**KNOWLEDGE AND PRACTICE OF BREAST CANCER SCREENING AMONG MARKET WOMEN IN ODEDA LOCAL GOVERNMENT AREA**

**ABSTRACT**

In resource-constrained settings, such as Nigeria, it is often recommended to engage in the practice of Breast Self-Examination (BSE). This is primarily due to its ease of execution and convenience, as individuals are able to perform it independently and at no cost. The present study aimed to evaluate the knowledge and practices of market women in relation to breast cancer and breast cancer screening. The study aimed to ascertain the level of awareness among market women regarding breast cancer and its screening methods. Additionally, it sought to determine the extent to which women are knowledgeable about the changes they should be vigilant for in their breasts, as well as the frequency at which they should conduct breast self-examinations. Furthermore, the investigation aimed to assess the attitudes of market women towards breast cancer, as well as their level of knowledge pertaining to thi A descriptive cross-sectional design was employed in this study, wherein a total of 153 market women from two distinct markets, namely Osiele and Odeda markets located in the Odeda local government area, actively participated. In our study, it was observed that a significant proportion, namely 85%, of the market women exhibited a commendable level of awareness regarding breast cancer. Nevertheless, notwithstanding the commendable level of breast cancer awareness exhibited by our esteemed market women, it is regrettable to note that their knowledge pertaining to breast cancer was found to be somewhat lacking in adequacy. It is noteworthy that these findings align with the results of several other studies, wherein various groups of women have consistently demonstrated a high level of awareness regarding breast cancer, yet concurrently exhibit a limited depth of knowledge on the subject matter.

**CHAPTER ONE**

**INTRODUCTION**

**1.1 Background of the study**

According to GLOBOCAN, 2008, breast cancer holds the position of being the second most prevalent form of cancer and the fifth leading cause of cancer-related mortality on a global scale. The aforementioned statement highlights the fact that breast cancer is the prevailing form of cancer in the female population, and it holds significant implications as a leading contributor to mortality rates associated with cancer among women. This information is supported by reputable sources such as GLOBOCAN in 2008, the World Health Organisation in 2013, and GLOBOCAN in 2012. Within the context of low- and middle-income countries (LMICs), the issue at hand continues to pose a noteworthy public health obstacle. This is evidenced by the fact that incidence rates have demonstrated an annual growth of up to 5%, leading to a projected influx of over 1 million new cases per year by 2020 (WHO, 2013; GLOBOCAN, 2012; Anderson, Shyyan, Eniu, Smith, Yip & Bese, 2006). It has been observed that there is an increase in the incidence rates of breast cancer in Sub-Saharan Africa, as reported by Forouzanfar et al. in 2011. It is worth noting that in Nigeria, there has been a notable increase in the prevalence of breast cancer.

Specifically, the incidence rate in the years 2009-2010 was recorded at 54.3 per 100,000 individuals. This data indicates a substantial rise, amounting to a 100% increase, over the course of the past decade (Jedy-Agba et al., 2012). Furthermore, it is worth noting that in the majority of developing countries and low resource settings, the diagnosis of breast cancer often occurs at advanced stages of the disease, resulting in a less favourable prognosis and a higher mortality rate when compared to more developed nations (World Health Organisation, 2013). The implementation of screening methods such as routine breast self-examination (BSE), clinical breast examination, and mammography in asymptomatic women plays a crucial role in mitigating the significant morbidity and mortality associated with breast cancer. By facilitating the early detection of breast cancer, these screening measures, as recommended by the World Health Organisation (WHO, 2013), not only expand the range of treatment options accessible to affected women but also enhance their chances of survival (Faronbi & Abolade, 2012). In resource-constrained settings such as Nigeria, the practice of BSE (Breast Self-Examination) is often recommended due to its ease of execution and convenience, as individuals can perform it independently and at no cost. Awareness, knowledge, and attitudes play a pivotal role in the implementation of breast cancer screening methods by women, as well as their subsequent adherence to conventional treatment. This task can be accomplished by individuals regardless of the women's social status or socioeconomic background. Nevertheless, there exists a dearth of information regarding the awareness, knowledge, attitude, and practices pertaining to breast cancer among market women. This knowledge gap is particularly significant considering the prevalent lack of formal education among the majority of market women in Nigeria. Various scholarly investigations have been undertaken to examine the knowledge and attitudes of Nigerian women pertaining to breast cancer and breast self-examination. It is worth noting that these studies have focused on distinct categories of Nigerian women, thereby extending beyond the specific population utilised by the researchers in question (Obaji et al., 2013; Olaogun et al., 2017; Banning and Ahmed, 2013; Gwarzo et al., 2009). Moreover, it is worth noting that there exist certain similarities between the study conducted by Oladimeji et al. in 2015 and the present study.

**1.2 Statement of the problem**

Breast cancer is the most common cancer, yet early detection can cure 70–80% of cases. If the tumour has spread, current breast cancer treatments are ineffective. Breast cancer is the most frequent cancer in women worldwide and the second most common cancer overall. Over 2 million breast cancer cases were diagnosed in 2018. Breast screening tools include mammography, self-breast examination, and clinical breast examination help detect breast cancer early and improve women's health.

Patient delay in seeking help, making therapy less effective and reducing survival rate, is linked to limited information among women regarding breast cancer symptoms, prevention, risk factors, and treatments. Women have low breast cancer screening participation due to low awareness, according to studies. Low- and middle-income nations without national screening systems have far lower cancer screening awareness and participation. Some studies have found that breast cancer screening for early diagnosis and treatment has increased survival and prevented recurrence and mortality. Early diagnosis relies on mammography, BSE, and CBE. Age, family history, genetics, gender, race, early menarche, late menopause, reproductive history, dense breast tissue, genomic alterations, obesity, alcoholism, radiation exposure, poor breast feeding, and lifestyle are breast cancer risk factors.8 Low breast cancer awareness leads to late diagnosis and high fatality rates. Inconvenient referral paths, insufficient therapy at regional cancer centres, and incomplete treatment regimens also lead to advanced breast cancer detection. In Nigeria, breast cancer incidence and mortality are rising, so cancer literacy is important, especially since the average age of diagnosis is 10 years younger than in Western countries. Assessing public cancer awareness and practice is necessary to create comprehensive and effective health programmes and treatment campaigns for early breast cancer identification.

**1.3 Objectives of the study**

The purpose of this study is to assess market women’s knowledge and practices regarding breast cancer and breast cancer screening. This category of women was chosen because they hardly take time off their normal daily routine to go for screening. Moreso, getting them aware and improving their knowledge and attitude towards screening could go a long way in reducing the rate of diagnosing breast cancer at advanced stages of the disease, reducing high fatality rate thereby leading to better outcomes. This study seeks to achieve the following objectives:

1. To determine if market women aware of breast cancer and its screening methods.
2. To find out if women know the changes to look out for in their breasts.
3. To find out if women know how often they should do breast self examination.
4. To find out market women’s breast cancer related attitudes.
5. To find out the level of the market women’s breast cancer related knowledge.
6. To find out market women’s breast cancer-related practices.
7. To find out the relationship between age and education with breast cancer-related awareness, knowledge, attitude and practice.

**1.4. Research Questions**

Specifically, the study seeks to answer the following seven research questions:

Are market women aware of breast cancer and its screening methods?

1. Do women know the changes to look out for in their breasts?
2. Do women know how often they should do breast self examination?
3. What are the market women’s breast and breast cancer related attitudes?
4. What is the level of the market women’s breast cancer related knowledge?
5. What are the market women’s breast cancer-related practices?
6. What is the relationship between age and education with breast cancer-related awareness, knowledge, attitude and practice?

**1.5. Significance of the study**

The importance of this study is tripartite in nature. First, it benefits women, especially market women who may have attributed less regard to the need for breast screening. Also, this study will inform statutory authorities on the need to expand the awareness of breast screening as a preliminary preventive mechanism. Finally, this study is significant as it contributes to knowledge.

**1.6. Scope of the study**

The scope of this study will be focused on market women in Osiele and Odeda markets in Odeda local government area of Ogun state.

**1.7. Definition of terms**

**Breast cancer:** A malignant tumor that can occur in the lobules or milk-producing glands or in the ducts that connect the lobules to the nipple (ACS, 2017).

**Breast cancer screening:** Searching for cancer cells before the symptoms are evident, so that it could be easier to treat cancer before spreading. It includes breast self-examination, clinical breast examination, and mammogram (NCI, 2017). The recommended screening by ACS is mammogram (ACS, 2017).

**Mammographic utilization:** In the context of this study, it means using breast cancer screening services, specifically mammogram (Kwok et al., 2016).

**CHAPTER TWO**

**LITERATURE REVIEW**

**Introduction**

Breast cancer is one of the most frequently occurring cancers among women, affecting over 1.5 million women globally with a high fatality rate each year (ACS, 2017). As reported by WHO (2017), 570,000 women died from breast cancer in 2015. This figure translated to approximately 15% of cancer-related deaths caused by breast cancer alone. Many factors influence the risk of developing breast cancer. According to CDC (2017), being a woman and growing older is a major risk factor for developing breast cancer. For this reason, many breast cancers are diagnosed after 50 years of age. Furthermore, regions with limited resources and weak health care system, especially in the developing countries, and among the minority women populations in developed countries suffering from health disparities are oftentimes diagnosed with late stages of breast cancer because of lack of awareness, and delay in early utilization of breast screening services (WHO, 2017).

It was estimated that before the end of 2017 in the U.S., 252,710 women would be diagnosed with breast cancer, and from this number, about 40,610 women would die from this condition (ACS, 2017). Furthermore, it is documented that African American women in the U.S. have a higher incidence rate in late stages of breast cancer, and high mortality rate when compared to other ethnic groups (ACS, 2017). Some of these studies combine the data from African born immigrant women and African American women, ignoring significant cultural differences between them, which ultimately lead to data extrapolation (Ndukwe et al., 2013). This chapter presented a review of relevant literature that supports factors that impact the use of breast screening service. Emphasis was also laid on using various sources of literature to broaden the understanding of breast cancer, its risk factors, issues that impede the utilization of breast cancer screening services among different women populations, especially minority women populations all over the world.

**Etiology/Risk Factors for Breast Cancer**

According to the National Breast Cancer Foundation (NBCF, 2015), the exact cause of breast cancer is unknown; however, there are some predisposing causes that could link to the development of breast cancer. About a third of postmenopausal breast cancers (above 50 years) are predisposed by modifiable behavioral factors such as obesity and physical inactivity, use of menopausal hormones like estrogen are believed to promote cell proliferation with resultant DNA damage, as well as promoting cancer cell growth. Alcohol consumption, early menarche, late menopause, family history of breast or any other form of cancer tend to predispose to breast cancer development (ACS, 2017). Research has shown that obese women, especially in their postmenopausal age have a 20-40% increase in the risk of developing breast cancer when compared to women of the same age with normal body weight (NCI, 2017).

Furthermore, genetic dispositions such as inherited mutations in BRCA1 and BRCA2 are known as the most susceptible breast cancer forming genes (ACS, 2017). Women who started their menstrual periods at a younger age before 12 years of age have about 20% higher breast cancer risk when compared to women who started their menstrual period after 14 years of age. Komen (2017) based this reason on the fact that early exposure to estrogen through early menstruation exposes the breast tissues to a greater lifetime of estrogen, which is known as a risk factor to the development of breast cancer. Lack of breastfeeding increases the risk of breast cancer. Mothers who breastfeed their babies up to six months are therefore less likely to have breast cancer than their counterparts who never breastfed their children (Gonzalez-Jimenez, Garcia, Aguilar, Padilla, & Alvarez, 2013).

Palmer et al. (2014) reported that breastfeeding is effective in lowering the risk of estrogen receptor-negative breast cancers. When compared to Hispanic women, Caucasian and African American women tend to have a higher risk of developing breast cancer because Hispanic women are likely to have children at a younger age than their Caucasian and African-American counterparts (Gonzalez-Jimenez et al., 2013). Being pregnant after 30 years of age and starting menopause after 55 years of age leads to long exposure to estrogen later in life, which increases the risk of developing breast cancer (Komen, 2017). Among younger women under 40 years of age, African American and African born immigrant women have higher rates of breast cancer when compared to their Caucasian counterparts (Komen, 2017). The reason behind these differences is based on race/ethnicity, which could be related to reproductive and lifestyle factors.

However, these are inconclusive findings that are under investigation (Komen, 2017).

**Staging and Grading of Breast Cancer**

Cancer staging during the time of diagnosis characterizes an important predictor of cancer morbidity, mortality, and long-term survival (Miller, Royalty, White, & Richardson, 2015). The staging and grading of breast cancer are relevant for the medical team to determine the best means to diagnose, and the best approach to treat the patients. To stage cancer, the medical provider assesses the size of the tumor to determine if it has spread to other areas of the body by using a systematic measurement known as the tumor nodes metastasis system (Miller et al., 2015). The staging of breast cancer is therefore categorized from one to four based on the size of the cancer tumor, the number of lymph nodes affected and the extent of the cancer cells invading or metastasizing to other organs of the body (National Breast Cancer Foundation [NBCF], 2015).

At stage 0 to 1, the cancer cells are confined to a limited area of the affected breast. In the second stage, although the cancer cells are confined to the breast, there is an indication that the cancer cells have grown to affect both the local and regional lymph nodes (Miller et al., 2015). The third stage is deemed an advanced stage of breast cancer because there is evidence of cancer invading the surrounding tissues to the breast. The fourth or the final stage shows that the cancer cells have invaded or metastasized to other parts of the body (NBCF, 2015). As related to the grading of breast cancer, consideration is given to factors that indicate the aggressiveness of cancer. According to the Canadian Cancer Society [CCS] (2014), breast cancer can be graded into grade 1 (low grade), which indicates a well-differentiated cancer tumor that grows slowly and spread less quickly. In stage 2 (intermediate grade), the cancer cells are moderately differentiated and spread quicker than the first grade. Grade 3 (high grade) breast cancer cells are poorly differentiated cells that have the capability to grow faster and likely to spread quicker than other grades (NBCF, 2015).

**Prevalence and Mortality Rates for Breast Cancer**

A female living in the U.S. has a 1 in 8 lifetime likelihood of being diagnosed with breast cancer, compared to 1 in 11 risks that were experienced in the 1970s (ACS, 2017). The increase in the risk is likely related to longer life expectancy, changes in reproductive patterns, use of postmenopausal hormones, the rising rate of obesity, and increase rate of breast screening (ACS, 2017). As related to race and ethnicity in the U.S., mortality rate incidence from breast cancer is higher among Caucasians and African American women than Asian and Islander women (Komen, 2017). However, the Caucasian women have a higher breast cancer rate between ages 65 and 84 years of age; whereas the African American women have a higher incidence rate before 40 years, and so more likely to die at an early age (CDC, 2016).

Between 2010 to 2014 in the U.S., African American women overall had the highest mortality rate from breast cancer at 29.2 per 100,000 population; the Caucasian women at 21.2 per 100,000 population; Asians/Pacific Islander women at 11.3 per 100,000 population; American Indians/Alaskan Native women at 14.1 per 100,000 and Hispanic women at 14.4 per 100,000 population. The average mortality rate from all races in the U.S. stood at 21.2 per 100,000 population. It is significant to note that the highest breast cancer mortality rate is among women between 55 to 64 years of age. Men could also develop breast cancer (National Institute of Health [NIH], 2017). The rate of breast cancer occurrence in the U.S. varies according to race/ethnicity and other risk factors. Caucasian women have the highest incidence rate of breast cancer at 127.7 per 100,000 women population with a lifetime risk of 13%; followed by African American women at 125.1 per 100,000 women population with a lifetime risk of 11%, Asian and Islander women stands at 98.5 per 100,000 women population with a lifetime risk of 11% Hispanic women at 93.1 per 100,000 women population with a lifetime risk of 10%, and American Indians/Alaska native at 82.2 per 100,000 population and a lifetime risk of 8%.

It is significant to reflect on the prevalence of breast cancer in Nigeria, which is the home country of the study participants. Nigerian breast cancer prevalence and mortality rates have been an increasing public health problem. According to Morounke et al. (2017), Nigeria recorded an estimated breast cancer prevalence rate of 116 per 100,000 population and estimated new cases of 27,840 annually. The estimated breast cancer data is likely inaccurate because the cancer statistical data is retrieved from cancer registers of some hospitals that keep such records (Morounke et al. 2017). Also, low level of breast cancer awareness, misconceptions about causes of breast cancer and treatment are major reasons that most women with breast cancer do not seek timely breast cancer screening/treatment until breast cancer advances to late stages (Morounke et al. 2017). The Nigerian women delay in seeking preventive breast health services is equally reflected in their record of the highest breast cancer incidence rate of 50.4 per 100,000 population among African immigrant women living in the U.S. (Pinder et al., 2016). Low level of breast cancer knowledge was identified as one of the major reasons they did not seek timely breast care services (Pinder et al., 2016).

**The Effectiveness of Breast Cancer Screening**

Early breast cancer screening of female breasts has been identified as the most effective means to identify precancerous changes in the breast before it becomes malignant (Miller et al. 2015). Delay with early breast screening results in high morbidity and mortality rate and high economic loss to the nation. Due to the devastating effects of delayed breast and cervical cancer screening to women in the U.S., the government enacted the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) in 1990 to provide access to timely breast and cervical cancer screening and diagnostic services to low-income, uninsured and underserved women (CDC, 2017). The NBCCEDP from its inception has supported about 12.7 million women in the U.S. to screen for breast and cervical cancer. In 2016, the program provided breast cancer screening and diagnostic services to 290,095 women. From this number, 2,639 women were diagnosed with invasive breast cancer; while 829 women were detected with premalignant breast lesions (CDC, 2017). Early breast cancer screening is an essential and lifesaving service that could prevent avoidable death from breast cancer to all women, especially among the at-risk women populations. As reported by CDC (2017), most breast cancer death occurs disproportionately among women with no regular source of health care, women without health insurance, and women who immigrated to the U.S.

The implementation of the Affordable Care Act was to expand health services focus and increase access to preventive health care. Nevertheless, evidence shows that many women in the U.S. are not receiving breast cancer screening services due to such barriers as: geographic isolation, limited health literacy, lack of provider recommendation, lack of health insurance coverage, lack of self-efficacy, inconvenient times to access services, language barriers and low-income level (CDC, 2017; HHS, 2016). Breast cancer screening guidelines have been issued in the U.S. by ACS, U.S. Preventive Services Task Force (USPSTF), and American College of Obstetricians and Gynecologists (ACOG). Their guideline recommendations on the ages to commence breast self-examination, clinical breast examination and mammography differ. However, as reported by Miller (2017), the three organizations recommend routine annual or biennial mammogram breast screening in asymptomatic, average-risk women from 40-49 years to 74 years of age.

This study used the American Cancer Society breast cancer screening recommendations that women between ages 40 to 54 years of age should have an annual mammogram; women from 55 years and older should have a biennial mammogram as the recommended guideline (ACS, 2017). The ACS breast cancer screening focus is on finding breast cancer early and getting a state-of-the-art-cancer treatment to prevent death from it. The importance of such focus lies on the fact that breast cancer that is diagnosed early when it is small and localized in the breast, is easier to treat successfully. For this reason, getting regular screening services is the most reliable way to diagnose breast cancer early for women with average and high risk of breast cancer (ACS, 2017). The goal of breast cancer screening is to detect breast cancer early when symptoms like breast lumps are not even palpated. By such screening and diagnosis of breast cancer, the prognosis of the treatment is likely to be positive than detecting the disease when the symptoms are palpable in the breast tissues. However, ACS supports clinical breast examination and breast self-examination even though they are not considered as

evidence-based methods of diagnosing breast cancer early (ACS, 2017).

**Breast Cancer Screening Modalities Breast Self-Examination**

The goal of BSE is for women to get familiar with how their breasts usually look and feel. According to CDC (2017) being familiar with the contour of the breasts, and how they feel can help the woman notice any symptoms, such as lumps, pain or change in the size of the breast. They should not hesitate to report any changes to their healthcare providers. Every woman is encouraged to start performing breast self-examination from the age of 20 years every month after the menstrual period when the breasts are less tender or swollen. Health care provider's advice could be sought on the proper technique of examining the breasts and what to look for. However, research showed that there is little evidence that supports that this test helps to find breast cancer early than a mammogram (ACS, 2017).

**Clinical Breast Examination**

Clinical breast examination (CBE) is a physical breast examination conducted by the health provider often during the woman’s physical check-up. According to Komen (2017), the National Comprehensive Cancer Network (NCCN) has recommended that a trained provider should carefully feel the woman’s breasts, the underarms and the areas below the clavicle for changes and such abnormalities like lumps. Different positions of sitting up and lying down by the woman are assumed during the visual and physical examination of the breasts. Women are encouraged to request for CBE if their healthcare providers do not routinely perform it during their annual physical examination. NCCN (2017) recommended annual CBE at the age of 25 years and to continue as an adjunct to a mammogram. CBE may detect early palpable signs of breast cancer; which could lead to early therapy. An abnormal CBE or false positive result requires a follow-up with a mammogram for the presence of breast cancer (Komen, 2017). It is worth noting that American Cancer Society does not recommend CBE for breast cancer screening because there is insufficient scientific evidence to support it as being effective early breast cancer detection tool (ACS, 2017).

**Mammogram**

Mammogram is the x-ray of the breast tissues. It is considered the best and the most reliable recommended method of screening for breast cancer. It is recommended by the ACS that women with high risks for breast cancer, such as women with mothers or siblings who had breast cancer should start annual mammogram from age 40 to 54 years of age. From 55 years, women could choose to continue with the annual mammogram or switch to every other year (biennial). This test should continue if the woman is in good health and is expected to live 10 years or longer (ACS, 2017). Women with an average risk of breast cancer are recommended to start annual mammogram from 45 to age 54 years. They should continue biennially from 55 years of age. A regular mammogram is very helpful to identify breast cancer early before physical symptoms develop. It is evident that breast cancer found early with a mammogram is less likely to be treated aggressively with mastectomy and chemotherapy. Also, the possibility of cure is very high (ACS, 2017). However, the U.S. Preventive Services Task Force, an expert group that reviews research findings recommended that mammogram should start from age 50 years after the American College of Physicians recommendation, and to continue to 74 years of age. No evidence of benefit is found at 75 years and older (Zuckerman & Mazzucco, 2016).

**Theoretical Framework**

HBM was the theoretical framework that provided the foundation for this study. Its constructs underpin the independent variables that could impact the utilization of mammogram. According to Glanz, Rimer, and Viswanath (2015), HBM has many constructs that explain the engagement of the necessary health behaviors people could adopt to prevent, detect or control disease conditions.

**Origin of Health Belief Model**

HBM is a psycho-social model and one of the most commonly used theories of health education and health promotion, developed in the 1950s to explain and predict health behaviors (Conner & Norman, 1996). HBM gave an understanding as the reason people were not participating in the medical screening programs by the U.S. Public Health Services, especially for tuberculosis. (Hochbaum, 1958). The HBM focuses on the attitudes and beliefs of individuals with the underlying concept that people’s health behavior is determined by the individual personal beliefs or perceptions about the diseased condition, and the strategies made available to decrease the occurrence of such condition (Glanz et al. 2015). The components of the HBM are built on the premise that people are likely to engage in an expected health behavior if the following constructs are available:

Perceived susceptibility

Perceived severity

Perceived benefits

Perceived barriers

Cues to action

Self-efficacy

**Perceived Susceptibility**

Perceived susceptibility is a predictor of health and it is based on the belief that individuals should have in realizing that they are at risk of developing a diseased condition (Glanz et al, 2015). When relating the susceptibility construct to breast cancer, a woman should believe that she is at risk of developing breast cancer before she takes the necessary steps to get breast screening services (Glanz et al. 2015). The belief values about the causes of breast cancer and treatment outcomes have a significant influence on a woman's decision to participate in breast health services. Health beliefs, specifically among the immigrant women populations are influenced by culture, which is symbolized by norms, values, and attitudes that impact health behaviors (Gonzalez et al., 2015).

Given that healthy behaviors contribute to cancer risk reduction and improvement in breast cancer survival rate, there is a need for better understanding of health beliefs and health behaviors of immigrant women populations in the U.S. (Gonzalez et al., 2015).

The relevance of the belief value on breast cancer screening among African women in Australia was reported in a study by Kwok et al (2016) that despite the African women's significant level of knowledge of breast cancer, and proficiency in English language, a significant number of the study participants under-utilized breast cancer screening services because of their belief in modesty, and embarrassment in exposing their breasts to strangers during breast screening services. Developing culturally tailored interventions that incorporate healthy beliefs into breast cancer screening intervention goals by defining the population risk levels is crucial to enlightening at-risk women populations about limited utilization and poor treatment outcomes that accompany late- stage diagnosis of breast cancer (Guilford, Mckinley, & Turner, 2017; Ogunsiji et al, 2017).

**Perceived Severity**

Perceived severity is a construct that refers to the belief about the seriousness of the diseased condition if contracting or facing complications with the possibility of death if left untreated (Glanz et al. 2015). This construct is considered by measuring the possibility of disruption caused by the risk of the disease. The interventional strategy should focus on the concern about the personal consequences that come with developing breast cancer, the financial burden, psychological distress and altered appearance (Sunil, Hurd, Deem, Nevarez, Guidry, Rios, Guerra & Jones, 2014). The strategy should aim at providing information to enhance knowledge about the debilitating outcomes of detecting breast cancer in its late stages (Guilford et al., 2017).

**Perceived Benefits**

This construct refers to the belief about the advantage or gains in taking the recommended action that prevents or reduces the threat to a diseased condition. Sunil et al. (2014) related the perceived benefit construct in research to the decision taken for health action. About breast cancer, perceived benefit is measured by the belief that early and timely breast cancer detection through breast cancer screening would lead to early detection and a positive prognosis. For this reason, the educational program should include information about the values of early detection, as well as the peace of mind that a woman may experience for not having breast cancer because of utilizing timely mammographic service (Guilford et al., 2017). Timely breast cancer detection through mammogram would lead to early detection and a positive prognosis. For this reason, educational program should include information about the values of early detection, as well as the peace of mind that a woman may experience for not having breast cancer because of utilizing timely breast screening service (Guilford et al., 2017).

**Perceived Barriers**

Perceived barriers are referred to the likely obstacles in taking positive action, which could result in negative consequences from such decisions. This construct is crucial in a research study of breast cancer screening behaviors. According to Sunil et al. (2014), perceived barriers could refer to fear of pain, embarrassment from exposing one's body to a health provider (considered a stranger) for CBE or mammogram; cost in time or in monetary terms for the breast screening services or even the lack of access to breast cancer screening utilization services. Barriers could also include the fear of exposure to X-ray from a mammogram, which some women could refuse. A higher score of a perceived barrier means less likelihood of compliance with preventive breast cancer screening. There is need to provide breast cancer awareness programs to cover such issues as an embarrassment and need for privacy, which many immigrant and minority women experience during breast cancer screening, especially mammographic service.

**Cues for Action**

Cues mean triggers that promote action. These cues could be internal in the form of perceived risk or susceptibility or external in the form of media publicity, a recommendation from a health provider or a close friend or relation being diagnosed (Glanz et al. 2015). The impetus of this construct in relation to breast cancer is operationalized in such variables as palpating a breast lump with a concerned reaction or having a health provider to conduct CBE (Sunil et al. 2014).

**Self-Efficacy**

This construct refers to the belief or conviction that the required health behavior can be successfully carried out (Glanz et al. 2015). For self-efficacy to become realistic, necessary training or guidance should be provided in the form of breast cancer screening information; providing reinforcement for the required behavior; using of progressive goal setting; modeling the desired behavior, reducing the anxiety about taking the required action through such strategies as showing video or pictures of women undergoing mammogram, BSE or CBE, and opportunities for demonstration of such skills to become competent (Glanz et al. 2015; Guilford et al., 2017).

**Factors Impacting the Screening Rates of Breast Cancer**

Many research studies on breast cancer and the utilization of breast cancer screening services have been undertaken globally based on HBM. A quantitative study by Olufemi, Omowumni, Oyediran & Ayandiran (2017) on knowledge and awareness of breast cancer and screening methods among female undergraduate students in Nigeria, based on Champion’s health belief model, showed that the study participants’ perception of their susceptibility to breast cancer motivated their desire to participate in breast self- examination. In addition, Memnun, Akyuz, and Robertson (2015) conducted a study on the interventional education methods for increasing women's participation in breast cancer screening among Turkish women and used a modified Champion's HBM scale. The study findings showed that increasing the study participants' knowledge of breast cancer increased their awareness of breast cancer risk. Cues to action were influenced by education, which played a significant role in motivating them to utilize breast cancer screening services.

Other studies elucidated that many factors do impact the utilization of breast cancer screening in different women populations all over the world. Breast cancer remains one of the leading causes of cancer deaths worldwide. The economic implications, physical, emotional, social and spiritual effects on both the patients and their families are unquantifiable. Koladooz, Se Lim, Corriveau, Gotay, and Johnston (2014) in a study of ethnically diverse populations in different parts of the world found that the behavior towards breast cancer screening by the study participants indicated that 37% of Chamorro women, 69% of Alaskan native women, and 76% of Canadian women had performed at least one breast self-examination during their lifetime. The outcome of clinical breast examination showed that 29-56% of Samoan women, 64-93% of Chamorro women, 69% of Alaskan women practiced it. For the mammogram, Samoan women, Native Americans, Alaskan, Canadian women's utilization rate increased from 33% to 83%.

On the other hand, the Aboriginal women had lower participation in mammogram utilization and were likely to refuse breast cancer screening than Canadian Caucasian women, and American Caucasian women, Vietnamese and British women.

The most common factors that affected the knowledge, attitude and behaviors toward breast cancer screening were access to breast cancer screening services, knowledge about cancer and screening, educational attainment and age. Koladooz et al. (2014) therefore advocated for the need to promote greater breast cancer awareness, positive attitudes and behavior towards cancer screening in different women populations by providing culturally appropriate cancer prevention information that can stimulate participation in preventative screening services.

In a cross-sectional descriptive study of breast cancer screening practices of African born immigrant women in Australia by Ogunsiji, Kwok & Fan (2017), the outcome of the study indicated that 76% of the study participants were aware of BSE and CBE; 85.2% had knowledge of mammogram; however, only 11% practiced BSE, while 3.3 % had CBE. The findings were consistent with a previous study by Vahabi, Lofters, Kumar & Glazier (2015) that African born immigrant women generally have negative attitudes discussing and touching reproductive organs. Also, the low breast cancer screening rate was more among immigrants from West and North African than South Africa. The difference was attributed to South African women being more familiar with breast screening services right from their home country because the health care system is more advanced and readily available to the people than their counterparts from other regions of Africa. For this reason, there should not be an assumption that African immigrants are not a homogenous group.

Vahabi et al (2015) also found that the utilization of mammogram was higher among the employed; those who had a longer period of residence, highly educated and the older women than the younger ones. The difference was attributed possibly to easy access to breast screening facilities, which could influence the utilization of such services. The lack of utilization of breast cancer screening service was attributed to fear of breast cancer diagnosis. The researchers recommended reaching out to the immigrant women population with culturally sensitive health information to promote breast cancer screening, especially among the younger African born immigrant women population.

Also, Binton, Figuroa, Yamey, Wiafe & Wood (2014) posited that significant breast cancer burden among African born immigrant women were related to low socio- economic condition, illegal immigration status, and fatalism. These factors have been identified as contributors to disparities in the utilization of breast cancer screening services among the African born immigrant women in the U.S. (Binton et al., 2014).

Monnat (2014) reported that Caucasian women in high socioeconomic status and a higher level of education in the U.S. experienced higher breast cancer screening utilization than African American women in the same socio-economic status, and level of education. The difference was attributed to African American women in high socio- economic status likely to perceive racial discrimination within the health care system, which could act as a restraining factor to physician visits, and subsequent early breast cancer screenings. Other factors that cause the unequal burden of breast cancer incidence and mortality among the minority and immigrant women populations in the U.S. include perception of pain during screening, fear of cancer diagnosis, distrust of the screening process, challenges in navigating the complicated American health care system, limited English proficiency, and embarrassment of exposing self during screening procedures because of religious, and cultural beliefs (Wallace, Torres, Beltran, & Cohen-Boyar, 2013).

Furthermore, immigrant women in the U.S. are faced with various challenges that prevent optimal utilization of breast cancer screening services. Hasnain, Menon, Ferrans & Szalacha (2014) identified misperceptions of the importance of mammography, along with lack of primary physicians’ recommendations, limited length of stay in the U.S. all serve as barriers to breast screening behaviors. Kalahdooz et al. (2014) reported that having the right knowledge about the risk for breast cancer does not always translate to having a favorable attitude towards screening utilization. Some people who receive information about screening services may develop a positive attitude about breast cancer screening as a life serving procedure. Others with limited knowledge of breast cancer may develop a negative attitude, and believe that early detection is ineffective and unnecessary, hence considering breast screening such as mammogram unimportant.

Breast cancer screening utilization was reported to be affected by the proximity of the individual woman to the screening service center, availability of transportation to get the screening, perceived risk for breast cancer. Also, women who were 50 years and older utilized mammogram more than their younger counterparts (Kalahdooz et al. 2014).

A significant number of African born women immigrants, especially those from West Africa have a higher risk of being diagnosed with advanced stages of breast cancer. Sheppard, Hurtado-de-Mendoza, Song, Hirpa & Nwabukwu (2015) attributed barriers to early breast cancer screening among the African women population to lack of health insurance coverage, fatalism, low English language proficiency, illegal immigration status, and unfamiliarity with preventive health care services due to being more conversant with treating diseased condition, which is the norm in their native homelands. Although African born immigrant women are one of the fast growing racial/ethnic groups in the U.S., cancer-related research studies are limited than other immigrant populations in the U.S. (Ogunsiji, Kwok & Fan, 2017). Many research studies often lump African born, the Caribbean born, and the African-American women together, while some of the factors that impact their knowledge, attitude, and beliefs to breast cancer screening utilization are diverse.

The African born women are not a homogenous group but diverse with unique demographic and cultural characteristics, based upon the region of Africa they originate. As related to breast cancer screening practices, there is a significant contrast in screening behaviors, founded on their background in preventive health practices Ogunsiji, Kwok & Fan (2017). Nigeria, as a West African country, shares significantly in the high rate of breast cancer morbidity and mortality rates because of late stages of breast cancer diagnoses (Okoronkwo, Ejike-Okoye, Chinweuba & Nwanen, 2015). The study findings of Okoronkwo et al. (2015) related poor utilization of breast screening practices among Nigerian women to financial barriers from poverty, lack of knowledge on the importance of early breast screening, negative attitudes, and cultural/ religious beliefs held of early breast screening, negative attitudes, and several cultural and religious beliefs held. The negative cultural belief was also identified in a study by Lee (2015) as a factor that was associated with breast cancer screening among American Korean women. Effect of such cultural belief was displayed as embarrassment, and fatalism, which impeded timely routine breast cancer screening.

Other factors associated with low utilization of breast cancer screening was reported in a study by Sheppard et al. (2015) on African born immigrant women at the Washington DC and Virginia areas of the U.S. that most African born immigrant women did not participate in breast cancer screening services due to lack of health insurance, limited English language proficiency and poor knowledge about breast cancer screening. The study, however, recommended that education on the importance of breast cancer screening among minority populations could improve knowledge and behavior towards utilization of breast screening services. This fact was buttressed by Gondek, Shogan, Saad-Harfouche, Erwin, Griswold & Mahoney (2015) to assess the impact of culturally and language-appropriate community-based educational program on breast cancer knowledge, and screening among refugee women populations in New York. The outcome of the study showed post educational 33% increase in the breast cancer knowledge base, and willingness to adhere to a mammogram.

The implications of religious and cultural beliefs were reported by (Ndukwe et al. 2013). The findings of the study identified fatalism, stigma, privacy issue as significant factors that negatively impact the decision of African born immigrant women in the U.S. to seek preventative breast cancer screening services, even with appropriate knowledge of breast cancer and the danger of delaying utilization of such services. Furthermore, the low utilization of breast cancer screening among Bosnian, Iraqi and Somali women in the U.S. was attributed to lower than 5 years of living in the U.S., pain, fear of breast cancer diagnosis, modesty, inflexible work schedule, and family commitments, challenges in understanding the complex American health care system, and the impact of war in their home countries (Saadi, Bond & Percac-Lima, 2015). The authors, therefore, recommended community level awareness outreach programs to encourage health- seeking behaviors, appointment reminders and contact from health providers to promote use of breast cancer screening services (Ndukwe et al., 2015).

In a study by Jones (2015) to understand the knowledge, beliefs, and attitudes of breast cancer from young African American women and their biological mothers, the outcome revealed a wide variety of observations based on their previous encounters with health care services. Some expressed distrust of the health care system with fear of the medical providers wrongfully diagnosing breast cancer; while some reported their encounter with health care services as degrading, embarrassing and humiliating. Also, some reported knowledge deficit on conduct of self-breast examination. Others expressed breast cancer screening as a death sentence, hence the need to not know about it by avoiding breast cancer screening. The study, therefore recommended a culturally based education that is focused on African American women breast cancer survivors' experiences to convey encouragement, allay fears and provide words of wisdom, so that at-risk women can find hope in early breast cancer screening and timely treatment modalities with trust in the healthcare system.

To further broaden the understanding of the knowledge, practices, and attitudes of women towards breast cancer screening services in Lebanon, Doumit, Fares & Arevian (2017) findings indicated an unsatisfactory result, despite an intense breast cancer awareness campaign by the Lebanese Ministry of Health. The low level of participation in breast cancer screening practices was related to low breast cancer and screening knowledge, anxiety and worry of possible breast cancer diagnosis, hence the use of avoidance in engaging in breast cancer screening practices. The study recommended a change in educational strategy by using an interactive approach to messages that are more effective in addressing sensitive issues like breast cancer and its devastating outcomes.

In a similar study conducted by Azubuike & Okwuokei (2013) in Nigeria, the study outcome showed that 90.5% of the study participants had the knowledge of breast cancer but only 17.73% practiced regularly one of the 3 breast cancer screening procedures (breast self-examination, clinical breast examination, and mammogram). The study results indicated that women who were knowledgeable about the risk of breast cancer were unable to translate the knowledge and attitude into the practice of breast cancer screening. The researchers therefore recommended participants focused breast cancer education campaign programs.

Disproportionate mammography rate was reported by Yao & Hillemeier (2014) among immigrant women in the U.S. and American born women of 40 years and older in 2000 and 2008. The mammogram rate among immigrant women that was 60.2 % in 2000, rose to 65.5% in 2008, although improvement in the rate was still lagging. American born women's rate rose to 69%. Factors associated with low utilization of mammogram among the immigrant women included: a short length of residency in the U.S. (less than 10 years), and a lower level of education. Nonetheless, the increasing utilization of mammogram among immigrant women in 2008 was associated with the availability of public insurance through Medicaid, which was a significant strategy to improve access to breast health screening. Among the American born women, socio- economic factor such as the high -income level and high educational attainment contributed to a higher utilization rate of mammogram. Yao et al (2014) then recommended medical/cancer center immigrant health initiatives to reach out to recent immigrant women in partnership with community organizations to promote primary care.

Breast cancer is a serious and continuous public health problem, and the disparities in preventative health care services experienced by immigrant women increase the breast cancer burden, coupled with sparse research studies in this population, especially Nigerian women in the U.S. Although there is the availability of preventive breast cancer screening services in the U.S., low utilization of such services continues to be a significant concern among the African born immigrant women. Akuko, Armah, Sarpong, Quansah, Amankwaa & Boateng (2017) reporting on low utilization of breast cancer screening and barriers to early presentation and diagnosis among Sub-Saharan African women in the U.S. attributed the high incidence of breast cancer to low knowledge of breast cancer.

Lack of awareness for early detection and treatment; socio-cultural factors such as beliefs, traditions, and fear that impact health-seeking behaviors to breast cancer screening were identified. Pinder et al. (2016) reported that the African born immigrant women in the U.S. experience low utilization of preventive health care as their counterparts in their homeland because of low emphasis on preventative health programs. Ramathuba et al (2015) on their study on knowledge, attitudes, and practices towards breast cancer screening in the rural South African community reported 95% of the study participants reporting lack of knowledge of breast cancer by stating that they had never heard about breast cancer diagnostic methods. 50% of the participants' attitude towards early detection of breast cancer treatment was negative, and 94.7% indicated that they had never performed any type of breast cancer screening. Low socioeconomic status and poor educational level were linked to poor utilization of breast cancer screening services among the study participants. Community-based interventions in the form of education and governmental assistance through free breast health services were recommended.

In a study by Olufemi et al (2017) on knowledge and awareness of breast cancer and screening methods among female undergraduate students in Nigeria, the outcome of the study indicated that 62% of the study participants had good knowledge of breast cancer and screenings. 88% agreed to the benefit of self-breast examination (BSE). while only 52% reported confidence in performing BSE. However, 67% were unaware of mammogram as a breast cancer screening service. The low knowledge on the use of mammogram showed the need for education and awareness of various breast cancer screening services; and the importance of utilizing them in a timely and regular manner for early detection of breast cancer.

**Acculturation**

According to Merriam-Webster dictionary (n.d), acculturation means the process of adopting the cultural traits or social patterns of another group of people. Many research studies have shown that there are disproportionately low mammography rates and higher breast cancer incidence burden among immigrant women than American born women in the U.S. (Harcourt et al. 2013). This assumption stems from the fact that the foreign-born women often times have an embedded low breast cancer screening behavior from their home countries because of the lack of emphasis on preventative health care.

They tend to focus more on treatment when signs of breast cancer are eminent (Lee et al. (2015). Acculturation and length of residency in the U.S. were some of the determinants of breast cancer screening behaviors among Asian-American women by Lee, Chen, Jung & Juon (2015). The outcome of the study showed that the Asian immigrant women who lived in the U.S. for more than 20 years were 2-4 times more likely than those who lived for less than 10 years to have breast cancer screening. This fact was supported by Harcourt et al (2014) in their study of breast and cervical cancer screening among African immigrant women in Minnesota. The outcome of their study showed that African immigrant women who resided in the U.S. for less than 5 years were less likely to have their mammogram or pap smear.

Duration of residence in the U.S. was therefore identified as a significant determinant of breast cancer screening. Immigrant women with a longer duration of residence in the U.S. are more likely to screen for breast cancer because of the possibility that they are more acquainted with and have better skills in navigating the seemingly complex U.S. healthcare system. Furthermore, they are likely to adopt a different cultural belief value that is less concerned about modesty in exposing their breasts during a mammogram. The length of residency of Nigerian immigrant women (40 years and older) is therefore, a significant variable in this study to determine its correlation with the utilization of mammography screening services.

**CHAPTER THREE**

**RESEARCH METHODOLOGY**

**3.1. Research Design**

A descriptive cross sectional design was adopted to study knowledge of breast cancer awareness and screening program carried out in the markets

**3.2. Population and sample**

A total of 153 market women from two markets, Osiele and Odeda markets in Odeda local government area participated in this descriptive cross sectional study as part of a breast cancer awareness and screening program carried out in the markets. These markets were selected based on the availability of convenient locations used for the outreach and research. Amongst the market women, 123 (80.4%) participated from Osiele market while 30 (19.6%) participated from Odeda market. The age range is between 16 to 72 with the mean of 45.56. The participants from Osiele were more because the health centre used for the outreach was within the market while that used in Odeda was not within the market but located few kilometers away from the Odeda market. Osiele is also a bigger market.

**3.3. Ethical Consideration**

Ethical approval for the study was obtained from the department. The women were given the questionnaires to complete as part of data collected during registration and while they were waiting for the program to start. The reason for completing the questionnaire was explained to the respondents and only those who voluntarily agreed to fill the questionnaires were allowed to do those.

**3.4. Method of data collection**

The questionnaire was interviewer administered as majority of the respondents could not read or preferred that the items on the questionnaire be read to them while they responded. Also, the interviewers translated the questionnaires to the local language for those who had limited use of English language.

**3.5. Instrumentation**

The questionnaire used for data gathering assessed the respondents’ breast cancer related awareness, knowledge, attitude and practice.

**3.6. Validity and reliability**

The instrument used in this stud was examined and critique by the project supervisior. It had a Cronbach’s alpha value of .654 with each subscales having Cronbach’s alpha values ranging from .430 to .729.

**3.7. Method of Data analysis**

Data was analyzed on SPSS 21 using descriptive statistics and correlation analysis.

**CHAPTER FOUR**

**DATA PRESENTATION AND RESULT**

**RESPONDENT’S DEMOGRAPHIC CHARACTERISTICS**

Table 1: Respondents Educational Characteristics

|  |  |  |
| --- | --- | --- |
| Educational levels | Frequency | Percent |
| None | 12 | 7.8 |
| Primary | 19 | 12.4 |
| Secondary | 67 | 43.8 |
| NCE or Grade2 | 29 | 19.0 |
| HND or Degree | 21 | 13.7 |
| Not indicated | 5 | 3.3 |
| Total | 153 | 100.0 |

Table 1 shows that most of the respondents have secondary school level of education (43.8%)

Table 2: Respondents Religious Characteristics

|  |  |  |
| --- | --- | --- |
| Religion | Frequency | Percent |
| Christianity | 100 | 65.4 |
| Islam | 51 | 33.3 |
| Not indicated | 2 | 1.3 |
| Total | 153 | 100.0 |

Table 2 shows that majority of the respondents were Christians (65.4%)

**RQ 1**: Are market women aware of breast cancer and its screening methods?

Table 3: Market Women’s Awareness of Breast Cancer and its Screening Methods

|  |  |
| --- | --- |
|  | Frequency (%) n = 153 |
| I have heard of breast cancer before (Yes) | 130 (85.0%) |
| I have heard about the different breast cancer screening methods (Yes) | 52 (34.0%) |
| Breast cancer screening methods women are aware of |  |
| Not aware | 117 (76.5%) |
| Breast self examination and clinical breast examination | 4 (2.6%) |
| Breast self examination and mammogram | 3 (2.0%) |
| Breast self examination | 23 (15.0%) |
| Irrelevant responses | 6 (3.9%) |
| Total | 153 (100%) |

Table 3 shows that 85% of the market women were aware of breast cancer while only 15% are aware of the different screening methods. Breast self-examination was the most commonly known screening method by 15% of the market women.

**RQ 2:** Do women know the changes they should look out for in their breasts?

**Table 4**: The Market Women’s Responses to the Changes they would look out for in their Breasts

|  |  |
| --- | --- |
|  | Frequency (%) n= 153 |
| I know the important changes to look out for in my breasts. (Yes) | 44 (28.8%) |
| The breast changes the market women indicated they would look out for: |  |
| Do not know | 122 (79.7%) |
| Lump in the breast or armpit | 17 (11.3%) |
| Changes in nipples when pressed | 1 (0.7%) |
| Lumps and discharge in breast (nipples) | 2 (1.3%) |
| Lumps, dark skin, heaviness | 1 (0.7%) |
| Check for lump, breast losing shape, pain in the armpit, swollen breast, discharges coming out  from the breast | 2 (1.3%) |
| Dirty breast | 1 (0.7%) |
| Growing differences in size and shape | 2 (1.3%) |
| Pains in breast | 2 (1.3%) |
| Pains and lumps in breast | 1 (0.7%) |
| If some parts of the breast are hard | 1 (0.7%) |
| Spots on the breast | 1 (0.7%) |
| Total | 153 (100%) |
|  |  |

Table 4 shows that 79.7% of the respondents did not know what changes to look out for in their breasts. Breast lump was the most known of the breast changes to look out for by 11.3% of the market women.

**RQ 3:** Do women know how often they should do breast self-examination?

**Table 5:** The Market Women’s Responses to how often they should do Breast Self-examination

|  |  |
| --- | --- |
|  | Frequency (%) |
| Do not know | 133 (86.9%) |
| Monthly | 5 (3.3%) |
| Every 3 months (and it should be done in the hospital) | 1 (0.7%) |
| 3 times a week | 1 (0.7%) |
| All the time | 1 (0.7%) |
| Anytime | 1 (0.7%) |
| Bi-monthly | 1 (0.7%) |
| Early in the morning/ Early in the morning everyday/ Daily during bath | 4 (2.6%) |
| During menstruation period | 1 (0.7%) |
| Before Menstrual cycle | 1 (0.7%) |
| Immediately after menstruation | 1(0.7%) |
| Every 6 months | 1 (0.7%) |
| Every 2 weeks (whenever you have the funds to do it like 2 weeks interval) | 2 (1.3%) |
| Total | 153 (100%) |
|  |  |

Table 5 shows that majority of the market women did not know how often to screen for breast cancer

**RQ 4:** What are the market women’s breast and breast cancer related attitudes?

**Table 6:** Market Women’s Attitude towards their Breast, Breast Cancer and Breast Cancer Screening

|  |  |
| --- | --- |
| Do you agree with the following statements? | Correct attitude |
| I feel comfortable touching and pressing my breasts (Yes) | 127 (83.0%) |
| I feel comfortable looking at my breasts in the mirror (Yes) | 126 (82.4%) |
| I can allow health professionals check and examine my breast for health reasons (Yes) | 134 (87.6%) |
| I would screen for breast cancer if I can. (Yes) | 128 (83.7%) |
| I would rather not screen for breast cancer (No) | 113 (73.9%) |
| A diagnosis of breast cancer is death sentence (No) | 97 (63.4%) |
| Thinking or talking about breast cancer scares me (No) | 67 (43.8%) |
| I can never have breast cancer (No) | 34 (22.2%) |

Table 6 shows that the attitude of most of the market women is such that will encourage breast cancer screening. However, thinking or talking about breast cancer scares 43.8% of the women and only 22.2% feel susceptible to having breast cancer.

**RQ 5:** What is the level of the market women’s breast cancer related knowledge?

**Table 7:** Market Women’s Breast Cancer and Breast Cancer Screening Related Knowledge

|  |  |
| --- | --- |
|  | Correct responses (%)  n = 153 |
| Over 50% of breast cancer cases are due to a family history or inherited genes. | 53 (34.6%) |
| Breastfeeding increases a woman’s risk for breast cancer. | 95 (62.1%) |
| Early Detection provides a chance of surviving breast cancer | 113 (73.9%) |
| Ensuring a healthy body weight by exercise and good diet reduces breast cancer risk. | 84 (54.9%) |
| Younger women are not at risk of breast cancer | 89 (58.2%) |
| Only women can have breast cancer | 70 (45.8%) |
| Breast cancer is an infectious disease | 76 (49.7%) |
| Giving birth to children early can reduce the risk of breast cancer | 31 (20.3%) |
| It is possible for a woman to identify a breast lump by herself | 95 (62.1%) |
| Regular consumption of alcohol is a risk factor for breast cancer | 77 (50.3%) |
| Breast cancer lump could start from the armpit | 79 (51.6%) |
| Knowledge descriptive in %: Range = 9.1 to 81.8 Mean = 53.5 SD = 16.7 | |
|  | |

Table 7 shows that 50% or more of the respondents got 7 out of the 11 questions right. When scores were converted into percentages, the participant had a mean score of 53.5% which is slightly above average.

**RQ 6:** What are the market women’s breast cancer-related practices?

**Table 8:** Market Women’s Breast Cancer and Breast Cancer Screening Related Practices

|  |  |
| --- | --- |
|  | Frequency (%)  n = 153 |
| I have talked about breast cancer screening with my mum, daughter, sister and/or friend. (Yes) | 72 (47.1%) |
| I have screened for breast cancer before (Yes) | 49 (32.0%) |
| Breast cancer screening methods the market women have previously used | Frequency (%) |
| No response | 124 (81.0%) |
| BSE only | 14 (9.1%) |
| BSE and mammography | 1 (0.7%) |
| CBE | 7 (4.5%) |
| Mammogram | 5 (3.3%) |
| CBE and mammography | 1 (0.7%) |
| Pipette sample taking and x-ray breast scan | 1 (0.7%) |
| Total | 153 (100.0%) |

Table 8 shows that 47.1% of the respondents have talked about breast cancer screening before while 32.0% indicated that they have screened for breast cancer before. However, only 29 (59.2%) out of the 49 women who indicated they had screened for breast cancer before could state the breast cancer screening method they had used. The most commonly used screening method was breast self examination only by 9.1% of the respondents.

**RQ 7:** What is the relationship between age and education with breast cancer-related awareness, knowledge, attitude and practice?

**Table 9:** Correlations between Age, Education and Breast Cancer Related Awareness, Knowledge, Attitude and Practice

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Age | Education | Awareness | Knowledge | Attitude | Practice |
| Age Education Awareness Knowledge Attitude  Practice | r2  Sig. (2-tailed) r2  Sig. (2-tailed) r2  Sig. (2-tailed) r2  Sig. (2-tailed) r2  Sig. (2-tailed) r2  Sig. (2-tailed) | 1 | -.304\*\*  .000  1 | -.068  .413  .022  .792  1 | -.107  .199  .163\*  .048  .070  .396  1 | .150  .073  .104  .218  .022  .788  .328\*\*  .000  1 | .079  .355  .066  .441  .279\*\*  .001  .201\*  .017  .108  .203  1 |
|  |  |  |  |  |  |  |  |

\*\*Correlation is significant at the 0.01 level (2-tailed). \*Correlation is significant at the 0.05 level (2-tailed).

Table 9 shows that educational level is significantly positively correlated with breast cancer related knowledge (P<0.05), breast cancer related knowledge is significantly positively correlated with breast cancer related attitude and practice (p<0.05) and breast cancer awareness is significantly correlated with practice (p<0.05). Attitude is however not significantly correlated with practice (P>0.05) and age was not significantly correlated with awareness, knowledge, attitude and practice (P>0.05) among these market women in this study.

**DISCUSSION**

A high level of breast cancer awareness was found among 85% of the market women in our study. The level of breast cancer awareness among the Odeda and Osiele market women was higher than the 77.7% reported from among market women in Abakiliki (Obaji et al., 2013). However, despite the high level of breast cancer awareness among our market women, their breast cancer-related knowledge was less than adequate This is similar to the findings of some other studies with different categories of women reporting high breast cancer awareness but low knowledge (Olaogun et al., 2017; Oladimeji et al., 2015; Banning & Ahmed, 2013; Obaji et al., 2013; Gwarzo, Sabitu & Idris, 2009). For instance, 79.7% of the respondents did not know what changes to look out for in their breasts, with only 10.6% knowing that they should look out for breast lump and 50.0% not knowing that a lump in the armpit can be the first noting of a breast cancer. This is similar to the 70.8% of market women in another study that did not know how to perform BSE (Oladimeji et al., 2015) probably because they did not know what to look out for.

Most of the women (80%) in our study did not know that having children early can reduce the risk of breast cancer; which is similar to findings that women do not consider their reproductive history as a risk factor for breast cancer (Singh & Turuk, 2017; Gabriel et al., 2016 ). Moreover, only 34% of respondents in our study were aware of the different breast cancer screening methods with BSE being the most commonly known screening method among 15% of the market women. This 15% is much lower than the 38.9% of market women in Abakiliki who were aware of BSE (Obaji et al., 2013). Much higher levels of BSE awareness of above 90% have been reported among female health practitioners (Omolase, 2009) and teachers (Kayode, Akande & Osagbemi, 2005). Only 3.3% of the market women in our study knew how frequently to do BSE which is higher than the 0.4% reported by Obaji et al., (2013) but much lower than the 8.1% reported by Oladimeji et al (2015) in their studies. This high awareness and poor knowledge finding brings to the fore that awareness and knowledge are two different concepts in health education. While awareness may be easily gained through superficial information dissemination, obtaining knowledge requires more rigors of mentally processing health information and acquiring skills for the intelligent application of the information.

The finding that the market women in our study with more education had higher breast cancer related knowledge is in agreement with the findings of similar studies (Olagunju et al., 2017; Oladimeji et al., 2015; Singh & Turuk, 2017). However no relationship was reported between level of education and breast cancer related knowledge in some other study (Al-Azmy, Alkhabbaz & Almutawa, 2012). Having a higher breast cancer related knowledge was associated with more favorable breast cancer related attitude and practice in our study similar to finings reported by other studies (Olagunju et al., 2017; Gabriel et al., 2016; Azubuike & Okwuokei, 2013).

In terms of breast cancer-related practices 47.1% of the respondents have talked about breast cancer screening before while 32.0% indicated that they have screened for breast cancer before. This may be probably due to some financial constraints or the health beliefs of the market women towards breast cancer. However only 29 (59.2%) out of the 49 women who indicated they had screened for breast cancer before could state the breast cancer screening method they had used. The most commonly used screening method was breast self examination only by 9.1% of the respondents. This is in congruence with previous studies that have found out that a lot of women, market women inclusive, have poor breast cancer screening practices (Obaji et al., 2013; Azubuike & Okwuokei, 2013).

Despite the favorable attitude of the market women towards breast cancer screening in this study, this was not significantly correlated with breast cancer screening practices. This finding is similar to that reported in Nigeria (Azubuike & Okwuokei, 2013) and some other low resource settings (Singh & Turuk, 2017). Possible explanations for this maybe that the market women feel discouraged by the high cost of screening for breast cancer using mammography and/or ultrasounds (Pourfarzi et al, 2016; Farid et al. 2014 and Shamsi et al 2014), as well as low awareness of the screening services and reluctance to lose sales by leaving their markets to go for screening. In settings where the cost of breast cancer screening tests were subsidized or provided for free, screening uptake have been reported to still be low (Farzaneh, Heydari, Shekarchi, & Kamran, 2017 ). This suggests a much deeper resistance to screening due to socio-cultural beliefs (El Bcheraoui et al., 2015) which are worth investigating and should be considered in planning interventions (Crawford et al., 2015).

**CHAPTER FIVE**

**CONCLUSION AND RECOMMENDATION**

**5.1 Conclusion**

To the best of our knowledge, this is the first study to assess the practice of breast cancer screening among market women in Odeda LGA. This study revealed the gaps in the knowledge of breast cancer among market women especially regarding modifiable risk factors that can be altered to reduce the risk of breast cancer among women. While some market women in this study were aware of breast cancer screening methods and guidelines, this was not reflected in their practices. The practice of the different screening methods was inadequate, and variable reasons were indicated for the low uptake of these screening methods.

**5.2 Recommendation**

1. Improving the knowledge of signs and symptoms and risk factors should be mandatory in the curricula of undergraduate studies and through continuing medical education events and activities.
2. Market women need to perform the preventive behaviors themselves to a satisfactory level to encourage women in the Odeda communities to adopt similar behavior.
3. We recommend that institutional frameworks and policy guidelines be developed to empower market women to play an expanded role in breast cancer care.
4. Continuous education and training needs to be provided, especially concerning risk factors and breast cancer risk estimation. Nurses should emphasize the importance of self-breast examination and clinical breast examination to all women.

**5.3 Limitations of the study**

The quantitative nature of the study limited the extent to which the reasons behind participants’ responses could be deduced; hence future studies may want to apply mixed quantitative and qualitative methods to allow for an in-depth understanding of the respondents’ responses. The application of Health Belief Model (HBM) in determining breast cancer knowledge, beliefs and screening behaviors by Guilford et al (2017) showed a low level of breast cancer perceived susceptibility and breast self-examination. Breast cancer knowledge had a significant correlation with breast self- examination (BSE); positive self-efficacy and low perceived barrier equally correlated with BSE. The recommendation by the researchers focused on enhancing breast health intervention programs through the utilization of health behavior constructs that are focused on increased perceived susceptibility, enhanced self-efficacy for breast cancer screening and reduced barriers. The significance of this study had an important bearing on the HBM constructs. Perceived susceptibility and severity constructs measure the beliefs held about getting breast cancer, and mammogram by the study participants.

Considering the fast-growing African immigrant populations in the U.S., especially Nigerians, and the likely poor health-seeking behaviors, there is need to redirect the traditional focus on infectious diseases such as tuberculosis, HIV to address breast cancer, a debilitating disease with high mortality rate, typically due to lack of knowledge, beliefs, attitudes, and disparities that negatively impact utilization of breast cancer screening services, especially mammogram (Pinder et al. 2016).

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**Questionnaire**

**Section A**Please indicate Educational levels

None

Primary

Secondary

NCE or Grade2

HND or Degree

Religion (Kindly indicate)

Christianity

Islam

Not indicated

**Section B**

I have heard of breast cancer before.

Yes ( ) N0 ( )

I have heard about the different breast cancer screening methods.

Yes ( ) N0 ( )

**Which of these Breast cancer screening methods women are aware of?**

Not aware ( )

Breast self examination and clinical breast examination ( )

Breast self examination and mammogram ( )

Breast self examination ( )

Irrelevant responses ( )

**What changes do you observe when you self-examine your breast?**

Lump in the breast or armpit ( )

Changes in nipples when pressed ( )

Lumps and discharge in breast (nipples) ( )

Lumps, dark skin, heaviness ( )

Breast losing shape, pain in the armpit, swollen breast, discharges coming out ( )

Dirty breast ( )

Growing differences in size and shape ( )

Pains in breast ( )

Pains and lumps in breast ( )

If some parts of the breast are hard ( )

Spots on the breast ( )

**How often do you think you should self-examine yourself for breast-related issues?**

Do not know ( )

Monthly ( )

Every 3 months (and it should be done in the hospital) ( )

3 times a week ( )

All the time ( )

Anytime ( )

Bi-monthly ( )

Early in the morning/ Early in the morning everyday/ Daily during bath ( )

During menstruation period ( )

Before Menstrual cycle ( )

Immediately after menstruation ( )

Every 6 months ( )

Every 2 weeks (whenever you have the funds to do it like 2 weeks interval) ( )

**Which of these is true for you?**

I feel comfortable touching and pressing my breasts.

Yes ( ) No ( )

I feel comfortable looking at my breasts in the mirror.

Yes ( ) No ( )

I can allow health professionals check and examine my breast for health reasons.

Yes ( ) No ( )

I would screen for breast cancer if I can.

Yes ( ) No ( )

I would rather not screen for breast cancer.

Yes ( ) No ( )

A diagnosis of breast cancer is death sentence.

Yes ( ) No ( )

Thinking or talking about breast cancer scares me.

Yes ( ) No ( )

I can never have breast cancer.

Yes ( ) No ( )

**Which of these statement are true for you?**

Over 50% of breast cancer cases are due to a family history or inherited genes.

Yes ( ) No ( )

Breastfeeding increases a woman’s risk for breast cancer.

Yes ( ) No ( )

Early Detection provides a chance of surviving breast cancer.

Yes ( ) No ( )

Ensuring a healthy body weight by exercise and good diet reduces breast cancer risk.

Yes ( ) No ( )

Younger women are not at risk of breast cancer.

Yes ( ) No ( )

Only women can have breast cancer.

Yes ( ) No ( )

Breast cancer is an infectious disease.

Yes ( ) No ( )

Giving birth to children early can reduce the risk of breast cancer.

Yes ( ) No ( )

It is possible for a woman to identify a breast lump by herself.

Yes ( ) No ( )

Regular consumption of alcohol is a risk factor for breast cancer.

Yes ( ) No ( )

Breast cancer lump could start from the armpit.

Yes ( ) No ( )

I have talked about breast cancer screening with my mum, daughter, sister and/or friend.

Yes ( ) No ( )

I have screened for breast cancer before.

Yes ( ) No ( )

**Which of these screening methods have you previously used?**

BSE only ( )

BSE and mammography ( )

CBE ( )

Mammogram ( )

CBE and mammography ( )

Pipette sample taking and x-ray breast scan ( )