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BREAST CANCER KNOWLEDGE ASSESSMENT AND SELF- EXAMINATION PRACTICE AMONG THE UNDERGRADUTES OF NILE UNIVERSITY OF NIGERIA

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ABSTRACT

This study was carried out to assess the knowledge of breast cancer, practice of breast self-examination (BSE) and to identify factors associated with knowledge of breast cancer and BSE among the undergraduates of Nile University of Nigeria. A descriptive survey using 424 self-administered questionnaire were administered randomly in proportion to students at all Levels in the departments. Data collected was presented using frequency distribution tables/percentages and multiple regression and analyzed accordingly. The findings showed that half of the respondents have good knowledge of breast cancer. There were statistically significant relationship between knowledge of breast cancer and marital status, religion, level of the student in the university and course of study. More than half of the singles were most likely to have good knowledge of breast cancer, followed by a good number of the married, while the few divorced were least likely. The Muslims were most likely to have good knowledge of breast cancer, followed by the Christians, while those belonging to other religions were least likely. The 500 level student were most likely to have good knowledge of breast cancer this could be as a result of the level in school, having been taught the subject in class and due to clinical experience for the medical students. Followed by the 300 level and 200 level students, while the 100 level students were least likely. The medical students were more likely to have good knowledge of breast cancer than the non-medical students. The respondents had a good knowledge of breast cancer with statistically significant relationship between knowledge of breast cancer, marital status, religion, level of the respondents in the university and course of study. There was also a statistically significant relationship between knowledge of breast cancer, family history of breast cancer, awareness about breast cancer. It was concluded that the respondents had a good knowledge of breast cancer with statistically significant relationship between knowledge of breast cancer, marital status, religion, level of the respondents in the university and course of study. There was also a statistically significant association between knowledge of breast cancer, family history of breast cancer, awareness about breast cancer. It was then recommended that health education campaigns using prints and electronic media can be used on campus and even adverts on the school's portal to enlighten students on the importance of regular Breast self-examination in early detection of breast cancer and there is also need for the government and school management to make breast cancer screening program available in the school clinic and should be made affordable to the students. This will be very important for breast cancer detection and increases awareness on campus and the society at large.

Keywords: Breast cancer, Knowledge, Practice, Self-examination and Students.

INTRODUCTION

Breast cancer is a disease of public health significance with associated morbidity, mortality and socioeconomic concern. Its early detection and prompt intervention will enhance good prognosis and survival rate. The breasts are paired mammary glands located between the second and sixth ribs. However, the contour of the breast should be smooth with no retractions, dimpling, or masses Depending on the woman's age, it should be noted that the breasts of a healthy mature woman are equal in size and shape. Nutrition and heredity are other factors apart from age (Basavanthappa, 2011).

Breast cancer is cancer that develops from breast tissue. It occurs both in males and females and has frequent cases of occurrence in females. It's the most common invasive cancer in females worldwide, accounting for 16% of all female cancers and 22.9% of invasive cancers in women (NCI, WHO 2020). World Cancer report 2014 says about 1.7 million new breast cancer cases were diagnosed in 2012. The occurrence has since increased due to a decrease in the ages of those at risk of being diagnosed. About 5-10% of cancer cases are due to inherited genes from one's parents, including BRCA1 and BRCA2, with different types such as ductal carcinomas (cancers developing from the ducts) and lobular carcinomas (cancers developing from the lobules) (McGuire, 2016).

Apart from the sudden decrease of the age of those at risk of having breast cancer, being a female/gender factor poses a woman at risk. Inheriting the gene from one's parents who live a sedentary lifestyle, smoke, or drink alcohol could make an individual have breast cancer. But this is preventable through early diagnosis, which remains the cornerstone of the fight against breast cancer. Early diagnosis of breast cancer positively affects the prognosis and limits the spread of cancerous cells.

With the rising incidence of breast cancer and the absence of any uniform breast screening strategy in most nations (Harding, et al., 2015), it is important to assess the knowledge of breast cancer and the practice of breast self-examination (BSE) in various age groups. By the name, BSE is carried out by oneself. This involves the individual touching and feeling her breast for any change or abnormality that was not there initially. Irrespective of the multiple benefits of BSE, various studies identified a wide knowledge application gap with regards to BSE, the practice of BSE remaining low and variable in different nations like 54% in England (Philip, et al., 1986), varying from 19% to 43.2% in Nigeria (Gwarzo 2009) and varying from 0 to 52% in India (Yadav & Jaroli, 2010).

BSE is effective and not expensive, but when an abnormality or change is noticed in the breast during the period of BSE, a biopsy of the concerning lump is done to confirm the diagnosis of breast cancer. Further tests determine if cancer has spread beyond the breast and which treatments it may respond to (NCI, WHO 2020). There are various signs of breast cancer apart from the lump in the breast, including a change in the breast shape, a red or scaly patch of the skin, and skin dimpling (Harding, 2015). According to Saunders and Jassal (2009), there may be bone pain, shortness of breath, swollen lymph nodes or yellow skin in those with distant spread of the disease or metastasis of cancer. Surgical removal of both breasts is another preventive measure in some high-risk women (McGuire, 2015). Nile University of Nigeria is a community with individuals from different parts of Nigeria. The age range of the majority of female undergraduates is between 16-25years. The increasing number of breast cancer cases and the disease's fatality can be reduced by detecting abnormalities in the topography of the breast in the early years.

Statement of the Problem

Breast cancer is currently the most common cancer among women worldwide and the second most common cancer among both sexes, making up 12.3% of all cancers (excluding non-melanoma skin cancer) and 23% of all female cancers (Bray et al., 2018). Although breast cancer is thought to be a disease of the developed world, nearly 50% of breast cancer cases and 58% of deaths occur in less-developed countries (Ferlay et al., 2010). From an estimated 12 million new cases and 7.6 million deaths in 2008, the incidence of cancer worldwide is expected to rise to 26.4 million with 17 million deaths by 2030. Most of these new cases of cancer are expected to occur in the developing world, particularly India and China (WHO 2003).

Change in lifestyle has led to increasing incidence of breast cancer in Africa (15). The incidence of breast cancer in Africa in 2018 ranged from 27.9/100,000 in Central Africa to 48.9/100,000 in Northern Africa, with a corresponding mortality of 15.8%–18.4%, respectively (WHO 2003). In Nigeria, breast cancer cases were historically low but are now increasing as a result of urbanization and lifestyle changes. It is the leading cause of cancer deaths; the prevalence of breast cancer in Nigeria is 59.31% (INC, 2020). Breast cancer occurs in women of different age groups but a decrease of its occurrence has been seen in women of 16-35years. Because of this, it’s important

for someone to detect early signs and symptoms of breast cancer through the practice of breast self-examination (BSE). Majority of Nile University students fall between reproductive age (16-49). Early detection is usually done through screening, and screening methods include breast self-examination (BSE), clinical breast examination (CBE), and mammography. Breast self-examination (BSE) is a screening method used in an attempt to detect early cases of breast cancer. This method involves the woman herself looking at and feeling each breast for possible lumps, distortions or swelling. BSE is a low-cost, low risk procedure that can be repeated at frequent intervals and has been advocated as a self-performed screening procedure. Due to fewer numbers of experts and lack of advanced diagnostic techniques in developing countries, promoting regular BSE has been said to be the feasible screening option for early detection of breast cancer. BSE has a positive effect on the early detection of breast cancer (Ahmed, 2019). Knowledge of BSE is important because it helps the individual to detect abnormality with the breast and prevent the occurrence of breast cancer. The level of awareness about BSE among women from studies in different African countries is relatively high; however, the level of practice is low, even among health workers (Ahmed, 2019). Therefore, this study will assess the knowledge of breast cancer and breast self-examination for early detection of cancer among university students.

Aim and Objective of the Study

To general aim of the study was to assess the knowledge of breast cancer and breast self-examination among the undergraduates of Nile University of Nigeria. Specific objective was to determine the knowledge of breast cancer among the undergraduate students of Nile University.

Research Question

What is the knowledge of breast cancer among the undergraduates of Nile University?

Review of Related Literature

Conceptual Review

Epidemiology of Breast Cancer

Breast cancer is an uncontrolled growth of breast cells, that is, a malignant tumor that has developed from cells in the breast. Due to many factors that have not allowed adequate collection of data and documentation, statistics available in Nigeria are largely unreliable; but according to numbers provided by Globocan in 2018, breast cancer is responsible for about 16% of all cancer related deaths in Nigeria. Globally, breast cancer is the most invasive cancer that's common in women (Erratum, 2020). Breast cancer comprises 22.9% of invasive cancers in women and 16% of all female cancers and in 2012, it comprised 25.2% of cancer cases diagnosed in women, making it the most common female cancer (McGuire, 2016). Globally, Breast CA is the most common malignancy in women and comprises 18% - 25% of all female cancers and 1% in males with a M:F 1:103. Estimated that, 1 in 8 Caucasian women (1 in 14 blacks) in the USA (double the risk in 1940) and also 1 in 12 in Great Britain has lifetime risk of developing breast CA as the incidence rises. In 2002, there were 1,151,298 new cases worldwide, 514,072 of them in developing countries, 410,712 deaths and more than 4.4 million women living with the disease. Of the developed countries, Japan has the lowest incidence – one in 60 women in their lifetime – and the death – rate is about 30% of that in Great Britain. In Accra, Ghana, it accounts for about 16.0% of all cancers, being now the commonest cancer in females, 400 new cases are diagnosed yearly in Korle Bu Teaching Hospital. In Kenya, it constitutes about 9.4% of all cancers in women, Zimbabwe 8.5%, Tanzania 8.1%, Sudan 26.0%, Malawi 5.5%, Liberia 15% and Uganda 4.0%. In Nigeria, there is a steady increase in incidence from 15.3 per 100,000 in 1976 to 33.6 per 100,000 in 1992 to 52.0 and 64.6 per 100,000 in 2012 in Ibadan and Abuja respectively. Breast cancer is the commonest malignancy in Ibadan, accounting for 16% of all malignancies. With rising life expectancy, CA Breast is becoming a major problem in Africa, accounting for about 14% mortality in developing countries; people here

are likely to die from the disease due to late presentation, lack of adequate screening and diagnostic modalities and limitation to treatment options.
It should be noted that the incidence of breast cancer varies around the world with its lowest occurrence in less developed countries and vice versa. In the twelve world regions, the annual age-standardized incidence rates per 100,000 women includes: Eastern Asia, 18; South Central Asia, 22; Sub- Saharan Africa, 22; South Eastern Asia, 26; North Africa and Western Asia, 28; South and Central America, 42; Eastern Europe, 49; Southern Europe, 56; Northern Europe, 73; Oceania, 74; Western Europe, 78; and in North America, 90 (Stewart & Wild, 2014).

Risk Factors of Breast Cancer

There are a number of factors that have been shown to increase a woman's risk of developing breast cancer, amongst them is age. Although breast cancer can occur at any age, the risk factor increases as one gets older. The average woman at age 30 has 1 chance in 280 of developing breast cancer in the next 10 years, which increases to 1 in 70 for a woman aged 40. A 60-year old woman has 1 in 30 chances of developing cancer in the next 10 years. The majority of breast cancer cases occur in women over the age of 50 years(NCI, WHO 2020). Family history is another risk factor for breast cancer. If a woman has a personal or family history of breast cancer, she is at increased risk of developing breast cancer. Patients with one 1St degree relative with breast cancer (grandmother, sister, or daughter) have twice or three-fold risk of breast CA. Risk is much higher if affected first degree relatives had premenopausal onset and bilateral breast CA. Risk decreases quickly in women with distant relatives affected with breast cancer (cousins, aunts, grandmothers). The positive family history may be familial or hereditary. Other factors include a late first pregnancy; women who have a late first pregnancy (after the age of 35) are more likely to develop breast cancer, clinical history of women who have previously suffered with benign breast cancer are at greater risk of developing breast cancer in the future and prolonged hormonal exposure long menstrual life or possibly use of hormone replacement therapy after menopause expose women to an increased risk of developing breast cancer. There are other factors like lifestyle, being obese or overweight after menopause, physical inactivity, a high fat diet and high alcohol consumption for example, can play an important role in the development of breast cancer, sex/gender which is primary risk factor for breast cancer is female sex, women are at greater risks than men. Men can have breast cancer too, but this disease is about 100 times more common in women than in men, certain inherited genes; about 5% to 10% of breast cancer cases are thought to be hereditary, meaning that they result directly from gene defects passed on from a parent. BRCA1 and BRCA2 are the most inherited genes (Reeder & Vogel, 2008).

Signs and Symptoms of Breast Cancer

The symptoms of early-stage breast cancer can often go undetected. There are 12 common signs of breast cancer which are; a hard lump developing in the breast or armpit – typically painless and occurring only on one side, a change in the size or shape of the breast, including indentation, growing (particularly prominent) veins or skin erosion, changes in the skin such as hardening, dimpling, bumps, redness/heat or an orange peel like appearance, changes in the nipple such as retraction, the secretion of unusual discharge or a rash around the nipple area. The first noticeable symptom of breast cancer is typically a lump that feels different from the rest of the breast tissue. More than 80% of breast cancer cases are discovered when the woman feels a lump in her breast (Thomas, et al., 1990). The earliest breast cancers are detected by a mammogram (American Cancer Society, 2018). Indications of breast cancer other than a lump may include thickening different from the other breast tissue, one breast becoming larger or lower, a nipple changing position or shape or becoming inverted, constant pain in the part of the breast or armpit, and swelling beneath the armpit or around the collarbone (Watson, 2008). Pain is an unreliable tool in determining the presence or absence of breast cancer but maybe indicative of other breast health issues

Diagnosis of Breast Cancer

Breast cancer is sometimes found after symptoms appear, but many women with early breast cancer have no symptoms. Most types of breast cancer are easy to diagnose by microscopic analysis of a sample or biopsy of the affected area of the breast. Also, there are types of breast cancer that require specialized lab exams. The two most commonly used screening methods, physical examination of the breast by a healthcare provider and mammography, can offer an approximate likelihood that a lump is cancer, and may also detect some other lesions, such as simple cyst. When these examinations are inconclusive, a healthcare provider can remove a sample of the fluid in the lump for microscopic analysis (a procedure known as fine needle aspiration, or fine needle aspiration and cytology –FNAC) to help establish the diagnosis (Rao, et al., 2005). A finding of clear fluid makes the lump highly unlikely to be cancerous, but a bloody fluid may be sent off for inspection under a microscope for cancerous cells. Together, physical examination of the breasts, mammography, and FNAC can be used to diagnose breast cancer with a good degree of accuracy.

Mammogram

A mammogram is an x-ray of the breast. It can reveal tumors too small to be felt and can show other changes in the breast that doctors believe may suggest cancer. In mammography, the breast is pressed between two plates; some pressure is applied to get a clear picture. Usually, two x-rays are taken of each breast, one from the top and one from the side (Thomas, et al., 1990). Regular mammograms can often help find breast cancer at an early stage, when treatment is most likely to be successful. A mammogram can find breast changes that could be cancer years before physical symptoms develop. Although some women are concerned about radiation exposure, the risk is very small.

Clinical Breast Examination

A clinical breast exam (CBE) is a physical exam done by a healthcare provider. It is often done during your regular medical check-up. A CBE should be performed by a healthcare provider well trained in the technique (this may be a physician, nurse practitioner or other medical staff). Not all providers have this training. The American Cancer Society recommends that asymptomatic women 20-39 years old have a clinical breast examination (CBE) performed as part of a regular health examination, preferably at least every three years (2007). Health care providers examine shape, texture, location of any lumps, and skin changes during a CBE (26). (Saslow, et al. 2004) discussed practical recommendations for optimizing performance and reporting regarding CBE. CBE are employed to detect breast abnormalities, evaluate patient reports of symptoms, and to find palpable breast cancers at an earlier stage of progression (McDonald, et al., 2004). Early-stage breast cancer treatment options are generally more numerous, include fewer toxic alternatives, and are usually more effective than treatments for later-stage cancers. Average-risked women 40 years of age and younger with earlier detection of palpable tumors identified by CBE can lead to earlier therapy and improved prognosis.

Breast Self-Examination

Also known as self-awareness, breast self-examinations (BSE) are encouraged for women of any age by the American Cancer Society. Health care providers should instruct women about proper technique. Being a woman is a risk for breast cancer. In fact, American Cancer Society statistics show that one out of every eight women in the U.S. will develop breast cancer in her lifetime. Even men can get breast cancer. But thanks to better, more advanced treatments, many of those diagnosed with breast cancer will go on to live full, active lives (Saslow, et al. 2004). The Best Defense, Early detection is important, because treatments are more effective when cancers are small. Early detection is important, because when a cancer is detected in the early stages, treatments can be more effective. There are many screening tests for breast cancer. One of the

easiest is the Breast Self-exam (BSE), a physical examination of one's own breast tissue. The BSE is something an individual can do by herself, in private, on her own schedule. By getting to know how one's breasts normally look and feel, the BSE can be an added defense against dying of breast cancer. In fact, eight of 10 breast lumps are found by women themselves.

Breast Self-Examination: Background

Early diagnosis of breast cancer is of extreme significance in improving the survival rates and quality of life especially in low-income countries (Rao, et al., 2005). Although awareness about breast cancer has long been advocated across the world, unfortunately studies have revealed that a major proportion of women are still not breast aware. As discussed earlier, techniques such as breast self-examination (BSE), clinical breast examination (CBE) and mammography have been advocated for bringing about a marked reduction in breast cancer associated morbidity and mortality. As compared to CBE and mammography which require hospital visits and specialized equipment / technical expertise, BSE is helpful in the regard that it is cost-free, simple, non-invasive intervention carried out by women themselves (NCI, WHO 2020). Studies conducted in developing countries have established BSE as one of the most reasonable and feasible approaches in early detection of breast cancer (Parvani 2011). BSE not only familiarizes women with the appearance/feel of their breast but also aids in early detection of breast cancer. Some of the studies have reported that BSE is highly effective in increasing sense of ownership about health, healthcare seeking behavior, encouraging adoption of preventive health behaviors and creating awareness about breast cancer among women (Austoker, 2003). Multiple studies have concluded that women who regularly perform breast self-examination present with smaller neoplasm and rare involvement of axillary lymph nodes (Smith, et al., 2003). On the other hand, some researchers have seriously questioned the usefulness of BSE (Thomas, 2002) , while others have revealed no added benefits of BSE in improvement of survival rates (Nelson, et al., 2016).

Importance and Breast Self-Examination

Screening for early detection of disease and health problems is an important public health principle. BSE promotes early detection of breast cancer at early stages(Odusanya & Tayo, 2001). The limited use of mammograms in developing countries due to high cost and limited availability makes BSE a convenient and low-cost method though less reliable. Though breast self-examination is considered an important tool in early detection of breast cancer, multiple barriers have been identified viz. awareness about breast cancer (Austoker, 2003) lack of time, shortage of self-confidence, fear of possible detection of a mass and feeling of awkwardness about breast handling (Brewer & Baldwin, 2000); health related assumptions; anxiety and forgetfulness; low socioeconomic status and poor access to health care facilities; negative socio-cultural perception about breast cancer and strong belief in traditional medicine (Odusanya & Tayo, 2001), and lack of motivational support from parents, spouse or friends (Rosmawati, 2010).

Implications of Practice of Breast Self-Examination

There is an immense need for a public health education program to inculcate the practice of breast self-examination among women to minimize the fear, denial, myths and misconceptions. The messages and recommendations about breast cancer screening must be clear and the recognized barriers should be taken into consideration for maximization of the outcome. Every effort has to be taken to encourage the practice of BSE not only among women but also among men as there is visible increase in the incidence of male breast cancer. Healthcare professionals including grass root level health workers have to play a significant role in educating the public especially the high-risk men & women. The involvement of community, family especially parents and spouse should be facilitated to maximize the understanding of BSE. Non-governmental organizations can be roped in rural areas for this initiative. Concurrently, family physicians should be encouraged to raise

awareness; offer clear and specific instructions on practice of breast self-examination and promote referral as well.

Breast Cancer Screening Guidelines

The following guidelines apply to women with no unusual risk factors or symptoms of breast problems. For women age 20 to 39: A monthly breast self-exam, a clinical breast exam by a trained health professional every one to three years for women age 40 and older: A monthly breast self-exam. A yearly clinical breast exam by a trained health professional. A yearly screening mammogram starting at age 40. If one has an increased risk of breast cancer because of family history or other reasons, ask a health care provider about beginning screening mammograms at an earlier age, or having more frequent exams.

Empirical Review

In a study by Gwarzo, et al., (2009), knowledge and practice of BSE were examined among 221 female students aged 16 – 28 years old studying at Ahmadu Bello University Zaria**.** It was found that despite nearly three quarters of the respondents (87.7%) had heard of BSE, only 19.0% of them were performing this examination monthly. Regarding the sources of information about BSE among respondents, media was found to be most common followed by health workers accounting for 45.5% and 32.2% respectively. Regular performance of BSE was significantly correlated with duration of stay in the University ($X2 = 81.9$, $df = 3$, $P < .05$) and family history of breast cancer ($X2 = 17.4$, $df = 2$, $P < .05$).

A study conducted by Agboola et al., (2009), to assess Knowledge Attitude and Practice of BSE among female health workers in Sagamu Cross-sectional survey among 115 female health professional Olabisi Onabanjo University Teaching Hospital, Sagamu A total of 81.8% of doctors, 56.5% of laboratory scientists, and 41.4% of nurses knew the correct timing and frequency for performance of BSE. Monthly practice of BSE was 30%, 68.2%, and 78.3% among nurses, doctors, and laboratory scientists, respectively.

Research was conducted by Ogunbode et al., (2015), in Nigeria to determine the prevalence and factors determining the practice of BSE in Nigerian women attending a tertiary outpatient clinic. Descriptive baseline cross-sectional study among 140 Nigerian women attending a tertiary outpatient clinic. Overall, self-reported prevalence of BSE practice was 62.1%, out of which only 12.6% performed it monthly. The highest prevalence was among older women, 76.2%; married women, 65.6%; and women with tertiary education, 68.9%; civil servants, 78.1%; women with previous history of breast disease, 68.2%; and women with family history of breast disease, 63.6%

Bellgam and Buowari (2012) conducted a study to inquire about the practice of BSE among women in Rivers State, Nigeria. A cross-sectional study was conducted in three local government areas of River State, using self-administered questionnaire for 691 respondents Level of awareness of BSE was 39.65%, while 28.94% practiced it. Awareness and practice of BSE were associated with level of education of respondents.

Yakubu, et al (2014), carried out research to investigate the Knowledge Attitude and Practice of BSE among female nurses in Aminu Kano Teaching Hospital, Kano Descriptive cross-sectional study among 102 female nurses selected using simple random sampling method Awareness and positive attitude toward BSE were 100%. Majority 91.2% reported practicing BSE. However, only 41.2% practiced BSE monthly. There was an association between working in a surgical ward and the practice of BSE.

Badawy et al., (2013) conducted a study to identify the knowledge about BSE and assess the practice of BSE among female college students in Assiut, Egypt. A descriptive study conducted at the university on 240 students Awareness level of the students on BSE was 87.9%. The main source of information was the media as reported by 36.7% of the students. Furthermore, 57.9% of them knew the right way to carry out BSE and 15.8% practiced BSE monthly

METHODOLOGY

Survey research design was adopted by physical administration of 80 questionnaire which was done before the students went on long vacation. An electronic mailing of questionnaire was also used for the rest students via their school email addresses provided by the Students Information Office and selected through purposive sampling techniques. For the data collected, descriptive statistics, frequencies and percentages were used to represent socio demographic variables of respondents' knowledge of breast cancer using Statistical Program for Social Science (SPSS) package version 23.

Result

The findings showed that half of the respondents have good knowledge of breast cancer. There were statistically significant associations between knowledge of breast cancer and marital status ($p<0.001$), religion ($p<0.001$), level of the student in the university ($p<0.001$) and course of study ($p=0.013$). More than half of the singles were most likely to have good knowledge of breast cancer, followed by a good number of the married, while the few divorced were least likely. The Muslims were most likely to have good knowledge of breast cancer, followed by the Christians, while those belonging to other religions were least likely. The ≥500 level student were most likely to have good knowledge of breast cancer this could be as a result of the level in school, having been taught the subject in class and due to clinical experience for the medical students. Followed by the 300 level and 200 level students, while the 100 level students were least likely. The medical students were more likely to have good knowledge of breast cancer than the non-medical students. This finding is higher than the 31% and 17% reported among their counterparts in a similar study from Pakistan, (Durbin, et al., 2015) and in agreement with the reported 55% and 46% among medical and non-medical students in Angola where the level of breast cancer knowledge and practices was higher among the medical students than non-medical students (Sambanje & Mafuvadze, 2012). The findings from this study was expected since the students learn about breast cancer in their university curriculum and was consistent with a similar study conducted among female students at Majmaah University in Saudi Arabia (Mohamed, et al., 2016); but contrasts with other studies reporting a widespread lack of knowledge about breast cancer among both medical and non-medical university students (Yadav & Jaroli, 2010).

Majority of the students in this study were in the age group of 20-30 years which is the age at which women are encouraged to start breast self-examination, most of the undergraduates fall within this age range with majority of the respondents describing as a swelling in the breast could be due to the fact that the area of study is an enlightened (educated) area, students must have heard about breast cancer in one way or the other. The reason is that the respondents have formal education, which provides an avenue or an advantage in understanding various health issues. Smoking was a well-known risk factor in this study for the students, a finding which is considerably lower than the 29% reported in a similar Turkish study (Kurtuncu, et al., 2014). Obesity as another risk factor was known by 55.5% of the students, respectively, similar to the reported 39.0% in the Turkish study (Kurtuncu, et al., 2014). Oral contraceptive pills as a risk factor were reported by 75% and 46.1% of medical and non-medical students, respectively. This finding was higher than the 38% and 25% for the same study groups in Angola and similar (68%) to the medical group of students, but much higher than the 4% reported for the non-medical cohort in a Pakistani study (Sambanje & Mafuvadze, 2012).

CONCLUSION

The respondents had a good knowledge of breast cancer with statistically significant relationship between knowledge of breast cancer, marital status, religion, level of the respondents in the university and course of study. There was also a statistically significant association between knowledge of breast cancer, family history of breast cancer, awareness about breast cancer.

RECOMMENDATIONS

Based on results and conclusions, the following recommendations were made:

1. Health education campaigns using prints and electronic media can be used on campus and even adverts on the school's portal to enlighten students on the importance of regular Breast self-examination in early detection of breast cancer.
2. There is also need for the government and school management to make breast cancer screening program available in the school clinic and should be made affordable to the students. This will be very important for breast cancer detection and increases awareness on campus and the society at large.

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