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# Knowledge, Attitude and Practice of Breast Self-Examiniation among Female Undergraduate Students: A Cross-sectional Study

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## Abstract

**Objective** This study was aimed to determine the knowledge, attitude, and practice of Breast Self-Examination (BSE) among female undergraduate students.

**Methods** Two hundred and thirty-seven female students were recruited in this cross-sectional survey, using multistage sampling technique. Data was collected using self-administered questionnaire designed by researcher and data was analysed using descriptive statistics.

**Result** The results showed that the majority of the respondents were between the ages of 21–25 years, 100% of the respondents were aware of breast cancer, 95.4% were aware of BSE while 203 (93.6%) would seek care if they discovered any abnormalities in their breast. However, 67.7% of the respondents practiced BSE.

**Conclusion** The respondents had good knowledge and a positive attitude toward breast self-examination; however, they did not practice BSE even though they know the benefit. Mass media provided the most information to these respondents about breast cancer and breast self-examination. It is recommended that further study should be carried out among market women to determine their level of knowledge and practice.

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## Introduction

Breast cancer is a change in the histology of the breast tissue which results in the first noticeable symptom of breast cancer; a lump that feels different from the rest of the breast tissue (1). Globally, breast cancer is the most common cancer in women after skin cancer, representing 16% of all female cancers. The rate is more than twice that of colorectal cancer and cervical cancer and about three times that of lung cancer. Mortality worldwide is 25% greater than that of lung cancer in women, depending on the stage of cancer (2).

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 (3). It also affects one in eight women during their lives. Statistics available in Nigeria are largely unreliable because of many factors that have not allowed adequate data collection and documentation; but according to numbers provided by Globocan in 2002, breast cancer is responsible for about 16% of all cancer related deaths in Nigeria (4). Late presentation of patients at advanced stages when little or no benefit can be derived from any form of therapy is the hallmark of breast cancer in Nigerian women (5). This is indeed a worrisome trend and it appears to be the norm in Nigeria.

Breast cancer is a part of the national cancer control plans in Nigeria, as WHO recommended early detection strategies such as screening by breast examination in low- and middle-income countries like Nigeria to increase the are awareness of early signs and symptoms. Mammography screening is very costly and is feasible only in countries with good health infrastructure (6).

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Periodic evaluation of the knowledge, attitude and practice in a population group serves as an educational diagnosis in a population and provides an important way to measure changing beliefs and behaviours over time about breast self-examination. Information from knowledge, attitude and practice studies on breast self-examination may form an important element of the programme that ensures a data-driven, evidence-based approach for reducing incidences of breast cancer (7). The results from previous studies among community-dwelling women in Nigeria have poor knowledge of breast self-examination and this shows there is need for continues evaluation (1).

The available and advisable method for breast cancer screening worldwide are breast self-examination (BSE), clinical breast examination (CBE) and mammogram. However, in most of developing countries the routine screening mammographies are often unavailable (4). Breast cancer screening refers to testing otherwise healthy women for breast cancer in an attempt to achieve an earlier diagnosis. The assumption is that early detection will improve outcomes. Although the findings from a systematic review suggested that BSE results in no difference in risk of mortality from breast cancer (8), a review of case-control studies found that BSE might reduce this risk. Despite inconclusive evidence, it is believed that BSE makes women more breast aware (5), which in turn may lead to earlier diagnosis of breast cancer. A number of screening tests have been employed including; clinical and self-breast examination, mammography, genetic screening, ultrasound and magnetic resonance imaging (MRI) (9).

BSE is another choice for screening in developing countries with a poor resource setting like Nigeria. Furthermore, it is important to raise the awareness in the population and promote the knowledge of breast cancer. It is clear that awareness among women and increased knowledge and behaviour will decrease the stage of the disease upon presentation and improve the quality of life and survival which relate directly to the stage of disease (10). Breast cancer treatment and management is a big challenge in Nigeria largely due to limited resources and a poor health system. Early detection does not necessary depend on expensive diagnostic equipment in a country like Nigeria that do not have widely available mammography technology for mass screening; even if available they hardly function and are not affordable to most of the women. BSE if done can help diagnose more cases earlier.

In Nigeria breast cancer is usually diagnosed at a more advanced stage due to a gender factor and a culture of silence and secrecy about breast cancer. Fear of dying combined with embarrassment, privacy, modesty, and cultural taboo of self-breast examination all play a role in low survival rates. The stigma-disclosure would jeopardize social standing and marriage for the family members. Moreover, lack of good quality health care, physicians, nurses and the lack of awareness on the importance of screening may contribute to the problem (11). Therefore, this study was conducted to investigate whether the female undergraduate student of Ahmadu Bello University, Zaria have the knowledge of BSE, their attitude toward it and if they practice breast self-examination.

## Methods
### Participants
The respondents comprised a sample of 237 consenting female undergraduate students of Ahmadu Bello University, Zaria. They were sampled using multistage sampling techniques in the first stage. The list of all the female hostels and the total number of girls in each of the hostels was obtained. Amina Hall accommodates 1636 students, while Ribadu and Alex accommodate 936 and 864 students, respectively. In the second stage 119 students were selected from Amina Hall, 59 from Ribadu and 59 from Alex. The selection was done based on the sizes of the hostels and the number of students each hostel accommodates, which enhances representativeness in sampling. The systematic sampling technique was then used to select study participants from each hostel. In Amina Hall, 107 questionnaires were administered to the 8 main blocks and links, 12 for each main block, 11 for links by selecting 3 rooms at convenience from each of the floors. In Ribadu and Alex, the questionnaires were administered following the same pattern, but 59 were distributed for each hall. The hostels were divided into 10 clusters and in each cluster a block was selected, and later rooms were selected based on simple random technique in this descriptive cross-sectional survey. The study was conducted within a six-month period, (March 2018–September 2018) and 237 questionnaires were administered.

Ethical approval was sought and obtained from Ahmadu Bello University Teaching Hospital ethical committee. Informed consent was also obtained from the participants prior to the commencement of the study.

### Instruments
The instrument used in this study was a structured self-administered questionnaire that consists of 23 items. The questionnaire had the following sections: socio-demographic (four questions), knowledge (ten

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questions), attitude (three questions), and practice (six questions). Most of the questions were close-ended types. The questionnaire was developed by one of the researchers. Content validity was done for the instruments by the expert in nursing departments of Ahmadu Bello University, Zaria. The questionnaire was self-administered. A scoring system was used to grade the level of knowledge on breast self-examination into good, fair, and poor knowledge. Seven questions were asked, and each carried one mark. A score of 5-7 marks was considered as good knowledge, 3-4 fair knowledge and 0-2 poor knowledge. Data was presented using descriptive statistics such as frequency and percentage.

## Results

### Socio-demographic

The majority of the respondents (122; 56.2%) fell within the age group 21–25 years while the least (2; 0.9%) were in the age group >35 years. Fifty-eight (26.7%) of the respondents were Hausa, 40 (18.4%) Yoruba, and 17 (7.8%) Igbo as shown in table 1.

**Table 1.** Socio-demographic characteristics of respondents n=217

|  |  | Frequency | Percentage (%) |
|---|---|---|---|
| Age (years) | 16-20 | 65 | 30.0 |
|  | 21-25 | 122 | 56.2 |
|  | 26-30 | 24 | 11.1 |
|  | 31-35 | 4 | 1.8 |
|  | >35 | 2 | 0.90 |
| Ethnic group | Hausa | 58 | 26.7 |
|  | Igbo | 17 | 7.8 |
|  | Yoruba | 40 | 18.4 |
|  | Others | 102 | 47.0 |
| Marital status | Married | 27 | 12.4 |
|  | Single | 190 | 87.6 |
| Religion | Islam | 122 | 56.2 |
|  | Christianity | 95 | 43.8 |

### Knowledge of Breast Self-Examination

A large number of respondents (152; 70.10%) had good knowledge on breast self-examination, 55 (25.3%) had fair knowledge and 10 (4.6%) had poor knowledge.

All the respondents were aware of breast cancer and the majority (148; 41.1%) obtained their information about breast cancer through the mass media. The smallest proportion of participants (20; 5.6%) reported their source of information about BSE to be "others" which include reading it from textbooks and being taught in the classroom. Most of the respondents (138; 30.9%) indicated that they believed the cause of breast cancer to be family history and the minority (18; 4.03%) reported the cause to be early age at first menses.

One hundred and sixty-nine (77.9%) of the respondents identified females as the group affected by breast cancer. Most of the respondents (207; 95.4%) were aware of the breast self-examination and the highest number of respondents 118; 35.5%) got their information about BSE through health personnel as shown in table 2.

**Table 2.** Showing the knowledge of respondents towards breast self-examination n=217

| Questions | Frequency | Percentage (%) |
|---|---|---|
| Causes of breast cancer |  |  |
| Spiritual | 28 | 6.3 |
| Advanced age | 34 | 7.6 |
| Family history | 138 | 31.0 |
| Not giving birth | 24 | 5.4 |
| Early age at 1st menses | 18 | 4.0 |
| Late age at menopause | 26 | 5.8 |
| Eating fatty food | 54 | 12.1 |
| Cigarette smoking | 64 | 14.4 |
| I don't know | 60 | 13.5 |
| Features of breast cancer |  |  |
| Lump | 200 | 36.9 |
| Swelling | 86 | 15.8 |
| Pain | 120 | 22.1 |
| Nipple discharge | 50 | 9.2 |
| Change in nipple shape | 50 | 9.2 |
| Wound on the breast | 28 | 5.2 |
| I don't know | 8 | 1.5 |
| Gender affected by breast cancer |  |  |
| Females only | 169 | 77.9 |
| Males only | 2 | 0.9 |
| Both males and females | 34 | 15.7 |
| I don't know | 12 | 5.5 |
| Age group commonly affected |  |  |
| <25 | 18 | 8.3 |
| 26-50 | 121 | 55.8 |
| >50 | 20 | 9,2 |
| Any age group | 58 | 26.7 |
| Sources of information about BSE |  |  |
| From friends | 70 | 21.0 |
| From relatives | 32 | 9.6 |
| From mass media | 92 | 27.7 |
| From health personnel | 118 | 35.5 |
| Others | 20 | 6.0 |

### Attitude towards Breast Self-Examination

The majority of the respondents 203 (93.6%) would seek care by going to the hospital if they discover any abnormality, 4 (1.8%) of the respondent would go to the traditional herbalist. Two hundred and seven (95.4%) of the respondents believed that breast self-examination is beneficial while 4.6% revealed that they did not find it beneficial as shown in table 3.

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**Table 3.** Showing the attitude of respondent towards breast self-examination

| Questions | Frequency | Percentage (%) |
|---|---|---|
| Place of seeking care | | |
| No where | 0 | 0.0 |
| Mosque/church | 10 | 4.6 |
| Traditional herbalist | 4 | 1.8 |
| Hospital | 203 | 93.6 |
| Benefit of breast self-examination | | |
| Yes | 207 | 95.4 |
| No | 10 | 4.6 |
| Total | 217 | 100.0 |

### Practice of Breast Self-Examination

A majority of the respondents (147; 67.7%) practiced breast self-examination while 32.3% of the respondents did not. For those that practice breast self-examination. One hundred and five (71.4%) of the respondents stated their reason for practicing BSE to check for lumps, while 27 (32.9%) did not practice BSE because of lack of awareness and orientation. Of the 147 respondents who practiced breast self-examination. The majority 51 (34.7%) of the respondents practiced BSE every month as shown in table 4.

**Table 4.** Showing the practice of breast self-examination by respondents

| Questions | Frequency | Percentage (%) |
|---|---|---|
| Practice of BSE | | |
| Practice BSE | 147 | 67.7 |
| Do not practice BSE | 70 | 32.3 |
| Reason for practice | | |
| Check for lumps | 105 | 71.4 |
| Advised by health personnel | 12 | 8.2 |
| Family history of cancer | 5 | 3.4 |
| Status of breast | 20 | 13.6 |
| Prevention is better than cure | 5 | 3.4 |
| Reason for not practicing | | |
| Lack of awareness | 23 | 32.9 |
| No time | 27 | 38.6 |
| Forgetfulness | 15 | 21.4 |
| Non-challant attitude | 5 | 7.1 |
| Interval of practice | | |
| Every day | 34 | 23.1 |
| Every week | 22 | 15.0 |
| Twice a month | 20 | 13.6 |
| Every month | 51 | 34.7 |
| Twice a year | 6 | 4.1 |
| Others | 14 | 9.5 |
| Duration of practice | | |
| <1 year | 70 | 47.6 |
| 1–5 years | 50 | 34.0 |
| >5 years | 27 | 18.4 |

## Discussion

A total of 217 questionnaires were analysed. The majority of the respondents were between the ages of 21–25 years (56.2%). About 87.6% of the respondents were single constituting the highest percentage of respondents while only 12.4% were married. The possible limitation of the study is that the questionnaire is self-administered as this can be influenced by participants and some participants has not returned the questionnaires.

Regarding awareness of BSE, it was discovered in this study that 95.4% of the respondents are aware of BSE which is similar to the findings of the study by Ayed et al. (12) , where 97.3% of the respondents were aware of BSE. The level of awareness may be due to the level of education of the participants as our study was carried out among undergraduate students. The findings also partly agree with the finding of the study carried out in Enugu Central where 73.5% of the respondents had heard of breast self-examination (13) . On the other hand our findings are in contrast with the findings of a study carried out in Qassim region of Saudi Arabia (14), to assess knowledge, attitude and practice of breast self-examination where 69.7% of the participants have never heard of BSE. The differences may be that the participants in this study, were drawn from the university while the participants in the Saudi Arabian study were drawn from the general population.

Regarding source of information, mass media was their main source of information in this study which is corroborate to the findings of a study conducted in Ilorin, Northern Nigeria by Salaudeen et al. (15,16), where 97.2% of the respondents reported the electronic and print media as their first source of information regarding breast cancer, and slightly in agreement with a study carried out in Enugu Urban cities which showed that 92% of the women were aware of breast cancer (13). The finding is also similar to the finding in a study carried out to access the knowledge, attitude and practice of self-breast examination among nursing students in Lagos University Teaching Hospital, Nigeria, where 97.3% of the respondents were aware of breast cancer and the majority of the respondents had gotten their information from the mass media (15). Our finding is in contrast with that of a study by Ali et al. (14), on knowledge, attitude and practice of Nigerian women towards breast cancer among Nigerian women in a semi-urban neighbourhood in Nigeria where study participants had poor knowledge of breast cancer. This may be due to difference of the participants; in our study the participants were drawn from female undergraduate stu-

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dents, this may explain the variation in knowledge of the participants.

On the features of breast lumps most of the respondents were aware that a breast lump was a feature of breast cancer. The finding is in contrast with that of a study by Ali et al. (14), where only few of the participants knew that breast cancer presents commonly as a painless breast lump. Also, the finding is in contrast with the finding of Okobia et al. (1). This may be connected with the level of education of our participants. Education may tend to give women more knowledge on features of breast cancer when compared with other participants whose level of education was lower. Regarding the benefits of breast self-examination, most of the respondents believed that breast self-examination was of benefit while only few believed that BSE was of no benefit. Most of the participants in this study practiced BSE monthly, which was similar to the finding in the study by Ali et al. (14).

The present study also showed that the majority of those who practiced BSE did it to search for lumps which is similar to the findings of Salaudeen et al. (15). Similar to the findings of Ayed et al. (12), it was also observed that most of the respondents who did not practice BSE, did not do it because they thought it is a nonchalant attitude, e.g. some of them thought they were violating their bodies by palpating their breasts.. Because It was also observed that 32.9% of the respondents did not practice BSE because of lack of awareness which is in contrast to the findings by Ayed et al. (12), where most of the respondents, (87.5%) reported that they had not carried out BSE because they did not know how to do it. It was found out in this study that 67.7% of the respondents practiced BSE of which 34.7% practiced it monthly. Their awareness of BSE makes them practice it. Therefore, awareness is an important factor in determining the success or failure of BSE. WHO advocate more health education in countries were mammography screening is not available (6), and WHO also recommend BSE as an early strategy for detection of breast cancer in a poor resource setting like Nigeria, therefore, more health education is needed among health care providers to increase the awareness of breast cancer and BSE in the country.

From the findings of the study, the participants had good knowledge of BSE, positive attitude toward breast self-examination but some of the participants did not practice BSE even though they knew the benefit. Although inconclusive, evidence suggest that practicing BSE does not provide early detection, but it may help in rising awareness among women and remain

the only mean of screening in middle- and low-income countries (11). Mass media provided the most information to these women about breast cancer and breast self-examination. The implication of this study is that more health education is needed on the importance of BSE and clinical breast examination among women, this will help increasing the awareness of breast cancer among women. It may also lead to early detection of disease. It is therefore recommended that further studies should be carried out among market women to determine their level of knowledge and practice.

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