

# Knowledge, Attitude and Practice of Breast Self Examination among Female Students of a Tertiary Institution in Sokoto, North-West Nigeria.

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## ABSTRACT

**Background:** Breast cancer is the most common cancer in women worldwide. Early detection and prompt treatment offers the greatest chance of survival. We described the knowledge, attitude and practice of breast self examination among female students of a tertiary institution in Sokoto, northwest Nigeria. **Methods:** A set of semi structured self administered questionnaire was used to seek information on respondents' knowledge, attitude and practice of breast self examination. A total of 80 female students were selected using stratified sampling technique, with a response rate of 100%. The data were analysed using the Statistical Package for Social Sciences (SPSS) version 20 and Microsoft Excel 2007. **Results:** The mean age of respondents was 21 years  $\pm$ SD1.83, with 48.8% of them being Hausa. They are predominantly Muslims and 85% are single. About 19% of the respondents have family history of breast cancer. Up to 96% of them have heard about breast cancer and 86.3% were aware of BSE, however, only 46% of them had adequate knowledge of BSE. Majority (96%) of the respondents had positive attitude towards BSE as 92.5% of them think BSE is necessary and a further 97.5% would like to know more about it. This study showed poor level of BSE practice with only 17.5% showing good practice out of the 45% of respondents that have ever practiced BSE. **Conclusion:** Most of the respondents have heard about BSE but only 46.3% had adequate knowledge. Majority of respondents demonstrated a positive attitude towards BSE; however, the practice was low.

**Keywords:** Attitude, Breast self examination, Knowledge, Screening, Sokoto.

## INTRODUCTION

Breast cancer is the most common cancer in women both in developed and developing countries. It is a major global health problem, with an estimated 1.7 million cases occurring globally in 2012.<sup>[1]</sup> More than 520,000 women globally die every year from breast cancer.<sup>[1]</sup> More than half of all breast cancer cases occurring worldwide are in low and middle class income countries. It is predicted that by 2035, there will be more than 2.5 million new cases of breast cancer annually.<sup>[1]</sup>

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It now represents one in four of all cancers in women. Incidence remains highest in developed countries however, its incidence continues to rise steadily in many low- and middle-income countries as women live longer and lifestyles change in ways that increase the risk factors for the disease. There

has been significant increase in its incidence in sub-Saharan Africa and other poor resource countries.<sup>[2]</sup> In Nigeria, cancer of the breast is now the commonest cancer affecting women.<sup>[3]</sup>

Early detection and prompt treatment of breast cancer offers the greatest chance of long time survival.<sup>[4]</sup> One potentially important strategy in reducing breast cancer mortality is breast cancer screening to achieve earlier detection.<sup>[5]</sup> Mammography, Clinical breast examination (CBE) and Breast self examination (BSE) are secondary preventive methods used for screening in the early detection of breast cancer. Unlike CBE and mammography which require hospital visit and specialized equipment and expertise, BSE is a simple, non-invasive and inexpensive procedure that can be carried out by the females themselves.<sup>[6]</sup> BSE, when carried out correctly and at the right time, goes a long way in detecting breast cancer at the early stages of growth when there is low risk of spread, thus ensuring a better prognosis when treated.<sup>[7]</sup>

Although BSE is a simple, quick and cost-free procedure, many women either perform it incorrectly or not at all.<sup>[8]</sup> Women who perform

breast self examination are more familiar with their breast potentially making them more aware of any breast problems and this will make them to seek medical advice earlier. Despite this, adequate knowledge on how to perform BSE and the right attitude towards its performance is required to sustain it and achieve the desired goal of early detection of breast cancer.

This study therefore determined the knowledge, attitude and practice of BSE among female students of a tertiary institution in Sokoto, with the hope that the findings could be used to offer appropriate interventions in order to reduce the knowledge-application gap of BSE.

**MATERIALS AND METHODS**

This study was carried out between August and December 2014, at the Shehu Shagari College of Education, Sokoto, Nigeria. The school offers up to 17 programs at Pre-NCE/NCE levels including Diploma (OND) and undergraduate (B.Ed.) courses in affiliation with ABU Zaria.

It was a descriptive cross-sectional involving female student of NCE 1, NCE 2, and NCE 3. A set of semi structured questionnaire was developed, which sought information on socio-demographic characteristics of respondents, their knowledge on breast self-examination, attitude towards breast self-examination and practice of breast self examination.

The questionnaire was pretested on female students in Pre-NCE programme within the same institution. Four female students of Usmanu Danfodiyo University, Sokoto who were trained on the objectives of the study and how to apply the study instrument were used as research assistants.

Using the formula for cross-sectional descriptive studies<sup>[9]</sup> ( $Z^2pq/d^2$ ) and prevalence rate of 95.6%, a sample size of 70 was calculated however 80 participants were enrolled in the study. Stratified sampling technique was used to select eligible respondents. We sought for the consent of the respondents to participate in the study before giving them the questionnaires to complete. The questionnaires were checked manually for completeness as soon as they were retrieved. Incomplete ones were returned back to the respondents for rectification such that at the end of the data collection, all questionnaires were completely filled. The study was approved by the ethics committee of Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto.

The data generated were analysed using the Statistical Package for Social Sciences (SPSS) version 20 and Microsoft Excel 2007. Continuous variables were presented as mean  $\pm$ SD while categorical variables were presented as frequencies/percentages, tables and charts. Chi square test was

used to determine the association between categorical variables. All statistical tests were set at 5% level of significance ( $p \leq 0.05$ ).

**Table 1: Socio-demographic profile of respondents**

S/N	Variable	Frequency (%)
1	<b>Age(years)</b>	
	15-19	11(13.8)
	20-24	65(81.3)
	25-29	4(5)
	<b>Total</b>	<b>80(100)</b>
<b>Mean <math>\pm</math> SD= 21.375<math>\pm</math> 0.42676</b>		
2	<b>Tribe</b>	
	Hausa	39(48.8)
	Yoruba	18(22.5)
	Igbo	12(15.0)
	Others	11(13.8)
<b>Total</b>	<b>80(100)</b>	
3	<b>Religion</b>	
	Islam	54(67.5)
	Christianity	26(32.5)
<b>Total</b>	<b>80(100)</b>	
4	<b>Marital status</b>	
	Single	68(85.0)
	Divorced	1(1.3)
	Married	11(13.8)
<b>Total</b>	<b>80(100)</b>	
5	<b>Year of study</b>	
	NCE 1	29(36.3)
	NCE 2	26(32.5)
	NCE 3	25(31.3)
<b>Total</b>	<b>80(100)</b>	
6	<b>Family history of breast cancer</b>	
	Yes	15(18.8)
	No	65(81.3)
<b>Total</b>	<b>80(100)</b>	

**Table 2: Knowledge of BSE**

S/N	Variable	Frequency (%)
1	<b>Have you ever heard of breast cancer?</b>	
	Yes	77(96.3)
	No	3(3.8)
	<b>Total</b>	<b>80(100)</b>
2	<b>Is breast cancer common in this environment?</b>	
	Yes	45(56.3)
	No	35(43.8)
<b>Total</b>	<b>80(100)</b>	
3	<b>Can breast cancer be detected early?</b>	
	Yes	73(91.3)
	No	7(8.8)
<b>Total</b>	<b>80(100)</b>	
4	<b>Can early detection improve chances of survival?</b>	
	Yes	78(97.5)
	No	2(2.5)
<b>Total</b>	<b>80(100)</b>	
5	<b>Have you heard about BSE?</b>	
	Yes	69(86.3)
	No	11(13.8)
<b>Total</b>	<b>80(100)</b>	

6	<b>If yes, what is the source of your information? (N=80)</b> Radio TV Newspaper Health centres Family and friends Others	8(10) 37(48.3) 2(2.5) 14(17.5) 3(3.8) 6(7.5)
7	<b>Why is BSE practiced?</b> To examine the breast regularly To prevent breast cancer I don't know <b>Total</b>	12(15) 62(77.5) 6(7.5) <b>80(100)</b>
8	<b>Who should perform BSE?</b> Female friends/relation Male friend/relation Both male and female Health worker only <b>Total</b>	30(37.5) 1(1.3) 3(3.8) 46(57.5) <b>80(100)</b>
9	<b>When should a girl begin BSE?</b> <19 years >19 years I don't know <b>Total</b>	14(17.5) 30(37.5) 36(45.0) <b>80(100)</b>
10	<b>How often should BSE be performed?</b> Daily Weekly Monthly Yearly Randomly I don't know <b>Total</b>	4(5.0) 5(6.3) 34(42.5) 10(12.5) 8(10.0) 19(23.8) <b>80(100)</b>
11	<b>When should BSE be performed?</b> Before menstruation During menstruation After menstruation No particular time <b>Total</b>	4(5) 3(3.8) 37(46.3) 36(45.0) <b>80(100)</b>

**Table 3: Respondents knowledge of practice of BSE**

12	<b>Do you know how to perform BSE?</b> Yes No <b>Total</b>	46(57.5) 34(42.5) <b>80(100)</b>
13	<b>What are the methods of performing BSE?</b> In front of the mirror Lying down on bed While bathing Others <b>Total</b>	42(52.5) 11(13.8) 12(15.0) 15(18.8) <b>80(100)</b>
14	<b>How is BSE performed?</b> Any how With one finger With the palms or at least 3 fingers <b>Total</b>	16(20.0) 4(5.0) 60(75.0) <b>80(100)</b>
15	<b>BSE can only be done while standing</b> Yes No I don't know <b>Total</b>	23(28.8) 29(36.3) 28(35.0) <b>80(100)</b>

16	<b>A mirror is needed to perform BSE</b> Yes No I don't know <b>Total</b>	51(63.8) 6(7.5) 23(28.8) <b>80(100)</b>
17	<b>BSE only involves examination of the breast with the hand</b> Yes No I don't know <b>Total</b>	52(65) 5(6.3) 23(28.8) <b>80(100)</b>
18	<b>BSE does not involve squeezing the nipple gently to detect discharge</b> Yes No I don't know <b>Total</b>	40(50) 16(20) 24(30.0) <b>80(100)</b>
19	<b>What are the changes to look for during BSE? (N=80)</b> Change in shape of breast Skin discolouration Presence of lumps Nipple discharge I don't know	12(15) 5(6.3) 47(58.8) 2(2.5) 14(17.5)
20	<b>What do you do when you notice any abnormality in your breast?</b> Report to the hospital Allow to resolve on its own Take herbal medication I don't know <b>Total</b>	77(96.3) 1(1.3) 1(1.3) 1(1.3) <b>80(100)</b>

**Table 4: Pattern of Practice of BSE**

S/N	Variable	Frequency (%)
1	<b>Have you ever performed BSE before?</b> Yes No <b>Total</b>	36(45) 44(55) <b>80(100)</b>
2	<b>If you performed BSE before and stopped, why?</b> Don't have time anymore Have not noticed any change Don't think it's necessary anymore No reason	4(5) 24(30) 5(6.3) 4(5) 37(46.3)
3	<b>If you have never performed BSE, why not?</b> Don't know how to do it It is not important Don't think I should touch my body that way Don't have symptoms Scared of finding something <b>Total</b>	17(21.3) 3(3.8) 11(13.8) 11(13.8) 4(5) <b>46(57.5)</b>
4	<b>Do you currently perform BSE?</b> Yes No <b>Total</b>	35(43.8) 44(55) <b>79(98.8)</b>
5	<b>If yes, why?</b> I examine my breast regularly Family history of breast cancer Close friend with breast cancer No reason <b>Total</b>	22(27.5) 3(3.8) 3(3.8) 7(8.8) <b>35(43.8)</b>

6	At what age did you start practicing BSE? 15-19 20-24 Mean±SD = 18.44±1.23	28(35) 6(7.5)
7	How often do you perform BSE? Daily Weekly Monthly Yearly Randomly Total	1(1.3) 4(5) 15(18.8) 9(11.3) 6(7.5) 35(43.8)
8	When was the last time you performed BSE? <1 week ago <1 month ago <3-6 months ago < 1year ago Total	3(3.8) 13(16.3) 8(10) 11(13.8) 35(43.8)
9	When do you perform BSE? During menstruation After menstruation No particular time Total	3(3.8) 23(28.8) 9(11.3) 35(43.8)
10	How do you perform BSE? In front of mirror Lying down on bed While bathing All of the above Total	13(16.3) 5(6.3) 5(6.3) 12(15) 35(43.8)

RESULTS

The ages of the respondents ranged between 17-25 years with mean age of 21 ±1.83 years. The respondents were predominantly Muslims and up to 85% of them were single. About 36.3% were in NCE 1, 32.5% were in NCE 2, with 31.3% in NCE 3. Majority of them (81.3%) have no family history of breast cancer (Table 1). Up to 96.3% have heard about breast cancer, 91.3% knew it can be detected early and 97.5% knew that early detection increases chances of survival [Table 2]. Also, 86.3% of them have heard about BSE with the TV (46.3%) being the main source of their information, followed by health centres (17.5%) with the least source being the newspaper (2.5%). Only 3% of them knew that both male and female are required to perform breast self-examination [Table 2]. The respondents also said that breast self-examination should be performed monthly (34%), some yearly (12.5%), 6.3% said weekly and 5% daily [Table 2].

A little more than half (57.5%) of the respondents knew how to perform BSE, with 52.5% saying BSE is done in front of the mirror and 15% saying it is done while bathing. About 75% believe BSE is done with the palms or least 3 fingers. About 50% of respondents believe BSE does not involve squeezing nipples gently to detect discharge. About 59% believe presence of lumps are the changes to look for during BSE, 15% look for changes in the shape of their breast and 6% look for skin discolouration while performing BSE [Table 3]. Up to 92.5% of the respondents thought that breast self-examination was necessary and 97.5% would like to know more about BSE. About 66% of the respondents thought BSE is helpful, 20% consider it very painful, 12.5% consider it embarrassing [Figure 1&2].

Only 45% of the respondents have ever carried out breast self-examination, of which 3.8% do it because they have a family history of breast cancer. Of those that have never performed breast self-examination, 21.3% said it is because they do not know how to do it, 3.8% felt it was not important whereas 5% said they were scared of finding something. The minimum age that respondents started performing BSE was 16 years and 13.8 % of the respondents last carried it about a year ago. Among those that perform BSE, 28.8% perform it after menstruation, while only 16.3% carry it out in front of a mirror [Table 4]

Regarding their overall knowledge, attitude and the practice of BSE, 46% had adequate knowledge, 96% had positive attitude while only about 17.5% had good practice [Figure 3].

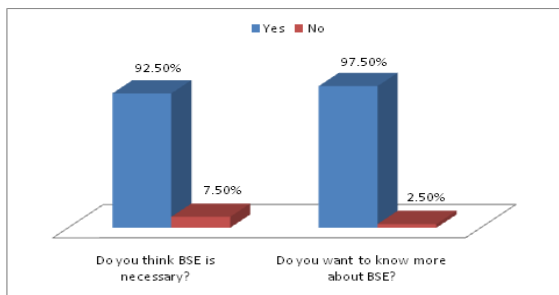


Figure 1: Respondents' attitude towards BSE.

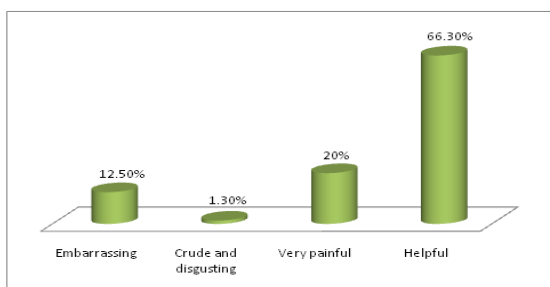


Figure 2: Opinion of respondents regarding BSE.

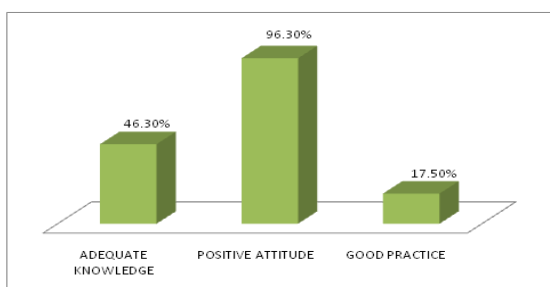


Figure 3: Knowledge, Attitude and Practice of BSE.



## DISCUSSION

Breast self examination is a screening method used to detect early breast cancer which involves the woman looking at and feeling each of her breast for possible lumps, distortions or swelling in order to seek prompt medical attention. The procedure, though simple, non-invasive, requiring little time, can only be practiced with adequate knowledge and the right attitude to sustain it and achieve the desired goal of early breast cancer detection.<sup>[3]</sup>

In this study, the age of the respondents ranged from 17 years to 25 years with a mean age of 21 years which is comparable to a study carried out in the University of Lagos, where the age range was from 15 years to 26 years with a mean age of 21 years.<sup>[7]</sup> This age pattern is consistent with the present 6-3-3-4 educational system in Nigeria such that the average age of entry into the tertiary institution is about 18 years. The study was appropriate in this age group as most of them were young adults who should find out more information on breast cancer and breast self-examination before they reach the age of common occurrence of the disease. Most of the respondents were either Muslims.

Most of the respondents in this study (96.3%) have heard about breast cancer and this is consistent with other studies conducted in Enugu and Calabar where awareness of breast cancer was reported to be very high.<sup>[1,10]</sup> This shows a high level of awareness of breast cancer across different geographical regions in Nigeria. Despite this high awareness of breast cancer, it was found in this study that only about 46% of the respondents had adequate knowledge of BSE, though more than two-third of them have heard about it, with the television being the major source of their information (48.3%). This is similar to a study done in Zaria where awareness of BSE was up to 85.1%, with the media being the major source of their information.<sup>[11]</sup> It is important to note that in this study only 17.5% of those that are aware of BSE received the information from health centres and this is quite discouraging. A study in Zaria also made a similar observation where only 20.2% of the respondents reported health centres as their source of information regarding BSE.<sup>[11]</sup> The media can therefore serve as means of effectively disseminating information about breast cancer and BSE as a screening method. In this study, 57.5% of the respondents had knowledge of BSE procedure, however, only 46.3% knew it's performed after menstruation and 42.5% knew it should be performed monthly. This is in keeping with results from a study in Buea, Cameroun, where 59.1% claimed to know how to perform BSE and 35% knew it should be performed monthly.<sup>[12]</sup> The respondents in this study were aware of the

different methods of performing BSE and up to 63.8% of them were aware that a mirror is needed to perform BSE. This is surprisingly much higher than what was reported by Irurhe et al in the study they conducted among female medical students in a university in Lagos which showed that only 47.7% of the female students were aware that a mirror is needed to conduct BSE.<sup>[13]</sup> A little more than half (58.8%) of the respondents knew that looking for presence of lumps is one of the changes to look for during BSE. This is in keeping with a study carried out in a University in Malaysia where more than half (66.7%) knew it is important to look for presence of lumps during BSE.

Majority (96%) of the respondents had positive attitude about BSE as 92.5% of them think BSE is necessary and a further 97.5% would like to know about it. This positive attitude towards BSE was also observed in a study conducted in Ilorin where 75% of the respondents had positive attitude towards BSE.<sup>[14]</sup>

This study showed poor practice of BSE among the respondents, with only 17.5% showing good practice out of the 45% of respondents that have ever practiced BSE. This is unlike the findings of a study done in Lagos which showed that 83.1% have ever practice it<sup>[13]</sup> and Port-Harcourt where 59.1% had ever practiced BSE.<sup>[15]</sup> The reason for a higher practice rate in Lagos may be related to the fact that the respondents in Lagos were medical students who would have had more knowledge about cancers in general than the respondents used in this study. Of those who performed BSE in this study, 43.8% last performed it nearly a year ago and this is similar to the findings of a study conducted in Lagos where 43.5% of respondents had not performed BSE for nearly a year, with only 16.3% performing it monthly.<sup>[13]</sup>

## CONCLUSION

Most of the respondents in this study were aware of breast cancer and more than two-third of them have heard about BSE, with 57.5% claiming to know how to perform it and only 46.3% with adequate knowledge. Majority had positive attitude towards BSE, however, despite the positive attitude the practice of BSE was poor as less than half of them practiced it at least once.

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