



ASSESSMENT OF THE FACTORS DETERMINING THE PRACTICES OF MAMMOGRAPHIC SCREENING FOR BREAST CANCER AMONG CHILD-BEARING WOMEN IN OKEHI LGA, KOGI STATE, NIGERIA

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ABSTRACT

Breast cancer is one of the leading causes of death among women with over one million new cases diagnosed annually which results in over 400,000 deaths annually. In Nigeria, cases of breast cancer are one of the most common life-threatening diseases that is increasing in incidence. This cross-sectional descriptive survey examined the factors determining the practice of mammographic screening for breast cancer among child-bearing women attending Obangede General Hospital in Okehi Local Government Area. Questionnaire was the instrument used for data collection. Descriptive and inferential statistics were the statistical tools used for analysis. The descriptive statistics involved the use of frequency and simple percentages while the inferential statistics involved the use of Regression and Kendalls tau-b which shows the direction and strength of relationship between the tested variables as well as the significant test. Three hypotheses were formulated and tested for this study. The result showed a moderate but positive relationship between cost of mammography services and its utilization as well as availability and accessibility of mammography screening in Okehi Local Government Area, Kogi State. The study demonstrated that mammography screening can identify early-stage cancer of the breast cases because respondents highly agreed and disagreed with this conclusion at rates of 40.1% and 22.9% respectively. The main deterrents to mammography screening were fear of radiation, screening costs, and lack of awareness of available facilities and obtained responses of 27.5%, 21.2%, and 20.3% respectively of the sampled respondents. The study also found that, hormone replacement therapy (43.7%) and oral contraceptive (24.8%) were the major risk factors that can easily trigger cases of breast cancer; the study also found that, there are largely lack of awareness on breast cancer screening procedure. The study therefore concluded that, hormone replacement therapy and oral contraceptive; as well as lack of awareness on breast cancer screening especially at its early stage constitutes the major risk factors that easily trigger cases of breast cancer in Okehi Local Government Area. The study therefore recommends orientation and reorientation of women against the danger of hormone replacement therapy; increase public education and awareness campaign on cases of breast cancer screening procedure among others in Okehi Local Government Area of Kogi state, Nigeria.

KEYWORDS:

Breast Cancer, Mammographic Screening, Practices, Determining Factors, Child Bearing, Women, Nigeria.



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Introduction

Cancer of the breast accounted for 19.5% of all female fatalities in Nigeria, making it the leading cause of death for females (WHO 2016, Ferlay, 2015). With more than 400,000 deaths annually from newly diagnosed cases, cancer of the breast is one of the leading causes of death for women (Ferlay, 2001; WHO, 2014). Cancer of the breast is a severe health problem in both developing and developed countries. According to Bray (2004), malignant cancer of the breast arises when aberrant cells proliferate uncontrollably in the breast. This sickness can affect both men and women, but women are more likely to get it. In developed nations, the risk of cancer of the breast has risen in recent years by 1% to 3% annually (Forbes, 1997). According to the WHO (2014), cancer of the breast is now the most common cancer among women in Nigeria, surpassing cervical cancer.

Late presentation with a poor prognosis is typical in Nigeria, as it is in the majority of developing nations (Awofeso, Robert, Salako, Balogun, and Okedeji, 2018). The prevalence and pattern of late-stage presentation in women with cancer of the breast and cervical cancer at Lagos University Teaching Hospital, Nigeria, are further presented by Awofeso, Robert, Salako, Balogun, and Okedeji (2018). According to Gakwaya (2008), the African patient is more likely to have an aggressive tumor than her Western counterpart and to succumb to the illness. Although several research were carried out in countries including Nigeria, research done in other nations typically supports age as a serious criterion. (Forbes, 2000; National Cancer Institute (NCI), 2016). According to Awofeso et al. (2018), cancer of the breast causes a lot of deaths in Nigeria for women over the age of 30. According to Alberg (1999), several women in the United States will develop cancer of the breast at some point in their lives. It is the second leading cause of cancer mortality after lung cancer. Cancer of the breast incidence has been lower since 1988 after increasing continuously for about 50 years, and the death rate has been progressively dropping over the previous ten years (Lipworth, 2000). According to estimates, cancer of the breast claimed the lives of 189,000 people in industrialized nations and 184,000 people in developing nations in 2000, making up 16% and 12%, respectively, of all women who died from cancer. It is often common to have lower cases in poorer nations (Ferlay, 2000). Between 25 and 30 percent of women with invasive cancer of the breast will pass away from their illness, according to Harris & Lippmann (1999).

Consequently, a cancer of the breast diagnosis—even one that is invasive—is not always the "sentence of death" that many women (and their insurance companies) believe it to be. The extremely young (younger than age 35) and the very old (greater than age 75) have the highest death rates, according to (NCI, 2016) (Smith Kammer, Dark, Darbo & Sarto, 2000). According to Physical Data Query (PDQ, 2002), the very young have more aggressive disease, and the very old may not be treated aggressively or may have concomitant diseases that increase cancer of the breast fatality. 60% to 80% of recurrences, according to McKay (2002), happen within the first three years of treatment, and the risk of recurrence persists for up to 20 years following the incidence.

The various reproductive variables linked to cancer of the breast are mostly caused by estrogens and progesterone (Sasco, 2001; NCI, 2016). The development and spread of the causes of cancer of the breast are greatly influenced by hormones. In accordance with the Korean Cancer of the breast Society (KBCS 1998). Similar to this, every year that menstruation is postponed reduces the likelihood of acquiring cancer of the breast. Furthermore, studies indicate that prolonged breastfeeding, at least among premenopausal women, can reduce the incidence (Lipworth, 2000; Chalasani, 2021). Cancer of the breast detection is less difficult. Women who present with advanced illnesses have lower survival rates. Assume that the survival rate in Nigeria is five years. Therefore, a

key tactic for reducing cancer of the breast mortality is to increase the proportion of cases that are detected early. This tactic is known as down staging (Forbes, 1997; Chalasani, 2021).

Unfortunately, women in poor or low-resource countries often develop illnesses later than women in other nations (Davidson, 2012). One problem that causes identification to take longer is women's reluctance to have breast lumps evaluated. Some people might not understand how serious their condition is or that there are cancer medicines available, while others could believe that using home remedies is the best approach to treat their symptoms. Barriers to care include the stigma associated with cancer of the breast in society, a lack of knowledge about the condition, and the possibility of mastectomy deformity. Educating women about cancer of the breast may encourage them to seek treatment straight away. The problem is further complicated by the absence of widespread screening programs in many countries. Regular cancer of the breast tests for all women above a certain age have the potential to find more cases of the disease. Regular cancer of the breast screenings for all women above a particular age have the potential to identify more cases of the disease when it is still in its early stages. The purpose of this study is to evaluate the variables influencing the mammographic screening practices for cancer of the breast among childbearing women in Okehi LGA, Kogi State.

Statement of the Research Problem

Cancer of the breast prevalence advances (WHO, 2014). A significant portion of these women are found in rural areas. Due to a lack of understanding and usage of mammography and other screening techniques, this could be because information is difficult to come by (Khokhar 2011). Women's patterns of late-stage illness symptoms, such as a red, puffy, or sore breast, may be mistaken for an inflammatory disorder. This shows a lack of information because cancer of the breast is a disease that is avoidable. Women should seek medical attention right away for an early diagnosis and treatment when they discover skin abnormalities on their breasts. Breast self-examination, physical check by a health officer, and mammography are some of the ways for early diagnosis of cancer of the breast. Sadly, the majority of cancer of the breast cases are only discovered when they are already advanced (Awofeso, et al., 2018). Cancer of the breast mortality, which was discovered in this study to be up to fifteen (15) cases in Okehi LGA of Kogi State, Nigeria, may be exacerbated by scarce resources, ineffective preventative screening programs, and a lack of access to cutting-edge technology in rural health facilities, which could cause patients to present late or not at all.

Research Questions

This study was guided by the following research questions:

- i. Are child-bearing women in Okehi Local Government Area aware and have knowledge of cancer of the breast and mammography screening?
- ii. What are the factors that hinder cancer of the breast mammography screening among child-bearing women in Okehi Local Government Area of Kogi State?
- iii. What are the perceived factors influencing late presentation of cancer of the breast among women in Okehi Local Government Area?

Aim and Objectives of the Study

The aim of this study was to assess the cancer of the breast mammography screening practice by child bearing mothers in Okehi Local Government Authority of Kogi State. Other specific objectives include:

- i. To examine the awareness and knowledge of child-bearing women on cancer of the breast mammography screening methods.

- ii. To investigate the factors that hinder cancer of the breast mammography screening among child-bearing women in Okehi Local Government Area.
- iii. To ascertain the perceived factors influencing late presentation of breast cancer among women in Okehi Local Government Area.

Research Hypotheses

The following hypotheses were formulated and tested for this study.

H₀₁. Knowledge of cancer of the breast and mammography screening practice are not significantly related.

H₀₂. Availability and accessibility of mammography screening services do not influence practice.

H₀₃. There is no significant relationship between cost of mammography services and its utilization.

Significance of the Study

The study is significant in a number of aspects, including the possibility of risk factors for cancer of the breast among childbearing women and how much the Okehi people are aware of the mammography examination of cancer of the breast. Additionally, it offers details that can help with attempts to control and eliminate some risk factors that could make the disease more likely to spread. The findings of the study may help Okehi's rural residents find cancer testing facilities. The difficulties faced by child-bearing mothers in the management and prevention of cancer of the breast are also highlighted by this study.

The study will assist the researcher in providing the right recommendations to policy makers and critical stake holders to increase community awareness of cancer of the breast. Additionally, it may encourage cancer of the breast victims to participate in routine screenings. This study will also contribute to the corpus of knowledge and serve as a reference material that will aid future research in the field of cancer of the breast.

Scope of the study

This study was limited to only child bearing women in Okehi Local Government Area of Kogi State. Meanwhile, the attention of this work excludes women outside Okehi Local Government Council of Kogi State. The study comprises all child bearing women from the ages of sixteen (16) and above; who are aware or not aware of cancer of the breast mammography screening practice in Okehi Local Government Area of Kogi State.

Literature Review

Relevant literature on cancer of the breast and mammography practice screening among women were reviewed to gain more insight and in line with the aim and objectives of the study under the following subheadings:

Conceptual Review

The following concepts were reviewed in this work:

Cancer of the breast

Owoyemi (2018) both state that the term "cancer" refers to a group of diseases that can affect various body areas. Other terms used include malignant tumors and neoplasms. Cancer of the breast is a form of cancer that starts in the breast cells. Cancer of the breast is currently the second most common type of cancer among people, right after skin cancer. The World Health Organization (2011). It can be developed in both males and women. The Centre for Disease Control and Prevention (CDC) (2020) contributes to our understanding by highlighting that cancer of the breast is a disease in which cells in the breast proliferate uncontrollably. Cancer of the breast can take many different forms. The type of breast is determined by the cells that turn cancerous. Among these are several cancer of the breasts, including ductal carcinoma in situ and inflammatory cancer of the breast.

According to the CDC (2020), cancer of the breast can develop in a variety of places all across the breast. According to Pavani and John (2022), the term "cancer of the breast" refers to a range of breast tumor subtypes, each of which has its own genetic and cellular ancestry as well as distinct clinical traits. The bulk of these have ductal or lobular origins and are epithelial tumors. According to the National Cancer Institute (NCI) (2022) Report, cancer of the breast happens mostly in women and is a little more dangerous after skin cancer.

Mammography

Cancer testing involves the use of X-ray pictures. During screening mammography, micro calcifications, which are tiny calcium deposits, may occasionally be detected as a sign of cancer of the breast (Siu, 2016; Nelson & Cantor, 2016).

Siu (2016) also recommended using mammography where there is cause for concern. This type of mammogram is known as a diagnostic mammography, along with a lump; however, these symptoms may also be caused by benign diseases. The results of a diagnostic mammogram can also be used to assess changes found during a screening.

The same machines are used for both types of mammography, according to Nelson & Cantor (2016), who also provided additional clarification on the subject. The technician might use an x-ray to obtain a detailed image of a concerning area.

Dell (2022) underlined the significance of early sickness notification. She also talked about the benefits of screening mammography as well as any possible risks or drawbacks. Constant screening can lower the risk.

Epidemiology of Cancer of the breast

With 2.26 million cases recorded in 2020, breast cancer is currently the most prevalent type of cancer in the world (WHO, 2021). De Santis et al. (2013) report that the instances differ by race, gender, and nation. With 685,000 deaths related to it, breast cancer was the sixth most frequent cancer mortality cause globally in 2020 (WHO, 2021).

Modifiable Risk Factors

The cancer of the breast risk factors that are modifiable include:

i. Overweight and obesity: Lahmann et al. (2004), Miller et al. (2018), and other sources all mention this. The amount of insulin has an impact on cancer growth.

ii. Smoking: Women who smoke frequently have a higher risk of developing cancer, whether they do so before having children or after menopause (Luo et al., 2011, Xue et al., 2011, Luo et al., 2011).

iii. Alcohol: According to research by Romieu et al. (2015), alcohol's impact on receptor shape and activity is a major contributor to the development of cancer.

iv. Pregnancy: As women get older, having children increases their risk.))). Ma et al.

v. Physical Activity - According to McTiernan et al. (2004), women who are not physically active are also more likely to develop cancer.

Non-Modifiable Risk Factors: These include:

1. Gender — women are more likely to develop cancer than males, despite the fact that men can also get it (Cancer Treatment Centers of America, 2019).

2. Age - According to Thakur et al. (2017), age is the second most significant risk factor for cancer of the breast after gender. Cancer of the breast incidence rises with aging and peaks during menopause (Kim et al., 2015).

3. Family history of cancer of the breast - Several research demonstrated that having a family history of cancer of the breast is a significant risk factor (Bravi et al., 2018, Ahern et al., 2017). According to Brewer et al. (2017), family history can be connected to about 25% of all cases of cancer of the breast.

4. Breast Density - Studies have found that density of the breast, or amount of tissue in the breast, is a standalone risk factor for cancer of the breast (Bravi et al., 2018, Nazari & Mukherjee, 2018).

5. Genetic Factors - Genetic factors have been proven to play a role in the development of cancer of the breast. According to Cobain et al. (2016), gene mutations are thought to be the cause of 40% of cases of hereditary cancer of the breast.

Awareness and Knowledge of Cancer of the breast and Mammography Screening

Cancer of the breast is the most common illness in women and a major worldwide health concern (Parkins & Fernández 2006; WHO, 2014). It is also the leading cause of cancer-related mortality in countries with limited resources. For women who are older, cancer of the breast is a problem (Omotara et al. 2012:1). According to Alwan et al. (2016; Khanjani, Noor, and Rostami 2012:177), despite the development of cutting-edge technologies for its detection, the fatality rate for cancer of the breast remains high. In high-income nations, there has been a discernible increase in survival rates, although the risk keeps increasing. The amount of patients that survive in poor countries are still low, according to Alwan et al. (2016). The public's incorrect view of the prognosis of early-stage cancer and the effectiveness of tests is due to a lack of cancer of the breast education among Nigeria's rural and urban populations. People are also put off by pertinent knowledge (Shepherd & McInerney 2007). Despite the lack of technical resources in rural South African areas, BSE can make a substantial benefit if women are aware of the process, and regular use would reduce late presentation. Health views differ according on the culture, and cancer fatalism may deter people from adopting healthy activities, claim Akhigbe & Akhigbe (2012).

Factors Determining the Practice of Mammography Screening

Cancer of the breast administration and test for one of the procedures that may be used to recognize and monitor persons with cancer of the breast is the lump test, which determines whether it is solid or fluid-filled(c) Performing a breast biopsy under ultrasonography, needle aspiration, and stereotactic guidance. Sentinel lymph node biopsy utilizing a PET scan to assess whether the cancer has spread (Chlebowski, Kuller, Prentice, Stefanick, Manson) (d) CT scan to determine whether the cancer has spread (e) Mammography to detect breast lumps or screen for cancer of the breast (f) 7: A breast ultrasound or a mammogram with an abnormal alteration (a) to ascertain whether Gass, 2009).

Detecting and Diagnosing Cancer

The most popular processes for checking for cancer involve imaging, which creates an image of a tumor and includes MRI, X-rays (including mammography), and ultrasound. In order to check for cancer, a doctor can use endoscopy to inject a lighted instrument into organs like the breast, stomach, colon, and lungs. The bulk of these techniques are used to identify visible tumors that must then be biopsied and examined by a pathologist under a microscope. The pathologist specifically looks at the nucleus and looks for abnormalities in the shape, size, and organization of the cells. The health personnel also looks at the edges of the tumor to see whether any neighboring cells are healthy. The lymph nodes may also need to be removed and evaluated in order to determine whether or not the cancer cells have become dangerous or inactive, and whether it is in an early stage of development or not. The earlier a cancer is found, however, the more effectively it can be treated, even though beginning level of cancer always do not exhibit any symptoms. Scientists are creating molecular strategies to identify cancer at a very early stage. Cancer of the breast is almost always brought on by glandular tissue.

Therefore, the objective of mammography should be to visualize the glandular tissue with as much resolution and contrast as is practicable within the constraints of the intended minimal X-ray exposure. Because most cancer of the breasts develop centrally and laterally, in proportion to the relative quantities of glandular tissue in these areas, it is crucial to choose the mammographic images that best assess these locations. If your doctor finds that you do have cancer of the breast, additional tests will be done to determine whether the disease has spread. Staging is how to put it. Staging helps to focus therapy and follow-up while giving you some insight into what to expect moving forward. From 0 through IV are the stages of cancer of the breast. According to Chlebowski et al. (2009), if the number of stage is high, the cancer will be advanced.

Hindrances to Mammography Screening Practice

According to Egwuonwu and Ihekwoaba (2011), most of cases in Nigeria are only found after they have spread due to insufficient care and a lack of information. Although it is generally unknown (2015) how common cancer of the breast actually is in many African countries, numerous articles indicate that the disease is becoming more common in various parts of Africa.

Mammography, breast examination by health officers or by self, are the most used and well-known cancer of the breast screening methods in the globe (Pak, 2009). Mammography screening is the most effective way of early cancer of the breast detection. ; Mymensingh, 2012. Although it is pricey, it is widely utilized in the industrialized world. (Niger & Pract, 2012). In order to detect cancer of the breast early, before any symptoms emerge, the American Cancer Society advises women to begin cancer of the breast screening at least once a year at age 40 and older. Atlanta, 2009. The benefits of early identification and therapy for patients are widely recognised. A later diagnosis that is typically

more difficult to treat is likely if patients ignore these screening programs. In several studies conducted in both advanced and poor nations, socioeconomic, socio demographic, and health system-related factors have been identified as either barriers to or facilitators of cancer of the breast screening and treatment (Lee et al., 2014). lesser incomes, lesser levels of education, a lack of reliable health information, the distance to services, cancer fear, a lack of insurance, and elements of the healthcare system are the main causes of these barriers. Lack of income is responsible for unavailability of health insurance and/or limited access to primary care, which has an impact on mammography screening rates. Schueler, Chu, and Smith-Bindman (2017). Even when they are informed, many Nigerians struggle to access the various screening and treatment choices because of their high levels of poverty. Over 71.5% of Nigeria's population, who live on less than \$1 US per day, are said to be poor, according to a United Nations report (UNDP 2014).

In underdeveloped countries like Nigeria, services for cancer of the breast are horribly underfunded and insufficiently provided. Radiation equipment is only operable in a small number of locations, and even then, the high cost severely limits use. In Enugu State, there are just three active mammography facilities. Due to misinformation, accessibility challenges, and other financial constraints, patients typically arrive at the facilities very late, leaving little time for treatment. Onwujekwe et al., (2012) claim that the majority of healthcare spending in Nigeria still consists of out-of-pocket costs.

Empirical Review

Researchers in the past on the issue of cancer of the breast awareness and screening techniques obtained a variety of results. In order to examine all the research on women's knowledge, attitudes, and screening practices throughout Nigeria's six geographic zones, this empirical review gathered evidence and compared it. According to a study conducted in Nigeria, television (TV) and electronic media were more used informational channels for cancer of the breast. It is critical to offer educational materials that are effective in removing blocks to breast checking processes and early diagnosis in order to spur change and have an impact on cultural norms. Campaigns that include both information and extra services are also more likely to produce behavior changes that persist a long time.

About 90.8% of female teachers were aware of BSE, according to Aniebue &Aniebue (2008) and Kayode et al. (2005). Odeyemi and Oyediran (2002) found that 92% of respondents overall, 81.9% of Saludeen et al. (2009) respondents, 73.3% of Uche (1998) respondents, and 97.3% of female undergraduate respondents were aware of the BSE approach. Only 58.5% of female secondary school students knew about BSE (Irurhe et al., 2012); only 38.7% of female secondary school students recognized that cancer of the breast may be identified by breast self-examination; and only 56.4% of female secondary school students knew about BSE (Isara &Ojedokun, 2011).

Theoretical Framework

This study anchored on the Health Belief Model (HBM) and the Health Care Utilization Model (HCUM).

Health Belief Model

To investigate the factors influencing the practice of mammography screening among reproductive women in Nigeria's Okehi Area, a number of models have either been used or updated throughout time. The two models that form the basis of this inquiry are the health belief model and the healthcare usage model. However, the study chose to use Anderson's (1973) statistics on healthcare consumption

after carefully examining the literature. Because it considers healthcare usage at both the micro (individual) and macro (community) levels, it was chosen as the study's main model. The model and age have both proven successful in describing the factors that influence treatment choice. Some of the research's variables have clear explanations for predisposing conditions. It considers structural, environmental, and material factors that the Health Belief Model almost ever considered.

The Health Belief Model was first used to explain why tuberculosis screening programs were implemented in America in the 1950s. The Health Belief Model (HBM), developed by Irwin M. Rosenstock in 1966, is a psychological and behavior modification model for assessing and promoting the use of health services. 2006 (Cottrell, Girvan, & McKenzie).

The model was primarily developed to predict how behaviorally unwell patients, whether they are acutely ill or chronically ill, will respond to their treatment (Cottrell, Girvan, & McKenzie, 2006). However, of late, it has been frequently utilized to forecast health behaviors. The behavior of teenagers in Yamoransa's Basic Schools when seeking medical attention will be assessed in this study. A diagrammatic representation of the HBM is shown in Figure 1. susceptibility, perceived advantages, and perceived barriers. The following is an explanation of these claims:

Perceived seriousness: The severity of any disease or condition to which a person may be prone is discussed here. The model explains the effect of different human behaviours and lifestyle (Cottrell, Girvan, & McKenzie, 2006).

Perceived susceptibility: How it is that the activities a person engages in will have a negative impact on their health. One of the goals of the HBM is to alter how people perceive vulnerability in order to affect behaviour change. As a result, people are driven to adopt healthier practices. When people understand the dangers involved, they behave better. (Ali, 2002).

Perceived barriers: Accepting the models outcome could be challenging since, people must first of all see the rewards for behaving better (Cottrell & McKenzie, 2005). For instance, young people must be compensated for been disciplined and upright.

The models concept must be better explained (Hunt, Dibrezzo, & Jones, 2004). These help to clarify the basics.

Modifying variables: Sex, age, culture, education, prior experience, a person's abilities, and motivation are a few examples of adjustable elements. These influence how a person perceives specific health issues. Again, one's level of education may influence how seriously they view a health issue and how likely they are to experience it (Hayden, et al., 2008).

Cues to action: The cues to action influences how people view the possibility, importance, challenges, and rewards for changing behaviors. These are situations, people, or things that compel someone to behave differently. This can include information on a family member's disease, current events, and referrals from others (Graham, 2002). For example, if someone gets sick, they might not think it's bad enough to need medical help. However, people could feel their illness is serious enough to seek care if they see a television report about someone else dying from the same condition. According to Hayden et al. (2008), it is possible if you want it.

Teenagers, for example, may behave a specific way to fit in with their peers, but this does not account for how the surrounding circumstances or economic climate may encourage or deter the suggested conduct. For instance, a person might wish to get medical care but not have the money to do so or live very far from a medical facility. Again, not much has been done to characterize the connections between the model's constituent components. The precise, measurable relationships, for instance, have

not been attempted to outline (Hunt et al., 2004). The method looks at perceptual components like beliefs rather than variance in behavior that may be induced by crucial factors (Cottrell et al., 2006). One of the conceptual frameworks for the study since it is crucial to understanding how people's health seeking actions are influenced by their views of their health condition. Age is also one of the study's elements and a modifying variable, thus its inclusion will help the study's objectives be met. The model will thus guide the study's comprehension of how action cues, modifying factors, and self-efficacy influence adolescents' perceptions of the seriousness, susceptibility, advantages, and challenges of adopting health-seeking activity.

The Health Belief Model is not without limitations, the model fails to account for a person's attitudes, beliefs, or other individual determinants that dictate a person's acceptance of a health behaviour, it does not take into account of behaviour that are habitual, performed for non-health related reasons such as social acceptability. It does not account for environmental or economic factors that may prohibit or promote the recommended actions.

Research Design

The study adopted a descriptive cross-sectional survey because it calls for orderly collection and presentation of data, to clearly depict the issue under investigation which the factors is influencing the practice of mammography screening among the respondents.

Study Setting

The study was conducted in the Okehi Local Government Area of Kogi State. The Local Government Area was founded in 1976. It was divided from the previous Ebira Division during the rule of General Olusegun Obasanjo. The foundation of the Local Government has resulted in a significant increase in both human and physical growth. The Local Government is comprised of the districts of Eyika and Ihima. The Ihima district is made up of the wards of Obeiba I, Obeiba II, Ikuehi, Ohueta, Ohueta, Oboroke-eba, Oboroke-uvete I, and Oboroke-uvete II. Four wards make up the Eika district: Obangede/Uhuodo, Eika-Ohizenyi Okaito/Usungwe, and Uboro/Omavi/ohuepe. The administrative hub of the Local Government is located in Obangede. The terrain of Okehi LGA is characterized by hills connected by valleys. The Local Government is bordered to the north by Lokoja LGA and Adavi LGA, and to the west by Akoko Edo LGA and Kabba-Bunnu LGA. The dry and wet seasons have an impact on the Local Government because it is situated in a tropical region. The wet season starts in May and lasts until October, whereas the dry season starts in November and lasts until April. The region's hills and interconnected valleys are home to a wealth of mineral resources, including clay, jewels, iron ore, and other minerals. This presents a chance for investors. The Local Government has a population of 223,574 as of 2019, while the projected population for 2019 is 301,800, according to the National Bureau of Statistics and National Population Commission of Nigeria, respectively, both of which have websites. Based on data from the 2006 census, these figures. The entire Local Government is of Jukun and Egbira ancestry. Among the people's principal activities are farming, producing textiles, hunting, and commerce. Okehi routinely hosts festivals such as Eika, Echene, Uhene, Ichekane, and Ikede.

Study Population

A population, according to Mugo (2010), is a grouping of individuals, objects, or objects from whom samples are taken for measurement. The study was therefore intended to be conducted among 15 to 49-year-old pregnant women in Okehi, Kogi State. It was stated in a document from the Obangede

General Hospital that (750) expectant moms had registered with the facility in 2020. As a result, all expectant mothers receiving antenatal care at the hospital made up the study's target population.

Sample size

In the last quarter of year 2020, General Antenatal Register of Obangede General Hospital of Okehi LGA revealed that the expectant mothers were (750) in total and, a total of (268) expectant mothers were sampled. This was arrived at by adopting the Taro Yamane (1969) statistical formula expressed as follows:

$$n = \frac{N}{1 + N(e)^2}$$

n = corrected sample size, N = population size, and e = Margin of error (MoE), $e = 0.05$ based on the research condition. In a finite population, when the original sample collected is more than 5% of the population size, the corrected sample size is determined by using the Yamane's formula.

Therefore:

$$N = \frac{750}{1 + 750(0.005)^2}$$

$$N = 268.$$

Sampling Techniques

Each respondent had an equal chance of being chosen when the respondents were chosen using a straightforward random sampling process. Every expectant mother in the sample of two hundred and sixty-eight (268) has a $1/750$ chance of being chosen through the random sampling procedure, and this continues until all two hundred and sixty-eight (268) members of the sample have been chosen.

Instruments of Data Collection

For this study, a quantitative approach through the instruments of questionnaire was adopted. The questionnaire was the quickest and most straightforward method for acquiring information on groups of people dispersed across a large and expansive field. In the hospital setting where the study was conducted, it was strictly administered by the researcher with assistance from the medical staff. Three components made up the questionnaire. Section 'A' focused on the "Socio-Demographic Characteristics of Respondents". Section 'B' deals with "Opinion on the Knowledge of Cancer of the breast in Okehi Local Government Area. While Section 'C' deals with "Opinion on Mammography Screening Practice in Okehi Local Government Area".

Methods of Data Analysis

The field data were processed using SPSS v22 (Statistical Package for the Social Sciences). Frequency tables and percentages were utilized to display and examine the data. As percentages, the response rates of respondents to the various alternatives were also shown. The descriptive statistic, which consists of bar charts, percentages, and tabular representations, was utilized to show the results. The inferential statistics were used to evaluate the significance of the association and the potency of the study's established hypotheses. Regression analysis was used to analyze the *Hypothesis one* Relationship between knowledge of cancer of the breast and mammography screening practice in Okehi local government area. While correlation statistic was used to analyze *hypothesis two* Relationship between availability and accessibility of mammography screening services in Okehi

local government area. Correlation statistic was also used to analysis for *hypothesis three* Relationship between cost of mammography services and its utilization in Okehi local government area”.

Ethical consideration

In terms of moral considerations, respondents' rights and privileges were granted to them because the majority of the patients came from the General Hospital Obanegede. Since it is an academic endeavor, anonymity was observed for all respondents. And ethical clearance certificate was obtained from the hospital.

Data Presentation and Analysis

Two hundred and sixty-eight (268) copies of the questionnaires were given out to respondents in the Obangede General Hospital in the Okehi Local Government Area of Kogi State. Of the two hundred and thirty-three (233) that were retrieved, eleven (11) were found to have incorrect information when the data was manually cleaned up after the fieldwork. Therefore, they were deemed undesirable and eliminated, and two hundred and twenty-two (222) were subsequently employed for the analysis.

Table 1: Socio – Demographic Characteristics of Respondents

Variables	Categories	Frequency N=222	Percentages
Age in years	15– 25	60	27.1
	26 – 36	91	40.9
	37 – 47	52	23.4
	48 and above	19	8.6
Marital Status	Never Married	18	8.1
	Married	192	86.5
	Widowed	12	5.4
Religion	Christianity	102	45.9
	Islam	88	39.6
	Traditionalist Indifferent	28	12.6
		4	1.8
Education qualification	No Formal Education	21	9.5
	Primary	68	30.6
	Secondary	101	45.5
	Tertiary	32	14.4

Source: Field survey, 2023.

The study of the respondents' socio-demographic traits is shown in Table 1. The findings indicate that the majority of respondents—40.9%—are between the ages of 26 and 36; 27.1%—are between the ages of 15 and 25; and 23.4%—are between the ages of 37 and 47. This demonstrates that the majority of respondents are, thus, in their prime earning years.

Additionally, the marital status of the respondents was disclosed; the data reveals that 86.5% of the sampled respondents overall are married, while 8.1% are single. According to statistics from table 4.1 above, the majority of respondents are Christians, as seen by their 45.9% response rate, while 39.6% of the sample's overall respondents identify as Muslims.

In addition, the results demonstrate the respondents' level of education: of the total sampled respondents, 45.5% and 30.6% are holders of secondary certificates, respectively, and 14.4% of the respondents have a primary certificate. In contrast, only a small portion of the sampled

respondents had tertiary education. The outcome reflects a range of educational backgrounds in the research area.

Research Question 1: Are child-bearing women in Okehi Local Government Area aware and have knowledge of cancer of the breast and mammography screening?

Table 2: Respondents Responses on whether they have heard of Cases of Cancer of the breast in Okehi Local Government Area

Responses	Frequency (N=222)	Percentage
Yes	171	77.0
No	51	23.0

Source: Field Survey, 2023

The majority of the sampled respondents or 77% of the total sampled respondents have reported hearing of cancer of the breast cases, according to the statistics from table 2 above. The outcome thus demonstrates that the majority of respondents are aware of cancer of the breast instances.

Table 3: Respondents' Response on the Source through which they heard of cases of Cancer of the breast

Source of Knowledge	Frequency (N=222)	Percentages
Hospital	39	17.6
Media	71	31.9
Friends	41	18.5
Health workers	28	12.5
Health program	43	19.5

Source: Field Survey, 2023

As can be seen in table 3, the majority of respondents (31.9%), who make up the majority of those surveyed, learned about cancer of the breast cases through the media. The remaining respondents (19.5%), 18.5%), and 17.6%), respectively, learned about cases through health programs, friends, and hospitals.

Table 4: Respondents Responses on whether they had Relatives with case of Cancer of the breast

Responses	Frequency N=222	Percentages
Yes	121	55
No	101	45

Source: Field Survey, 2023.

According to results from table 4 above, the majority of respondents have relatives who have cancer of the breast, as evidenced by the fact that 55% of the selected respondents responded when asked whether they have relatives who have the disease.

Table 5: Respondents' Responses on the Degree of Relationship with their Relatives

Degree of relationship	Frequency (N=222)	Percentages
------------------------	-------------------	-------------

Mother	17	7.7
Sister	52	23.4
Daughter	21	9.5
Aunt	81	36.5
Cousin	51	22.9

Source: Field Survey, 2023.

Table 5: shows respondents' responses on the degree of their relationship with their relative; as is evident in the table, 36.5% of respondents are aunts, while 23.4% and 22.9% are sisters and cousins of the respondents, respectively.

Table 6: Respondents' Responses on if they knew that Cancer of the breast is Hereditary

Responses	Frequency N=222	Percentages
Yes	44	19.8
No	178	80.2

Source: Field Survey, 2023.

According to the findings from table 6 above, the majority of the sampled respondents are not aware that cancer of the breast is inherited, as stated unequivocally by 80.2% of the sampled respondents as a whole. The findings indicate that most respondents were unaware of the genetic nature of cancer of the breast.

Research Question 3: What are the perceived factors influencing late presentation of cancer of the breast among women in Okehi Local Government Area?

Table 8: Respondents Responses on what they think are the Risk Factors of Cancer of the breast

Risk Factors	Frequency (N=222)	Percentages
Taking of Alcohol	32	14.4
Oral Contraceptive	55	24.8
Early onset of menstruation	16	7.2
Late Menopause	22	9.9
Hormone replacement therapy	97	43.7

Source: Field Survey, 2023.

Table 8 lists respondents' opinions on the risk factors for cancer of the breast. As is evident from the table above, hormone replacement therapy, oral contraceptives, and alcohol consumption are all considered risk factors for cancer of the breast, according to 43.7%, 24.8%, and 14.4% of respondents, respectively.

Table 9: Respondents Responses on whether they are Aware of Cancer of the breast Screening Procedure

Responses	Frequency (N=222)	Percentages
Yes	93	41.9
No	129	58.1

Source: Field Survey, 2022.

Regarding the question of whether respondents are aware of the cancer of the breast screening process, the data from table 9 above plainly demonstrate that they are not, as evidenced by the fact that only 58.1% of the sampled respondents responded to the question. The outcome thus demonstrates that the majority of respondents are unaware of the Okehi Local Government Area's cancer of the breast screening protocol.

Table 10: Respondents' Responses on where they would go to if they notice a lump breast symptom

Responses	Frequency (N=222)	Percentages
Go for Mammographic screening	112	50.5
Neglect it	41	18.5
Complain to friends & family	69	31

Source: Field Survey, 2023.

Table 10 above shows results on where respondents would go if they noticed a breast lump symptom show that 50.5%, or the majority of the total sampled respondents, said they would go for mammographic screening, while 31%, a significant percentage of the total sampled, said they would complain to friends and family.

Table 11: Respondents' Responses on the Type of Cancer of the breast Screening Procedures they are Aware of

Types of cancer screening	Frequency (N=222)	Percentages
Breast self-examination	133	59.9
Chemical breast examination	9	4.1
Mammography	80	36

Source: Field Survey, 2023.

Breast self-examination and mammography are the types of cancer of the breast screening procedures they are aware of, as clearly indicated by 59.9% and 36% of respondents responses rates, respectively, in the table above. Table 4.10 presents respondents' responses on the type of cancer of the breast screening procedures they are aware of.

Table 12: Respondents Responses on whether they have gone for Mammography Screening

Responses	Frequency (N=222)	Percentages
Yes	112	50.5
No	110	49.5

Source: Field Survey, 2023.

According to results from table 4.11 above, the majority of respondents have undergone mammography screening, as shown by the rate of responses (50.5%); however, a crucial statistic, represented by 49.5% of the responses from the entire sample of respondents, showed the percentage of respondents who have not undergone mammography screening in the Okehi Local Government Area.

Table 13: Respondents' Responses on the Number of Time they had gone for Mammography Screening

Number Time	Frequency (N=222)	Percentages
Once	86	38.7
Twice	39	17.6
Three times	77	34.7
Four times & above	20	9

Source: Field Survey, 2023.

Regarding the frequency of mammography screening, the results shown in table 13 above indicate that the majority of the sampled respondents have undergone the procedure once, three times, and twice, respectively. This is clearly demonstrated by the respondents' response rates of 38.7%, 34.7, and 17.6%.

Research Question 2: What are the factors that hinder cancer of the breast mammography screening among child-bearing women in Okehi Local Government Area of Kogi State?

Table 14: Respondents' Responses on factors hindering cancer of the breast Mammography Screening

Responses	Frequency (N=222)	Percentages
Fear of pain	15	6.6
Fear of radiation	61	27.5
Inaccessibility	44	19.8
Cost of services	47	21.2
Religious belief	10	4.5
Lack of knowledge	45	20.3

Source: Field Survey, 2023.

The reasons respondents gave for not getting a mammogram are shown in table 14. As is evident from the table above, the majority of them cited a fear of radiation, expense, and accessibility as their reasons, which accounted for 27.5%, 21.2%, and 19.8% of the sample's respondents, respectively. The outcome demonstrates that expense and radiation aversion are the main factors behind why the majority of respondents frequently underwent mammography screening.

Table 15: Respondents' view on whether Mammography Screening Detects Early Cancer of the breast

View	Frequency (N=222)	Percentages
Agree	51	22.9
Strongly agree	89	40.1
Disagree	39	17.6
Strongly disagree	43	19.4

Source: Field Survey, 2023.

Results from table 15 above show respondents' opinions on whether mammography screening finds cases of early cancer of the breast; as is evident in the table, 63% of the sampled respondents strongly agreed / agreed that mammography screening detects cases of early cancer of the breast, while 37% of the sampled respondents strongly disagreed / agreed. The outcome so demonstrates that mammography screening is capable of identifying early occurrences of cancer of the breast.

Table 16: Respondents' Responses on who was more likely to die of cancer of the breast

Responses	Frequency (N=222)	Percentages
Women with average mammography screening	36	17.7
Women who never had mammography screening	153	75.4
Undecided	14	6.9

Source: Field Survey, 2023.

Women who have never had mammography screening and those who have had average mammography screening are found to be more likely to die, as indicated by 75.4 percent and 17.7 percent respondents' response rates, respectively, in table 16, which presents respondents' responses on who is more likely to die of cancer of the breast.

Table 17: Respondents View on whether it is a doctors Recommendation that influenced them to go for Mammography Screening

Views	Frequency (N=222)	Percentages
Agree	71	32.9
Strongly agree	63	29.2
Disagree	50	23.1
Strongly agree	32	14.8

Source: Field Survey, 2023.

Results from table 17 show respondents' opinions on whether a doctor's advice convinced them to get a mammogram. As is evident, 62.1 percent of the sampled respondents overall strongly agree and agree that a doctor's advice convinced them to get a mammogram, while 37.9 percent disagree and strongly disagree. The outcome demonstrates the importance of a doctor's recommendation in mammography screening.

Table 18: Respondents' Responses on whom they will prefer to examine them

Responses	Frequency N=222	Percentages
Male Radiographer	32	15.1
Female Radiographer	39	18.4
Any of the above	141	66.5

Source: Field Survey, 2023.

The result in table 18 above clearly demonstrates that most respondents will choose either gender to examine them during mammography screening, which is clearly supported by the answer rate of 66.5 percent of respondents.

Table 19: Respondents' Responses on whom they Think Mammography Screening is Necessary for

Responses	Frequency (N=222)	Percentages
Health asymptomatic women	38	17.1
Women with lump on their breast	47	21.2
All of the above	137	61.7

Source: Field Survey, 2023.

As is evident from the table above, the majority of respondents (61.7% of the sampled respondents overall) indicated that mammography screening is necessary for healthy women and women who have breast lumps. Table 19 presents respondents' responses on whom they believe mammography screening is necessary for.

Table 20: Respondents Responses on the Age to Start Mammography Screening

Responses	Frequency N=222	Percentages
Below 40 years	88	39.6
40 – 49 years	32	14.4
50 and above	18	8.1
Undecided	84	37.8

Source: Field Survey, 2023.

The age at which mammography screening should begin is clearly shown in table 20 above, as indicated by responses from 39.6% and 14.4% of respondents, respectively. However, a sizable portion of respondents, or 37.8% of the total sampled respondents, indicated that they were unsure of their answers. The findings indicate that mammography screening should begin between the ages of 40 and 49, respectively.

Table 21: Respondents Responses on if they Think Mammography Screening is important

Responses	Frequency (N=222)	Percentages
Yes	111	50
No	52	23.4
Undecided	59	26.6

Source: Field Survey, 2023.

According to the results from table 21, 50% of the sampled respondents responded in favor of mammography screening, making this point very evident.

Test of Hypothesis One:

H₀: Knowledge of cancer of the breast and mammography screening practice are not related

Table 21: Regression Result Measuring the Relationship between Knowledge of Cancer of the breast and Mammography Screening Practice in Okehi Local Government Area

Dependent Variable: Mammography screening practice

Variable	Coefficient	Std. Error	t-statistic	Prob.
C	11.42745	0.307473	37.16566	0.0000
Knowledge of Cancer of the breast	3.487468	0.566953	6.151247	0.0000
R-squared	0.541796	Mean independent variable		12.4531
Adjusted R-squared	0.527477	S.D independent variable		2.19129

S.E. of regression	1.506306	Akaike info criterion	3.71422
Sum square resid.	72.60666	Schwarz criterion	3.80400
Log Likelihood	61.14174	Hannan-Quinn Criterion	3.74484
F-statistic	37.83784	Durbin-Watson Stat.	1.889253
Prob. (F-statistic)	0.000001		

The regression result gotten through the OLS method is;

Mammography screening practice = 11.42745 + 3.487468 Knowledge of Cancer of the breast

Std. Error = (0.307474) (0.566953)

T-statistic = (37.16566) (6.151247)

Prob. Value = (0.0000) (0.0000)

$R^2 = 0.54$, $R^2 = 0.52$, $F^* = 37.83$ (0.0000), $DW = 1.88$

From the above regression result, it can be inferred that the lack of knowledge of cancer of the breast in the Okehi local government area is responsible for 54 percent of the variation in mammography screening practice, as examined by the coefficient of determination (R^2). However, after accounting for the degree of freedom, the adjusted coefficient of determination with 52 percent explained that 52 percent of the variation in mammography screening is still explained by the lack of knowledge of cancer of the breast.. As a result, the outcome displays a good fit because the independent variable accounts for more than 50% of the variation in the model. As a result, we looked at the F-statistic value to verify the validity or reliability of the findings. The F-statistical probability value (0.0000), which is significant at both 1 and 5 percent, shows that the alternative hypothesis that the independent variable significantly explains the dependent can be accepted.

Test of Hypothesis Two:

H₀: Availability and accessibility of mammography screening services does not influences usage.

Table 22: Correlation Statistic Measuring Relationship between Availability and Accessibility of Mammography Screening Services in Okehi Local Government Area

Correlations				
Kendall's tau-b	Availability	Correlation Coefficient	1.000	-.464**
		Sig. (2-tailed)	.	.001
	Accessibility of Mammography screening	Correlation Coefficient	-.464**	1.000
		Sig. (2-tailed)	.001	
		N	234	234.

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

The availability and accessibility of mammography screening in Okehi Local Government Area were found to have a negative and moderate association (Kendall's tau-b correlation: -0.464, or around -

0.46). The research hypothesis (H1) that claims that the availability and accessibility of mammography screening services does influence its use is accepted whereas the (H0) is rejected because of the acquired significant (0.01) P0.05.

Test of Hypothesis Three:

H₀: There is no relationship between cost of mammography services and its utilization.

Table 23: Correlation statistics measuring relationship between cost of mammography services and its utilization in Okehi Local Government Area

Correlations				
Kendall's tau_b	Cost of mammography	Correlation Coefficient	1.000	.370**
		Sig. (2-tailed)	.	.001
		N	119	76
	Utilization	Correlation Coefficient	.370**	1.000
		Sig. (2-tailed)	.001	.
		N	76	76

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

The cost of mammography and use in the Okehi Local Government Area are related in a moderately positive way, as shown by the Kendall's tau-b correlation coefficient, which was determined from table 23 above and is +.370. This association is statistically significant at the 0.01 level (2-tailed). The study thus accepts the research premise H1: that there is a substantial correlation between the price of mammography services and their use in the Okehi Local Government Area of Kogi State.

Discussion of Major Findings

The study discovered that the participants were aware of the cancer of the breast in Okehi local government area of Kogi state, 77.0% agree to this as evident in table 4.2 and 55.0% agree to have had a relative with breast cancer case. Although only 4.1% of rest of respondents were aware of the mammography screening method as shown in table 4.9. The results are consistent with Anyanwu, Egwuonwu, and Ihekwoaba's (2011) judgment that cancer of the breast is detected late in Nigeria and that women are generally unaware of the condition. Furthermore, the results of this study demonstrate that a lot of women get mammography screening when they experience lump symptoms, as evidenced by the rate of answers from respondents of 50.2% of the sampled respondents overall. The results thus go against Gass's (2009) clarification that early disease diagnosis is aided by cancer of the breast screening and management testing.

One of the study's findings is also that oral contraceptives and hormone replacement therapy are risk factors that can quickly lead to incidences of cancer of the breast, as is evident in table 4.8. Where, 24.8% of the respondents agree to oral contraceptive and 43.7% agree to hormone replacement therapy. The results are therefore consistent with Forbes (2000) and Sascon (2001)'s contention that, generally speaking, lifestyle and environment should be taken into account in the development of cancer.

The study also discovered that, despite various enhanced and scientifically validated types of cancer of the breast screening processes in place, self-breast inspection methods remain the popular type of cancer of the breast screening procedures that most women are aware of as evident in table 4.11 where 59.9 % agree to this. The results also highlight the shocking ignorance of other scientifically established types or procedures of cancer of the breast that are currently being screened for,

contradicting Gass' (2019) claim that imaging procedures like MRI, X-rays (including mammograms), ultrasound, endoscopy, etc. are the most common methods for cancer detection.

Additionally, the study discovered that among the main deterrents to mammography screening, as evidenced by the responses of 27.5%, 21.2%, and 20.3% of the sampled respondents, are afraid of radiation, screening costs, and lack of awareness of available facilities respectively as shown in table 4.16. This result is consistent with Onwujekwe, Hanson, and Uzochukwu's (2012) findings that clinical attention for patients is scarce in Nigeria and that what is available is often prohibitively expensive and difficult to access.

Additional findings from this study demonstrate that mammography screening can identify early-stage cancer of the breast cases because respondents strongly agreed and agreed with this study's conclusions at rates of 40.1% and 22.9%, respectively as shown in table 4.17.

The study also discovered that women with average mammography screening and women who have never had mammography screening are both more likely to pass away from cancer of the breast-related cases. According to the results of Table 4.18, 75.4 percent and 17.7 percent of the sampled respondents agreed with this finding.

From the test of hypothesis, regression analysis result for hypothesis one H1 can be inferred that the lack of knowledge of cancer of the breast in the Okehi local government area is responsible for 54 percent of the variation in mammography screening practice, as examined by the coefficient of determination (R^2) of 0.54.

The study also discovered a negative and moderate (-464) association between mammography screening accessibility and availability in Okehi Local Government Area of Kogi State, which is statistically significant at the 0.01 level (2-tailed). Based on this finding, the study disproves research hypothesis two H1, which states that the accessibility of mammography screening services does have an impact on consumption.

The study's final finding was that there is a correlation between the cost of mammography screening and its use in the Okehi Local Government Area according to test of hypothesis three H1. The obtained kendall's tau_b correlation coefficient of (+.370) expresses this relationship as being moderately positive and significant at the 0.001 level (2 tailed).

Conclusion

It is the conclusion of this study that, cancer of the breast is a major public health issue among women globally and specifically in Okehi Local Government Area of Kogi State. Hormone replacement therapy and oral contraceptive remain the major risk factors that are believed to trigger cases of cancer of the breast. Mammography screening remain the most viable scientific technology that can aid early detection and ensure treatment. But as viable as the mammography screening procedure is, awareness of the screening procedure in Okehi Local Government Area is abysmally low; the few child bearing mothers who are aware of the mammography screening in the study area rarely subject themselves to the screening due to fear of radiation, cost of screening and lack of knowledge of mammography screening facilities. Hence, self-breast examination procedure remains the popular type of breast screening among child-bearing mother in Okehi Local Government Area.

Recommendations

Flowing from the major findings of this study, the following recommendations are made:

1. There is an urgent need to increase public education and awareness campaign on cancer of the breast screening procedure among the residents of Okehi Local Government Area of Kogi state. And it should be done using all public communication mediums. Women should further

be educated and encouraged to see the need to always go for mammography screening and not wait until they noticed a lump symptom in the breast before going for mammography screening.

2. There is a need to orient and reorient women against the danger of hormone replacement therapy and excessive use of oral contraceptive as a high risk practice that can easily triggered cases of cancer of the breast in women.
3. To further increase and intensify the fight against cancer of the breast related cases; there is the need to constantly orient and reorient women via public advocacy and education on the danger of depending on self-examination procedure on cancer of the breast related cases. They should instead be advised to consult experts and depend always on scientifically proven procedures for cancer of the breast screening and treatment.
4. Furthermore, the federal and state government as well as well-meaning organizations and individuals should help to subsidize the cost of mammography screening to the barest minimum so as to make it affordable to the average breast feeding mother in Okehi Local Government of Kogi state.

Limitations of the Study

Every research work of this nature encountered some peculiar doses of challenges before they are completed. This study is equally not free of such peculiar challenges. The first challenge encountered was, the challenge of obtaining permission before embarking on data and information gathering exercise; too many protocols were met due to the insecurity situation in the country generally. Permissions were obtained from the Local Government Chairman to the traditional head of the area and other local heads of the selected areas as well as head of community health centres, before the field work commence proper. The researchers painstakingly and patiently fulfill all these demands, thorough interview and questioning in the cause of the field work.

There is also the challenge of eliciting information from the respondents and the key informants as most of them were demanding money with the claim that the research is an international exercise and money must be involved. Another challenge that confronted this study in the cause of the field work is the high cost of mobility through several deplorable roads within the three (3) selected primary health centres while administering and retrieving questionnaires, it was indeed an experience that will remain ever fresh in my memory and cannot be forgotten in a hurry.

Cooperation from institutions and individuals where information and materials were sought for this study was another challenge encountered in the cause of this study. The researchers' request was turned down severally by some institutions and individuals before they were granted while others never attended to his request after several disappointment despite the letter of assistance obtained from the department to whomever it may concern.

Finally, social researches are not much appreciated in the country because of the traditional nature of our society and high level of illiteracy, a situation which also affects the respondents' rate for this study as most respondent rejected the researchers' request to fill a questionnaire given to them while others misplaced theirs which the researcher never recovered.

Suggestions for Further Study

- i. A comparison of the effectiveness of mammography screening procedures in reducing the rising number of cancer of the breast patients in urban and rural Nigeria.

- ii. A critical evaluation of the dangers associated with mammography-based cancer of the breast screening.

Conflict of Interests

The authors declared that they don't have conflict of interests whatsoever regarding this research work.

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Authors' Contributions

Daniel **AMODU** carried out the entire research work.

Edime **YUNUSA** reviewed the manuscript and analyzed parts of the data

Prof. Julius Olugbenga **OWOYEMI** supervised the research work.

All authors proofread and approved the final manuscript.

References

- Abimbola, O. O & Oladepo, O. (2006). Knowledge of cancer of the breast and its early detection measures among rural women in Akinyele Local Government Area, Ibadan, Nigeria. *BMC Cancer* 6:271.
- Abulkhair, O.A, Al Tahan FM, Young SE, Musaad SM, &Jazieh AR (2010). The first national public cancer of the breast screening program in Saudi Arabia. *Ann. Saudi Med.* 30(5):350-357.
- Adebamowo, C. A, Ajayi, O. O. (1999). Cancer of the breast in Nigeria. *West Afr. J. Med.* 19(3):179-191.
- Adeniji, K.A (1999). Pathological Appraisal of Carcinoma of the female breast in Ilorin, Nigeria. *Niger. Postgrad. Med. J.* 6:56-59.
- Agboola, A. O. J, Deji-Agboola, A. M, Oritogun, K. S, Musa, A. A, Oyebadejo, T. Y, Ayoade, B. A. (2009). Knowledge, Attitude and Practice of Breast Self- Examination in Female Health Workers in Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria. *Int. Med. J.* 8(1):5-10..
- Ahuja, S & Chakrabarti, N. (2010). To determine the level of knowledge regarding breast cancer and to increase awareness about cancer of the breast screening practices among a group of women in a tertiary care hospital in Mumbai, India. *Internet J. Public Health.* 1(1), 44-60.

- Ajayi, I. O, Onibokun , A. C, Soyannwo, O. A. (2013). Breast and Cervical Cancers Awareness and Screening Practices among Rural Women in Ona-ara Local Government Area, Ibadan, Nigeria. *Afr. J. Biomed. Res.* 16(2):95-99.
- Akarolo-Anthon, S.N, Ogundiran, T.O & Adebamowo CA (2010) Emerging cancer of the breast epidemic: *evidence from Africa. Cancer of the breast Res. 12 Suppl 4:S8.*
- Akhigbe, A. & Akhigbe K. (2012). *Effects of health belief and cancer fatalism on the practice of cancer of the breast screening among Nigerian Women*, viewed January 2013, from www.intechopen.co/books/mammography-recent-advances/effects-of-health-belief-and-cancer-fatalism-on-the-practice-of-breast-cancer-screening-among-Nigeria.
- Akhigbe, A. O, & Omuemu, V. O. (2009). Knowledge, attitude and practices of breast cancer screening among female health workers in a Nigerian Urban City. *BMC Cancer* 9:203-206.
- Akpınar, Y. Y., Baykan Z., Naçar, M., Gün, I. & Çetinkaya, F. (2011). Knowledge, attitude about cancer of the breast and practice among female health care professionals: A study from Turkey', *Asian Pacific Journal of Cancer Prevention* 12(11), 3063–3068.
- Akpo E. E, Akpo, M. O, Akhator, A. (2010). Cancer of the breast knowledge and screening practices among Nigerian medical students. *Internet J. Health* 11(2):6-9.
- Alberg, A.J. Epidemiology, prevention, and early detection of cancer of the breast. *Current Opinion in Oncology* 11:435–441
- Al-Dubai, S. A., Qureshi, A. M., Saif-Ali, R., Ganasegeran, K, Alwan, M. R. & Hadi, J. I., (2011). Awareness and knowledge of cancer of the breast and mammography among a group of Malaysian women. In Shah Alam', *Asian Pacific Journal of Cancer Prevention* 12(10), 2531–2538.
- Allam, M. F. & Abd Elaziz, K. M., (2012). Evaluation of the level of knowledge of Egyptian women of cancer of the breast and its risk factors: A cross sectional study. *Journal of Preventive Medicine and Hygiene* 53(4), 195–198.
- Alwan, N. A., Al-Attar, W. M., Eliessa, R. A., Madfaie, Z. A. & Tawfeeq, F. N., (2012). Knowledge, attitude and practice regarding cancer of the breast and breast self-examination among sample of the educated population in Iraq', *Eastern Mediterranean Health Journal* 18(4), 337–345.
- Anderson, B. O, Yip, C. H, Smith, R. A, Shyyan, R., Sener, S. F, Eniu, A., Carlson, R. W, Azavedo E, Harford, J. I (2008). Guideline Implementation for breast healthcare in low income and middle income countries: Overview of the Breast. *Health Global Initiative Global Summit. Cancer* 113(8):2221-2243.
- Aniebue, P. N, Aniebue, U. U (2008). Awareness of cancer of the breast and breast self-examination among female secondary school teachers in Enugu metropolis, south-eastern Nigeria. *Int. J. Med. Health Dev.* 13(2):105-110.
- Anyanwu, S. N, Egwuonwu, O. A, Ihekwoaba, E. C, (2011). Acceptance and adherence to treatment among cancer of the breast patients in Eastern Nigeria. *Breast* 20(2:),51-3.

- Forman, D. (2007). Socio-economic background in relation to stage at diagnosis, treatment and survival in women with cancer of the breast attitudes and Practices of the educated and non-educated women to cancer of the breast in semi-urban and rural are in the south west, Nigeria. *Niger. Postgraduate Medical Journal*. 13:182-88.
- Austoker, J., Bankhead, C, Forbes, L. J, Atkins, L., Martin F, Robb, K., Wardle J, Ramirez, A.J (2009). Interventions to promote cancer awareness and early presentation: systematic review. *Br. J. Cancer* 101(2), 31-9.
- Azubuike, S. O, Okwuokei, S. O, (2013). Knowledge, attitude and practices of women towards cancer of the breast in Benin City, Nigeria. *Ann. Med. Health Sci. Res.* 3(2):155-160.
- Balogun, M. O, Owoaje, E. T (2005). Knowledge and practice of breast self- examination among female traders in Ibadan, Nigeria. *Ann. Ibadan Postgrad. Med.* 3(2):52-56.
- Bassey, R. B, Irurhe, N. K, Olowoyeye, M. A, Adeyomoye, A. A, Onajole, A. T. (2011). Knowledge, attitude and practice of breast self-examination among nursing students in Lagos University Teaching Hospital, Nigeria. *Educ. Res.* 2(6):1232-1236.
- Bello, T. O, Olugbenga-Bello, A. I, Ogunsola, A. S, Adeoti, M. L, Ojemakinde, O. M.(2011). Knowledge And practice of cancer of the breastscreeningamong female nurses and lay womeninOsogbo,Nigeria.*West AfricanJournal of Medicine. Vol. 30 (4):296-300. Benin City, Nigeria. Ann. Afr. Med.* 7:192-197.
- Egubbe, A. O., Akpede, N., Arua, N. E. (2014). Knowledge of Breast Cancer and Need for its Screening Among Female Healthcare Workers in OshimiliSouth Local Government Council Area of Delta State, Nigeria. *Afrimed J* 5(1):59-64.
- Bray, F., McCarron, P, Parkin, D. M. (2004). The changing global patterns of female cancer of the breastincidence and mortality. *Cancer of the breast Res.* 2004; 6(6):229-39
- Burgess, C. C, Linsel, I. L, Kapari, M, Omar, L., Michel, M., Whelehan, P., Richards, M. A, Ramirez, A.J. (2009).Promoting early presentation of cancer of the breast by older women: A preliminary evaluation of a one-to-one health professional-delivered intervention. *J. Psychosomatic Res.* 67(5):377-387.
- Burns, N. & Grove, S. K., (2005), *The practice of nursing research: Conduct, critique and utilization*, 5th edn, Saunders: Philadelphia.
- Carlson, R. W, Allred, D. C, Anderson, B. O, Burstein, H. J, Carter, W. B, Edge, S. B, (2009). Cancer of the breast. Clinical practice guidelines in oncology. *J Natl ComprCancNetw.* 7(2):122-92.
- Chia, K.S. Population-based cancer survival in Singapore, 1968 to 1992: an overview. *International Journal of Cancer* 93:142–147 2001.
- Chioma, .C., Asuzu, S. R. N, (2007). Knowledge, attitude and practice of self-breast examination

- among the female students of the University Of Ibadan, Nigeria. In *Pakistan Journal of Social Science*. 4(3):400-402.
- Chlebowski, R. T, Kuller, L. H, Prentice, R. L, Stefanick, M. L, Manson, J. E, Gass, M, (2009). Cancer of the breast after use of estrogen plus progestin in post- menopausal women. *N Engl J Med*. 5(6):573-87.
- Chong, P. N, Krishnan, M, Hong, C. Y, Swah, T. S. (2002). Knowledge and practice of cancer of the breast screening amongst public health nurses. Singapore. *Singapore Medical Journal*. Vol. 43(10):509-516.
- Coughlin, S. S, Ekwueme, D. U. (2009). Community practice in the United States: A cohort study. *Ann. Intern. Community. Sudan J. Med. Sci*. 3(2):99-104.
- Damiani, G., Federico, B., Basso, D., Ronconi, A., Bianchi, C. B. & Anzelotti, G. M. (2012). Socio-economic disparities in the uptake of breast and cervical cancer screening in Italy: A cross sectional study. *BMC Public Health*. 12, 99-120
- Dey, S., Mishra, A., Govil, J., Dhillon, P.K, (2015). *Cancer of the breast Awareness at the Community Level among Women in Delhi, India*. India: New Age Publications.
- Dow M. K. and Yarbrow. C.H., (2007). Cultural Perspectives of International Breast Health and Cancer of the breast Education. In *Journal of Nursing Scholarship*. Vol. 39(2), 105–112.
- Downing, A., Prakash, K., Gilthorpe, M. S, Mikeljevic, J. S, Forman, D., (2007). Socio-economic background in relation to stage at diagnosis, treatment and survival in women with cancer of the breast. *Br. J. Cancer*, 96(5):836-40.
- Egubue, A. O, Akpede, N. & Arua, N. E. (2014). Knowledge of Cancer of the breast and Need for its Screening Among Female Healthcare Workers in Oshimili South Local Government Council Area of Delta State, Nigeria. *African medical Journal*. 5(1):59-64.
- Egwuonwu, O. A, Anyanwu, S. N, Nwofor, A. M., (2012). Default from neo-adjuvant chemotherapy in premenopausal female cancer of the breast patients: What is to blame? In *Nigeria Journal of Clinical Practitioners*, 15:26-59
- Foster, R. S., Hendrick, E., Eyre, H. J, Sener, S. (2003). American Cancer Society Guidelines for cancer of the breast screening: Update 2003. *CA Cancer J. Clin*. 53:141-169.
- Hadi, M. A., Hassali, M. A., Shafie, A. A. & Awaisu, A., (2010). Evaluation of breast cancer awareness among female university students in Malaysia', *Pharmacy Practice* 8(1), 29–34.
- Harmer, V. (2008). Breast cancer. Part 1: Awareness and common benign diseases. *Br. J. Nurs*. 17(15):950-955.
- Hayes DF. Clinical practice. Follow-up of patients with early cancer of the breast. *N Engl J Med*. 2007;356(24): 2505-13.

- International Agency for Research on Cancer (IARC) (2008). Fast Stats. Lyon: International Agency for Research on Cancer
<http://globocan.iarc.fr/factsheets/populations/factseet.asp?uno=900#KEY.>
- Isara, A. R., & Ojedokun, C. I. (2011). Knowledge of cancer of the breast and practice of breast self-examination among female senior secondary school students in Abuja, Nigeria. *J. Prev. Med. Hyg.* 52:186-190.
- Islam, S. R, Aziz, S. M. (2012). Mammography is the most effective method of cancer of the breast screening. *Mymensingh Med. J.* 21:366-371.
- Jack, R. H., Davies, E. A. & Moller, H. (2009). Cancer of the breast incidence, stage treatment and survival in ethnic groups in South East England. *Br.J. Cancer* 100:545-550. Kano teaching hospital, Kano, Nigeria. *Niger. J. Basic Clin. Sci.* 4 (6), 56-60.
- Kanaga, K.C., Nithiya, J. & Shatirah, M. F., (2011). Awareness of cancer of the breast and screening procedures among Malaysian women', *Asian Pacific Journal of Cancer Prevention* 12(8), 1965–1967
- Kayode, F. O, Akande, T. M, & Osagbemi, G. K, (2005). Knowledge, Attitude and Practice of Breast Self-Examination among Female Secondary
- Khanjani, N., Noori, A. & Rostami, F., (2012). The knowledge and practice of breast cancer screening among women in Kerman, Iran', *Al Ameen Journal of Medical Science* 5(2), 177–182.
- Khokhar, A., (2009). Level of awareness regarding cancer of the breast and its screening amongst Indian teachers', *Asian Pacific Journal of Cancer Prevention*, 10(2), 247–250.
- Korean Cancer of the breast Society. Clinical characteristics of Korean cancer of the breast patients in 1998. *Journal of Korean Medical Science* 15:569)–579 2000.
- Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement.* 2 (3), 33-50.
- Kreps, G., & Sivaram, R. (2009). Strategic health communication across the continuum of cancer of the breast care in limited resource countries. *Cancer Suppl.* 113(8), 2331-2337.
- KumarM,KashyapVM(2016).AwarenessaboutbreastcanceramongLancetOncol.9(7):683-692.
- Lancet, T. (2011).The good news about cancer in developing countries. *Lancet* 378(9803):1605.
- Lehman, C. D., Taplin, S. H, Sickles, E. A. (2011). Comparative effectiveness of digital versus film- screen mammography in community practice in the United States: A cohort study. *Ann. Intern. J.* 2(8). 39-60.

- Lemlem, S. B., Sinishaw, W., Hailu, M., Abebe, M. & Aregay, A., (2013). Assessment of knowledge of cancer of the breast and screening methods among nurses in University Hospital in Addis Ababa, Ethiopia. *International Scholarly Research Notices* 2013(2013), 470-981.
- LoBiondo-Wood, G. & Haber, J., (2006), *Nursing research: Methods and critical appraisal for evidence based practice*, 6th edn, Mosby, St Louis.
- Marinho, L. A. B., Cecatti, J. G., Osis, M. J. D. & Gurgel, M. S. C., (2008). Knowledge, attitude and practice of mammography among women users of public health services', *Revista de Saúde Pública*, 42(2), 21–31.
- Matthews, C. E. (2001). Lifetime physical activity and cancer of the breast risk in the Shanghai Cancer of the breast Study. *British Journal of Cancer* 84(7):994–1001.
- McPherson, K. ABC of breast diseases. Cancer of the breast—epidemiology, risk factors, genetics. *British Medical Journal* , 321(624)–628 2000. Med. 155:493-502.
- Mugivhi, N. H., Maree, J. E. & Wright, S. C. D., (2009). Rural women's knowledge of prevention and care related to cancer of the breast', *Curationis* 32(2), 38–45.
- Muguti, G. I. (1999). Experience with breast cancer in Zimbabwe. *J. R. Coll. Surg.* 38(2):75-78.
- Nasiru, A. I., & Olumuyiwa, O. O. (2009). Knowledge of risk factors, beliefs and National Cancer Institute (2005). Theory at a Glance. Washington, DC:
- National Cancer Institute (2005). Theory at a Glance. Washington, DC: National Institutes of Health.
- Nelson, H.D, Fu, R. and Cantor, A. (2016). Effectiveness of Cancer of the breast Screening: Systematic Review and Metal-analysis. *Annals of Internal Medicine*. 164(4): 244-255.
- Nigeria: Cancer of the breast (2014). World health rankings: Live longer live better. Available at: <http://www.worldlifeexpectancy.com/nigeria-breast-cancer>.
- Ogunbiyi, J. O., Fabowale, A. O, Ladipo, A. A. (2010). In Cancer incidence and top ten cancers in eleven local government areas in Ibadan, Nigeria and its environs, 2004-2008. Ibadan M. Alofe (Nig.) enterprises. 11-17.
- Ojikutu, R. K. & Adetifa, F .A., (2009), Psycho-social analysis of cancer of the breast awareness in Lagos state, Nigeria, *International Journal of Academic Research*, 1(2), 181–187.
- Okobia, M. N, Bunker, C. H, Okonofua, F. E, Osime, U. (2006). knowledge, attitude and practice of Nigerian women towards cancer of the breast: A cross-sectional study. *World J. Surg. Oncol.* 4:11.

- Okolie, U. V (2011). Breast self-examination among female undergraduates in Enugu, Southeast, Nigeria. *Int. J. Nurs. Midwifery*, 4(1), 1-7.
- Okorie, O. (2011). Mass Media Strategies for Creating Awareness of Cancer of the breast. *Public Knowl. J.* 3(1):1-6.
- Omotara B., Yahya S., Amodu M. & Bimba J., (2012). Awareness, attitude and practice of rural women regarding cancer of the breast in North-east Nigeria' , *Journal of Community Medicine & Health Education* 2(5), 4
- Onwere, S., Okoro, O., Chigbu, B., Aluka, C., Kamanu, C., & Onwere, A. (2009). Breast self-examination as a method of early detection of cancer of the breast: Knowledge and practice among antenatal clinic attendees in South Eastern Nigeria. *Pak. J. Med. Sci.* 25:122- 5.
- Onyije, F. M., Zenebo, V. C, Oboma, Y. I. (2010). Knowledge and practice of breast cancer self-examination among female students in tertiary institutions in Nigeria. *Cont. J. Biomed. Sci.* 4:75-82.
- Osime, O. C, Okojie, O. Aigbekaen, E. T, Aigbekaen, I. J. (2008). Knowledge attitude and Practice about cancer of the breast among civil servants in Benin City, Nigeria. *Ann. Afr. Med.* 7:192-197.
- Owoyemi, J. O. (2018). Women's Delay in Reporting Cancer of the breast to Hospitals: A Perception by Female Students of Selected Tertiary Institutions in Kogi State, North-Central, Nigeria. *In FuLafia Journal of Social Sciences.* 1(4): 68-81.
- Parkin DM (2008). The role of cancer registries in cancer control. *Int. J. Clin. Oncol.* 13(2):102-111.
- Parkins D.M. & Fernández L.M., (2006). Use of statistics to assess the global burden of cancer of the breast', *The Breast Journal* 12(1), 70–80.
- Pathak, D. R. & Whittemore, A. S. (1992). Combined effects of body size, parity, and menstrual events on cancer of the breast incidence in seven countries. *American Journal of Epidemiology* 135(2):153–168 1992.
- Polit D.F. & Beck C.T., (2008). *Nursing research: generating and assessing evidence for nursing practice*, 8th edn, Lippincott Williams & Wilkins,
- Reyes-Ortiz, C. A., Camacho, M. E., Amador, L. F., Velez, L. F., Ottenbacher, K. J. & Markides, K. S., (2007). The impact of education and literacy levels on cancer screening among older Latin American and Caribbean adults', *Cancer Control* 14(4), 388–395.
- Sankaranarayanan, R.. (1999). An overview of cancer survival in developing countries. In:

Cancer Survival in Developing Countries. IARC Scientific Publication 145, 135–157.

Schwartzmann, G. Cancer of the breast in South America: challenges to improve early detection and medical management of a public health problem. *Journal of Clinical Oncology* 19(18s):118–124

Shepherd J.H. &McInerney P.A., 2006, 'Knowledge of cancer of the breast in women in Sierra Leone' *Curationis* 29(3), 70–77.

Shepherd J.H. &McInerney P.A., 2007, 'Knowledge of breast-self examination in women in Sierra Leone', *Curationis* 30(4), 38–44.

Siu, A.L. (2016). U.S. Preventive Services Task Force. Screening for Breast Cancer. *Annals of Internal Medicine*. 164(4): 279-296.

Soyebi, K. O, Ibitoye, A. Z, Abonyi, L. C, Eniyandunni, F. J. (2012). Knowledge and Awareness of Cancer of the breast among Female Secondary School Students in Nigeria. *Acad. J. Cancer Res*. 5(1):01-05.

Sule, E. A. (2011). Cancer of the breast awareness and breast examination practices among women in a Niger Delta Hospital. *Cont. J. Med. Res*. 5(1):27-31.

Tabar, L., Vitak, B., Chen, H. T, Yen, M., Duffy, S. W., Smith, R. A. (2001). Beyond randomized controlled trials, organized mammography screening substantially reduces breast carcinoma mortality. *Cancer* , 91:17-24-

Tieng, O. J. G., Pengpid, S., Skaal, L. & Peltzer K., (2011). Knowledge, attitude and practice of cancer of the breast examination among women attending a health Gaborone, Botswana', *Gender and Behaviour* , 9(1), 3513–3527.

Tobin , E. A, Okeowo, P. O. (2014). Breast self-examination among secondary school teachers in South-South, Nigeria: A survey of to Cancer of the breastand Breast Self-Examination among Female

Tobin, E. A, Okeowo, P. O (2014). Breast self-examination among secondary school teachers in South-South, Nigeria: A survey of perception and practice. *J. Public Health Epidemiol*. 6(5):169-173.

Vorobiof, D. A. (2001). Cancer of the breast incidence in South Africa. *Journal of Clinical Oncology* 19(18):125s–127s 2001.

WHO.(2020). Global cancr rates could increase by 50% to 15 million by 2020
<http://www.who.int/mediacentre/news/releases/2003/pr27/en/>.

Yakubu, A. A, Gadanya, M. A, Sheshe, A. A. (2014). Knowledge, attitude, and practice of breast

- self-examination among female nurses in Aminu Kano teaching hospital, Kano, Nigeria.
*Niger. J. Basic Clin. Sci.*11(2):85-88.
- Yan, Y.Y., (2009). Cancer of the breast: Knowledge and perceptions of Chinese women in Hong Kong', *Global Journal of Health Science* ,1(2), 97–105.
- Yip, C. H, Smith, R. A, Anderson, B. O, Miller, A. B, Thomas, D. B, Ang, E. S, Caffarella, R. S, Corbex, M. Kreps, G. L, McTiernan, A. (2008). Guideline implementation for breast healthcare in low and middle-income countries: early detection resource allocation. *Cancer* 113(8):2244-2256.