Awareness and practice of self breast examination among female nurses at the Federal Teaching Hospital Ido-Ekiti, Nigeria

Olusegun Emmanuel Gabriel,[1] Oluwaserimi Adewumi Ajetunmobi,[1] Olabode Muftau Shabi,[1] Olaide Toyin Elegbede,[1] Raymond Akujuobi Okere,[2] Olusegun Adesola Busari,[3] Ayokunle Samuel Dada[4]

[1]Department of Family Medicine, [2]Department of Obstetrics and Gynecology, [3]Department of Medicine, Cardiology Unit, Federal Teaching Hospital, Ido-Ekiti, Ekiti State; [4]Department of Medicine, Ekiti State University Teaching Hospital, Ado-Ekiti, Nigeria

Abstract

Breast cancer is the most common female malignancy linked with high levels of morbidity and mortality in developing countries due to delayed diagnosis. This research assessed the knowledge of signs and risk factors of breast cancer and practice of self breast examination (SBE) among female nurses in a rural tertiary Hospital. Eighty-five nurses ages 20 to 60 years were sampled by simple randomization over a period of eight weeks through a self-administered semi-structured questionnaire. The analysis was done using statistical package for social science version 17. Sixteen (15.3%) nurses had adequate knowledge of breast cancer, having a relative with breast cancer (51.8%) and a woman of any age (56.5%) were recognized by majority as risk factors for breast cancer. Majority (68.2%) were not practicing monthly SBE and not confident on how to do it. This study pointed out the gaps in the knowledge and awareness of breast cancer and practice of SBE among the nurses. Opportunity should therefore be sought in various health facilities to educate nurses who are supposed to be closer to the patients.

Introduction

Breast cancer is the most common female malignancy and the second most common cause of death from cancer among white and black women.[1] It is a worldwide main health problem linked with high levels of morbidity and mortality in developing countries due to delayed presentation.[2] Breast cancer affects more than one million females annually, the incidence increases with adoption of Western life styles.[3] The American Cancer Society in 2015 reported an estimated number of new cases of breast cancer in women in the United States to be 231,840 with an estimated death of 40,290.[4] In Nigeria, breast cancer is responsible for about 16% of all cancer related death.[5]

Lack of public awareness of breast cancer and screening in the environment, absence of organized screening programs, lack of accessible and effective treatment options, and more importantly the cultural belief had made women to have late detection and presentations.[6,7] Early detection involves two major components which are education (to encourage early diagnosis) and screening.[8] A wide range of modern procedures available for the screening includes mammography, sonography and magnetic resonance imaging of the breast.[9] Self breast examination (SBE) and clinical breast examination (CBE) are other methods that can be used to detect any changes in the breast. SBE involves the woman herself looking at and feeling the breasts for lumps, shape, texture, size and contour. The purpose of this is for any woman to be taught the topography of her breasts, know how her normal breasts feel and be able to identify changes in them should they occur in the future. It has been reported that the sensitivity and specificity values of SBE are difficult to determine, but it has a positive effect on the early detection of breast cancer.[10] SBE has the advantages that it is a simple, inexpensive, non-invasive procedure which helps a woman to know her breast and allows her to detect any changes.[11] Recent studies no longer recommend the use of SBE for breast cancer screening as it did in the past because of the disadvantages of breast frequent healthcare visits, increased number of benign biopsy results, with increased biopsy leading to a higher risk of breast cancer and increased healthcare costs.[12-14] The term *breast awareness* is now used to describe a woman's familiarity with her breasts and it has been suggested that periodic consistent SBE may facilitate this awareness.[14] Studies of community samples of diverse groups of women in the USA and Canada show that the rates for performing monthly SBE ranged from 29 to 63%.[15,16] SBE is the recommended general approach to increasing breast health awareness and thus potentially allow for early detection of any anomalies.[17,18] Although, the efficacy of SBE is debatable in countries where CBE and mammography are readily available, accessible and affordable, but where there is no facility for such, SBE remains a cost-effective method to detect breast changes.[18] It has also been noted that despite the advent of modern screening methods, more than 90% of cases of breast masses are detected by women themselves, stressing the importance of SBE.[17,18] A woman who performs SBE regularly and correctly is more motivated to seek medical attention, including CBE and mammography when need arises.[3] In a study conducted among nurses in Primary Health Care in Ibadan, 80.9% acknowledged that early detection of breast cancer was through SBE but only 40.8% of them had the knowledge of the correct time that SBE should be performed monthly.[19] This was however not too different from another study conducted also among the medical students in Lagos, where 65.4% of students showed SBE awareness, 53.6% had the knowledge that both male and female are required to perform it. In the same study, it was reported that 23.8% of students had the knowledge that SBE should be performed daily, 22.5% weekly, 50.8% monthly and 2.9% yearly. Of those that have never performed SBE among them, 46.7% did not because they did not have any symptoms, 26.7% felt it was not important while 22.6% did not know how to do it.[20] However, among market women in Abakaliki, Nigeria, Obaji and colleagues reported that 38.9% of women had heard of SBE, but 0.4% practiced it monthly.[3] This study showed that there was association between the level of education and SBE awareness. Amongst 231 female traders recruited during a cross-sectional study in Ibadan, Nigeria, only 37.1% were aware of SBE and 18.1% of the respondents had ever practiced SBE.[21] Another descriptive hospital-based study was carried out amongst employees of two main health institutions in Bayelsa, Nigeria. Ninety-two nurses responded to the self-report questionnaire. Twenty-two (23.9%) practiced

Correspondence: Olusegun Emmanuel Gabriel, Department of Family Medicine, Federal Teaching Hospital, IdoEkiti, Ekiti State, Nigeria.
Tel.: +234.08068886933.
E-mail: layodeg@gmail.com

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SBE once a month and only 3% practiced SBE more than once a month.[22] These show a wide variation in the level of awareness and practice of SBE among different socio-economical and cultural status.

Materials and Methods

It was a descriptive, cross sectional hospital-based study of the awareness of signs of breast cancer and practice of SBE among nurses working in a rural Federal Teaching Hospital in Nigeria (FETHI). The study was conducted among the nurses in the departments of Family Medicine, Obstetrics and Gynecology, Internal Medicine, Surgery, Pediatrics, Psychiatry, Otorhinolaryngology and Community Health of FETHI. These are the departments where post-graduate medical residency training is being run aside from accident and emergency unit and dental department. The study was conducted over a period of 8 weeks from February 1st to April 30th, 2015.

FETHI is a referral tertiary health institution serving Ekiti State in Southwest Nigeria and other adjoining towns of other States. The Hospital metamorphosed in 1998 to Federal Medical Centre from the then state owned General Hospital, which was established in 1948. It then became Federal Teaching Hospital in November 2014. The Federal Tertiary Institution is situated in Ido-osi Local Government Area with estimated population of 159,114 and that of Ido Ekiti town was 67,470 according to 2006 national population census.[23] The hospital is currently accredited for postgraduate training in eight clinical fields and it has 250 nurses working in the various departments excluding accident and emergency and dental departments.

Consenting female nurses ages 20 to 60 years who were staff of FETHI at the time of data collection participated in the study. However, nurses with history of breast cancer and male nurses were excluded. A convenience sample of 90 nurses was recruited; this was a derivative of calculated one third of 250 nurses present in the aforementioned eight departments, with an attrition of 10%. The questionnaire used was a modified and adapted version of the *breast cancer awareness measure*.[24] This was pretested on 20 nurses in a comprehensive health center in Ido-ekiti community who were not part of the sample size. The results gotten were used to modify the questions to improve clarity. The nurses were reached through the heads of the nursing units of each department and one department was sampled per week. The nurses who met the inclusion criteria in each department were subjected to simple randomization by picking *yes* or *no* on folded papers. Ten to 11 nurses were thus recruited from each of the departments. The nurses who picked yes were made to fill the modified, standardized and pretested self administered semi structured questionnaires which were only numbered, while the researchers returned for collection from each nurse after 30 minutes. In this study there were 11 questions on the knowledge of close warning signs of breast cancer with answer options of *yes, no, I don't know*. YES answer was apportion one (1) mark while NO and I DON'T KNOW were scored 0 (zero). A total of 11 marks were obtainable, those who scored marks of 6 and above (>50%) were said to have good knowledge of warning signs of breast cancer. Those who scored 5 and below were adjudged poor knowledge. Seven questions were asked on knowledge of risk factors of breast cancer, the questions ranged from at what age can breast cancer occur, can overweight, relative with breast cancer, having children late in life, early menarche, late menopause and exercise be risk factors? These were scored on Likert Scale and those nurses who agreed to four (>50%) out of the seven stated risk factors were judged to have good knowledge of risk factor and less than that were ascribed poor knowledge. The knowledge of warning signs of breast cancer and knowledge of risk factors were considered together and nurses who scored 50% and above in both were said to have good knowledge of breast cancer. The nurses who did monthly SBE were ascribed regular performer (adherent) of SBE but those who were doing SBE occasionally, weekly or once every six months were tagged irregular performers (Non-adherent). Written and verbal consents were taken from the participants while confidentiality was ensured. Ethical approval was obtained from the Research and Ethical Committee of FETHI, Ekiti State, Nigeria. Statistical analysis was done using computer software: Statistical Package for Social Sciences version 16.0 (IBM, USA version 16). Frequency distributions of all relevant variables were presented in tables and charts. Chi-square was calculated for the dependent and independent variables.

Results

Socio-demographic characteristics

Ninety nurses were recruited for the study, but 85 questionnaires were valid for analysis. The age group of respondents ranged between 20-60 years, the predominant 37 (43.5%) age group was age 30-39 years, followed by age group 20-29, which was 23.5%. The mean age of respondents was 36.64±9.38 years. Majority of the respondents (91.8%) were married. Yoruba ethnic group constituted 88.2%.

Knowledge of signs of breast cancer

Respondents' knowledge of warning signs of breast cancer was assessed with the under listed eleven questions. Breast lump and lump in the armpit were the most recognized warning signs of breast cancer closely followed by change in the shape of the breast or nipple (Table 1).

Table 2 revealed that *ever had a relative with breast cancer* (51.8%) and *women of any age* (56.5%) were considered as risk factors for breast cancer, while overweight, late age at childbirth *etc.* were considered not significant risk factors for breast cancer. Figure 1 shows that about one-third, 27 (31.8%) of the respondents not only practiced self breast examina-

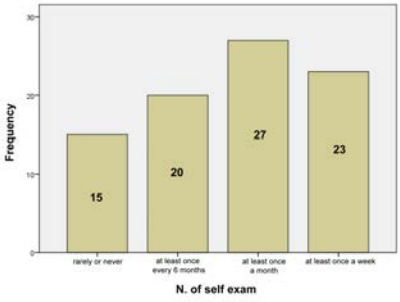

Figure 1. Practice of self breast examination.

Table 1. Knowledge of warning signs of breast cancer among the respondents.

Signs	Yes n (%)	No n (%)	Total n (%)
Breast lump	66 (77.6)	19 (22.4)	85 (100.0)
Lump/thickening under armpit	66 (77.6)	19 (22.4)	85 (100.0)
Bleeding/discharge from nipple	37 (43.5)	48 (56.5)	85 (100.0)
Nipple pulling	37 (43.5)	48 (56.5)	85 (100.0)
Change in position of nipple	43 (50.6)	42 (49.4)	85 (100.0)
Nipple rash	49 (57.6)	36 (42.4)	85 (100.0)
Redness of breast skin	49 (57.6)	36 (42.4)	85 (100.0)
Change in breast size/nipple	54 (63.5)	31 (36.5)	85 (100.0)
Change in the shape of breast/nipple	64 (75.3)	21 (24.7)	85 (100.0)
Breast pain/pain in armpit	51(60.0)	34 (40.0)	85 (100.0)
Breast skin dimpling	52 (61.2)	33 (39.8)	85 (100.0)

tion on monthly basis but were confident on how to do SBE while majority (68.2%) were not aware of monthly SBE and not confident on how to do SBE. Majority of the respondents (87.1%) have never had CBE and 71.8% reported of prompt doctor's consultation if they found a change in their breasts.

Table 3 shows that majority (64.7%) of the nurses had good knowledge of the warning signs of breast cancer while majority (81.2%) had poor knowledge of risk factors of breast cancer. The knowledge of the breast cancer was generally poor among the nurses (84.7%) and majority of them did not know the correct time of performing SBE (68.2%).

Table 4 shows that the knowledge of breast cancer may not influence the practice SBE, P=0.6.

Discussion

More than half (64.7%) of the nurses in this study had good knowledge of the warning signs of breast cancer while only 18.8% had good knowledge of the risk factors of breast cancer. When the knowledge of warning signs and risk factors of breast cancers were put together, only 15.3% of the respondents had good knowledge of breast cancers. Their knowledge of breast cancer was lower than the study conducted in Ibadan among primary health care nurses and among Egyptian nurses, which reported 60.9 and 39.9% respectively using the same methodology.[19,25]

In this study, only few of them were aware that early menarche (23.5%), late menopause (15.4%), late age at child birth (24.7%) were risk factors for breast cancer. Poor knowledge of breast cancer risk factors had also been reported in a study among female healthcare professionals Lagos, Nigeria.[26] The risk factors mostly identified in the study were increasing age (89%) and current use of oral contraceptive pills as breast cancer risk factor (82%). Other risk factors such as family history of breast cancer, early age at menarche and late age at menopause were recognized by less than three-quarter of participants. Least recognized risk factors were nulliparity and advanced age at first childbirth,[26] while the least recognized risk factor in this study was late menopause followed by lack of exercise. This abysmal level of ignorance about risk factors and common symptoms of breast cancer in Nigerian women generally had been reported in other literatures.[3,17,25]

A study has shown that having knowledge of breast cancer risk factors could be related to profession.[26] Ibrahim in his study reported 74% as doctors mean knowledge score for breast cancer, 35% for nurses while knowledge score in other allied professionals was 31%. Difference in knowledge score between doctors and nurses was statistically significant (P<0.001), the study also showed that there was no statistically significant difference in knowledge score among nurses and other allied healthcare providers (P=0.6).[26] Similar results of poor knowledge of breast cancer was also estimated among nurses in the University

Table 2. Knowledge of risk factors for breast cancer.

Factors	Frequency (n)	Percentage (%)
Age		
30 years old	12	14.1
50 years old	21	24.7
70 years old	4	4.7
A woman of any age	48	56.5
Total	85	100.0
Overweight		
Yes	29	35.3
No	56	64.6
Total	85	100.0
Relatives with breast cancer		
Yes	44	51.8
No	41	48.2
Total	85	100.0
Late age at child birth		
Yes	36	24.7
No	49	75.3
Total	85	100.0
Early menarche		
Yes	20	23.5
No	65	76.5
Total	85	100.0
Late menopause		
Yes	13	15.4
No	72	84.6
Total	85	100.0
Lack of exercise		
Yes	19	22.3
No	66	77.7
Total	85	100

Table 3. Knowledge of breast cancer.

Knowledge	Frequency (n)	%
Knowledge of warning signs of breast cancer		
Good (Score ≥6, ≥50%)	55	64.7
Poor (Score ≤5, <50%)	30	35.5
Knowledge of the risks of breast cancer		
Good (score ≥50%)	16	18.8
Poor (score <50%)	69	81.2
Knowledge of breast cancer		
Good	13	15.3
Poor	72	84.7
Timing of SBE		
Correct	27	31.8
Incorrect	58	68.2
Total	85	100

SBE, self breast examination.

Table 4. Relationship between knowledge of breast cancer and self breast examination timing.

Knowledge of breast cancer	SBE timing		Total
	Correct	Incorrect	
Good	5	8	13
Poor	22	50	72
Total	27	58	85

SBE, self breast examination; Pearson Chi-square 0.318; P=0.6.

Hospital of Rabat, Morocco where only 43% had good knowledge of breast cancer risk factors, Pakistan where the level of good knowledge of breast cancer risk factors among nurses working in Teaching Hospitals of Karachi was 35%.[27,28] Though, these are higher than the 18.8% of knowledge of risk factor in our study, but they are generally considered poor being lower than expected average knowledge score for nurses. This study also observed that the practice of SBE examination among the nurses was poor. Only a third (31.8%) of them practiced monthly SBE. This observation was similar to what was reported in a hospital based study in Bayelsa state, in Nigeria where only 23.9% of nurses examined their breasts on monthly basis.[22] Only 40.8% of the nurses in Ibadan study had the knowledge of the correct time that SBE should be performed monthly.[19] Similar reports of low practice of monthly SBE have been reported among women in general.[16,27] This could be due to lack of knowledge on how to do breast self examination and some were not aware that SBE is done monthly. Therefore, this may explain why knowledge of breast cancer was not significantly associated with practice of SBE in this study contrary to a study in malasia.[29] Perhaps the nurses in this study are aware of the current knowledge on SBE as no longer a screening method, this may contribute to their low practice of SBE.

Conclusions

This study pointed out the gaps in the knowledge and awareness of breast cancer warning signs, risk factors, and practice of SBE among the nurses. This could be due to lack of adequate re-education and re-training of the nurses on breast cancer in our hospital. Opportunity should therefore be sought in various health facilities to educate nurses who are supposed to be closer to patients on breast cancer, its risk factors, symptoms and warning signs. Regular training and re-training on SBE and how practice of SBE on monthly basis as a readily available and at no cost a means of picking any changes in the breast with prompt presentation to hospital for further evaluation can be so helpful. One limitation of this study is that the nurses could not be assessed on their ability to practically perform SBE.

Recommendation

Our Hospital has Education Committee like many tertiary health institutions in Nigeria; this study thereby reveals an area of gap in knowledge where attention needs to be focused as soon as possible in the Hospital Education Committee's curriculum.

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