arm randomized controlled trial</p> <p>Fact sheet</p> <p>Generic video</p> <p>Cultural video</p>	<p>According to the researchers “both the cultural and generic videos were equally acceptable and more efficacious in promoting screening knowledge and intentions than printed material. Research shows that intention to obtain mammography screening significantly and strongly correlates with actual screening behavior (r = 0.37–0.56, (thus the expectation was that these) results to translate into positive actual screening outcomes” (p. 532).</p>
<p>Schoueri-Mychasiw et al. (2013) Level I</p>	<p>Review of 8 studies, the target was immigrants and minority women samples ranged from 34 to 2,064 with one study not indicating the sample</p>	<p>Meta-analysis study</p> <p>Interventions targeted language barriers, knowledge gaps, provider’s recommendations and transport barriers and mailed letter reminders for women.</p>	<p>Changes ranged from 0 to 70% increase in screening. Media campaign using the radio and the newspaper and one-on-one outreach visits showed no significant in screening rate.</p>

APPENDIX B



Come join us!!!!!!!

For fun, education and Food filled evening

You are cordially invited to a Breast Cancer awareness session by our very own Gertrude Mumba-Kaunda

Information about breast cancer and screening such as mammogram, will be shared and where to get it from (assistance on finding resources in case of inadequate insurance will be provided too)

Do not be left out, for **YOU** matter!!!!

For more information please contact Gertrude at 269 277 7659

Meeting will be held at Michiana Malawi African Church

Venue 1302 Oak Street, Niles, MI

Time 330PM

Date October, 10th 2015



APPENDIX C
Valparaiso University

College of Nursing and Health Professions

EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer

Awareness and Mammogram Use

Breast Cancer Awareness and Mammogram Pretest Survey

As part of this education about breast cancer awareness and mammogram, you are asked to complete the following survey. This information will be used to evaluate the effectiveness of the teaching session.

In addition, information from this survey will be used for the evidenced based project (EBP). Having your information used is voluntary and your information will be kept confidential. Turning in the survey implies that you consent to having information about you used for the project. If you desire to opt out of having your data used in the EBP project, or if you have questions about the project, you can contact the primary project coordinator Gertrude Mumba-Kaunda at gmumbaka@gmail.com

1. **Do you know any of the warning signs of breast cancer?** YES

NO

2. **Please circle the signs that you know below for breast cancer**

- A. Change in the position of the nipple
- B. Redness of the breast skin
- C. Change in the location of the nipple
- D. Puckering of dimpling of the breast skin
- E. Pulling in your nipple
- F. Discharge or bleeding from the nipple

- G. A lump or thickening in your breast
- H. Changes in your shape of your breast or nipple
- I. Changes in your size of the nipple or breast

3. Who should get a mammogram? *Choose one answer only*

- A. A 30 year old woman
- B. A 20 year old woman
- C. A 50 year old woman
- D. A woman of any age

4. Choose a method for early breast cancer detection.

- A. Chest X ray
- B. Mammogram
- C. Blood test

5. How often is one supposed to get mammogram? *Choose one answer only*

- A. Every six months
- B. Every year
- C. Every two years
- D. Every five years

6. How likely are you get a mammogram in the next 3 months? *Circle one*

- A. Very likely
- B. Somewhat likely
- C. Not likely

APPENDIX D
Valparaiso University

College of Nursing and Health Professions

EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer

Awareness and Mammogram Use

Breast Cancer Awareness and Mammogram Posttest Survey

As part of this education about breast cancer awareness and mammogram, you are asked to complete the following survey. This information will be used to evaluate the effectiveness of the teaching session.

In addition, information from this survey will be used for the evidenced based project (EBP).

Having your information used is voluntary and your information will be kept confidential. Turning in the survey implies that you consent to having information about you used for the project. If you desire to opt out of having your data used in the EBP project, or if you have questions about the project, you can contact the primary project coordinator Gertrude Mumba-Kaunda at gmumbaka@gmail.com

1. **Do you know any of the warning signs of breast cancer?** YES
- NO

2. **Please circle the signs that you know below for breast cancer**

- A. Change in the position of the nipple
- B. Redness of the breast skin
- C. Change in the location of the nipple
- D. Puckering of dimpling of the breast skin
- E. Pulling in your nipple

- F. Discharge or bleeding from the nipple
- G. A lump or thickening in your breast
- H. Changes in your shape of your breast or nipple
- I. Changes in your size of the nipple or breast

3. Who should get a mammogram? Choose one answer only

- A. A 30 year old woman
- B. A 20 year old woman
- C. A 50 year old woman
- D. A woman of any age

4. Choose a method for early breast cancer detection.

- A. Chest X ray
- B. Mammogram
- C. Blood test

5. How often is one supposed to get mammogram? Choose one answer only

- A. Every six months
- B. Every year
- C. Every two years
- D. Every five years

6. How likely are you get a mammogram in the next 3 months? Circle one

- A. Very likely
- B. Somewhat likely
- C. Not likely

APPENDIX E

Teaching Plan for the EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer Awareness and Mammogram Use

Purpose: To provide African immigrants with information on breast cancer and mammogram screening

Goal: African female immigrants will be have increased breast cancer awareness and mammogram utilization

Objective	Content Outline	Method of Instruction	Time Allocated (in minutes)	Resources	Method of Evaluation
Following a 50 minute session, the African immigrants will be able to:					
Decide whether or not to participate in the project	Overview of project purpose Voluntary	Group instruction	10	Demographic survey	
Identify the risk factors and symptoms for breast cancer	Basic statistics Who is at risk Breast cancer symptoms	Group instruction	4	PowerPoint or handout	Pre and Post survey
Identify causes for lack of screening	Address barriers i.e. finance, cultural beliefs	Group instruction and discussion	5	handout	Question and Answer Pre and post survey
Recognize the breast cancer screening methods	Self-breast examination, clinical breast examination and mammogram	Group instruction	4	handout	Pre and Post Survey

	(mostly focus on mammogram)				
Identify resources in the area	Services available; costs locations and phone numbers	Group instruction	3	Handout of testing locations	Question and answer
Recognize and investigate breast cancer myths	Debunk myths of breast cancer and fatalistic ideas	Breast cancer survivor	10	Personal experience explanation by survivor	Question and answer
Express concerns about breast cancer and mammogram	Summarize allow for concerns and exploration of feelings about breast cancer and mammogram	Discussion	4	Handouts American cancer Society Mammogram leaflet, magnet and pencil reminders	Question and answer
Ability to answer questions about breast cancer signs, risks and when to get a mammogram	Evaluation	Individual survey	10 minutes	Posttest survey Evaluation of Teaching Survey	

APPENDIX F**Valparaiso University****College of Nursing and Health Professions****EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer****Awareness and Mammogram Use****EBP PARTICIPANT CONSENT FORM**

What is the purpose of this project? The purpose of the project is to increase breast cancer awareness among African female immigrants and help increase mammogram utilization

What will I do if I choose to be in this project? If you volunteer to be part of the project you shall be required to attend a one-time group education session at Michiana African Malawian church.

How long will I be in the project? The group presentation shall be completed at the arranged date and will take a total of 50 minutes. Thereafter the investigator shall follow up in three months, with a telephone questionnaire to see if the participants have completed the mammogram.

What are the possible risks or discomforts? Financial burden due to the cost of the mammogram and discomfort /pain for undergoing the procedure.

Are there any potential benefits? You will benefit by gaining additional awareness about breast cancer from attending the meeting. In addition, should you decide to get a mammogram, after undergoing the mammogram participants will get a peace of mind from knowing your status?

Will I receive payment or other incentive? You will be given a \$10.00 gas card and some traditional African snacks will be provided after the meeting.

Are there costs to me for participation? No costs will be involved for you being part of the project. Valparaiso University will not provide medical treatment or financial compensation if you are injured or become ill as a result of participating in this project.

Conflict of Interest Disclosure. None

Will information about me and my participation be kept confidential? Yes no specific information about you will be disclosed; however aggregated data about the group will be reported.

What are my rights if I take part in this project? Your participation in this project is voluntary. You may choose not to participate or, if you agree to participate, you can withdraw your participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Who can I contact if I have questions about the project? If you have questions, comments or concerns about this research project, you can talk Ms. Gertrude Mumba-Kaunda 269 277 7659. In addition, it is your right as a participant feel free to contact the IRB if you have further questions about the EBP project.

Valparaiso University IRB

C/o Rasha Abed

Office of Sponsored Research

Arts & Sciences Building, Room 212

1400 Chapel Drive

Valparaiso University

Valparaiso, IN 46383

valpoirb@valpo.edu

Documentation of Informed Consent

I have had the opportunity to read this consent form and have the research project explained. I have had the opportunity to ask questions about the research project, and my questions have been answered. I am prepared to participate in the research project described above. I will be offered a copy of this consent form after I sign it.

Participant's Signature

Date

Participant's Name

Project Coordinators Signature

Date

APPENDIX G**Valparaiso University
College of Nursing and Health Professions****EBP Project Title: African Immigrants: Culturally Competent Education on Breast Cancer
Awareness and Mammogram Use****Demographic Survey**

1. What is your birthdate?
2. How many years have you lived in USA? Circle one answer
 - Less than 6 months
 - 7-11 months
 - 1-2 years
 - 3-5 years
 - More than 5 years
3. How many children do you have?
4. What is the highest grade you completed in school?
5. Have you ever had a mammogram before? **Yes** **No**
6. Did you get a mammogram last year? **Yes** **No**
7. What is your country of origin?
8. What is your marital status? Circle one answer
 - Single
 - Married
 - Separated
 - Divorced
 - Widowed

APPENDIX H
Valparaiso University

College of Nursing and Health Professions

EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer

Awareness and Mammogram Use

Teaching Evaluation for Gertrude Mumba-Kaunda

As part of this education about breast cancer awareness and mammogram, you are asked to complete the following survey. This information will be used to evaluate the effectiveness of the teaching session by the primary investigator.

Having your information used is voluntary and your information will be kept confidential

1. Was the instructor knowledgeable? *Circle one*

- A. Very knowledgeable
- B. Somewhat knowledgeable
- C. Not knowledgeable

2. Was the environment conducive to learning? *Circle one*

- A. Very conducive
- B. Somewhat conducive
- C. Not conducive

3. Was the teaching culturally sensitive? *Circle one*

- A. Very culturally sensitive
- B. Somewhat culturally sensitive
- C. Not culturally sensitive

4. Did the teaching meet your expectations? *Circle one*

- A. Met my expectations

B. Somewhat met my expectations

C. Did not meet my expectations

5. Did the education session increase your breast cancer and mammogram awareness?

Circle one

A. Yes

B. No

C. Somewhat did

APPENDIX I

Valparaiso University

College of Nursing and Health Professions

EBP Project: African Immigrants: Culturally Sensitive Education on Breast Cancer

Awareness and Mammogram Use

3 Month Telephone Follow-up Survey

Participant Has the participant had a mammogram since the educational session?

Code Number Yes No HX of Mammogram

1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			