



Breast Self Awareness: Knowledge and Practice of Breast Self-Examination among Female Students of a Private Tertiary Institution in Ogun State

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ABSTRACT

Objective: To determine the knowledge and practice of Breast Self-Examination (BSE) for awareness among female undergraduates of a private University in Ogun State.

Methods: A descriptive cross sectional study was conducted using a multistage sampling to recruit 360 female undergraduates from the Bells University of Technology, Ota. A pre-tested semi-structured self-administered questionnaire was used to obtain data for the study. Data was analysed using Statistical Package for Social Science (SPSS), version 20. Knowledge had a total score of 8 and rated as good (6-8), fair (4-5) and poor (< 4). Practice was a total of 9 points and was categorized as good (5-9) and poor (0-4). Chi-square test was used to measure the association between variables while statistical significance was set at $P \leq 0.05$.

Results: Respondents age range was 18-31 years with mean age 20.4 ± 1.2 . Twenty five percent of respondents knew the correct timing to perform BSE, 28.3% knew the correct position, 51.9% knew to feel all portions of both breasts and 26.4% knew that BSE involved checking the armpit. Only 35.6% performed BSE in the last one month and 35.0% performed BSE correctly. Overall, 37.8% had a good knowledge, 42.8% had a fair knowledge while only 35.0% had a good practice. There was a significant association between knowledge and practice of BSE ($p < 0.05$).

Conclusion: The knowledge of BSE amongst majority of the students was at least fair and practice was poor. Health education programs and peer education programs be focused on to improve the knowledge and practice of undergraduate students in order to help students imbibe the practice of Breast self-awareness from a young age.

INTRODUCTION

Globally, Breast Cancer is one of the most frequently diagnosed cancer and the leading cause of death among women.[1] It occurs mainly in middle aged and older women though black women have a higher chance of developing breast cancer before the age of 40 compared to white women.[1] In 2020, it was estimated that 2.3million women were diagnosed with breast cancer globally and 685 000 deaths occurred secondary to breast cancer. The World Health Organization in 2020 reports breast cancer as the most prevalent cancer worldwide as there were 7.8 million women alive who were diagnosed with breast cancer in the past 5 years.[2]

Breast cancer is a common condition in many parts of Africa as studies carried out in Cameroon[3] and Ghana[4] have reported breast cancer as the most common malignant cancer in women. Studies in Nigeria have reported breast cancer as a common malignancy among premenopausal women and late presentation is a common feature among women.[5,6] Early detection and treatment of breast cancer have been reported to reduce mortality from the condition. However, screening for breast cancer which aids early

detection of the condition though beneficial does not prevent breast cancer.[7]

Breast Self –Awareness is being familiar with one's own breasts. It is an inspection of the breasts that a woman can do on her own by performing certain procedures on the breast and related tissues.[7,8] In the past, Breast Self Examination (BSE) was used as a form of screening but there have been arguments that it takes some time for lumps to become palpable hence it has not been promoted as a screening method in recent times.[9] However, the concept of BSE for awareness still stands as it helps increase breast awareness benefitting women in two ways: women become familiar with both the appearance and the feel of their breasts and it helps to detect any changes in the breasts by oneself.[7-9] The eyes and hands are used to determine if there are any changes in the look and feel of the breasts. BSE is best performed when the breasts are least likely to be tender which is usually a few days after a menstrual period, in the supine and upright positions or in the shower using the finger pads of the three middle fingers. Different pressure levels (light, medium, firm) are used to feel the breast. A mirror is also be needed to aid inspection of the breasts. Though various techniques can be used to conduct a

BSE, it is better if a woman stays consistent with the technique she chooses. An easy technique is palpating the breasts in a circumscribed clockwise manner and working from the nipple outward. A vertical (up-down) pattern can also be used as an alternative.[8, 10]

Despite BSE being a quick, simple and inexpensive procedure, the practice of BSE has been reported to be generally low in Africa (8.1-43.6%).[3,4,11] Women have cited reasons such as: lack of self-confidence in their ability to perform the technique correctly, feeling of not being at risk of a breast lesion, forgetfulness.[3] Studies in Nigeria among market women also reveal that as high as 70.8% do not know how to carry out BSE.[12] In South Eastern part of Nigeria,[13] a study among undergraduate students also reveal low prevalence of practice of BSE (32.5%). This study was therefore carried out to determine the knowledge and practice of BSE among female undergraduates in South Western part of Nigeria.

MATERIALS AND METHODS

Setting, study design and Study population: A descriptive cross sectional study was conducted among female undergraduate students of Bells University of Technology, which is a private University located in Ota, Ogun state. It is the first private University of technology established in Nigeria in 2004, and began admitting students from the 2005/2006 academic session. It is made up of three Colleges (College of Engineering & Environmental Sciences, College of Natural & Applied Sciences and College of Management Sciences), thirty five departments and with a total population of about 5,000 students.

Sample size and sampling method: The minimum sample size for the study ($n=360$) was determined using Fisher's formula, with a normal standard deviation at 95%, confidence interval (1.96), prevalence of BSE practice 32.5%[13] and a non-response rate of 5%. A multi-stage sampling technique was used for the study. The 3 colleges were used as strata and from each strata, two departments were selected by balloting. Based on proportionate allocation, respondents were then selected based on their level of study from the three colleges. In each level, participants were recruited consecutively until sample size for that level was attained. Eligibility for participation in the study was a minimum age of 18 years.

Data collection and Data analysis: A pretested semi-structured questionnaire which was self-administered was used to collect data from the students over a period of three weeks in the academic area of the campus. Data collection was done after lecture periods from eligible respondents. Data was analysed with Statistical Package for Social Science (SPSS), version 20. Descriptive statistics was computed to generate frequencies, means and standard deviation. Knowledge had a total score of 8 and rated as good $\geq 70\%$ ($=6-8$), fair 50-69% ($=4-5$) and poor $< 50\%$ (< 4). Practice was a total of 9 points and was categorized as good $\geq 50\%$ ($=5-9$)

and poor $< 50\%$ (0-4). Chi-square test was used to test association between variables, statistical significance was set at $P \leq 0.05$.

Ethical consideration: Approval for the study was obtained from the institution's HREC and permission granted by the School Authority, after an explanation of the research objective to the students and their consent also obtained prior to the administration of the questionnaires. Participation in this study was absolutely voluntary, without any financial or material inducement.

RESULTS

The total number of respondents was 360 students. Majority of the respondents (77.8%) were less than 20 years of age, mean age 20.4. ± 1.2 and age ranged from 18-31 years. Christianity was the predominant religion (96.7) and 98.6% were single (Table 1). Less than half of the participants indicated that BSE should be carried out by both males and females (35.3%) and majority (78.3%) indicated SBE should commence by the age of 20 years. Less than 30.0% of the participants had knowledge of correct timing and correct positioning for conducting BSE (25.6% and 28.3% respectively). More than half of respondents (55.5%) knew that BSE involved inspection of breast for changes in shape, size, skin colour and discharge (Table 2). Sources of information for respondents on BSE varied from home, peer group health education programs amongst others (figure 1). About thirty three percent (33.9%) of the respondents initiated the practice of SBE by the age of 20 years, 14.2% had never performed SBE, 19.1% had not had SBE in more than six months; while only 35.0% performed SBE correctly. The major reasons respondents indicated for not performing BSE included forgetfulness (42.0%) and Lack of time (36.2%) Overall knowledge of BSE was good among 37.8% of participants while only 35% had good practice (Table 4). There was a significant association between knowledge of BSE and practice ($p < 0.05$) (Table 5).

Table 1: Socio-demographic characteristics of respondents

Variable	Frequency	Percentage (%)
Age (years)		
<20	280	77.8
20-24	70	19.4
25-29	8	2.2
≥ 30	2	0.6
Level		
200	127	35.3
300	119	33.0
400	114	31.7
Religion		
Christianity	348	96.7
Islam	12	3.3
Marital status		
Single	355	98.6
Married	5	1.4

Table 2: Respondents' knowledge of BSE

Variable	Frequency (N=360)	Percentage (%)
Who Should perform BSE		
Females only	145	40.3
Both male & female	127	35.3
Male only	35	9.7
Don't know	53	14.7
Age BSE should begin		
≤20	282	78.3
>20	78	21.7
Knowledge on performance of BSE		
Correct Timing of performing BSE	92	25.6
Correct position for performance of BSE	105	28.3
Involves inspection for changes in shape and size	200	55.5
Using pad of the middle fingers	83	23.1
Feeling all portions of both breasts	187	51.9
Checking the armpit	95	26.4

Table 3: Respondents' Practice of SBE

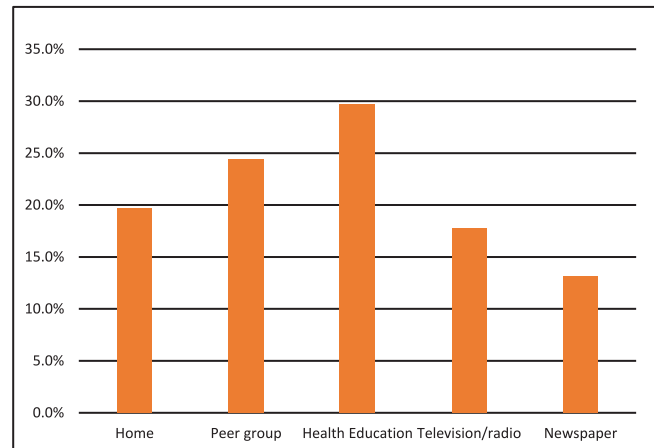
Variable	Frequency	percentage
Age at initial performance of BSE		
≤20yrs	122	33.9
>20yrs	63	17.5
No response	175	48.6
Frequency of practice of BSE		
Correct (Monthly)	125	34.7
Last time BSE was performed		
≤1 month	12	835.6
>1-3 months	57	15.8
3-6months	55	15.3
>6-12months	39	10.8
>12months	30	8.3
Never	51	14.2
Actual performance of BSE		
Correct	126	35.0
Incorrect	234	65.0
*Reasons for inconsistent practice of BSE	N=138	
Forgetfulness	58	42.0
Lack of time	50	36.2
Absence of lumps during previous examination	26	18.8
Not necessary	13	9.4
*Multiple response		

Table 4: Overall knowledge and practice of BSE

Variable	Freq (N=360)	Percentage
Knowledge		
Good	136	37.8
Fair	154	42.8
Poor	70	19.4
Practice		
Good	126	35.0
Poor	234	65.0

Table 5: Association between knowledge and practice of BSE

Knowledge of BSE	Good practice of SBE	Poor practice of SBE	Total
Good	38(30.2%)	98(41.9%)	136(37.8%)
Fair	79(62.7%)	75(32.1%)	154(42.8%)
Poor	9(7.1%)	61(26.1%)	70(19.4%)
	$\chi^2 = 36.047$		P=.001

**Figure 1: Sources of Information on BSE**

DISCUSSION

The age range of the respondents in this study was within what is expected for students though 77.8% being less than 20 years old could imply that majority of these students were admitted into the University before the age of 16 years stipulated by the Joint admission Matriculation Board (JAMB). Though this finding could also be explained that the University being private does not experience the frequent Industrial strike actions (that obtains in the public University system) thereby enhancing uninterrupted academic calendar and completion of studies in set time.[14] Neither is it surprising that majority (98.6%) were single considering that 77.8% of these respondents were less than 20 years.

About a quarter of the respondents did not know who should perform a BSE. Women are usually encouraged to have a BSE while men with strong family history are equally advised to have a BSE.[15] More than three quarters of the respondents knew that BSE for awareness is encouraged to be commenced by the age of 20 years (Table 2) which seemed good but it did not reflect in the proportion of respondents which showed that about a third that reported they initiated BSE by 20 years of age (Table 3). Majority (< 30%) did not have the knowledge of correct positioning, timing of BSE and checking the armpits for any swelling. This proportion is rather low and it is consistent with finding in Cameroon [3] where the proportion is even far lower (< 10%) among undergraduate students. A study in Ghana [4] reported higher proportion (60%) among their University students. However, slightly above half of respondents knew that BSE involved checking every portion of both breasts (51.9%) and inspecting the shape, size, skin colour and discharge of both breasts (55.5%), other studies did not examine this.[13, 16-

19] Overall, slightly above a third of the respondents in this study had a good knowledge of BSE while less than half had a fair knowledge (Table 4).

The most reported source of information on knowledge acquired in this study was health education program (29.7%) which is closely followed by peer group (24.4%). This is very important in order to know how to reach this same group of students peradventure there is an intervention in the near future. The study in Cameroon [3] however, reported television and radio as the highest source of information. Though the participants in both studies are students, what obtains in the two countries may be different.

Less than half of the respondents in this study reported performing a BSE on a monthly basis which was corroborated with the finding that 35.6% indicating a BSE within the last one month. This finding is comparable to studies in Uganda, [16] Ethiopia, [17] Turkey [18] and Saudi Arabia [19] that reported 44.9%, 28.3%, 33.3% and 25.5% respectively performing BSE in the last one month. Though an author [8] had queried the regularity attached to this examination but if the objective of the SBE is for familiarization with one's breast it cannot be achieved if it is done at any time a woman feels like. This is because she may not likely perform it at the right timing relative to her menstrual cycle and the intervals may become abysmally long. Majority (65.0%) of the respondents in this present study did not perform BSE correctly with regards to the positioning, timing, use of a mirror/ inspection and feeling the breasts. Comparison in this regard is difficult as the previous studies focused on whether or not BSE was performed and frequency rather than actual performance. This may possibly be because these studies were conducted against the background of BSE as a form of screening rather than for breast self-awareness. There was a significant association between knowledge and practice of BSE ($p < 0.05$) which is not unexpected.

The limitation of this study was its subjectivity to recall bias from the study participants and its lack of provision for actual performance of a SBE which could not have been achieved given the sample size.

The findings in this study of slightly above a third of respondents having a good knowledge and 35.0% having a good practice signal a call to awaken the need for breast awareness especially among young people in order to easily observe any changes. Considering that this population is young, it is recommended that health education programs and peer education programs be focused on to improve the knowledge and practice of undergraduate students. This will help these students imbibe the practice of Breast self-awareness from a young age to their middle age and beyond.

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