AWARENESS AND PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE STUDENTS IN A TERTIARY INSTITUTION IN IBADAN, OYO STATE
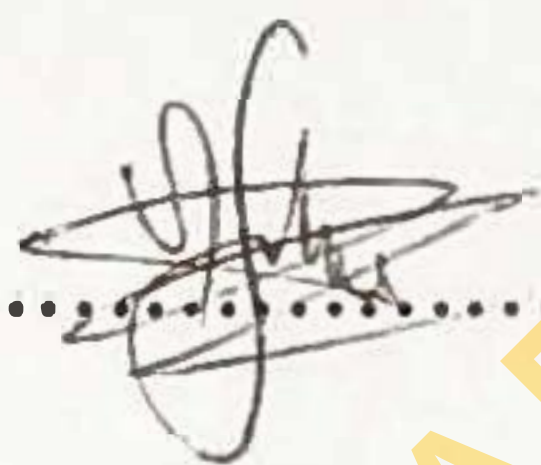
BY

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M.Sc Epidemiology

Matric Number: 168667

A project submitted in partial fulfilment of the requirements for the award of Master of Science in Epidemiology, Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan.
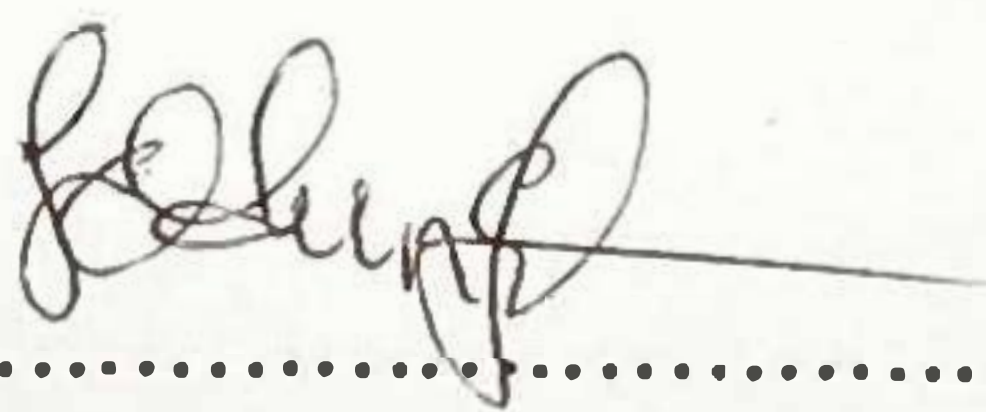
APRIL, 2014.

CERTIFICATION

I hereby certify that AJAYI IDOWU TITILAYO with MATRICULATION NUMBER :168667 carried out this research project titled: AWARENESS AND PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE STUDENTS IN A TERTIARY INSTITUTION IN IBADAN, OYO STATE in the Department of Epidemiology and Medical Statistics, Faculty of Public Health, University of Ibadan under my supervision.

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DEDICATION

This work is dedicated to the Almighty God, Immortal, Invisible, and The only wise God whom I call Faithful. Thus he has helped me, even in times I felt discouraged and felt I could not move on, and my loving parents Pastor and Pastor (Mrs) A.A. Ajayi, you are just the best.

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All thanks to the Almighty God, the most high for his provision, strength when I was weak, protection, mercy and for granting me favour in the sight of men making this work a success.

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A huge appreciation to my fiancé, the love of my life, Teminikan, Oladeji Olumide. You have been a lovely back up, always encouraging me and inquiring about my progress on this work. I love you and I pray our love will never fade away.

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If friendship were to be bought, I am sure I wouldn't be able to afford these people (Dr Princess, Ronke Bright, Ayinde Yomi, Akingbolu Ifedapo, Anamonye Emmanuel, Makinde Ife, AY, who all went extra mile and sacrificed their time and energy in making this study a success.

AJAYI IDOWU TITILAYO

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ABSTRACT

There is evidence that women who practice BSE are more likely to detect a lump in the early stage of its development thereby influencing early treatment and a better survival rate. Early detection of breast cancer plays an important role in reducing its morbidity and mortality.

This study is a cross sectional study carried out among 423 female students in The Polytechnic, Ibadan to describe their awareness and practice of breast self examination. The study tool was a structured self administered questionnaire to obtain information on the socio demographic characteristics, knowledge of breast cancer, awareness, attitude and practice of breast self examination.

The mean age of the respondent was found to be 22.5 ± 4 years with the minimum and maximum age being 15 years and 45 years respectively. Majority of the students of (86.1%) had heard of BSE . More than half (68.8%) of the respondents did not know the proper way to perform it though 80.9% claimed they could perform it. However, only 9.5% of the respondents actually practiced it regularly. Attitude to practice of BSE among respondents (OR=4.048 ; CI=2 .086-7.854) and awareness of BSE (OR=12.659; CI= 6.484- 24.689) have significant effect on practice of breast self examination among the respondents in this study.

Based on the respondents responses, it is inferred that information on breast cancer , its impact and screening practices might either not be communicating its message or failing to reach enough women, resulting in confusion and misinformation. Holistic interventions of stakeholders should be combined in eradicating hindrances to health literacy on sensitive health issues such as breast cancer whose treatment begins with the individuals.

Keywords: Breast self examination, breast cancer, knowledge, awareness, attitude, practice

CHAPTER ONE

INTRODUCTION

1.1 Background

Cancer occurs as a result of mutations or abnormal changes in the genes responsible for regulating the growth of cells and keeping them healthy. Currently, it is the second most common cause of death (22%) in the developed countries. In developing countries, it is the third cause of death after infectious and parasitic diseases and cardio-vascular diseases. It makes up nine percent of the total death in the developing world (World Health Organisation, 2008). Breast cancer constitutes a major public health issue globally with over 1 million new cases diagnosed annually, resulting in over 400,000 annual deaths and about 4.4 million women living with the disease. It also affects one in eight women during their lives. It is the commonest site specific malignancy affecting women and the most common cause of cancer mortality in women worldwide. Breast cancer is about a hundred times more common in women than in men, but survival rates are equal in both sexes (National Cancer Institute, 2006; Cancer Research, 2007; American Cancer Society, 2007). Early detection of breast cancer plays an important role in reducing its morbidity and mortality. Theoretically, a 95% survival rate could be achieved if this cancer is diagnosed at an early stage (Yarbrough and Braden, 2001).

Women's experience of breast cancer has several distinct phases, each characterized by a set of unique set of psychosocial concerns. These phases include diagnosis, primary treatment, special issues related to non-invasive breast cancer, genetic risk and its psychological management, completing treatment and re-entry to usual living, survivorship, recurrence, and palliation of advanced cancer (National Research Council, 2004). The main methods of screening involve

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mammography, physical examination of the breasts by a physician or qualified health workers or clinical breast examination (CBE) and breast self examination (BSE) (Kayode et al., 2005). The American Cancer Society and The National Cancer Institute recommend periodical mammograms, clinical breast examination, and monthly BSE, to detect breast cancer at an early stage (American Cancer Society, 2005). There is also evidence that women are more likely to perform BSE effectively when taught by a physicians or a nurse (Soyer et al., 2007).

Breast self examination (BSE) is a screening method used in an attempt to detect early breast cancer. The purpose of BSE is to learn the topography of the breasts; which in turn allows early detection of breast masses or lumps. Breast self examination, carried out once monthly, between the 7th and 10th day of the menstrual cycle helps to detect breast cancer at the early stage of growth when there is low risk of spread, ensuring a better prognosis when treated(Schechter, 1999).

1.2   PROBLEM STATEMENT

Breast cancer continues to remain the most lethal malignancy in women across the world. In 2008, approximately 1.4 million women were diagnosed with breast cancer worldwide with corresponding 460,000 deaths (Ferlay et al., 2008). The life time risk of breast cancer is about 10% for white women and 7.3% for black women. The cancer reduces life expectancy of the population at risk especially those between thirty to fifty years.

Breast cancer survival rates vary greatly worldwide, it ranges from 80% or more in North America, Sweden and Japan to about 60% in middle-income countries and below 40% in low-

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income countries (Coleman et al., 2008). The low survival rates in less developed countries is mainly due to lack of early detection programmes, resulting in a high proportion of women presenting with late-stage disease, consequently high morbidity and mortality(Coleman et al., 2008)..

Despite the benefits associated with breast self examination, researchers have found only a few women who regularly practiced it and then these few did not know how to do so correctly. Studies have shown that BSE has a positive effect on the early detection of breast cancer. An investigation by Pillay (2002), which sought to establish the awareness of breast and cervical cancers among South African women, found that 80% of the women had heard of breast cancer while one in five women had not heard of breast cancer. Hence, this study assesses the awareness and practice of BSE among young female students in a tertiary institution in Nigeria.

1.3   JUSTIFICATION

In Nigeria, breast cancer is one of the leading carcinoma in hospital incidence as revealed by a preliminary survey report from population based epidemiological. A prevalence of 116 cases per 100 000 women per year was quoted in the report. (Adebamawo and Adekunle, 1999).

The incidence of first presentation of breast cancer is known to peak between the ages of 45 ad 55 years. Although women 40 years of age and under account for less than 5% of those developing the disease, it has been observed that the incidence of breast cancer has increased most markedly in the younger population (Fancher et al., 2011). The 5-year survival rate is

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lower for women diagnosed with breast cancer before age 40(83%) compared with women diagnosed at ages 40 years or older (90%). (Fancher et al., 2011)

Mammography is the most efficacious screening technique of breast cancer (Tabar et al., 2001) but the high cost of this examination and availability precludes it from being accessed by large number of women. Hence in developing countries, BSE is probably the only feasible approach to wide population coverage due to its low cost and applicability (Park, 2002).

Early diagnosis of breast cancer gives women a better survival and prognosis in absence of an etiological agent for the disease. The most appropriate way of controlling is early detection and treatment. Regular breast self examination can identify any abnormal changes in breast and help establish good prognosis. If younger women are target of programmes on breast cancer awareness and screening, they will learn to examine their breast themselves from early ages and detect every minute changes early in their later life.

Other literatures have worked on breast self examination among female students in teaching hospitals, universities and among female secondary school teachers. Thus, this study intends to diversify into the polytechnic to assess the awareness, knowledge and practice of breast self examination among female students in the institution.

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1.4   OBJECTIVES OF THE STUDY

1.4.1   General Objective

To determine knowledge and practice of breast self examination among female students of The Polytechnic Ibadan, Oyo State.

1.4.2   Specific Objectives

To determine the proportion of students who are aware of breast self examination.

To detrmin th proportion of students who are knowledgeable about breast self examination

To assess the students attitude to breast self examination.

To determine the proportion of female students who practice breast self examination.

To identify factors influencing BSE by the students.

1.5   Research Questions

What is the proportion of female students who are aware and knowledgeable about breast self examination?

What is the attitude of students towards breast self examination?

What is the proportion of female students who practice breast self examination?

What are the factors influencing the practice of breast self examination?

CHAPTER TWO

LITERATURE REVIEW

2.1   INTRODUCTION

Breast cancer is a general term used for different types of cancers that develop from breast tissue cells. Cancer of the breast is an uncontrolled growth of malignant tissue (uncontrolled and causes death) that arises in the breast (American Cancer Society, 2007). It is a space occupying destructive mass that grows and progresses at its own rate independent of the body's control. When abnormal cells divide in an uncontrolled manner they can form a mass of extra tissue, or tumour, which can be benign or malignant (Lewis, 2005).

Benign or non-cancerous tumour cells do not spread to other parts of the body. They can usually be removed and do not recur. Malignant or cancerous tumour cells can invade nearby tissues and break away from the primary tumour to form secondary tumours, also known as metastases, elsewhere in the body (Lewis, 2005). The cancerous cells may spread to the draining lymph nodes of the region, usually in the armpit. Once the region has been affected, it may result in a swelling or even an ulcer and infection. As time progresses, the cancer cells may spread into the blood stream, causing seeds - or metastases - to be deposited in vital organs such as the brain, lungs, liver and bone, where they form space-occupying lesions and destroy the host organ (Rees, 2005). It is the effects of metastases on the vital organs that affect survival from the disease and usually lead to fatality (Rees, 2005).

2.2   SIGNS AND SYMPTOMS OF BREAST CANCER

The first and common sign of breast cancer is often a painless lump or thickening in the breast (Lewis, 2005). But early breast cancer is often found on a mammogram (for women 45 years and older) before a lump can be felt. Most breast lumps are not cancerous. Other symptoms of breast cancer may not appear until the cancer is more advanced. These include:

- A spontaneous clear or bloody discharge from the nipple, often associated with a breast lump
- Retraction or indentation of the nipple
- A change in the size or contours of the breast
- Any flattening or indentation of the skin over the breast
- Redness or pitting of the skin over the breast, like an orange peel
- A change in the color or feel of the skin around the nipple (arcola).

A number of conditions other than breast cancer can cause the breasts to change in size or feel. Breast tissue changes naturally during pregnancy and menstrual cycle. Other possible causes of noncancerous (benign) breast changes include infection or injury (Lewis, 2005).

2.3   Risk factors

Ozturk, Engin, Kisioglu, and Yilmazer (2000) reported that breast cancer continues to have no exact known cause or primary prevention. It is widely believed that it may include several genetic, environmental, nutritional and hormonal factors. A risk factor is anything that makes it more likely a person will get a particular disease (Kneisl and Trigoboff, 2004). The genetic and environmental factors work together; therefore, a person with a genetic risk for developing breast cancer will have greater risk when exposed to specific environmental influences (Stern and Sekeres, 2004). Many risk factors have been successfully identified.

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2.3.1   Age

A woman's chances of developing breast cancer increase with age, i.e. as ꞈ

likelihood of developing breast cancer also increases. Close to 80 percent of breas.

in women age 45 or older. The rates of breast cancer in young women is actually quite low, but they increase rapidly with advancing age. Colditz and Stein (2004) state that, many patients do not realize the impact of age on risk. They often overestimate or underestimate their risk of breast cancer. Although breast cancer can strike both men and women, the vast majority of breast cancer occurs in women. Less than 1% of all cases are diagnosed in men. Most women with breast cancer have no known risk factors other than simply being women (Colditz and Stein, 2004).

2.3.2   Breast density

Breast density is strongly and independently related to the risk of breast cancer (Tamini et al., 2007). Breast tissue is composed of fat, connective tissue and epithelial tissue. Breasts with a high proportion of fatty tissue are described as less dense. Women with the most dense breasts have almost five times higher risk of breast cancer than women with the less dense breasts (McCormack and Santos, 2006). The effect of breast density is independent of endogenous hormones.

2.3.3   Body weight

Overweight and obesity, as measured by high body mass index (BMI), moderately increases the risk of post-menopausal breast cancer and is one of the modifiable risk factors for breast cancer. A BMI under 18.5 is classified as underweight, 18.5-24.9 as healthy weight, 25-29.9 as

overweight and 30 or over as obese) Compared to lean (BMI 22.5-24.9) women, overweight post-menopausal women have a 10-20% increased risk of breast cancer, and obese post-menopausal women a 30% increase in risk. Women with a BMI under 22.5 have a 15% reduction in risk compared to women with a BMI of 22.5-24.9. In contrast, obese pre-menopausal women have a 20% reduction in breast cancer risk(Reeves et al., 2007). A study in the UK published in December 2011 estimated that around 9% of breast cancers in women in the UK were linked to excess bodyweight (Parkin and Boyd, 2011).

2.3.4 Tobacco

In 2004, The International Agency for Research on cancer (IARC) concluded on the basis of the existing evidence that smoking does not cause breast cancer. Since that evaluation, however, the largest studies have shown an increased risk of breast cancer in women who began smoking before the age of 20 or before first birth and IARC now states that there is limited evidence that tobacco smoking causes breast cancer (Coghiano et al., 2012) .The risk increase for women who smoke compared to never-smokers in these studies was between 10-20% (Luo et al., 2011). However, evidence remains inconsistent as to whether smoking causes breast cancer after or before the menopause (Xue et al., 2011).

2.3.5 Alcohol consumption

Epidemiological studies have consistently shown a significant association between alcohol consumption and breast cancer and a recent IARC report concluded that this association was causal(Baan et al., 2007). Estimates of the relative risk associated with every additional drink (~10g of alcohol) consumed on a daily basis range between 7-12%. This is possibly due to the higher levels of sex hormones in the bloodstream of alcohol consumers than non-consumers

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(Key et al., 2006). A study published in December 2011 estimated that more than 6% of breast cancers in women in the UK in 2010 were linked to alcohol consumption (Parkin, 2011).

2.3.6 Hormonal contraception

Hormonal contraceptives may produce a slight increase in the risk of breast cancer among current and recent users, but this appears to be a short-term effect. Althius et al., (2003) examined risk factors for breast cancer among women ages 20 to 34 years compared with women ages 35 to 54 years and discovered that the risk of the disease was significantly increased for women ages 20 to 30 years who had used oral contraceptives for at least 6months and weaker for women ages 35 years who used oral contraceptives for longer period of time.

Similarly, Marchbanks et al., (2002) agreed that current or former use of oral contraceptive among women ages 35 to 64 years in a retrospective study did not significantly increase the risk of breast cancer. They further deduced that each year of oral contraceptive use prior to age 20 conferred a significantly increased risk for early onset of breast cancer while there was no risk associated with its use after age 20.

2.3.7 Race

White women are more likely to develop breast cancer than Black, hispanic or asian women, but black women are more likely to die of the disease because their cancers are found at a more advanced stage (Forshee et al., 2003; Ries et al., 2004). Although some studies show that black, younger women may have more aggressive tumours (Johnson and Dickson, 2008). The disparity may also be due to socioeconomic factors. Women of all races with incomes below the poverty level are more often diagnosed with late-stage breast cancer and more likely to die of the disease

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than are women with higher income. Low-income women often do not receive the routine medical care that would allow breast cancer to be discovered earlier.

2.4   Mammography

Mammography is the mainstay of screening for breast cancer. Although not a new screening method, it is yet to be widely available especially in low-resource countries including Nigeria (Obajimi et al., 2013). The level of awareness and utilization of these screening methods in Nigeria as in most other developing countries is quite poor (Okobia et al. 2006).

Mammography is the only best screening procedure for which empirical evidence exists to have significantly reduced breast carcinoma mortality by about 63% (Tabar et al., 2001). However, there are still challenges with its use. This includes its high costs, false positivity, pain during the procedure and risk of exposure to radiation.

2.5 Clinical breast examination

Clinical breast examination (the physical examination of a woman's breasts by a medical or allied health professional) is a screening method available to all women (Mason et al, 2008). It is rarely offered in clinical practice (Crossing et al, 2003). This is probably due to the lack of strong evidence demonstrating its effectiveness in decreasing breast cancer mortality (Humphrey et al, 2002).

2.6 Breast self examination

BSE refers to a woman being aware of the normal look and feel of her breasts and looking for changes in size or shape of the breasts, the presence of lumps, skin dimpling, redness, discharge or unusual pain (Mason and White, 2008; Cancer Association of South Africa, 2006). BSE has been recognized by global agencies as an important early detection method for breast cancer as it allows women to become familiar with their breasts and learn what is normal and abnormal (American Cancer Society, 2007; WHO, 2008). For younger women, this is often the only method that is available to them to detect abnormal changes at an early stage due to the inaccuracy and ineffectiveness of other screening tests (Crossing and Manaszewicz, 2003), and greater breast tissue density. Regular BSE is a cost-effective, non-invasive, convenient, private and simple method .It has been associated with a reduction in primary tumour size and, consequently, more conservative treatment that requires no specific equipment. Despite these benefits, only 18 per cent to 36 per cent of women actually perform BSE (Ashton et al., 2001).

2.7 Awareness and Knowledge of Breast self examination

2.7.1 Awareness of Breast self examination

In a study by Atanga et al on awareness of BSE and breast cancer in women of developing countries using Cameroonian women as case study (Overall 25.6% of respondents were not aware of BSE (they had never heard of BSE, had absolutely no idea on how to perform a BSE and never practiced it) while 39.17% were partially aware (had heard of BSE, had a slight idea on how to perform it but did not practice it often) and 35% were substantially aware of BSE (had heard of BSE, knew how to perform it and practiced it often). These findings showed similarity to those of other studies of African women that revealed considerable awareness about the existence of breast cancer, but poor knowledge on the risk factors and causes of breast cancer, as

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well as infrequent and inconsistent practice of BSE in various groups of women in Nigeria, Angola, Senegal and South Africa (Oluwatosin , 2010; Peltze , 2001; Gueye et al 2009). This is a pointer to poor attitude of individuals in developing countries to BSE

Kayode et al., 2005 carried out a cross sectional study to examine the knowledge, attitude and practice of breast self examination (BSE) among female secondary school teachers in Ilorin. It was found that most (95.6%) respondents were aware of BSE. The electronic media were the major sources of information. The reason for the high awareness is that the electronic media is the most efficient medium of spreading information on issues of public health concern. The proportion of student's awareness is consistent with the study carried out by Oluwole (2008) (73%) among female health practitioners in Ondo State, and of Irurhe (2011) among female undergraduate in Lagos State where 96% had heard of BSE.

Similar study assessed knowledge and practice of breast self examination among women in Sango market, Ibadan, Oyo State (Balogun and Owoaje, 2005). Only 37.1% of the traders were aware of breast self-examination. 18.1% of the traders had ever checked their breast. Low awareness of BSE (38.9%) was also recorded among market women in Abakaliki (Obaji et al. 2013). This findings of poor awareness of BSE among market woman indicated that being aware of personal prognosis steps to disease prevention is associated with individuals status of education.

2.7.2 Knowledge of Breast Self Examination

In a study of knowledge and practice of breast self examination among female traders in Ibadan, Nigeria conducted by Balogun et al., 2005 , association was observed between level of education of traders and their awareness of BSE. Respondents with tertiary education were more

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knowledgeable about BSE. This finding was consistent with other studies conducted among nursing students in Saudi Arabia and health workers inIran(Alsaif 2004 ; Haji Mahmoodi et al.. 2002).

In a similar study conducted among female undergraduates majority of the respondents who had heard of breast self examination knew that lump (63.8%), changes in size (37.4%), changes in the nipple (38.9%) and colour (38.1%) will be chcked during breast self examination. It is apparent from this finding that practice of BSE is not done or done wrongly by many respondents because of the knowledge gap on what to do.

2.8 Attitude towards breast self examination

Studies have shown that individual's practicing of personal health promoting behaviours is a function of their attitude or disposition towards practices. Studies that measured women attitudes to BSE used level of their agreement on components such as their fear of positive screening; belief of possible cure to malign mass if found early, shamefulness in touching body parts and so on (Naghibi et al 2013, Salaudeen et al. 2009). These dispositions were designated as positive or negative attitude depending on the appropriateness of their responses.

In a study by Joel et al (2012) almost half (48%) of the respondents who were secondary school teachers had negative attitude towards breast self examination. In a similar study among female undergraduate students conducted by Salaudeen et al., (2009), students attitude towards getting informed about BSE was very poor as less than one-fifth(18.3%) of respondents cared to seek for knowledge on breast self examination. This poor attitude indicated that many respondents still believed that breast cancer is a rare disease and that they can never be affected by it, also only 42.8% of the respondents believed that it was necessary to perform breast self examination.

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Health education is a useful tool in influencing the attitude of people to breast self examination. In a study by Naghibi et al (2013) among Iranian women, 73.3% were found to have positive attitude to BSE. Kayode et al., (2005) in a Nigeria study assessing attitude of BSE among secondary school teachers in Ilorin, showed majority (75%) of the respondents to have positive attitude to BSE. Another study among female undergraduates in the university of Ibadan, Oyo State conducted by Chioma and Azuzu ., (2005) showed that 97% of the students agreed that breast self examination was not embarrassing. However, 53.5% of the students did not believe in the efficacy of BSE and 63.2% agreed to their lack of knowledge of methods involved in BSE.

2.9   Practice of breast self examination

It is acceptable for women to choose not to do Breast Self Examination or to do Breast Self Examination irregularly (Smith, et al, 2003). According to Phumla (2014), it is important to examine the decision making process underlying women's self breast examination behavior in order to increase the practice of Breast Self Examination.

Considering the role of self-identity, some studies have revealed it as a predictive role for BSE (Armitage et al, 2001), others may have indicated that engaging in health promoting behaviours such as BSE does not play a salient role in the self-concepts of younger women as younger women may not perceive breast cancer as a currently important consideration in their lives to inform their practice of BSE (Mason et al, 2008). Other theories such as social learning theory, Social Cognitive theory, theory of planned behaviour (TPB), and theory of reasoned action were should to provide backbone to women's practice of BSE.

Social learning theory entails extensive understanding the context of health behaviours and behavioural modification, including self-efficacy in BSE (Su et al, 2006). Using his theory, a few

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studies in Chinese populations have examined the effectiveness of health-related interventions (Liang et al, 2004).

Social Cognitive Theory addresses the concept of reciprocal determinism, focuses on the interaction of the person, environment, behaviour and changes that occur in each dimension as a result of changes in other dimensions (Baranowski et al, 2002). It explains how the family or group, the basic unit of society, can benefit health education programmes through conveyance of messages regarding collectivism. Focusing on outcome expectations for an entire collective group or community, as well as interpersonal relationships within the collective group (for example, family, friends and church) may be more motivational than focusing on individual behaviour change (Resnicow et al, 2002). Using this strategy establishes that social network and support system are necessary component for behavioural changes.

Theory of planned behavior explains relational effects of cultural beliefs, environmental factors and self efficacy on individuals performance of BSE. Self-efficacy refers to the confidence one feels about performing a particular behaviour, including confidence in overcoming the barriers to achieve that behaviour (Bandura, 1986, in Tolma, Reininger, Evans & Ureda, 2006). Self-efficacy has the greatest impact on intention controlling for the other constructs of the TPB. Moreover, the strong link between self-efficacy and intention has been empirically established (Terry & O'Leary, 1995). Self-efficacy is concerned not with the skills themselves but with the judgments about what one can do with those skills. Younger women who hold more positive attitudes towards the behavior experience greater social pressure to engage in the behavior. These individuals perceive higher levels of behavioural control regarding their ability to perform the behaviour and hence, they are more likely to intend engaging in Breast Self Examination (Orbell, Hodgkins, & Sheeran, 1997). In addition, younger women with stronger intentions and

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greater control over performing Breast Self Examination behavior are more likely to engage in the behavior (Phumla, 2014)

According to theory of reason action, intention is the immediate antecedent of the behaviour, and it is assumed to capture the motivation to behave in a particular way (Fishbein & Ajzen, 1975). In turn, intention is determined by two factors; attitude toward the behavior and subjective norms. Attitudes are formed by salient beliefs about the expected outcomes derived from the performance of behaviour and the subsequent evaluation of realization of those outcomes. Subjective norms consist of the person's perception of social pressure to perform or not to perform the behaviour under consideration, based on significant individuals', known as referents, approval or disapproval of performing the behaviour (Ajzen, 1991, in Mason & White, 2008). The more resources and opportunities individuals think they possess and the fewer obstacles or impediments they anticipate, the greater their perceived behavioural control is over their behaviour. Perceived behavioural control can predict behaviour directly, only when it reflects actual control with some degree of accuracy (Ajzen,1988, cited by Tolma, Reininger, Evans and Ureda, 2006).

In study among 92 Nurses in selected hospitals in Bayelsa State, most of the respondents (95.7%) were aware of BSE, while 23.9% of them practice it once in a month. A similar study conducted among female secondary school teachers in Ilorin found that 54.8% of the respondents practiced BSE.

Study conducted among 1255 Korean women, found 88% of women to be aware of BSE however 13.2% practiced it. Studies in Ibadan, Nigeria also revealed low practice of BSE: 11.1%

of University of Ibadan undergraduates (Chioma and Azuzu, 2005) and 18.1% of 281 women

traders in a major market (Balogun et al, 2005).

CHAPTER THREE

METHODOLOGY

3.1   Study Area

The study was carried out in The Polytechnic, Ibadan, Oyo State. The Polytechnic, Ibadan. It was established under the provision of the Provost cited as The Polytechnic edict, 1970. It is located around Sango- Eleyele road in Ibadan. It became a successor of the erstwhile technical college founded in 1960. The institution has 15000 students as at 2012/2013 academic session .There are five faculties; Engineering, Science, Environmental studies, and Business and Communication studies. Students admitted yearly into the institution are from different background and socioeconomic groups.

3.2   Study Population

The study population consisted of female students residing in female hostels of The Polytechnic, Ibadan. The halls are Olori and Ramat Hall.

3.3   Subjects

3.3.1 Inclusion criteria

1. Female students residing in the hostels within The Polytechnic, Ibadan.

2. Female students who give their consent to participate in the study.

3.3.2   Exclusion criteria

1.   Female students residing in the hostel who have been treated for breast cancer.

3.4   Study Design

This is a cross sectional survey.

3.5   Sample Size Determination.

The sample size was obtained using the formula for estimating sample size of single proportion below;

$$N = \frac{Z^2pq}{d^2}$$

Where,

Z = the standard normal deviate, usually set at 1.96 which corresponds to 95% confidence level.

P = Proportion estimated to have practiced breast self examination obtained from similar studies was 54.8% (0.55). (Kayode et al., 2005)

q = 1.0 − 0.55 = 0.45

d = degree of accuracy desired was set at 0.05

$$n = \frac{1.96^2 \times 0.55 \times 0.45}{0.05^2}$$

The sample size was calculated as = 380

Adjusting for 10% non response rate was calculated using the formula below:

$$\frac{1 \times n}{1-r}$$

Where,

n = sample size.

r = non response rate.

Minimum sample size = $\frac{1 \times 380}{1-0.1}$

Hence, the total sample size was estimated at 423.

3.6   Sampling Technique

A multistage sampling technique was used to recruit subjects for the study. The Polytechnic has two Female Hostels; Olori and Ramat Hall which has 7 and 4 blocks each. Each block has 30 rooms that inhabit eight students. The two hostels were selected for the study.

In stage one five and three blocks were randomly selected from the 7 Olori and 4 Ramat blocks by balloting. All rooms in the five and three blocks of both halls were selected.

In stage two, using simple random sampling, two respondents in each of the rooms were selected by balloting.

3.7.1   Data Collection Method

Data was collected using a structured self administered questionnaire which consisted of 45 questions within five sections. The questionnaire was adapted from a questionnaire used in a previous study (Irurhe et al., 2011).

All questions were numbered to provide clear reference to every item in the questionnaire. Questions on socio-demographic characteristics were asked first before continuation into the more specific questions on BSE. Transitional phrases are used to make respondents understand and think about the topic.

Section A of the questionnaire was on respondents personal data (date of birth, age, ethnic group, religion, education).

Section B composed of awareness and knowledge of breast cancer.

Section C focused on awareness and knowledge of BSE.

Section D focused on attitude of respondents to BSE and Section E on practice of BSE. Statements of attitude to BSE were anchored on a five-point summated Likert scale with markers ranging from "strongly agree" to "strongly disagree".

3.7.2 Study variables

The independent variables of the study included, socio-demographic characteristics, awareness of BSE and attitude of respondents to BSE.

The Dependent variable was respondents' practice of BSE

3.8 Data Management

Data was entered, cleaned and analyzed using Statistical Package for Social Science (SPSS) version 15.0. Cleaning and editing were done daily to detect and correct errors.

Likert scale was used to measure the respondents' knowledge of BSE and attitude towards BSE. For the knowledge of BSE section, scores were assigned based on the nature of question asked. For example correct answer to a yes/no question was allocated 1 point while the wrong one was given 0. Measurement of other types of questions on knowledge of BSE entailed assigning a higher point to correct responses among a list of options.

In measuring respondents' attitude to BSE, five point likert scale was used. Components of responses which were from strongly disagree to strongly agree were assigned a point from 1-5.

Frequencies were used to summarize the socio demographic characteristic of students. Descriptive statistics such as mean and standard deviation were used to summarize quantitative

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variables. The association that exist between awareness of BSE and attitude towards BSE to practice of breast self examination was tested using chi-square test. Logistic regression was used to evaluate the identify factors influencing the practice of breast self examination.

3.9   Ethical Consideration

Ethical approval was obtained from the Research and Ethical Committee of the Ministry of Health, Ibadan, Oyo State. The purpose of the study was explained to respondents and written description of the purpose and aims of the study was also provided. Participants who consented signed an informed consent form.

The subjects were assured that the information provided would be kept confidential. They were also informed of their right to withdraw from the study if they so desired at any time.

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CHAPTER FOUR

RESULTS

4.1 Socio demographic characteristics of study participants

Data of 423 female students were analyzed in the study. The socio demographic characteristics of the female students studied are presented in Table 1. The mean age of the study participant was 22.5±4 years with the minimum and maximum age being 15 years and 45 years respectively. A higher proportion of the students 171(40.4%) were in the age group 20-24 years.

Majority of the respondents were unmarried 397(93.9%). A higher proportion of the respondents 329(77.8%) were Christians. Most of the respondents (91.9%) were from the Yoruba ethnic group. Out of the 423 students 269(63.6%) were (HND) students while the rest were (OND) students. Three hundred participants (70.9%) resided in Olori hall while one hundred and twenty three (29.1%) resided in Ramat hall.

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Table 1: Socio demographic characteristics of respondents

Respondent characteristic	Frequency(n)	Percentage (%)
Age(yrs)		
15-19	105	24.8
20-24	171	40.4
25 and above	147	34.8
Marital status		
Married	26	6.1
Unmarried	397	93.9
Religion		
Christianity	329	77.8
Islam	94	22.2
Ethnic group		
Yoruba	389	91.9
Others	34	8.1
Level of Education		
OND	154	36.4
HND	269	63.6
Hostel		
Olori Hall	300	70.9
Ramat Hall	123	29.1

Others: Igbo, Hausa

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4.2   Awareness of breast cancer among respondents

Table 2 outlined the respondents' awareness of breast cancer. Out of the 423 study participants, 404(95.5%) have heard of breast cancer. Most of the respondents (65.5%),obtained their information from the media, 18% was from friends, 8.7% from the health centres, 1.9% from other sources and 1.4% became aware from their families.

Table 2: Awareness of breast cancer

Variables	Frequency (n)	Percentage (%)
Ever Heard of Breast Cancer		
Yes	404	95.5
No	19	4.5
Source of information		
Media	277	68.5
Hospital	37	9.2
Friends	76	18.0
Family	6	1.5
Others	8	1.9

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4.3   Knowledge of Breast Cancer

As shown in table 3 Most of the students were knowledgeable about cases of breast cancer as 71% knew it is a hard-soft single or multiple noodles, 71.5% had knowledge it could result in cancer. However a high prevalence of respondents (79.7%, 67.3%) did not have knowledge of breast cancer as an abnormal painless lump on the breast and as a swollen and enlarged breast.

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Table 3: Knowledge of breast cancer

Variables	Yes n (%)	No n (%)
Breast cancer is a hard or soft single/multiple noodle	287 (71.0)	117 (29.0)
Knowledge of growth pattern of breast lump		
Appear and later disappear	212 (52.5)	192 (47.5)
Remain as it is	287 (71.0)	117 (29.0)
Lump grows painfully	278 (68.8)	126 (31.2)
May result to cancer	289 (71.5)	115 (28.5)
Knowledge of what breast cancer is		
An abnormal painless lump on the breast	82 (20.3)	322 (79.7)
A swollen and enlarged breast	132 (32.7)	272 7.3)

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4.4   Knowledge of risk factors of breast cancer

Table 4 reveals respondents knowledge of risk factors for breast cancer. A higher proportion of the respondents identified family history as a risk factor for breast cancer. Low prevalence of knowledge of risk factors for breast cancer was observed among respondents as 21%, 25.1% and 4.3% knew age, smoking and exercise as predisposing factors.

Table 4: Knowledge of risk factors about breast cancer

Variables	Frequency(n)	Percentage(%)
Age		
Yes	89	21.0
No	334	79.0
Family history		
Yes	291	68.8
No	132	31.2
Smoking		
Yes	106	25.1
No	317	74.9
Diet		
Yes	281	66.3
No	142	33.7
Breastfeeding		
Yes	29	6.9
No	394	93.1
Exercise		
Yes	18	4.3
No	405	95.7
Multiple sex partners		
Yes	40	9.5
No	383	90.5

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4.5   Knowledge of signs/symptoms of breast cancer

Results of respondents' knowledge of signs and symptoms of breast cancer displayed in the table below indicates that majority of the respondents (72.6%) identified a lump in the breast, (85.1%) identified pain or soreness in the breast and a low proportion(30.0%) identified discharge from the breast as a sign/symptom of breast cancer.

Table 5: Knowledge of signs/symptoms of breast cancer

Variables	Frequency(n)	Percentage(%)
A lump in the breast		
Yes	307	72.6
No	116	27.4
Discharge from the breast		
Yes	127	30.0
No	296	70.0
Pain or soreness in the breast		
Yes	360	85.1
No	63	14.9
Discharge from the vagina		
Yes	26	6.1
No	397	93.9
Discolouration/dimpling of the breast		
Yes	116	27.4
No	307	72.6
Body pain		
Yes	70	16.6
No	353	83.4
Inversion of the nipple		
Yes	269	63.6
No	154	36.4
Difficulty in swallowing		
Yes	34	8.0
No	389	
		92.0

4.6   Knowledge of breast cancer diagnosis

As expressed in Table 6 high prevalence of knowledge of diagnosis methods for breast cancer was observed among respondent as 70.9% knew about pathological examination, 80.4% about breast self examination, 82.7% about clinical examination and 66.2% are knowledgeable of mammography.

Table 6: Knowledge of breast cancer diagnosis

Variables	Yes n (%)	No n (%)
Pathological examination of breast tissue by Fine needle aspiration cytology		
Yes	300	70.9
No	123	29.1
Breast self examination		
Yes	340	82.7
No	83	17.3
Clinical breast examination		
Yes	350	82.7
No	73	17.3
Mammography		
Yes	280	66.2
No	143	33.8
Chemotherapy		
Yes	98	23.2
No	143	76.8

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4.7   Awareness of breast self examination

The chart below shows respondents' awareness of breast self examination. Majority of the students (86.1%) had heard of BSE. Most (57.9%) were informed through the media, 13.0% from friends and a small percentage (10.4%) became aware through health professionals.
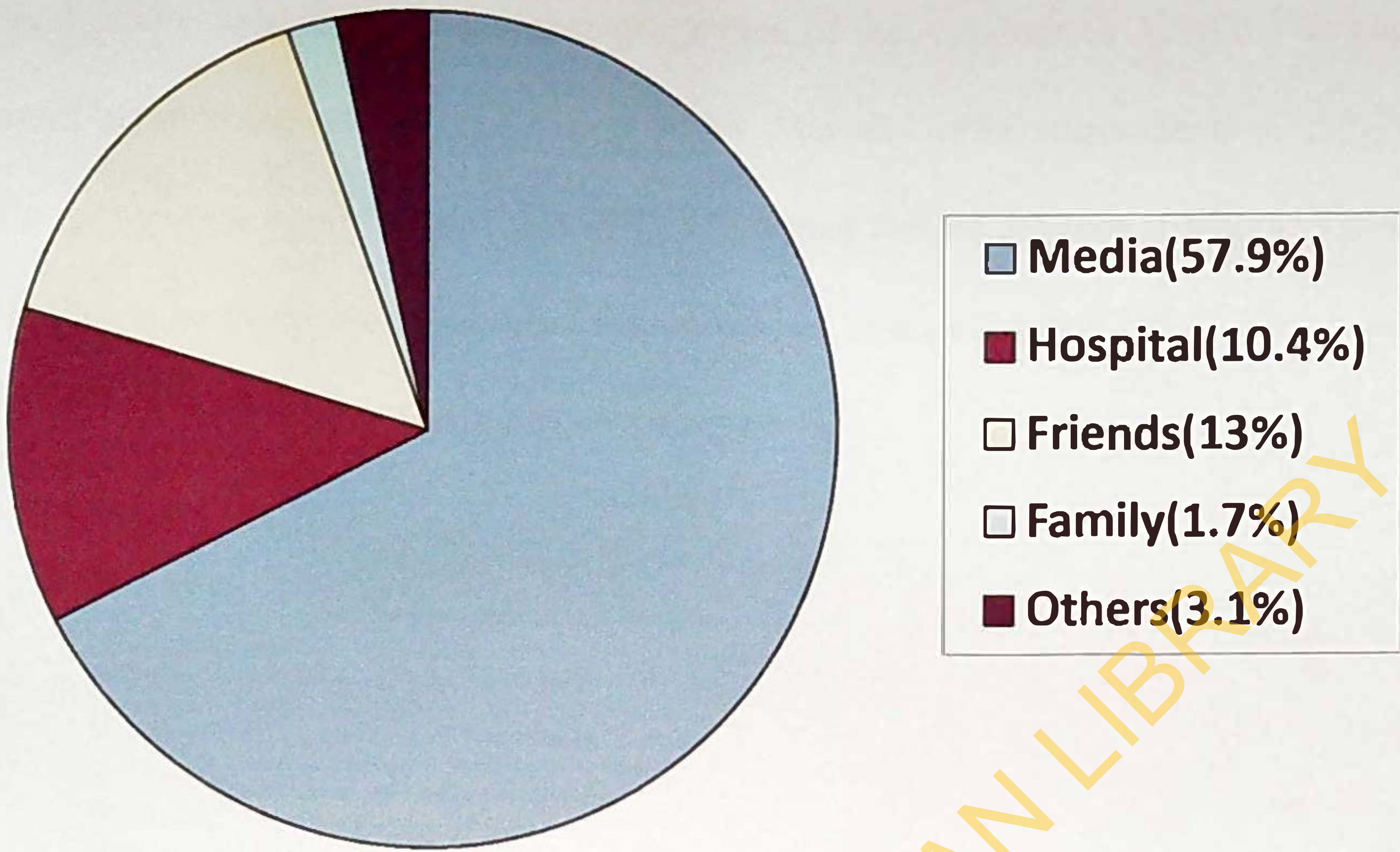
Fig1: Respondent's awareness of breast self examination

4.8   Knowledge of breast self <u>examination</u>

The table 8 below indicates that a higher proportion of the respondents 329(90.3%) knew that BSE should begin at the adolescence period of life. Majority of the respondents (61.9%) did not know the appropriate period to perform BSE. More than half of the respondents (55.8%) knew that BSE should be performed monthly. Also noted is a high proportion (68.8%) of respondents who incorrectly stated that BSE can be performed anyhow.

Table 8: Knowledge of period to initiate and maintain breast self examination

Variables	Frequency (n)	Percentage (%)
Ever heard of BSE?		
Yes	364	86.1
No	59	13.9
Due period for routine monthly BSE practice		
Before menstrual period	8	1.9
After menstrual period	24	5.7
Anytime	129	30.5
Don't know	262	61.9
Self perceived frequency of BSE		
Daily	29	6.9
Weekly	90	21.3
Monthly	236	55.8
Once a year	6	1.4
Don't know	62	14.6
Knowledge of practice of BSE		
	61	14.4
Carefully examine with one finger	31	7.3
Carefully examine with palm and a minimum of two fingers	40	9.5
Carefully examine with palm and a minimum of three fingers	291	68.8
Anyhow		

4.9   Respondent's Attitude towards Breast Self Examination

Table 9 summarizes respondents' attitude to practice of BSE. A higher proportion of the respondents 222(52.5%) agreed that BSE is embarrassing, 53.2% agreed that BSE makes them worry about breast cancer while 51.3% believed BSE will take too much of their time. More than half of the respondents(50.8%) believed doing BSE will be unpleasant, 64.4% agreed that they don't have enough privacy to do, 56.3% were undecided about the efficacy of the test while 63.6% were of the opinion that they will never have breast cancer.

Table 9: Respondents attitude towards breast self examination

Variables	Agree	Undecided	Disagree
Doing BSE is embarrassing to me	222 (52.5)	115 (27.2)	86 (20.3)
BSE makes me worry about breast cancer	225 (53.2)	41 (9.7)	154(36.4)
Doing BSE will take too much time	217 (51.3)	47 (11.1)	149(35.2)
Doing BSE will be unpleasant	215 (50.8)	58 (13.7)	150(35.5)
I don't have enough privacy to do BSE	271 (64.1)	57 (13.5)	95 (22.5)
I don't believe in the efficacy of the test	86 (20.3)	238 (56.3)	99(23.4)
I don't think I should touch my body anyhow	213 (50.3)	49 (11.6)	161(38.1)
I don't think it is important to do BSE	222 (52.5)	49 (11.6)	152(35.9)
I know that I can never have breast cancer	269 (63.6)	61 (14.4)	93 (22)

4.10 Practice of Breast Self Examination

Table 10 describes the respondents' practice of BSE. Majority of the respondents, 342(80.9%) practice BSE. Two hundred and twenty three of the study participants (65.2%) performed breast self examination to check for lumps, (29.8%) because of advice from friends and families. Of those who never performed BSE (43.2%) claimed they do not have breast problem, 43.2% claimed they did not feel comfortable doing BSE, 31% claimed they were unsure of its benefits, 37% mentioned they don't think it was necessary while 40.6% mentioned that it was too frequent to practice.

Of those who claimed to practice breast self examination only (11.7%) performed it monthly as it should. On the age at start of BSE, 168(39.7%) reported less than 19years, 173(40.9%) reported more than 19 years while 82(19.4%) claimed they don't know. A higher proportion 280 (81.9%) of the respondents claimed to practice BSE within the past one to three months ago.

Table 10: Respondents Practice of BSE

Variable	Frequency(n)	Percentage (%)
Had you ever performed breast self examination? (n=423)		
Yes	342	80.9
No	81	19.1
Reasons for practicing BSE (n=342)		
Fear of checking for lumps	223	65.2
I was told to do it	95	27.8
Just for fun	9	2.6
Others	15	4.4
Reasons for not practicing BSE(n=81)		
I don't have breast problem		
Yes	35	43.2
No	46	56.8
Too frequent to practice		
Yes	31	40.6
No	40	49.4
I don't feel comfortable doing it		
Yes	35	43.2
No	46	56.2
I don't think it is necessary		
Yes	33	37
No	48	67
Unsure about its benefit		
Yes	25	31
No	46	69
Frequency of BSE practice		
Daily	30	8.8
Weekly	255	74.6
Monthly	40	11.7
Once a year	17	4.9
Age at start of BSE		
< 19 years	168	39.7
19 years and above	173	40.9
Don't know	82	19.4
last time breast was self was self examined	280	81.9
Within the past 1 – 3 months ago	28	8.2
4 – 6 months ago	13	3.8
7 – 12 months ago	21	6.1
Specify		

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Table 10: Respondents Practice of BSE

Variable	Frequency(n)	Percentage (%)
Had you ever performed breast self examination? (n=423)		
Yes	342	80.9
No	81	19.1
Reasons for practicing BSE (n=342)		
Fear of checking for lumps	223	65.2
I was told to do it	95	27.8
Just for fun	9	2.6
Others	15	4.4
Reasons for not practicing BSE(n=81)		
I don't have breast problem		
Yes	35	43.2
No	46	56.8
Too frequent to practice		
Yes	31	40.6
No	40	49.4
I don't feel comfortable doing it		
Yes	35	43.2
No	46	56.2
I don't think it is necessary		
Yes	33	37
No	48	67
Unsure about its benefit		
Yes	25	31
No	46	69
Frequency of BSE practice		
Daily	30	8.8
Weekly	255	74.6
Monthly	40	11.7
Once a year	17	4.9
Age at start of BSE		
< 19 years	168	39.7
19 years and above	173	40.9
Don't know	82	19.4
last time breast was self was self examined		
Within the past 1 – 3 months ago	280	81.9
4 – 6 months ago	28	8.2
7 – 12 months ago	13	3.8
Specify	21	6.1

4.11 Knowledge and Attitude Score For Breast Self Examination among Respondents

Majority of the respondents 70.2% had good knowledge while attitudinally, a higher proportion 50.1% had poor attitude towards breast self examination.

Table 11: Knowledge and Attitude score of breast self examination among the respondents

Variable	Frequency (%)
Knowledge of breast self examination	
Poor	126(29.8)
Good	297(70.2)
Attitude towards breast self examination	
Poor	212(50.1)
Good	211(49.9)

4.12 Socio-demographic factors and practice of BSE

Table 12 expresses the association of socio-demographic factors to the practice of BSE. A higher proportion (63.5%) of the respondents aged 15-24 years practiced BSE compared to 36.5% of the respondents aged 25-45 years. This difference was not statistically significant (X^2= 3.760, P= 0.153). For marital status, a higher proportion (95.3%) were unmarried compared to (4.7%) who were married. This difference was statistically significant (X^2=22.361, p=0.001).

The practice of BSE was repeatedly higher among the HND students (63.6%) than OND students (34.4%) and was significant(X^2= 13.920, P= <0.001). A higher proportion (79.5%) of the Christian religious group practiced BSE more than other religious group. This was statistically significant ($X^{2=}$13.441, P=0.009). A higher proportion (94.4%) of the respondents who were of the Yoruba ethnic group practiced BSE compared to other ethnic group. This was also statistically significant($X^{2=}$26.488, P= <0.001).

Table 12: Association between BSE and some socio demographic variables

Variables	Practice of BSE			X^2	P value
	Yes(n%)	No(n%)	Total		
Age (years)					
15-24	217(63.5)	59(72.8)	276(65.2)		
25-45	125(36.5)	22(27.2)	147(34.8)	3.760	0.153
Marital Status					
Married	16(4.7)	12(14.8)	26(6.2)		
Unmarried	326(95.3)	69(85.2)	395(93.4)	22.361	<0.001
Religion					
Christianity	272(79.5)	57(70.4)	329(77.8)		
Islam	70(20.5)	24(29.6)	94(22.2)	13.441	0.009
Ethnic Group					
Yoruba	323 (94.4)	66(81.5)	382(92.0)		
Others	19 (5.6)	15(18.5)	34(8.0)	26.488	<0.001
Level of Education					
OND	110(32.2)	44(54.3)	154(36.4)		
HND	232(67.8)	37(45.7)	269(63.6)	13.920	<0.001

Others= Igbo, Hausa

4.13   Awareness and Practice of Breast self examination

A higher proportion 324(94.7%) of the respondents who were aware of BSE practiced it compared to 18(5.3%) who were not aware of BSE. This difference was statistically significant ($X^2 = 153.592$, P= <0.001).

Table13: Awareness and Practice of BSE

Variables	Practice of BSE			X^2	P value
	Yes	No	Total		
Awareness of BSE					
Yes	324(94.7)	40(49.4)	364(86.1)		
No	18(5.3)	41(50.6)	59(13.9)	153.592	<0.001

4.14 Factors Influencing the Practice of Breast Self Examination among Respondents

Table 14 shows that respondents who are unmarried were about 3 times less likely to practice BSE than the married and had significant influence on the practice of BSE because the 95% confidence interval excludes 1 (OR=0.320; CI= 0.125- 0.819). The table also indicates that respondents in OND level are 2.98 less likely to practice BSE compared to those in the HND level (OR= 0.335; CI= 0.179 - 0.627). The level of education has a significant influence on the practice of breast self examination because the 95% confidence interval excludes 1 as compared to other socio demographic variables.

Also the attitude to practice of BSE among respondents indicates that those with good attitude were about 4 times more likely to practice BSE compared to those with poor attitude. The attitude towards BSE also influenced the practice of BSE as the 95% confidence interval excluded 1 (OR= 4.048; CI=2.086- 7.854). Those who were aware of BSE are about 12 times more likely to practice BSE compared to those who were not aware (OR=12.652; CI= 6.484- 24.689) and had significant effect on the practice of breast self examination.

Table 14: Factors Influencing the Practice of Breast Self Examination Among Respondents

Characteristics	Odd Ratio	95%CI	P value
Marital Status			
Unmarried	0.320	0.125-0.819	
Married(Ref)	1		.017
Level of Education			
OND	0.335	0.179-0.627	
HND(Ref)	1		.001
Ethnic groups			
Yoruba	2.152	0.959-4.830	
Others(Ref)	1		.063
Age			
15-24	0.965	0.893-1.044	
25-45(Ref)	1		.376
Religion			
Christianity	0.706	0.421-1.185	
Islam(Ref)	1		.188
Attitude to BSE		2.086-7.854	
Good	4.048		.000
Poor(Ref)	1		
Awareness of BSE		6.484-24.689	
Yes	12.652		.000
No(Ref)	1		

CHAPTER 5

DISCUSSION

Breast self examination provides an inexpensive method for early detection of breast tumors, thus knowledge and consistent practice could protect women from severe morbidity as a result of breast cancer (Franek *et al.*, 2004). This study was carried out to assess the knowledge and practice of BSE among female students of polytechnic of Ibadan, Oyo State, Nigeria. This study found that majority of the respondents were aware of BSE. This level of knowledge was comparatively similar to the study carried out among young adults in a tertiary institution in Ilorin, which also had a high population of respondents who had knowledge of BSE (Salaudeen et al., 2009). These findings may be attributed to the ability of the of the targeted study population to understand basic education playing a role in health information. The implication of this is that the more the increase in educated female population , young females would have better understanding of gender sensitive health issues such as breast cancer which will ultimately assist in its control.

Low prevalence of respondents' knowledge of breast cancer as an abnormal painless lump on the breast and a swollen or enlarged breast as well as low proportion of knowledge of breast cancer risk factors were observed in this study. This may have resulted from inadequate knowledge of information among students on breast cancer. This suggest that many women still lack basic knowledge on breast cancer disease and its risk factors. Health professionals needs to make available needed information on presentations of breast cancer and its risk factors available to women in a way or language they will understand.

In the present study, the main source of information was the media. This finding is similar to the work of Salaudeen et al. (2009) who identified media as the leading medium of information about BSE showing its utilization in dissemination of information to modern communities in Nigeria. However, other researchers found friends and colleague to be the main source of information (Rizwan and Saadullah, 2009). The mass media has been found to be a veritable tool in creating general public health awareness towards the prevention and control of avoidable health threats (Salaudeen et al.,2009). Government continued and relentless effort of engaging the forces of the media to disseminate public health-enhancing information will have implication on drastic reduction of breast cancer occurrence and other diseases of concern.

This study found majority of students who practiced BSE lacked knowledge on the appropriate period to perform BSE and knowledge of acceptable BSE methods that could detect suspicious lumps. This could be attributed to student's inadequate knowledge they might have received on BSE. The implication of the poor practice of BSE will be accidental emergence of breast cancer cases in young women and the danger these individuals portends in communicating the poor information they received on BSE to others who never heard of breast cancer. Pragmatic approaches by health decision makers to create accessibility for information on acceptable methods of BSE practice among women of all age groups would assist in discouraging poor practice of BSE.

In this study, association was observed between the level of education of the respondents and their knowledge about BSE as respondents in Higher National Diploma training(HND) were more knowledgeable of BSE than their counterpart in Ordinary National Diplom(OND). This finding is in agreement with other studies conducted by Okobia et al., (2006) among Nigerian women. This may be due to exposure in the academic and relationship experiences of the

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individuals each level. This implies that higher academic acquisition positions individuals to greater availability of relevant information particularly those that promote health and wellness.

Findings from this study showed a higher general practice of BSE among respondents who are knowledgeable about it. This verifies the fact that compliance with health enhancing attitudes is predicated upon individual understanding of the risk of the threat and the accruable health benefits. Poorly informed and ignorant members of the public on the importance of BSE will still remain victims of such health conditions that needed early detection for it cure. Holistic interventions by relevant stakeholders are pivotal in eradicating hindrances to health literacy on sensitive health issues such as breast cancer whose treatment begins with the individuals.

Results from this study showed that despite high level of BSE knowledge a small percentage of respondents correctly practice it. The effect of incorrect practice of public health intervention has the same outcome of risk as those that never practiced it. This result is consistent with other studies in Nigeria (Odeyemi and Oyediran,2002; Salaudeen et al., 2009).

Evidence of this study that revealed practice of BSE among respondents between ages 15-24 years could be attributed to lower income status of the students as it could be the factor that makes poor people look for cheap or free method for screening such as BSE (Sami Abdo et al., 2012). This implies that knowledge of the age at which breast cancer develops and the commencement of adequate BSE practices are critical towards stemming its prevalence among women.

Noted in this study is the difference in the rate of practice of BSE among respondents along religious and ethnic characteristics. This could be reasonably attributed to their religious, socio-cultural belief and perceptions concerning the practice of BSE. Individuals who are poorly

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informed by their respective religious and sociocultural background will constitute a greater number of victims of preventable diseases in our society. Religious and cultural institutions are key stakeholders in mobilizing support for interventions to tackle the menace of breast cancer other public diseases of concern. Corroborating this Ojikutu *et al.*, (2009) stated that ethnicity as a role to play in acting as a risk or protective factor for breast cancer and screening.

With respect to factors associated with practice of BSE among respondents, attitudinal responses and level of education were the important predictors of BSE. This is similar to the study conducted by Okobia et al.,2006 who reported that education significantly influenced the practice of breast self examination. A well sustained practical emphasis targeted towards feminine health education has public health implication in removing attitudinal barriers of breast cancer self examination. Thus, need for a public awareness campaigns highlighting the rational and effectiveness of BSE. However, the role of education in the uptake of preventive services such as BSE has been reported repeatedly (Salaudeen et al., 2009). More so, Galobardes *et al.* (2006) reported that education is an enabling factor for the receipt and uptake of health information and services.

This study was of significance to young women as it brought to fore the health issues that some of the female respondents were not aware of. The result of this study is subject to limitation However, because study population were restricted to student of a higher institution the interviewed sample may not be representative of the practice of BSE among female students of other schools in the country. There also exists the possibility that respondents did not give information on the true situation of their practice of BSE but may have socially desirable responses.

CONCLUSION

This study revealed that although many respondents are aware of breast self examination but the necessary information in the practice of it is lacking creating a knowledge gap thereby making majority of the respondents not to practice breast self examination; a preventive screening practice and means of early detection of breast cancer.

Marital status, level of education, awareness and attitude significantly influenced the practice of breast self examination among the respondents.

RECOMMENDATION

Government should continue in its effort of engaging the media to disseminate public health-enhancing information to members of the society.

Government should establish curricular on public health issues for all levels of education to promote sustained efforts of combating public health challenges.

Holistic interventions of stakeholders such as public health workers, families and friends, lecturers in the tertiary institutions should be combined in eradicating hindrances to health literacy on sensitive health issues such as breast cancer .

Health agencies should endeavor to organize campaign at strategic location for acceptable practice of BSE and dissemination of associated health information in regard of breast cancer

Religious and cultural institutions key stakeholders of public campaign should mobilize support for interventions to reduce the morbidity and mortality of breast cancer and other public diseases of concern.

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APPENDIX

QUESTIONNAIRE

Serial number...................................

ASSESSMENT OF AWARENESS AND PRACTICE OF BREAST SELF EXAMINATION AMONG FEMALE STUDENTS ATTENDING THE POLYTECHNIC IBADAN

My name is **Ajayi Idowu.** I am a postgraduate student from the Department of Epidemiology and Medical Statistics, Faculty of Public Health, University of Ibadan. In partial fulfillment for the award of Masters Degree in Epidemiology, I am conducting a study to **investigate the awareness and practice of breast self examination among female students.**

Therefore, I request your participation in this study because it will contribute to improving the understanding on Breast Self Examination among young women. The study will not cause any harm of whatsoever on you. You have the right to consent or decline to participate in this study.

Thank you.

SECTION A: PERSONAL INFORMATION

1. How old were you at last birthday? _____ (Record age in years)

2. Marital status

   (1) Single (2) Married (3) Divorced (4) Separated (5) Widow

3. If married, number of children _____

4. What is your religion?

   (1) Christianity (2) Islam (3) Traditional (4)Others

5. What is your ethnic group?

   (1) Yoruba (2) Igbo (3) Hausa (4) Others (specify) _____

6. Which hostel do you reside?

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7. What is your level of education?

   (1) OND 1 (2) OND 2 (3) HND 1 (4) HND 2

8. What is your faculty? _____

9. What is your department? _____

SECTION B: KNOWLEDGE OF BREAST CANCER

10. Have you heard of breast cancer?

    (1) Yes (2) No

IF NO TO Q11 GO TO Q15

11. What is your source of information?

    (1) Media (2) Hospital (3) Friends (4) Family (5) Others_____

12. Breast lump is

    A hard or soft single or multiple noodle in the breast   Yes ( ) No ( ) Don't know ( )

13. What are the likely sequelae of breast lump? (MULTIPLE CHOICE ANSWER)

    (1) Goes away on its own   Yes( ) No( ) Don't know ( )

    (2) Remains as it is   Yes( ) No( ) Don't know ( )

    (3) Grow bigger   Yes( ) No( ) Don't know ( )

    (4) Grow painful   Yes( ) No( ) Don't know ( )

    (5) May become cancerous   Yes( ) No( ) Don't know ( )

14. What is breast cancer? (MULTIPLE CHOICE ANSWER)

    (1) The presence of all breast lumps   Yes( ) No( ) Don't know ( )

    (2) The presence of abnormal painless breast lump   Yes( ) No( ) Don't know ( )

    (3) Swollen and enlarged breast   Yes( ) No( ) Don't know ( )

15. Which of the following are the causes of breast cancer? (MULTIPLE CHOICE ANSWER)

    (1) Family history   Yes( ) No( ) Don't know ( )

    (2) Age   Yes( ) No( ) Don't know ( )

    (3) Smoking   Yes( ) No( ) Don't know ( )

    (4) Diet   Yes( ) No( ) Don't know ( )

    (5) Breastfeeding   Yes( ) No( ) Don't know ( )

    (6) Exercise   Yes( ) No( ) Don't know ( )

    (7) Multiple sexual partners   Yes( ) No( ) Don't know ( )

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7. What is your level of education?

    (1) OND 1 (2) OND 2 (3) HND 1 (4) HND 2

8. What is your faculty? _____

9. What is your department? _____

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    (3) Smoking   Yes( ) No( ) Don't know ( )

    (4) Diet   Yes( ) No( ) Don't know ( )

    (5) Breastfeeding   Yes( ) No( ) Don't know ( )

    (6) Exercise   Yes( ) No( ) Don't know ( )

    (7) Multiple sexual partners   Yes( ) No( ) Don't know ( )

16. Which of the following are the signs/ symptoms of breast cancer? **(MULTIPLE CHOICE ANSWER)**

(1) Lump in the breast

    Yes( ) No( ) Don't know ( )

(2) Discharge from the breast

    Yes( ) No( ) Don't know ( )

(3) Pain or soreness in the breast

    Yes( ) No( ) Don't know ( )

(4) Discharge from the vagina

    Yes( ) No( ) Don't know ( )

(5) Discoloration/ dimpling of the breast

    Yes( ) No( ) Don't know ( )

(6) Body pain

    Yes( ) No( ) Don't know ( )

(7) Inversion of nipple

    Yes( ) No( ) Don't know ( )

(8) Difficulty in swallowing

    Yes( ) No( ) Don't know ( )

17. How can breast cancer be diagnosed? **(MULTIPLE CHOICE ANSWER)**

(1) Pathological examination of breast tissue   Yes( ) No( ) Don't know ( )

    By using (Fine Needle Aspiration Cytology)

(2) Breast Self Examination (BSE)   Yes( ) No( ) Don't know ( )

(3) Clinical Breast Examination(CBE) by the doctor   Yes( ) No( ) Don't know ( )

(4) Mammography   Yes( ) No( ) Don't know ( )

(5) Chemotherapy   Yes( ) No( ) Don't know ( )

18. Can breast cancer be treated?

(1) Yes (2) No (3) Don't know

19. How can it be treated? **(MULTIPLE CHOICE ANSWER)**

(1) Removal of the breast (surgery)   Yes( ) No( ) Don't know ( )

(2) Chemotherapy   Yes( ) No( ) Don't know ( )

(3) Mammography   Yes( ) No( ) Don't know ( )

(4) Radiotherapy   Yes( ) No( ) Don't know ( )

(5) Tradomedical therapy   Yes( ) No( ) Don't know ( )

SECTION C: KNOWLEDGE OF BREAST SELF EXAMINATION

20. Have you ever heard about breast self exam

    (1) Yes   (2) No

IF NO TO Q 21 END QUESTIONNAIRE

21. Which of the following is your main source of information?

    (1) Media (2) Hospital (3) Home (4) Peer groups (5) Others............................

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22. Why should the breast be examined?

(1) To detect lumps

(2) To check for discharges

(3) To check the size of the breast

(4) To admire

(5) Specify --

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

23. When should a female begin to examine the breast?

(1) childhood   (2) adolescence   (3) adulthood

24. At what period during a month should breast self-exam be performed?

(1) Before menses   (2) After menses (3) At anytime   (4) Don't know

25. How often do you think a woman should perform breast self examination?

(1) Daily

(2) Weekly

(3) Monthly

(4) Once a year

(5) Never unless something like pain or lump is felt in the breast

(6) Don't know

26. How is breast self examination done?

(1) Carefully examine with one finger

(2) Carefully examine with palm and a minimum of two fingers

(3) Carefully examine with palm and a minimum of three fingers

(4) Anyhow

27. What components of breast self examination do you know? (MULTIPLE CHOICE ANSWER)

(1) Visual examination

(2) Circular palpation

(3) Three fingers used

(4) Finger pads used

(5) Axillae examined

(6) Other _____

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

Yes( ) No( ) Don't know ( )

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SECTION D : BREAST SELF EXAMINATION PRACTICE QUESTIONS

28. Have you ever performed breast self examination?

    (1) Yes   (2) No   (3) Don't know

IF NO SKIP TO Q31

29. If yes why?

    (1) Fear of checking for lumps   (2) I was told to do it   (3) Just for fun   (4) Others

IF YES SKIP TO Q32

30. If no why? **(MULTIPLE CHOICE ANSWER)**

    (1) I don't have breast problem   Yes( )   No( )

    (2) Too frequent to practice   Yes( )   No( )

    (3) I don't feel comfortable doing it   Yes( )   No( )

    (4) I don't think it is necessary   Yes( )   No( )

    (5) Unsure about its benefit   Yes( )   No( )

    (6) Specify other reason …………………………………………………………………

IF NO TO Q29 END QUESTIONNAIRE

31. How often do you practice breast self examination?

    (1) Daily

    (2) Weekly

    (3) Monthly

    (4) Once a year

32. At what age did you start examining your breast by yourself? ___ ___ years

33. When was the last time you performed breast self examination?

    (1) Within the past 1 – 3 months ago (2) 4 – 6 months ago (3) 7 – 12 months ago (4) Specify_____

34. Where do you usually perform breast self examination? **(MULTIPLE CHOICE ANSWER)**

    (1) Any convenient place   Yes( )   No( )

    (2) Lying on the bed   Yes( )   No( )

    (3) In the kitchen   Yes( )   No( )

    (4) In front of mirror   Yes( )   No( )

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SECTION E : ATTITUDE TOWARDS BREAST SELF EXAMINATION

Circle '5' if you "strongly disagree"

Circle '4' if you "disagree"

Circle '3' if you are "neutral"

Circle '2' if you "agree"

Circle '1' if you "strongly disagree

	5	4	3	2	1
35. Doing breast self examination is embarrassing to me					
36. Doing breast self examination will make me worry about breast cancer					
37. Doing BSE will take too much time					
38. Doing BSE will be unpleasant					
39. I don't have enough privacy to do BSE					
40. I don't believe in the efficacy of the test					
41. I don't think I should touch my body like that					
42. I don't know how to do it					
43. I don't have any symptoms					
44. I don't think it is important					
45. I know that I can never have breast cancer					

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