

Utilisation and Predictors of Breast Self-Examination among Female Nurses in a Tertiary Medical Centre in North Central Nigeria

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Abstract

The incidence of breast cancer is increasing in many underdeveloped nations and constituted a major public health burden. Despite this, most breast cancer patients in many underdeveloped nations present with late diseases when few options of treatment are available. Early detection through screening remains the main means of improving breast cancer outcomes. Nurses are a group of healthcare professionals and are thus expected to advocate for breast cancer screening programs. This study was conducted to determine the extent of utilisation and predictors of the practice of breast self-examination among nurses in a tertiary health care centre. The study prospectively surveyed 189 nurses on knowledge and practice of breast self-examination (BSE) using a stratified random sampling technique. Data were obtained through a pretested self-administered structured questionnaire. The mean age of the respondents was 41.44 (± 5.66) years. Sixty-seven (35.4%) of the respondents practiced BSE of which only 31.3% practiced it monthly as recommended. Family history of breast cancer ($p < 0.001$), age greater than 50 ($p < 0.001$), post-menopausal women ($p < 0.001$), and posting in surgical-related wards ($p < 0.001$) were significantly associated with the practice of BSE. The practice of BSE among the respondents was poor and the few who practiced it lacked the correct technique. The teaching of BSE should be encouraged at nursing schools with an emphasis on practice and techniques. We also suggest a need for continued nursing education.

Keywords: *Breast self-examination, utilisation, predictors, nurses, breast cancer, screening.*

Introduction

Breast cancer is the most common female malignancy and the leading cause of cancer-related death among women globally. The outcome of which is determined by many factors such as the stage of the disease at presentation, biological aggressiveness of the tumour and quality of available treatment modalities. Among all these factors, the stage of the disease at presentation is one of the most important factors in determining breast cancer outcome. In most developed nations, most breast cancer patients present early, and significant

percentages were even screened detected tumours when multiple and less aggressive options of treatments are available. However, this is at variance to what is experienced in most underdeveloped nations where most breast cancer patients present with late disease [1-3]. Late presentation could be a result of late recognition of the early symptoms of the disease or delay in seeking medical interventions in those who detect it early [2]. Thus, early detection of breast cancer coupled with positive response are important modifiable factors that can help to improve breast cancer management outcomes. This can be achieved through regular

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screening. There are currently three main screening modalities as recommended by the American Cancer Society, which are Mammography, Clinical Breast Examination, and Breast Self-Examination. Though mammography remains the generally accepted standard for breast cancer screening, however non-availability, cost, and lack of expertise often preclude its use in many underdeveloped nations [4]. Though BSE is not as reliable as mammography, however, the examination is simple and can easily be performed by women without the involvement of either clinicians or equipment [5]. The self-breast examination also has the added advantage of allowing women to be familiar with their breasts and recognized new changes in their breasts early [6] and useful in detecting breast lumps/changes in all age groups as compared to mammography which has a high false negative rate in younger women with dense breast tissue. This study was conducted to determine the extent of utilization and predictors of the practice of self-breast-examination as a screening modality for breast cancer among nurses in a tertiary medical Centre in north central Nigeria.

Methods

This prospective cross-sectional survey was conducted in a tertiary medical centre in north central Nigeria over 3 months. The hospital renders primary, secondary, and tertiary health care services. Registered female nurses with a minimum of a diplomate certificate working in the hospital were recruited into the study. Male nurses, non-consenting female nurses, and those

with a history of breast cancer were excluded, as such a diagnosis could have affected their knowledge. Necessary permission was obtained before the commencement of the study. A stratified random sampling technique was used for enrolment into the study. Relevant data were collected using a structured questionnaire designed by the authors following an extensive review of literature on similar studies. Some authors during morning, afternoon, and night shifts over three months. The respondents were briefed about the nature of the study prior administration of the questionnaire. The data obtained includes the patient's demographic characteristics, knowledge, and practice toward BSE as one of the screening modalities for breast cancer. We compared the characteristics and features of the users and non-users of BSE. Results were presented in-forms of percentages, tables, and charts. Test of significance for the categorical variable was done using chi-square and a p-value of less than .05 was statistically significant.

Results

Two hundred and fifteen questionnaires were administered; 211 returned and 189 questionnaires were analyzed for the study after editing for completeness. The respondents' age ranged from 27 to 54 years with a mean age of 41.44 ± 5.66 years. The mean duration of practice among the respondents was 10.3 ± 9.42 years. Table 1 shows the other sociodemographic characteristics of the respondents.

Table 1. Sociodemographic Characteristics of the Respondents

Parameters	User of SBE (n=67)	Non-User of SBE (n=122)
Age (mean \pm s d)	38.53 (\pm 3.67)	43.04 (\pm 6.11) p< 0.001
Age <50	60	121
Age >50	7	1
Marital status		
Single	9	15
Married	54	99
Divorce	1	3

Widow	3	5
Menopausal status		
Premenopausal	52	115
Postmenopausal	15	7
Religion		
Christian	32	57
Islam	35	65
Traditional	-	-
Others	-	-
Units		
Surgical related unit	43	9
Non-surgical related unit	24	113

Ninety-three (49.2%), 32 (16.9%), and 64 (33.9%) of the nurses had a diplomate certificate, degree certificate, and both degree and diplomate certificates respectively.

All the respondents were aware of BSE, however, only 67 (35.4%) of the 189

respondents practiced the act of BSE, while the rest did not. Figure 1 shows the frequency at which the respondent who practiced SBE performed it and showed that 21 (31.3%) of the 67 respondents who practiced BSE performed it monthly in the last 2 years.

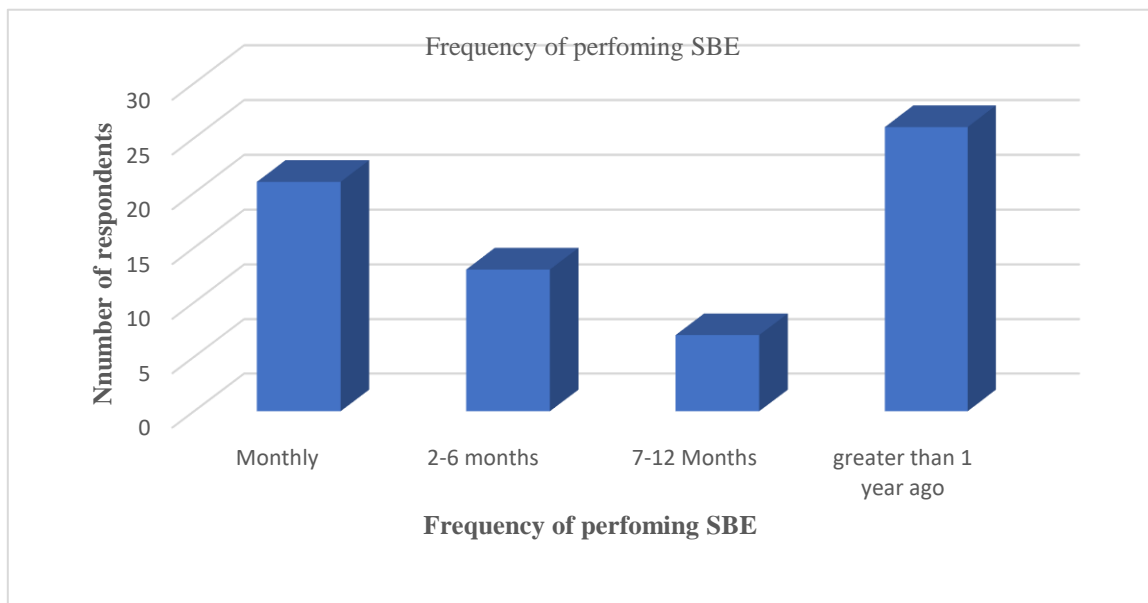


Figure 1. The Frequency at which Respondents who Practiced BSE Perform it

Figure 2 shows the frequency of performing BSE among the whole respondents, of which 47 (24.9%) and 43 (22.8%) of the respondents

believed that it should be performed monthly and weekly respectively.

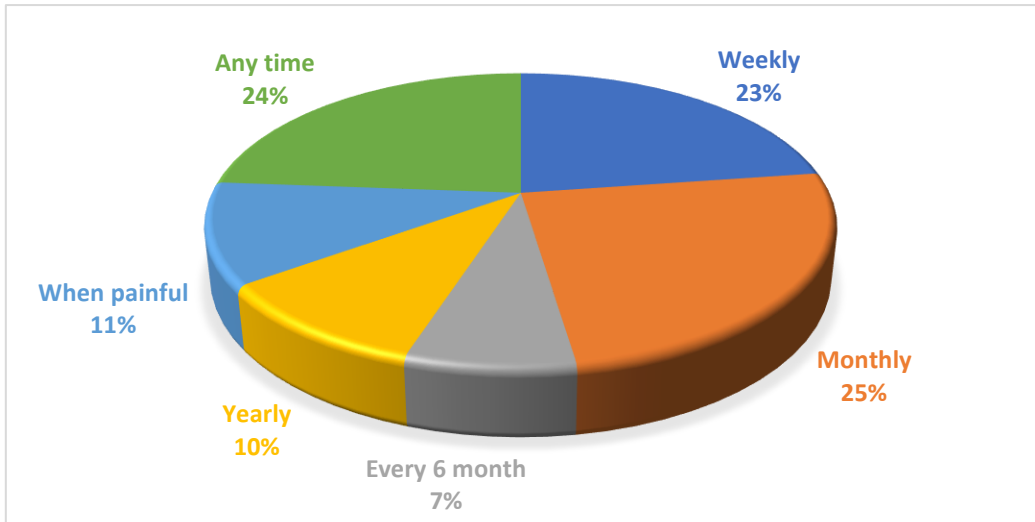


Figure 2. Respondents' Frequency for Which BSE Should Be Performed

One hundred and two (53.9%) of 189 respondents believed that the BSE could help in the early detection of breast cancer, while 32 (16.9%) and 55 (29.1%) believed that BSE would not and did not know respectively.

Analysis of the effect of qualification on the practice of BSE revealed that 27 (29.0%) of the 93 diplomate nurses practiced BSE, while 40 (41.7%) of the 96 with a degree only and both qualifications combined practiced BSE ($p=0.0963$). Fourteen (20.9%) of the 67 respondents who practiced BSE knew that it should be done after menstruation.

Concerning the regions of the breast to be examined during BSE; all the respondents knew that the two breasts and the axillae should be examined, however, only 18(9.5%) and 31(16.4%) of the respondents would examine the area of the collar bone and area between the two breasts respectively. Only 10 (14.9%) of the 67 respondents who practiced it got the triad of timing, frequency, and regions to be examined correctly. Figure 3 shows the source of information regarding BSE and showed that 101 (34.9%) and 56 (19.4%) respondents got their information from the internet website and friends respectively.

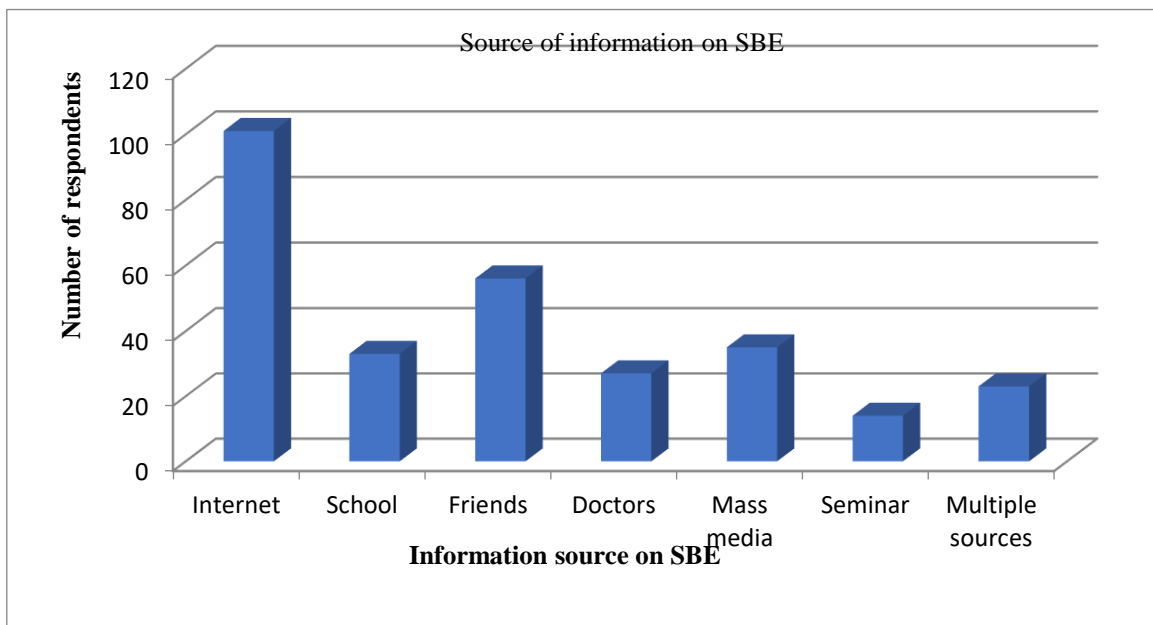


Figure 3. Respondents' Source of Information on BSE

Fifteen (7.9%) of the respondents claimed to have been formally taught the act and techniques of BSE. On willingness to learn the act of SBE; 129 (68.3%), 51 (27%), and 9 (4.7%) of the respondents would like to be taught, indifferent, and not interested respectively.

Analysis of the effect of practice-related factors revealed that 39 (75%) out of 52 nurses in the female surgical ward, surgical outpatients' clinic, emergency unit or who had previously worked in surgical units practiced SBE, compared to 28 (22%) of 127 nurses in other units combined ($p < 0.001$). Forty-three (82.7%) out of 52 respondents with a family history of breast cancer practiced self-breast-examination compared to 24(18.9%) out of 127 without a family history who practiced it ($p < 0.001$). Fifteen (68.2%) out of the 22 respondents who were postmenopausal practiced it compares to 52 (45.2%) out of the 115 premenopausal respondents who practiced it ($p < 0.001$). Marital

status and religion were not statistically significantly associated with the practice of breast self-examination.

Assessment of the respondents on other modalities for screening for breast cancer revealed that 174 (92.1%), 177 (93.6%), and 22 (11.6%) of the respondents knew that Mammography, ultrasound, and clinical breast examination were other breast cancer screening modalities respectively.

One hundred and sixty-eight (88.9%) of the respondents had never had any dedicated teaching on breast self-examination at any point in the past.

Figure 4 shows the reasons why respondents who were not practicing self-breast-examination did not practice self-examination, 27(22.1%) and 45(36.9%) believed that breast cancer will not happen to them and because they have no family history and thus are not at risk.

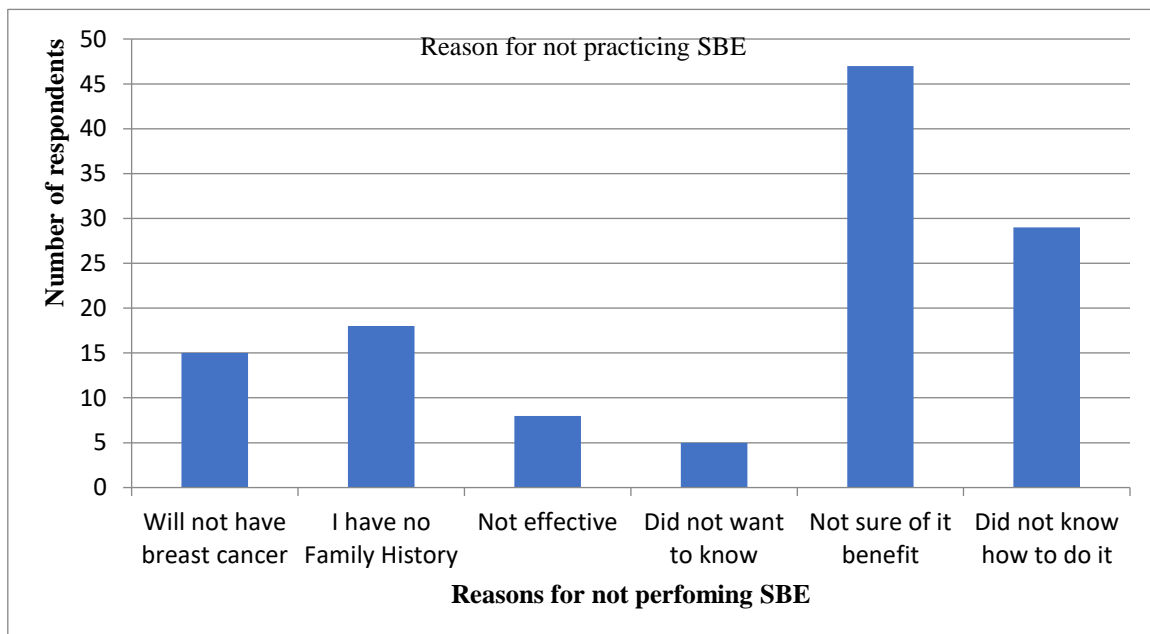


Figure 4. Reasons Why Non-users of BSE Did Not Practice It

Discussion

Early detection and recognition of breast cancer are considered the main means of decreasing the burden associated with breast cancer due to late presentation. This can be achieved through regular screening exercises

[7]. Breast self-examination is a recognised and previously recommended screening method in developing nations because of its simplicity and affordability in many low-resource settings. It aims to detect changes in the breast and such changes from the usual appearance could suggest underlying pathology, periodic regular

checking of the breast could be of help to notice such changes early. Many studies have shown poor utilisation and poor techniques in the act and practice of self-breast-examination among various groups of women. This study was thus conducted to determine the utilisation and predictors of BSE among nurses in a tertiary medical centre in Nigeria.

This study found out that about 84% of the respondents were premenopausal women, an age group that bears the main burden of breast cancer in our setting, and thus sampling their practices on one of the breast cancer screening methods for the detection of breast cancer is of importance.

All respondents had heard about BSE examination as a form of modality for breast cancer screening from various sources with the internet/website being the leading source of information followed by information from friends. The pattern of the source of information among the respondents is a cause for concern as information gotten from schools and doctors is expected to top the chart among this group of respondents based on their profession. Also, information from internet sites should be taken with caution based on the source of such information and the reliability of such internet websites as some of such information may lack scientific basis and not be verified. Though many previous studies had ranked mass media as a leading source of information about breast cancer and BSE among various groups of females [8,9] including female medical students [10], this is at variance to our study finding where information from internet websites was the leading source of information. The possible explanation for this could be due to recent advancements in information and communication technology whereby internet access is now a global phenomenon that is readily accessible.

In the present study, about 65% of the respondents did not practice BSE, and among those who practiced it, only about 31% of them do it monthly as recommended, while others do

it at various frequencies. Previous studies on female healthcare workers have reported a wide range of compliance in the act and practice of BSE [11-14]. This finding is a cause for concern as the respondents in our study were not just healthcare workers but nurses who ordinarily expected to take a leading role in breast cancer screening programs and campaigns against breast cancer. Further inquiry into the act of BSE examination revealed that only about 13% of those who practiced it got the triad of timing, frequency, and region to be examined correctly. This was not an unexpected finding as about 89% of the respondents claimed not to have had any dedicated teaching at any point in the act of BSE.

Most of the respondents who practiced BSE were those who were currently working or had previously worked in surgical-related units. The possible explanation for this are: 1) the nurses in surgical-related units tend to see more cases of breast cancer and thus probably appreciate the burden and reality of breast cancer in our society and thus are more likely to be proactive and cautious. 2) also, they are more likely to relate and interact with breast surgeons compared to nurses in other units. Another factor associated with the practice of BSE was a previous family history of breast cancer, as respondents who had a family history of breast cancer tended to perform the act of BSE compared with those without a family history, a factor consistent with reports from other previous similar studies [13, 15, 16]. The common denominators noted in the two factors associated with a tendency to practice BSE were appreciation of physical observation of the cases and the reality of the disease burden. This phenomenon further strengthened the fact that people tend to believe what they see than abstract imagination. This finding further strengthened the need for the creation of a breast cancer survivor group, which may help as a support group and in the dissemination of information to the general populace at large as they will serve as living

evidence of the curability of the disease as a benefit of early detection.

Though all the respondents had heard about BSE, the majority still do not practice it for various reasons. One of the main reasons for not practicing BSE was a misconception about its benefits, this contrasted with previous studies findings that showed that low personal perception of the risk of developing breast cancer as an indicator of non-performance of SBE [13, 15, 16]. A possible explanation for this could be that most of our respondents see more late diseases with poorer outcomes and thus were unable to appreciate the benefits of early diagnosis based on their observations. The reasons for not performing BSE were all rooted in poor knowledge and understanding of breast cancer, which further gives support to the concept that awareness may not necessarily be synonymous with the depth of knowledge. This awareness-knowledge gap can be bridged through breast cancer awareness programs among healthcare workers that will encompass and take into consideration all aspects of breast cancer care without the assumption that healthcare professionals have good knowledge about breast cancer as most previous programs were centered mainly on awareness with little emphasis on another aspect of care. Also, the erroneous belief that lack of family history precludes the risk for breast cancer needs to be corrected. This need is further supported by a study from Ghana, where most breast cancer patients denied a family history of breast cancer [17], this study further strengthened that the absence of family history does not preclude nor immunize against breast cancer. This misconception about the absence of family history and breast cancer should be corrected at every opportunity such as during breast cancer awareness programs.

Assessment of respondents on other forms of modalities of breast cancer screening modalities revealed that most of the respondents were not aware of the concept of routine clinical breast examination. This finding needs to be taken into

consideration when giving information to healthcare workers, as studies have shown that women who previously had clinical breast examinations tend to perform BSE later with better compliance [18,19].

Breast self-examination is cheap, easy to perform, and a non-invasive screening modality, but has the lowest sensitivity and specificity, and the benefits have been queried as a reliable screening modality. However, evidence has shown that is a reliable adjunct to other screening modalities when properly done [20,21]. More importantly, a previous study has shown a correlation between the early diagnosis of breast cancer and compliance with SBE [22]. Though, one may argue that SBE will only pick the tumour when is palpable and thus may be considered not to satisfy one of Wilson's screening criteria for a good screening tool. However, this argument may not hold in most underdeveloped nations as many patients present with relatively larger tumour size, a factor associated with poorer prognosis as tumour size correlate with the risk of metastasis, and thus picking a tumour at a smaller size, even when palpable compared to larger size tumour will improve prognosis, a situation that can be achieved through routine BSE [23]. Also, the principle and rationale behind BSE goes beyond picking a lump but also improve familiarity with the breast tissue, thus individuals that practiced BSE will tend to recognised early, any new changes or development in the breast which may prompt the individual to seek medical attention early. Also, other factors in support of BSE as a screening tool to be encouraged in underdeveloped nations are the relative unavailability of other high-technology screening modalities and the cost of other screening modalities when available.

Conclusion

The majority of the respondents were aware of BSE; however, BSE practice was low among the respondents, and we suggest the need for more effort to promote BSE and also encourage

teaching on how to perform SBE for respondents. We also suggest the need for regular awareness programs on breast cancer screening with BSE inclusive and emphasis on the benefit and techniques of the BSE among the health care professional as this will help in the early detection of breast cancer and reduces the burden of late presentation.

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Conflict of Interests

No conflict of interest to be declared.

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