## Full Length Research Article

# KNOWLEDGE, ATTITUDE AND PRACTICE OF FEMALE UNDERGRADUATE STUDENTS TOWARD BREAST CANCER SCREENING: USING BREAST SELF EXAMINATION AS A CASE STUDY

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## ARTICLE INFO

## ABSTRACT

Breast cancer remains the most common cancer related cause of death among women. Late diagnosis and presentation seen among our patients reflect paucity of knowledge about breast cancer and breast cancer screening programmes. This study determines the knowledge based of our university undergraduate female students about breast cancer and breast self examination an inexpensive technique for breast cancer screening. It is a questionnaire based prospective study among university undergraduate female students here in referred to as respondents who were given open ended structured questionnaires to collect relevant data about breast cancer and breast self examination. Out of four hundred and fifty nine (97.04%) of the respondents who had knowledge about breast cancer, only 201 (42.49%) of them heard about breast cancer screening. However, 95 (47.26%) of the 201 respondents agreed that breast cancer can be detected early through breast cancer screening. Eighty four (17.75%) respondents have heard about self breast examination out of which only about a third (36.90%) practice it. Considering the knowledge on self breast examination only 3 (9.67%) out of the thirty one respondents who practiced it, perform it correctly. In conclusion most of our respondents have heard about breast cancer but have insufficient knowledge on breast cancer and breast cancer screening to harness the effective positive attitude towards self breast examination.

## INTRODUCTION

Breast cancer is the most common female malignancy worldwide (IARC, 2010, Parkin and Famandez, 2006, Siegel et al., 2013), and it is the leading cause of cancer related deaths among women (Anderson et al., 2007, Parkin et al., 2007). The outcome of this dreadful condition is often influenced by the stage of disease at the time of diagnosis and the commencement of treatment (Ramirez et al., 1999). Lack of knowledge about breast cancer and screening programmes are associated with late/delay presentation (Oluwatosin and Oladepo, 2006 and Chjdran and Akosu, 2006), thus early detection and diagnosis of breast cancer which can be

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achieved through screening programmes (Banaian et al., 2005) remain the main hope in the hand of the surgeons to dwarf the morbidity and mortality associated with delay presentation (WHO, 2010 and Christmas P and Nicholas,1982), which is the modal form of presentation in our environment (Fregene A and Newman, 2005). Also of importance is lower age of occurrence of breast cancer in our society, usually a decade lower than that of the Caucasians (Parkin et al., 1992) and higher number of more biologically aggressive tumours in black population, an occurrence associated with poorer outcome and prognosis (Hisman and Yip, 2004). Thus, it is more appropriate to direct our attention of screening programmes to the younger age groups which often clustered in our higher institutions. The main aim of this study, is to evaluate the extent of knowledge of breast cancer, attitude and practice of female undergraduate students towards one of the

breast cancer screening methods that is economical, available everywhere (Baxter, 2001)  and rarely required the active participation of health care workers  once well mastered, nor require high technological equipment/facilities especially in a poor resource communities, where other screening modalities are relatively out of the reach of populace in general (Nakhichevan and Secginli, 2007).

## MATERIALS AND METHODS

This prospective study was carried out in a tertiary institution in south western Nigeria. The study instrument was an open ended structured questionnaire. The questionnaire was administered to each participant by the investigators who were all involved in the initial pilot test/ study for uniformity of interpretation of the content of the questionnaire for those participants who may need further clarifications about the content of the questionnaire. The pilot study was carried out in one of the higher institutions in south western Nigeria which was eventually excluded from the study.

The data collected was obtained from a similar study in Iraq (Alwan et al., 2012).  Data collected include general information about breast cancer awareness, symptoms and signs, screening programme with emphasis on breast self examination (BSE) and treatment of breast cancer. The answers to the questions were marked on one point score basis, with one point for every correct answer and zero given for every wrong answer. The total score was converted to 100%. The data were analysed using SPSS version 17.

## RESULTS

A total of 580 students participated in the study and 527 of questionnaires were returned while 473 were analysed for the study after editing. The respondents in the study were female undergraduate students of a selected university in south western Nigeria. The age range of our respondents ranges from 15 to 36 year old with mean age of 21.750 (±4.529). Three hundred and fifty six (75.26%) of the respondents were Yoruba, 67 (14.16%) were Igbo, 8 (1.69%) were Hausa and 42 (8.87%) constituted the other tribes. Table one shows the other socio demographic characteristics of our respondents. Of the 473 analyzed, four hundred and fifty nine (97.04%) of the respondents have heard about breast cancer, but only 256 (54.12%) respondents  has had previous organised  health related talk about breast cancer in the past, from various sources (Figure 1).

Table 1. Table one socio demographics characteristics of our respondent

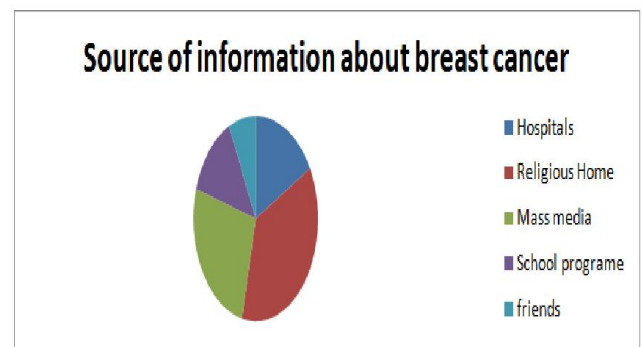| Age range(mean, SD) | 15-36(21.750 ± 4.529) |
| --- | --- |
| Religion | |
| Christianity | 247 |
| Muslim | 219 |
| Traditionalist | 7 |
| Marital status | |
| Single | 441 |
| Married | 26 |
| Divorcee | 1 |
| Widow | 5 |



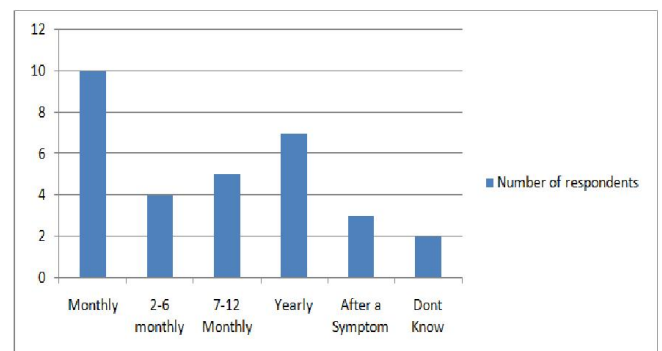**Figure 1. Showing sources of information about breast cancer**



**Figure  2.  Intended frequency of breast self examination**

Of the 473 analyzed two hundred and one (42.49%) of the respondents have heard about breast cancer screening programmes before, with only 95 (47.26%) of these 201 respondents agreed to the fact that breast cancer can be detected early through such screening programmes.  Of the 473 analyzed  four hundred and seven (86.04%) respondents agreed to routine screening exercises without obvious  breast lesion, with no response from  22 respondents while others disagreed with routine screening if no obvious breast lesion. One hundred and ninety six (41.43%) of the respondents know one or other methods of breast cancer screening, while 84 (42.85%) respondents  mentioned self breast examination as a screening method.

The sources of information were from hospitals 37 (18.87%), mass media 58(29.59%), religious homes 82 (41.83%), friends 3 (1.53%) and school programmes 16 (8.16%). Three hundred and seventy eight (79.91%) of the respondents agreed that all females should start one or other method of screening at age 20 and above while, 79 (16.70%) respondents disagreed, 11 (2.32%) responded as don't know and no response in 5 (1.057%) respondents.      Assessment on breast self examination revealed that 84 (17.75%) respondents have heard about breast self examination before, while the rest respondents have never heard about it. Thirty one (36.90%) respondents among those who have heard about breast self examination claimed to have practiced it, while others did not practice it at all for various reasons. (Table 2). Ten (32.25%) of the respondents practice d it monthly, while other respondents who practiced it feel it should be done at various period of time interval (Figure 2).

**Table 2. Summarise the scores about the knowledge on breast cancer and breast cancer screening**

| QUESTIONS OF BREAST CANCER | CA/TNR (%) |
|---|---|
| Breast cancer is the major cause of death among women | 123/367 (33.51%) |
| Breast cancer is the commonest cancer among Nigerian women | 98/427 (22.01%) |
| Breast cancer is common among black race | 167/381 (43.83%) |
| Young women can get breast cancer in their 20 s | 24/463(5.18%) |
| Breast cancer is contagious disease | 337/404 (83.41%) |
| Is a form of spiritual attack? | 198/463 (42.76%) |
| Only women with family history of breast cancer are at risk | 99/423 (23.40%) |
| Elevated estrogen in postmenopausal women increases the probability of breast cancer | 2/28 (7.14%) |
| Oral contraceptive pill and hormone replacement therapy could increase the probability of developing breast cancer in women | 37/198 (18.68%) |
| Early menarche increases the probability of developing breast cancer in women | 2/56 (3.57%) |
| Breast feeding, early pregnancy seeking medical advice for apparent breast lumps, physical activity, avoiding a fat rich diet and performing a regular breast examination may reduce the risk of breast | 28/288 (9.72%) |
| The tool that are utilized for early detection of breast cancer include mammography, ultrasound, PBE and BSE | 113/405 (27.90%) |
| A non painful breast lump is not likely to be cancerous | 337/443 (76.07%) |
| Breast cancer can occur without breast lump | 5/462 (1.08%) |
| Armpit swelling may suggest breast cancer | 12/40(30%) |
| Breast cancer cannot be cured | 411/466(88.19%) |

CA- Total Number of correct answer to the question
TNR - Total Number of response to the question

**Table 3. Reasons for not practicing self breast examination**

| S/NO | Reasons | Number (n=53) | Percentage |
|---|---|---|---|
| 1 | Not helpful | 5 | 9.43 |
| 2 | Don't know how to do it | 13 | 24.52 |
| 3 | I cannot have breast cancer | 8 | 15.09 |
| 4 | Is older age that need it | 27 | 50.94 |

Nineteen (61.29%) of the respondents who practiced breast self examination believed that breast self examination can help to detect breast cancer early, while 7 (22.58%) of the respondents were undecided with no response from 5 (16.12%) respondents. Among those who practiced breast self examination 8 (25.80%) respondents believed it should be done after menstrual flow, 16 respondents (51.61%) believe it should be done at any time, with no response from twelve (38.70%) respondents. Only 6 (19.35%) of the respondents included examination of the axilla as part of breast self examination, no response from fourteen (45.16%) respondents, while eleven (35.48%) respondents were not sure. Four hundred and five (85.62%) respondents agreed to practice breast self examination if educated on breast self examination. Two hundred and sixty one (55.17%) respondents believed that early detection of breast cancer through screening can help to improve outcome in patients with breast cancer. Considering the knowledge on SBE only three (9.67%) of the respondents who practiced breast self examination got all the three questions correctly in terms of region to examine, frequency and timing of examination in relation to menstrual flow.

## DISCUSSION

Breast cancer is the most common female malignancy worldwide (IARC Press, 2010). The outcome of this malignancy is often influenced by stage of disease at presentation (Ramirez AJ et al, 1999). The natural history of this malignancy often lend itself to screening as it often pass through an asymptomatic phase that can be detected through screening programmes, thus allowing early detection of this cancer at asymptomatic stage when patients have reasonable chance of cure, various option of treatment modalities and less economic burden on patient and health care delivery system.

Most of our respondents were in their early twenties with mean age of 21.75 year old, which tallied with our targeted population. Most benign diseases of the breast are seen in this age group and also the age of presentation of breast cancer in our setting which had been found to be a decade earlier, than that of Caucasian, by some local studies at Nnewi, Anambra (44 years) (Anyanwu SNC, 2000) and Ibadan, (43 years) (Adebamowo CA, and Adekunle OO, 1999) as compared to the Caucasians mean age of presentation (55 years) (Menye PA,1972).

Thus targeting this age group will be more appropriate as the asymptomatic phase of this group of patients will fall in their thirties considering the fact that patients in this environment delay for an average symptomatic period of 5 to 6 years before presentation (Ezeome, 2010 and Akanbi et al., 2015). Also, the concept of breast cancer should ordinarily not be new to this age group, our study revealed that 460 (97%) of the respondents have heard about breast cancer which is in agreement to some similar reports from previous studies in Nigeria which found 92 to 97% breast cancer awareness(Nwagbo DF, and CO Akpala,1996 and Ekanem and Etukudo, 1990) as compared to younger age group (the adolescents) who were more likely to have a relatively low level of awareness about breast cancer (Irurhe, 2012). Most of our participants belong to Yoruba ethnic group a finding not unexpected as the study was carried out in south western Nigeria, a geo political zone consisting mainly of Yoruba extraction.Our study also found that the general knowledge about breast cancer and screening was surprisingly low among our female undergraduate (Table 2).

This finding is similar to previous reports from studies conducted in other surveys from different regions of the country which concluded that awareness does not necessarily translate in to in-depth knowledge about the disease as most of our respondents were aware of breast cancer with surprisingly low in-depth knowledge about breast cancer (Irurhe, 2012 and Oyeka and Ezeama, 1997). The major source of information about breast cancer among our participants is religious home followed by mass media (figure1). Previous studies have rated mass media as major source of information (Irurhe et al., 2011, Dandash and Al-Mohaimrrd, 2007 and Dundar et al., 2006). Another study carried out among female secondary school teachers favoured electronic media as the major source of information (Kayode et al., 2005). This emphasized variations in the source of information among different groups, a factor needed to be taken into consideration when planning for disseminations of health education to different groups or categories of people. Some   previous studies (Nwagb, and Akpala,1996, Irurhe, 2012 and Bassey, 2010)  correlated with our finding of complete lack of information among respondents' parents and  guardians, this may not be due to lack of information only but coupled with  sacrilege placed on teaching on sexuality. Schools were also lagging behind in this respect, their is lack of inclusion of cancer and other diseases of health importance in our school curriculum. Even the information received at different level of education about breast cancer  were scanty and laid more emphases on early presentation than screening , early detection and other components of breast diseases (Caroline et al., 2001).

Assessment on breast self examinations revealed that only about 18% of our respondents knew about breast self examinationas a form of breast cancer screening method. This paucity of information was reported from several studies (Bener et al., 2002 and Jahan et al., 2006). This is a cause for serious concern and call for urgent need to improve our campaign of breast cancer awareness. Most of our respondents who have heard about breast self examination do not practice it; only about 37% of such respondents practiced it, the main reason for not practising it is false-belief that breast cancer is a disease of the older age group. This finding in our study is not in agreement with previous studies that revealed the most common reason as poor knowledge on how to perform breast self examination (Parsa P, Kandiah M 2005).  Surprisingly only few of those who claimed to practice breast self examination, do it accurately as only of our respondents included examination of axilla as part of the component to be examined, with very few respondents practice it monthly, a finding not different from other similar study.

These findings are still is in keeping with poor knowledge of self-breast examination among the few respondents who practiced breast self examination and thus the need  for detail information on this examination at various levels of dissemination of information on this subject.   The major source of information on breast self examination is the religious homes which constituted about 42% of information source. About 8 % of the respondents got their information from schools. This low figure from schools indicates that schools have not been significantly contributing to dissemination of information to our students. Based on this low figure it is our opinion that inclusion of some common

health conditions such as breast cancer, be included in general knowledge of our undergraduate curriculum  which will help in dissemination of relevant and correct  information in other to help improve the campaign and awareness on breast cancer, thereby  reducing  the burden of late presentation of these diseases in our environment. In this era of information dissemination, our hospitals can also play a significant role in the dissemination of such information to our undergraduates, as most of these students at the point of entrance into universities often engage in compulsory pre admission medical screening exercises, which form a good point of contact with which these students can be educated. This information dissemination can be in form of counselling with the use leaflets being distributed to these students when attending clinics within and outside the university premises

## Conclusion

Breast cancer remains the most common female malignancy in Nigeria yet significant percentages of our patients are still diagnosed lately with poor outcomes. Early detection and diagnosis through screening and education on breast cancer will help to reduce the menace of late diagnosis. The poor knowledge about breast cancer screening as highlighted from our study among our female undergraduate students call for immediate need to intensify dissemination of information about breast cancer and BSE by our schools and health care workers, as breast self examination is in expensive screening method especially in countries with limited resources.

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