



## Knowledge, Attitude and Practise of Breast Self-Examination (BSE) among Female Students of the University of Lagos Nigeria

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### Abstract

**Background:** Breast cancer is the leading cause of cancer mortality in women worldwide. Prevention remains the cornerstone to fight against breast cancer. Breast Self-Examination (BSE), is recommended as a general approach to increasing breast health awareness and allow for early detection of any abnormally. **Aim:** The study assessed the knowledge, attitude and practice of BSE, among female students of the University of Lagos. **Methods:** A descriptive research design was adopted for this study. Ethical approval was taken from Research Ethical committee, Lagos University Teaching Hospital, Lagos. A self – structured questionnaires were used to elicit information from the respondents. Two hundred and fifty (250) respondents formed the sample size. Data was analysed using EPI Info version 7.1. Descriptive and inferential statistics were used to present the results. Variables were tested for statistical significance using chi-square at  $p < 0.05$ . **Results:** Most of the respondents had poor overall knowledge (58.4%), more than half (53.6%) had a positive overall attitude towards Breast Self-Examination. Also, 58.4% of the respondents had poor overall practice of BSE. Also there was statistically significant association between respondent's overall attitude and age ( $p < 0.05$ ) and between respondent's practice and current level of education ( $p < 0.05$ ). However, there was no statistically significant relationship between respondent's overall knowledge of BSE and level of study ( $p > 0.05$ ). **Conclusion:** Knowledge and practice of BSE among students were poor. However, the attitude was good. Therefore, the students' needs to be educated on the importance of regular BSE and the implications to their health. The University should provide avenue for female undergraduates to learn about regular BSE and the Government should also create awareness on the importance of BSE to women in general.

**Keywords:** Attitude, Breast Self-Examination, Knowledge, Practice, Students.

### Introduction

Breast cancer is the top cancer in women both in the developed and in the developing country (World Health Organisation 2019). Breast cancer is the second cause of cancer

worldwide and the fifth cause of cancer mortality (Centre for Disease Control Prevention, 2015). It is estimated that the prevalence of breast cancer in women aged 15 and over in Sub-Saharan Africa was 23.5 per

100,000 women in 2008 (Global Health Estimates, 2013). During the same period, an estimated 35,427 women died from breast cancer - a crude mortality rate of 12.8 per 100,000 women (Global Health Estimates 2013). In Cameroon, the crude annual incidence of breast cancer is estimated at 19.3 per 100,000 women with a mortality of 10.7 per 100,000 women (Global Cancer (GLOBACAN, 2008). In a retrospective study carried out in Lagos University Teaching Hospital, (2000-2013), total cancers diagnosed was 5,979. Total percentage of breast cancer mortality was 25.6%, making it cancer that caused the highest mortality in those 14 years. (Akinde, Phillips, Oguntunde, & Afolayan, 2015).

Prevention remains the cornerstone of the fight against breast cancer worldwide. Although some prevention methods have been proposed, many remain inaccessible to women in developing countries who, ironically, given the limited diagnostic and curative facilities available to them, need prevention the most. Breast Self-Examination (BSE), although not having been shown to be effective in reducing mortality, is still recommended as a general approach to increase breast health awareness and thus potentially allow for early detection of any anomalies. Furthermore, BSE continues to be recommended by health care practitioners because it is free, painless and easy to practice (Global Health Estimates, 2013). Better documenting women's knowledge on breast cancer and BSE as well as their practice of BSE would be useful in the design of interventions aimed at preventing breast cancer through increased awareness and improved screening (WHO 2019).

Global cancer statistics show the rising incidence of breast cancer and the increase is occurring at a faster rate in the developing countries (Ikechukwu, Amari, Nnenna, Nwino & Onwunaka, 2015). Breast cancer is the fifth leading cause of cancer mortality and the first leading cause of cancer mortality in females worldwide. Unfortunately, at the onset of

signs and symptoms, the disease has developed enough to cause devastating damage to the body, or even cause death. BSE is one of the methods of possibly diagnosing the onset of breast cancer at its early stages when it has higher chances of being controlled or stopped. Regularly examination of the breasts on your own can be an important way to find breast cancer early when it's more likely to be treated successfully (Komen, 2018). Not every cancer can be found this way, but it is a critical step that should be taken by oneself (Komen, 2018).

Adult women of all ages are encouraged to perform breast self-examination at least once a month. Johns Hopkins Medical Centre states that "Forty per cent of diagnosed breast cancers are detected by women who feel a lump, so establishing a regular breast self-examination is very important." BSE has been identified as an approach in the early detection of breast cancer in developing nations. ShrivastavaShrivastava and Ramasamy (2013) reported that a wide knowledge-application gap has been observed across the globe between the knowledge and the actual practice of BSE. This requires a sustained political commitment and further studies to recognise the perceived barriers which are interfering with the uptake of BSE so that the greatest challenge of the late presentation can be curbed and the chances of survival improved (ShrivastavaShrivastava, & Ramasamy 2013). In view of the above, the researcher investigated the knowledge, attitude and practise of BSE among female students of the University of Lagos.

### **Methods and Materials**

This study adopted descriptive cross-sectional design. Faculty of Social Science and Science of the University of Lagos were purposively selected for this study. Two hundred and fifty-eight female students were recruited for the study and were administered questionnaire; however, two hundred and fifty (250) were returned completed and were included in the analysis, making a response rate of 97%. The instrument that was used for data collection

was a self - developed questionnaire adapted from an extensive literature review of related articles from previous studies (Yakubu, Gadenya & Sheshe, 2015). A pilot study was conducted using 25 (10%) of the sample size to test the reliability of the instrument. A score of 0 was awarded to every wrong answer and a score of 1 was awarded to every correct answer. Respondents who scored between 7 – 12 points had an overall of good knowledge; those respondents who scored between 0 – 6 points had poor knowledge. Respondents who scored between 5 – 10 points had a positive attitude and respondents who scored between 0 – 5 points had a negative attitude. Respondents who scored between 7 – 18 had good practice and respondents who scored between 0 – 6 had poor practice. The internal consistency reliability test revealed a Cronbach's alpha value of 0.87. Ethical approval was obtained from Lagos University Teaching Hospital, Research Ethical Committee with the approval number (ADM/DCST/HREC/APP/1102).

A sample size of 258 was derived by using Smith (2013) formulae:

$n = t^2 \times p(1-p) / (m^2)$ ; where n = required sample size when target population is  $\leq 10,000$ ; t = confidence level at 95% (standard value of 1.96); p = estimated prevalence of respondents who had ever practised breast self-examination from literature reviewed = 80.2 % = 0.80 (Bassey, Iururhe, Olowoyeye, Adeyomoye & Onajole, 2011) m = margin of error at 5% (standard value of 0.05), with 5% non-response rate, the sample size was estimated to be around 258. The questionnaire was administered conveniently until the desired sample size was achieved. The respondents were given enough time to read and digest the questionnaire before answering and returning the questionnaire. Participation in the study was voluntary. An effort was made to ensure that a respondent does not fill the Questionnaire twice. This was done by being vigilant and by asking them if they had filled the Questionnaire before. The data was analysed using EPI Info Version 7.1. The students' response on their level of knowledge, attitude and practise of breast self-examination was calculated and a chi-square test was used to test the association between variables. , a p-value was set 0.05. The results were presented using tables and percentages.

**Results**

**Table 1:** Socio Demographics of Respondents

<b>Variable</b>	<b>Frequency</b>	<b>Per centage %</b>
<b>Age (years)</b>		
18-23	97	38.8
24-29	115	46.0
>29	38	15.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Religion</b>		
Christianity	124	49.6
Islam	82	32.8
Traditional	44	17.6
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Current level of study</b>		
100 level	119	47.6
200 level	56	22.4
300 level	42	16.8
400 level	21	8.4
500 level	12	4.8
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Ethnicity</b>		
Yoruba	147	58.8
Igbo	83	33.2
Hausa	20	8.0
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Marital status</b>		
Single	206	82.4
Married	34	13.6
Divorced	10	4.0
Separated	0	0.0
Widowed	0	0.0
<b>Total</b>	<b>250</b>	<b>100.0</b>

Table 1 reveals that most of the respondents were between the age 24-29 years (46.0%), most of the respondents were Christians (49.6%) and the majority of the respondents

were 100 level students (47.6%). Majority of the respondents were Yoruba (58.8%), they were predominantly single (82.4%).

**Table 2:** Respondent's Knowledge of Breast Self-Examination

<b>Variable</b>	<b>Frequency</b>	<b>Per centage %</b>
<b>Heard of breast self-examination</b>		
Yes	172	68.8
No	65	26.0
No response	13	5.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Source of information (multiple choice question)</b>		
Media	93	37.2
Friends	37	14.8
School	64	25.6
Family/relatives	56	22.4
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>At what age should breast self-examination start?</b>		
<11 years	8	3.2
11-15 years	32	12.8
16-20 years	10	4.0
21-25 years	53	21.2
>25 years	58	23.2
I do not know	11	4.4
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>How often should breast self-examination be performed?</b>		
Daily	52	20.8
Weekly	32	12.8
Yearly	41	16.4
Monthly	37	14.8
Bi-monthly	10	4.0
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Can breast self-examination scan detect breast cancer early?</b>		
Yes	72	28.8
No	71	28.4
I do not know	29	11.6
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Can breast self-examination affect the outcome of breast cancer?</b>		
Yes	74	29.6
No	63	25.2
I do not know	35	14.0
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>

Respondent's Overall Knowledge

Knowledge	Frequency	Per centage %
Good	104	41.6
Poor	146	58.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

Table 2 shows that most of the respondents have heard of breast self-examination (68.8%) and most respondent's source of information on breast self-examination was from the mass media, 23.2% of the respondents believed breast self-examination should start not more than 25 years. Less than half of the respondents believed breast that self-examination should be done daily (20.8%),

28.8% of the respondents believed that breast self-examination can detect breast cancer early, and 31.2% of the respondents believed breast self-examination can affect the outcome of breast cancer. The table also reveals that Most of the respondents had poor knowledge, while 41.6% of the respondents had good knowledge.

**Table 3:** Respondent's Attitude towards Breast Self-Examination

Variable	Frequency	Per centage %
<b>Breast self-examination is important</b>		
Strongly agree	60	24.0
Agree	48	19.2
Neutral	22	8.8
Disagree	32	12.8
Strongly disagree	10	4.0
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>I encourage breast self-examination</b>		
Strongly agree	72	28.8
Agree	48	19.2
Neutral	31	12.4
Disagree	12	4.8
Strongly disagree	9	3.6
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>I am aware of the benefits of breast self-examination</b>		
Strongly agree	65	26.0
Agree	34	13.6
Neutral	32	12.8
Disagree	29	11.6
Strongly disagree	12	4.8
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>

<b>Practising breast self-examination is time-wasting</b>		
Strongly agree	35	14.0
Agree	21	8.4
Neutral	50	20.0
Disagree	41	16.4
Strongly disagree	25	10.0
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Breast self-examination changes the way the breast looks</b>		
Strongly agree	40	16.0
Agree	22	8.8
Neutral	31	12.4
Disagree	48	19.2
Strongly disagree	31	12.4
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>

Respondent's Overall Attitude		
<b>Attitude</b>	<b>Frequency</b>	<b>Per centage %</b>
Positive	134	53.6
Negative	116	46.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

Table 3 reveals that less than half of the respondents strongly agreed that breast self-examination is important (24.0%), 28.8 % of the respondents strongly agreed on encouraging breast self-examination. Twenty-six per cent (26%) of the respondents strongly agreed they are aware of the benefits of BSE

and 20.0% of the respondents were neutral on practising of BSE time-wasting, 19.2% of the respondents disagreed that breast self-examination changes the way the breast looks. The table also shows that most of the respondents had a positive attitude (53.6%) while 46.4% of the respondents had a negative attitude.

**Table 4:** Respondent's Practice of Breast Self -Examination

<b>Variable</b>	<b>Frequency</b>	<b>Per centage %</b>
<b>Do you practice breast self-examination?</b>		
Yes	129	51.6
No	43	17.2
No response	78	31.2
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Source of information on breast self-examination (multiple choice question)</b>		
Media	69	27.6
Friends	85	34.0
School	42	16.8
Family/relatives	54	21.6
<b>Total</b>	<b>250</b>	<b>100.0</b>

**How often do you practice breast self-examination?**

Daily	13	5.2
Monthly	24	9.6
Quarterly	60	24.0
Yearly	17	6.8
Weekly	15	6.0
No response	121	48.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

**When was the last time you perform breast self-examination?**

Last week	25	10.0
Last month	38	15.2
Last year	66	26.4
No response	121	48.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

**How do you perform breast self-examination?**

Feel with one finger	26	10.4
Feel with two fingers	53	21.2
Feel with the palm and three fingers or more	40	16.0
I do not know	10	4.0
No response	121	48.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

**What position do you examine the breast? (multiple choice)**

Sitting	77	30.8
Standing	58	23.2
Lying down	62	24.8
Bending over	22	8.8
No response	31	12.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

**What to look for on breast self-examination (multiple choice question)**

Lumps	69	27.6
Nipple discharge	48	19.2
Nipple pain	4	1.6
Nipple inversion	10	4.0
Swellings	29	11.6
Rashes	33	13.2
Spots	17	6.8
Thickened nipple	29	11.6
Colour change	11	4.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

<b>Why don't you practice breast self-examination?</b>		
Don't know about it	37	14.8
Don't know how to	28	11.2
No response	185	74.0
<b>Total</b>	<b>250</b>	<b>100.0</b>
<b>Would you like to know more about breast self-examination</b>		
Yes	237	94.8
No	13	5.2
<b>Total</b>	<b>250</b>	<b>100.0</b>

  

Overall Practice of Respondents		
Practise of BSE	Frequency	Percentage %
Good	104	41.5
Poor	146	58.4
<b>Total</b>	<b>250</b>	<b>100.0</b>

Table 4 shows that most of the respondents practised breast self-examination (51.6%) and 34.0% of the respondents were taught breast self-examination from their friends, 18.4% of the respondents perform breast self-examination quarterly. More than half of the respondents (26.4%) performed breast self-examination last years and 21.2% of the respondent use two fingers to perform breast self-examination, majority of the respondents perform breast self-examination in a sitting position (30.8%). Most of the respondents

(27.8%) lookout for lumps during breast self-examination while 4.4% of the respondents look for colour change of the breast, 14.8% of the respondents did not practice breast self-examination because they do not know about breast self-examination and 94.8% of the respondents would love to know about breast self-examination. Findings also showed that most of the respondents (58.4%) had poor practise while 41.5% of the respondents had good practise as indicated in table 4.

**Table 5:** Association between Respondent's Overall Knowledge and Socio-Demographics Variables

Overall Knowledge						
Variable	Good	Poor	Total	X	Df	P-value
<b>Age (years)</b>				4.31	2	0.72
18-23	40(41.2%)	57(58.8%)	97(100.0%)			
24-29	50(43.5%)	65(56.5%)	115(100.0%)			
>29	14(36.8%)	24(63.2%)	38(100.0%)			
<b>Total</b>	<b>104(41.6%)</b>	<b>146(58.4%)</b>	<b>250(100.0)</b>			
<b>Current level of study</b>				2.17	2	0.02
100 level	45(37.8%)	74(62.2%)	119(100.0%)			
200 level	24(42.8%)	32(57.2%)	56(100.0%)			
300 level	13(30.9%)	29(69.1%)	42(100.0%)			
400 level	15(71.4%)	6(28.6%)	21(100.0%)			
500 level	7(58.3%)	5(41.7%)	12(100.0%)			
<b>Total</b>	<b>104(41.6%)</b>	<b>146(58.4%)</b>	<b>250(100.0%)</b>			

Association between the Respondent's Overall Attitude and Socio-Demographics Variables

Overall Attitude				X	Df	P-value
Variable	Positive	Negative	Total			
<b>Age (years)</b>				3.128	2	0.04
18-23	62(63.9%)	35(36.0%)	97(100.0%)			
24-29	85(73.9%)	30(26.1%)	115(100.0%)			
>29	17(44.7%)	21(55.3%)	38(100.0%)			
<b>Total</b>	<b>134(53.6%)</b>	<b>116(46.4%)</b>	<b>250(100.0)</b>			
<b>Current level of study</b>				4.21	3	1.27
100 level	72(60.5%)	47(39.5%)	119(100.0%)			
200 level	46(82.1%)	10(17.9%)	56(100.0%)			
300 level	24(57.1%)	18(42.9%)	42(100.0%)			
400 level	15(71.4%)	6(28.6%)	21(100.0%)			
500 level	7(58.3%)	5 (41.7%)	12(100.0%)			
<b>Total</b>	<b>134(53.6%)</b>	<b>116(46.4%)</b>	<b>250(100.0%)</b>			

Association between the Respondent's Overall Practice and Socio-Demographics Variables

Overall Practice				X	Df	P-value
Variable	Good	Poor	Total			
<b>Age (years)</b>				4.26	2	1.25
18-23	24(24.7%)	73(75.3%)	97(100.0%)			
24-29	52(45.2%)	63(54.8%)	115(100.0%)			
>29	28(73.7%)	10(26.3%)	38(100.0%)			
<b>Total</b>	<b>104(41.6%)</b>	<b>146(58.4%)</b>	<b>250(100.0)</b>			
<b>Current level of study</b>				2.41	3	0.013
100 level	25(21.0%)	94(79.0%)	119(100.0%)			
200 level	22(39.3%)	34(60.7%)	56(100.0%)			
300 level	25(59.5%)	17(40.5%)	42(100.0%)			
400 level	14(66.7%)	7(33.3%)	21(100.0%)			
500 level	9(75.0%)	3(25.0%)	12(100.0%)			
<b>Total</b>	<b>104(41.6%)</b>	<b>146(58.4%)</b>	<b>250(100.0%)</b>			

Table 5 also reveals that there is a significant association between respondent's overall knowledge and current level of study (p=0.02). There is no significant association between respondent's overall knowledge and age (p=0.72). There is a statistically significant association between respondent's overall attitude and age (p=0.04). There is no statistically significant relationship between the respondent's overall practice and age (p=1.25).

**Discussion**

The demographic characteristics revealed that most of the respondents were between 24-29

years of age (46.0%), about 50% of the respondents were Christians. This is an indication that the majority of the respondents were Christians. Majority of the respondents were 100 level students (47.6%). This also indicates that the respondents were in their first year in the University. Over fifty per cent (58.8%) of the respondents were Yoruba. It is not surprising that the majority of respondents were Yoruba's because the study area belongs to the Yoruba ethnic group. The findings also revealed that most of the respondents were single (82.4%).

The study was conducted to assess the level of knowledge, attitude and practise of BSE among the undergraduates' university of Lagos. The respondents in this study showed poor knowledge of BSE. The finding of this study is similar to studies conducted among medical students and female undergraduate's students, Ethiopia and Turkey. Their findings show that the respondents had poor knowledge of BSE ( Ameer, Abdilie, Pal, Arebo & Kussa, 2014; Koc, Gulen – Savas, Ergol, Yildirim- Cetinkaya & Aydin, 2019). This present study is in contrast with a study conducted by Bisuh, Atashili, Fuh and Eta (2012), a descriptive cross-sectional study in Buea, Cameroon where respondents had good knowledge of BSE.

Regarding Attitude towards BSE, the result of this study revealed that the majority of the respondents had a positive attitude towards BSE, the result of this study revealed that the majority of the respondents had a positive attitude towards BSE. The findings of this study is similar to the following studies done among undergraduate female students and medical students; they found that the respondents had positive attitude to BSE (Romli & Pardi 2017; Koc, Gulen – Savas, Ergol, Yildirim-Cetinkaya & Aydin; Getu, Kassaw, Tlaye & Gebrekiristos, 2019). On the other hand, the study of Nde, Assob, Kwenti, Njunda & Tainenbe (2015) findings shows that the respondent's attitude was moderate among undergraduate students, university of Buea, Cameroon. Also, the findings of this study have shown that there was a poor overall practice of BSE, among the female undergraduates in the university of Lagos. This indicates that the respondents do not practice BSE. The findings are in agreement with a study conducted among female students; they found that the majority of the respondents rarely practised BSE (Romli & Pardi, 2017). Pengpid and Peltzer (2014), findings show that BSE practice among respondents was inadequate, this study was in disagreement with a study conducted in Addis Ababa, Ethiopia among female undergraduate students their findings shows that more than

50% practised BSE, perform at every month at the right time and family history of breast cancer, knowledge and attitude were found to be significantly associated with BSE practice (Getu, Kassaw, Tlaye & Gebrekiristos, 2019).

There is a statistically significant relationship between respondent's overall knowledge and current level of study ( $p < 0.05$ ) this may be because the respondent source of information on breast cancer and BSE was during their time in school and had rich information on breast cancer and BSE. There is no statistically significant relationship between the respondent's overall knowledge and age  $p > 0.05$ . There is a statistically significant relationship between respondent's overall attitude and age ( $p < 0.05$ ) this may be because the respondents had a positive attitude towards BSE as their age increase knowing they could be at risk of breast cancer due to increasing age and reduced immune response to diseases. There is no statistically significant relationship between respondents' overall attitude and current level of study  $p > 0.05$ . There is a statically significant relationship between respondent's practice and current level of education ( $p < 0.05$ ). This may be because the knowledge on practise of BSE was gotten from different levels of study. There is no statistically significant relationship between respondents' practice and current level of study.

### **Conclusion**

Knowledge and practice of BSE among students were poor. This means that the respondents have inadequate knowledge and practice of BSE in general. However, the attitude was positive. Therefore, the students' needs to be educated on the importance of regular BSE and the implications on their health as females. Sensitisation campaigns and other programmes designed should be used to create awareness about BSE in order to improve their attitude towards the practice of BSE in breast cancer prevention.

### **Conflict of Interest**

No conflict of interest was observed or reported.

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