Original Article

Determinants of Self Breast Examination Among Students of College of Nursing, Bida, Nigeria

Abdullateef AA[1] *Ilori OR[2], Ige RO[2], Akanbi IM[3]

[1]*Post-Graduate School Ladoke Akintola University of Technology, P.M.B 4000, Ogbomoso, Oyo State, Nigeria..* [2]*Department of Community Medicine, Faculty of Clinical Sciences, College of Health Sciences, Ladoke Akintola University of Technology (LAUTECH), P.M.B. 4400 Ogbomoso, Oyo State, Nigeria.* [3]*Department of Community Medicine, BOWEN University Iwo, Nigeria.*

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***Correspondence:** Ilori Oluwatosin Ruth
Email: orilori@lautech.edu.ng

ABSTRACT

Breast Self-Examination (BSE) is a cost-effective method for breast cancer prevention. This descriptive cross-sectional study aimed to identify factors influencing BSE practices among 215 nursing students at the Nursing School, Bida, selected via multi-stage sampling. Data were collected via interviewer-administered questionnaires and analyzed using IBM SPSS version 23. Results showed that 54.2% had good knowledge, 63.0% had a positive attitude, and 85.9% demonstrated good practice of BSE. Year of study and ethnicity were statistically associated with practice ($p<0.05$). The findings highlight a strong practical uptake despite moderate knowledge, underscoring the need for intensified awareness campaigns to promote early adoption of BSE, thereby facilitating early detection and prompt treatment of breast cancer.

Keywords: Bida, Breast cancer, Breast self-examination, Cancer prevention,

INTRODUCTION

Self-breast examination (SBE), also called breast self-examination (BSE), involves periodic self-directed visual inspection and palpation of the breasts to detect abnormalities such as lumps, nipple discharge, dimpling, or asymmetry. In Nigeria, where organized imaging-based screening coverage remains limited and young women frequently present late for diagnosis, BSE continues to serve as a central breast-awareness and health-education strategy in adolescent and young adult populations, particularly within tertiary institutions.(1,2) Nigerian studies consistently show that although BSE is widely perceived as a cost-effective and accessible method for promoting early symptom recognition among female students, correct and regular adoption remains poor, often due to inadequate skill-based instruction(3,4). Unlike clinical breast examination (CBE) and imaging modalities, which require clinical infrastructure and trained personnel, BSE is highly feasible in student populations and has been associated with improved breast-health self-efficacy, confidence in self-screening, and intention to seek professional care when breast changes are detected.(5,6)

Engagement in SBE is described in Nigerian literature as an entry-level preventive behavior for improving cancer-risk literacy, shaping favorable attitudes toward early detection, and strengthening help-seeking behavior among young women. Nevertheless, prevalence of consistent practice remains alarmingly low across tertiary institutions in Nigeria, with rates frequently falling below 30% and many students demonstrating incorrect technique or

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incomplete step sequencing. Evidence identifies knowledge deficits and lack of structured training opportunities as the strongest barriers to sustained uptake and correct practice (3,7). Sociocultural and psychological deterrents—including fear of detecting cancer, embarrassment, misconceptions, low perceived susceptibility, and limited exposure to skilled demonstration—also contribute substantially to poor adherence and hesitancy to report symptoms early for clinical follow-up.(2,7) Notably, Nigerian evidence confirms that BSE engagement increases significantly when awareness programs incorporate hands-on demonstration, peer-education models, curriculum-embedded training, and repeated supervised skill practice'(5,8)

Consequently, BSE in Nigeria is most effective when positioned within structured, multicomponent breast-health promotion programs rather than deployed as an isolated early-detection behavior. Literature emphasizes that sustainable effectiveness relies strongly on institutional support, regular technique-focused training, integration into routine health education, and functional referral pathways that link self-screening behavior to accessible clinical care for confirmatory assessment(3,6). Additional studies reinforce the importance of coupling BSE with complementary preventive behaviors such as clinical breast assessments, lifestyle-based risk reduction (physical activity, healthy weight maintenance, reduced alcohol intake), and strengthened cancer-prevention literacy in young women'(5,7). Given its empowering, low-cost, and highly feasible nature, continued investigation into determinants of correct and sustained BSE practice among Nigerian students remains crucial for guiding culturally responsive, institutionally anchored, and impact-driven breast-awareness interventions that promote early clinical presentation and improve diagnostic timelines.

MATERIALS AND METHODS

Study Setting

The study took place at the School of Nursing Bida, which operates under the Niger State College of Nursing Sciences. The school was founded in 1976, before the creation of Niger State. In 1978, it gained provisional approval to begin its Post-Basic Nursing Programme. To date, the institution has produced more than 4,157 qualified general and post-basic nurses.

Research Design

The research design for this study was a descriptive study

Study Population

The target population for this study was female students of School of Nursing Bida, Niger State. The total population of students at the study area is one thousand four hundred and seventy-nine (1479) students which comprise of Basic Nursing; Post-basic Nursing; and Community Nursing students respectively.

Sample Size Calculation

The sample size for the study was determined using Leslie Fisher's formula which is mathematically represented as:

Leslie M fisher'

$$n = \frac{Z^2 P(1-P)}{d^2}$$

n = the required sample size

Z = the critical value associated with the level of significance

P = the estimated Sero-prevalence =0.25

d = degree of precision chosen for the study

Z = 1.96 for 95% level of confidence

P = 0.25

d = 0.05 degree of precision

$$n = \frac{(1.96)^2 (0.25)(1-0.25)}{(0.05)^2}$$

$$\frac{3.8416 \times 0.25 \times 0.75}{0.0025}$$

n=228

Attrition rate of 10% was included to make up any missing questionnaire. Hence, the total sample size for the study was 257

Sampling Techniques

There are three categories of Nursing Students at Niger State College of Nursing Bida namely: Basic

nursing, Community nursing and Post-basic nursing. A proportional allocation was used to determine the number of students to be selected per category. The list of all nurses from the three categories was gotten from the head of nursing services. Respondents were chosen using systematic sampling technique of the number of nurses from category based on the calculated sample size per category. Sampling continued until the sample size was reached.

INSTRUMENT

Data were collected using a structured questionnaire. The instrument, titled 'Breast Cancer Knowledge and Breast Self-Examination Practices among Nursing Science Students in Bida, Niger State,' comprised several sections. Section A captured participants' socio-demographic characteristics, while the remaining sections addressed the core study variables.

Reliability of the Instrument

The instrument's reliability was established using a test-retest method. To this end, nursing students from another institution, who were attending practical sessions at the Federal Medical Centre, Bida, completed the questionnaire. Their responses were analyzed to assess consistency, and the final version of the instrument was finalized based on this reliability testing.

Validity of the Instrument

Having drafted the questionnaire, consultations were made to the experts as regards the content of the questionnaire in which suggestions, corrections and modifications were made on questionnaire validity before the final copies were made.

Data Analysis and Management

The Statistical Software (SPSS for window) version 22 was used for data entry and analysis. Simple percentage and chats were adopted to examine the participants demographic information and their impression and expression towards the topic. Also, a Chi-square was used to test the association between relevant variables. Data was represented pictorially with bar and pie charts respectively. P values < 0.05 were considered significant.

Ethical Considerations

A clearly worded informed consent to participate in study was requested and obtained from every participant before the questionnaire was administered. Ethical approval was gotten from Ethical Review Board, LAUTECH Teaching Hospital, Ogbomoso, with ethical number LTH/OGB/EC/2025/611

RESULTS

Table 1 shows that two hundred and thirty-two (93.5%) respondents were between ages of 20 and 29 years. Two hundred and seven (83.5%) were Muslim, while 41 (16.5%) were Christians. One hundred and eighty-three (73.8%) were Nupe by tribe. Two hundred and twenty-four (90.3%) were single while 22 (8.9%) were married. One hundred and fifty-nine (64.1%) attained basic Nursing while 79 (31.9%) were from Community Nursing. Only one respondent had a family history of breast cancer.

Table 2 shows that all respondents had heard of breast cancer and breast self-examination before. Seventy-four (29.8%) heard from the mass media. Two hundred and twenty (88.7%) knew that BSE can help in early detection of breast cancer and 217 (87.5%) felt that BSE should be carried out by females only. One hundred and seventy-seven (71.4%) believed that BSE should begin at age less than 20 years and 75 (30.3%) knew that BSE should be carried out monthly. One hundred and thirty (52.4%) had the knowledge that the time appropriate for BSE to be performed is actually before the onset of menstruation.

Table 3 shows that two hundred and twenty-one (89.1%) knew that BSE should be performed right in front of the mirror, 118 (47.6%) knew BSE to be palpated with one finger and 193 (77.8%) had the understanding that when performing BSE, it is expedient to check for the armpit for any lump.

Table 4 shows the attitude of respondents towards BSE. Two hundred and two (81.5%) disagreed that BSE can be embarrassing, 217 (87.5%) disagreed that BSE is a waste of time. One hundred and thirty-nine (56.0%) agreed that they cannot do BSE because they are afraid of a positive result, however 180 (72.6%) agreed that they will do BSE if they are taught how to do it. One hundred and fifty-two (63.0%) had good attitude towards BSE while 92

(37.0%) had poor attitude.

Table 5 shows that one hundred and eighty (72.6%) started performing BSE and 91 (36.7%) did it on a monthly basis. Two hundred (81.5%) still performed BSE less than a week before the survey. Two hundred and nineteen respondents performed BSE early in the morning and 172 (69.4%) performed BSE in front of the mirror.

Table 6 shows that Ethnicity and Year of study were statistically associated with practice of BSE among respondents

Figure 1 shows that one hundred and thirty-four (54.2%) had good knowledge of BSE while 114 (45.8%) had poor knowledge.

Figure 2 shows that there is a statistically significant association between knowledge of BSE and actual practice

Table 1: Sociodemographic characteristics of respondents

Variables	Frequency	Percentage
Age		
<20	1	0.4
20 - 29	232	93.5
30 - 39	15	6.0
Participants religion		
Islam	207	83.5
Christianity	41	16.5
Ethnicity		
Gwari	13	5.2
Hausa	22	8.9
Nupe	183	73.8
Yoruba	13	5.2
Others	17	6.9
Marital status		
Single	224	90.3
Married	22	8.9
Divorced	2	0.8
Category of practice		
Basic Nursing	159	64.1
Post Basic Nursing	10	4.0
Community Nursing	79	31.9
Year of study		
<1	3	1.2
<2	8	3.2
<3	59	23.8
<4	178	71.8
Family history with breast cancer		
Yes	1	0.4
No	247	99.6

Table 2: Knowledge of breast cancer by respondents

Variables	Frequency	Percentage
Ever heard of breast cancer		
Yes	248	100
No	0	0
Source of information		
TV/Radio	74	29.8
Neighbors	10	4.0
Peer group	52	21.0
Internet	29	11.7
Newspaper	4	1.6
Others	79	31.9
Breast self examination help in early detection		
Yes	220	88.7
No	28	12.5
Who should perform BSE		
Female only	217	87.5
Both male and female	31	12.5
At what age should BSE begin		
<20years	177	71.4
>20years	68	27.4
I don't know	3	1.2
Frequency of BSE		
Daily	73	29.4
Weekly	92	37.1
Monthly	75	30.2
I don't know	8	3.2
Appropriate time to perform BSE		
Before menstruation starts	130	52.4
After menstruation	33	13.3
Anytime of the month	75	30.2
I don't know	10	4.0
Early detection of breast cancer improves survival chance		
Yes	225	90.7
No	8	3.2
I don't know	15	6.0

Table 3: Knowledge on the procedure of bse

Variables	YES	NO
BSE should be done in front of mirror	221(89.1)	27(10.9)
Palpate with one finger	118(47.6)	130 (52.4)
Palpate with palm and minimum of 3 fingers	241 (97.2)	7 (2.8)
Undress up to the level of waist when doing BSE	206 (83.1)	42 (16.9)
Use finger pulp to check lump/ thickening of the skin	244 (98.4)	4 (1.6)
Press nipple to check for unusual discharge	244 (98.4)	4 (1.6)
Check armpit for any lump	193 (77.8)	55 (22.2)

Table 4: Attitude towards Breast Self Examination by respondents

Variables	Frequency	Percentage
BSE is not necessary for early detection		
Agree	39	15.7
Disagree	192	77.4
Indifferent	17	6.8
Females must be educated about BSE		
Agree	217	87.5
Disagree	14	5.6
I don't know	17	6.8
BSE is difficult and time consuming		
Agree	46	18.5
Disagree	178	71.8
Indifferent	24	9.7
I don't think BSE is that important		
Agree	1	0.4
Disagree	206	83.1
Indifferent	41	16.5
Touching ones breast is degrading		
Disagree	216	87.1
Indifferent	32	12.9
BSE is embarrassing to me		
Agree	15	6.0
Disagree	202	81.5
Indifferent	31	12.5
BSE is a waste of time		
Agree	25	10.1
Disagree	217	87.5
Indifferent	6	2.4
I can never have breast cancer		
Agree	61	24.6
Disagree	129	52.0
Indifferent	58	23.4
I can't do BSE because I am scared of being diagnosed		
Agree		
Disagree	139	56.0
Indifferent	75	30.2
	34	13.7
I will do BSE if I know the benefit		
Agree	188	75.8
Disagree	28	11.3
Indifferent	34	12.9
I will do BSE if I know how to do it		
Agree	180	72.6
Disagree	48	19.4
Indifferent	20	8.1

Table 5: Practice of BSE among respondents

Variables	Frequency	Percentage
Age of starting BSE		
<20	180	72.6
>20	65	26.2
No response	3	1.2
Frequency of BSE		
Daily	63	25.4
Weekly	76	30.6
Monthly	91	36.7
None	18	7.2
Last time of performing BSE		
<1 week ago	202	81.5
<3months ago	31	12.5
<1 year ago	12	4.8
No response	3	1.2
Time of performing BSE		
Morning	219	88.3
Afternoon	6	2.4
Evening	20	8.1
No response	3	1.2
Where BSE is usually performed		
In - front of mirror	172	69.4
Lying on bed	15	6.0
In the bathroom	58	23.4

Table 6: Association between sociodemographic characteristics and bse practice by respondents

Variables	Practice		Total	Statistics
	Poor	Good		
Age				X^2=2.156
<20	0(0.0)	1(0.5)	1 (0.4)	df= 2
20 -29	50 (90.9)	176 (95.1)	226 (94.2)	pvalue=0.340
30 -39	5 (9.1)	8 (4.3)	13 (5.4)	
Religion				X^2=0.945
Islam	46 (83.6)	154 (83.2)	200 (83.3)	df= 1
Christianity	9 (16.4)	31 (16.8)	40 (16.7)	pvalue=0.564
Ethnicity				
Gwari	0 (0.0)	12 (6.5)	12 (5.0)	X^2=18.189
Hausa	12 (21.8	9 (4.9)	21 (8.8)	df= 4
Nupe	38 (69.1)	141 (76.2)	179 (74.6)	*pvalue=0.001
Yoruba	2 (3.6)	9 (4.9)	11 (4.6)	
Others	3 (5.5)	14 (7.6)	17 (67.1)	
Marital status				X^2=0.417
Single	49 (89.1)	170 (91.9)	219 (91.3)	df= 1
Married	6 (10.9)	15 (8.1)	21 (8.8)	pvalue=0.519
Category of practice				
Basic nursing	38 (69.1)	116 (62.7)	154 (64.2)	X^2=2.323
Post Basic Nursing	3 (5.5)	5 (2.7)	8 (3.3)	df= 2
Community Nursing	14 (25.5)	64 (34.6)	78 (32.5)	pvalue=0.313
Year of study				
<1	1 (1.8)	1 (0.5)	2 (0.8)	X^2=30.396
<2	7 (12.7)	1 (0.5)	8 (3.3)	df= 3
<3	3 (5.5)	54 (29.2)	57 (23.8)	*pvalue=0.001
<4	44 (80.0)	129 (69.7)	173 (72.1)	

* Statistically significant

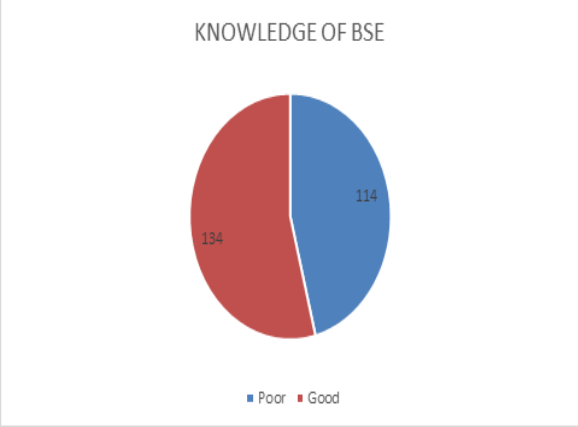
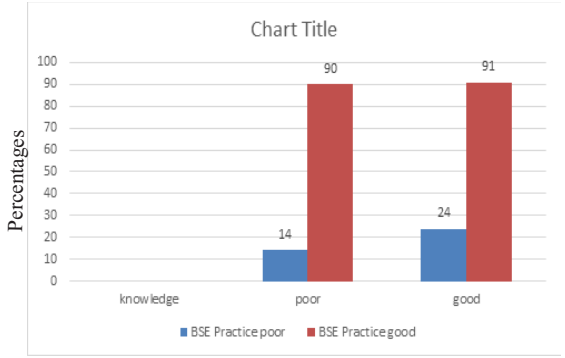


Figure 1: Summarized Knowledge score of respondents



p-value=0.01

Figure 2: Association between knowledge and practice of BSE among respondents

DISCUSSION

While all participants in this study reported awareness of breast self-examination (BSE), consistent with high awareness levels documented in other Nigerian regions, comprehensive knowledge remained deficient. '(3,5) Less than half of the respondents demonstrated adequate knowledge of BSE. This overall knowledge score is similar to findings from a study at the University of Lagos, where barely half of the female students possessed good knowledge. (9) Both results, however, exceed the level reported among women in Rivers State, where only one-third had good knowledge.(10) This disparity suggests that medical training significantly influences BSE comprehension. Crucially, awareness does not equate to in-depth knowledge, as evidenced by the finding that a larger proportion of respondents practiced BSE poorly.

BSE is widely recognized as a key intervention for breast cancer prevention, a view reflected in participants' predominantly positive attitudes.(1,11,12) Two-thirds agreed on its necessity for early detection, affirming the value of self-examination. The majority also emphasized the need for female education, highlighting a consensus on the importance of awareness. However, a potential barrier was identified, as over half of the respondents described BSE as difficult and time-consuming. Despite this perception, they still considered the examination important and worthwhile. These generally positive attitudes align with findings from a Saudi Arabian study, where three-fourths of respondents held favorable views toward BSE.(13)

A notably high rate of BSE practice was observed among respondents, a finding consistent with prior research in Lagos.(14) The elevated practice may be linked to the sample's profile, which comprised health profession students whose medical curriculum provides greater awareness of cancer risks and preventive practices. A statistically significant association was found between BSE knowledge and practice, a result consistent with prior studies in Nigeria.(9,15) To translate this knowledge into sustained practice, we recommend incorporating structured demonstrations, peer education, and formal curriculum integration. These measures would facilitate the early identification of breast abnormalities, enabling prompt treatment and ultimately reducing the incidence and prevalence of breast disease and cancer.

The study found a positive association between years of study and BSE practice, with students beyond their second year demonstrating higher engagement than first-year students. This trend highlights the cumulative benefit of medical education in fostering the knowledge that drives preventive behavior. To leverage this relationship, we recommend implementing structured educational programs within the school community to emphasize the importance of regular BSE for undergraduate nurses.

CONCLUSION

Despite below-average knowledge of BSE,

participants reported an impressive level of positive attitude and practice. Further analysis showed that practice was significantly associated with ethnicity and years of study.

Recommendation

The integration of BSE into student curricula cannot be overemphasized. Early exposure builds a critical knowledge base that directly enhances practical application.

REFERENCES

1. Godfrey K, Agatha T, Nankumbi J. Breast cancer knowledge and breast self-examination practices among female university students in Kampala, Uganda: a descriptive study. Oman Med J. 2016;31(2):12934.
2. Naima A, Najdi A, El Fakir S, Nabil Tachfouti, Mohamed Berraho, Youssef Chami Khazraji, Loubna Abousselham, Latifa Belakhel, Rachid Bekkali and CN. Knowledge, Attitudes, and Preventive Practice Towards Breast Cancer among General Practitioner Health Professionals in Morocco. Asian Pac J Cancer Prev. 2017;18(4):9638.
3. Okolie UV. Uptake and accuracy of breast self-examination among female university students in Southeast Nigeria. Eur J Cancer Care (Engl). 2020;29(5):18.
4. Ibrahim NA, Oludara MA,Talib RA. Knowledge, attitude, and practice of breast self-examination among female undergraduate students in a Nigerian university. J Heal Res Rev. 2017;4(1):205.
5. Adeniji AA, Dawodu O , Yusuf F. Effectiveness of technology-based breast cancer awareness interventions on breast self-examination practice among Nigerian tertiary students. BMC Womens Heal. 2020;20(1):19.
6. Afolayan OO, Ibrahim M. Breast self-examination knowledge and practice among female undergraduates in Nigeria: A cross-sectional study. Niger J Clin Pract. 2022;25(6):82532.
7. Adaji SE, Ibrahim AA, Shittu OS, Ejembi CL. Predictors of breast self-examination practices among young Nigerian women: A systematic review. Afr J Reprod Health. 2019;23(2):1019.
8. Ogunbode AM, Adebusoye LA. Barriers and facilitators to correct practice of breast self-examination among young Nigerian women. West African J Med. 2023;40(3):2508.
9. Ademuyiwa IY, Oyira EJ, Faronbi JO, Olajiga O. Knowledge, Attitude and Practise of Breast Self-Examination (BSE) among Female Students of the University of Lagos Nigeria. Bayero J of Nursing and Healthcare. 2019;1(2):136-148..
10. Neji OI, Esienumoh EE, Kalu UV, Bamidele EO. Breast cancer awareness and practice of breast self-examination among women in Adiabo community in Odukpani local government area of Cross River State. Clinical Nurs Studirs, 2015;4(1):50-56
11. Cohen SY, Stoll CR, Anandarajah A, Doering M, Colditz GA. Modifiable risk factors in women at high risk of breast cancer: a systematic review. Breast Cancer Res. 2023;25(1):45.
12. Ezeome ER, Anarado AN. Use of complementary and alternative medicine by cancer patients at the University of Nigeria Teaching Hospital, Enugu, Nigeria. BMC Complement Altern Med. 2007;7:18.
13. Gutaybah SA, Mohammed TM, Rayan MA, Feras FF, Al Qarni AS. Awareness of and Attitude to Breast Self-Examination and Breast Cancer Among Females in Jeddah, Saudi Arabia. Cureus. 2023;15(3).
14. Onajole AT, Olowoyeye OA. Knowledge, Attitude and Practice of breast self-examination among nursing students in the Lagos University Teaching Hospital. Acad J Cancer Res. 2010;3(2):11-15.
15. Alshafie M, Bitar A, Alfawal M, Alameer MB, Alhomsi D, Saifo M. Breast self-examination among female medical students at Damascus University: A cross-sectional study. Heliyon. 2024 Jul 27;10(15):e35312. doi: 10.1016/j.heliyon.2024.e35312. PMID: 39165947; PMCID: PMC11334666.