Awareness and practice of breast cancer screening methods among women in an urban area of North-Western Nigeria

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Abstract

Background: Breast cancer is a public health burden among women globally. Screening for breast cancer is pivotal to the reduction in the morbidity and mortality associated with breast cancer among women. This study aimed to assess the level of awareness and practices of breast cancer screening methods among women who attended an educational conference in Kaduna metropolis, Northwest Nigeria.
Methods: A cross-sectional survey was conducted. A modified validated self-administered questionnaire was used to collect data on the awareness and practice of breast cancer screening methods among the women. Data was analyzed using descriptive analysis.
Results: A total of 274 women with a mean age of 43.26 ± 9.58 years participated in this study. Most (90.5%) of the participants were aware of breast cancer. The rate of awareness of breast self-examination (BSE) was 70.1%, however, only 40.5% of the women practiced BSE with 10.6% performing it monthly. Over half, 51.8%, of the study participants were aware of clinical breast examination (CBE) while only 12.4% of the women had gone for a CBE. Mammography as a screening method for breast cancer had the least awareness rate of 27.7% while only 9.5% had done it. The common reason stated for not practicing these breast cancer screening methods was poor knowledge.
Conclusion: This study has highlighted the low awareness and practice of breast cancer screening methods among women. There is a need to improve strategies of health literacy on these screening methods among women to reduce the mortality and morbidity posed by breast cancer.

Sensibilisation et pratique des méthodes de dépistage du cancer du sein parmi les femmes dans une zone urbaine du nord-ouest du Nigéria

Résumé
Contexte de l'étude : Le cancer du sein constitue un fardeau de santé publique chez les femmes du monde entier. Le dépistage du cancer du sein est essentiel à la réduction de la morbidité et de la mortalité associées au cancer du sein chez les femmes. Cette étude visait à évaluer le niveau de sensibilisation et les pratiques des méthodes de dépistage du cancer du sein chez les femmes ayant assisté à une conférence éducative dans la métropole de Kaduna, au nord-ouest du Nigéria.
Méthode de l'étude : Une enquête transversale a été menée. Un questionnaire auto-administré modifié et validé a été utilisé pour collecter des données sur la connaissance et la pratique des méthodes de dépistage du cancer du sein chez les femmes. Les données ont été analysées à l'aide d'une analyse descriptive.
Résultat de l'étude : Au total, 274 femmes d'un âge moyen de 43,26 ± 9,58 ans ont participé à cette étude. La plupart (90,5 %) des participantes connaissaient le cancer du sein. Le taux de connaissance de l'auto-examen des seins (AES) était de 70,1 %, cependant, seulement 40,5 % des femmes pratiquaient l'ESB et 10,6 % le pratiquaient mensuellement. Plus de la moitié, soit 51,8 %, des participantes à l'étude étaient au courant de l'examen clinique des seins (ECS), alors que seulement 12,4 % des femmes avaient opté pour un ECS. La mammographie en tant que méthode de dépistage du cancer du sein présentait le taux de sensibilisation le plus faible, soit 27,7 %, alors que seulement 9,5 % l'avaient pratiquée. La raison fréquemment invoquée pour ne pas pratiquer ces méthodes de dépistage du cancer du sein était une mauvaise connaissance.
Conclusion : Cette étude a mis en évidence la faible connaissance et pratique des méthodes de dépistage du cancer du sein chez les femmes. Il est nécessaire d'améliorer les stratégies d'éducation en santé sur ces méthodes de dépistage chez les femmes afin de réduire la mortalité et la morbidité liées au cancer du sein.
Mots-clés : Cancer du sein, dépistage du cancer du sein, auto-examen des seins, examen clinique des seins, mammographie, Nigéria

INTRODUCTION

Breast cancer among women constitutes a critical public health burden. The global incidence of breast cancer has increased over the years with an estimated 1.68 million new cases recorded in 2012.[1] It was estimated that by 2020, 70% of all breast cancer cases worldwide will be from low- and middle-income countries (LMICs), and a projection that by 2035, about two-thirds of all breast cancer cases globally will also be from LMICs.[2,3] The incidence of breast cancer in Nigeria ranges from 3.5% to 13.5%.[4] In 2014, according to the World Health Organization (WHO) data on country profiles, Nigeria had a prevalence rate of 34.2% for breast cancer among women.[5] Globally, breast cancer is ranked the second most common cause of cancer-related deaths among women after lung cancer, but in LMICs such as Nigeria, breast cancer is ranked the first.[6] However, the actual incidence and burden of breast cancer in many African countries including Nigeria is not well understood due to inadequate medical records.[7] About 90% of women with breast cancer survive if it is detected early while only about 55% survive following late diagnosis.[8] In the United States of America, the five-year survival rate of women with breast cancer is estimated to be 86%, while in sub-Saharan Africa it is less than 40% with Nigeria having an even lower rate.[7,8] The variance in these indices may be due to factors such as late presentation and detection, and limited facilities for diagnosis and treatment. There are more cases of late presentation in LMICs, which results in high mortality.[9] About 30% of Caucasian women with breast cancer present late as against their African counterparts with a percentage of 70%.[8] Nigeria is greatly affected by this, where it has been reported that most breast cancer cases present to the hospital for the first time at a late stage of II or III of the disease.[10] These high rates of cases and the late stage of the disease at presentation may be linked to a low level of breast cancer awareness among other factors.[2,7]

Breast cancer screenings are practices that include examinations and investigations used in the detection of breast cancer in asymptomatic women. Some of the recognized screening methods include breast self-examination (BSE), clinical breast examination (CBE), and mammography. Although, due to inadequate clear benefits, the American Cancer Society (ACS) no longer recommends CBE and BSE for women at average risk, the American College of Obstetricians and Gynecologists (ACOG) still advocates for BSE to be practiced monthly and CBE annually beginning at the age of 20 years.[10,11] The BSE and CBE are recommended as screening methods still of necessity for LMICs where mammography is expensive and difficult to access.[12] In several developing countries including Nigeria, the use of CBE and mammography is low due to limited human and material resources, hence, the need for a context-specific method for the early detection of breast cancer.[7]

The awareness of breast cancer screening methods was reported as low from a systematic review of studies done in Nigeria with an average percentage of 69.3% for BSE awareness and 37.8% for mammography awareness.[13] There are low levels of breast cancer screening practices among women despite the relatively high level of awareness.[13] An awareness rate of 56.5% for breast cancer screening has been reported with only 17.7% of the study participants practicing at least one of the screening methods in a hospital-based cross-sectional survey conducted in South-south Nigeria.[14] In the United Kingdom, Northern Europe, and Australia, the decrease in breast cancer mortality has been attributed to an increased incidence of early-stage detection of breast cancers after the implementation of screening programs that were followed by a decline in advanced stages of the disease.[15] Therefore, the morbidity and mortality associated with breast cancer can be effectively reduced by breast cancer screening practices, thereby reducing the burden of breast cancer in LMICs. Screening for breast cancer is pivotal for its early detection, and its early diagnosis influences the treatment plan and disease prognosis. This study, therefore, aimed to determine the rates of awareness and practice of breast cancer screening methods among women attending a conference in Kaduna metropolis to help create effective health awareness among women and recommendations to policymakers in curbing the menace of breast cancer.

MATERIALS AND METHODS

Study design: This was a cross-sectional opportunity survey conducted among women who attended a conference in Kaduna metropolis, Northwestern Nigeria in November 2022. It was a local educational conference for women organized by a group of non-governmental organizations aimed at increasing awareness of gender-based issues.

Study site: Kaduna state is the third most populous state in Nigeria, and Kaduna metropolis is cosmopolitan.[16]

Study population: This was a group of women with varied sociodemographic characteristics.

Sample size: This study used a total sampling of the conference attendees. A total of 295 women attended the conference and 274 participated in this study, giving a response rate of 92.9%.

Sampling technique: Convenience sampling was done. All conference attendees who consented to participate in this study were recruited.

Data collection: An anonymous self-administered structured questionnaire adapted from a review of the Demographic and Health Surveys was used to obtain information about the participants' socio-demographic characteristics and their awareness and practice of breast cancer screening methods.[17]

Data analysis: The data was analyzed using SPSS version 24 and presented in proportions using tables and charts.

Ethical Consideration: Ethical approval to carry out this study was obtained from the Health and Research Ethics Committee of Bingham University Teaching Hospital, Jos. The ethical protocol number for this study is NHREC/21/05/2005/00953. Permission to conduct the study was obtained from the Conference Coordinators. The nature and purpose of the study were explained to the participants. Informed written consent was obtained from the participants. Health education on breast cancer screening methods was given to all the conference participants after the data collection.

RESULTS

A total of 274 women with a mean age of 43.26 ± 9.58 years participated in this study. A majority (65.3%) of the study participants were in the age group of 40 – 59 years. Most (86.9%) of the respondents were married. About half (48.2%) of the participants had attained a tertiary level of education and only 4.7% did not have a formal education. Only 25.5% were employed in the civil service and 32.1% were self-employed either as businesswomen or traders. Those engaged in other occupations were either

students, farmers, tailors, or other forms of artisans. These are shown in Table 1.

A majority (90.5%) of the participants were aware of breast cancer as a disease. Their source of information was mainly from books (24.8%), seminars (17.9%), and the media (10.6%) such as TV, radio, and the internet. Some participants reported getting the information on breast cancer from family and friends (6.9%), and the hospital (9.1%).

More than two-thirds (70.1%) of the study participants were aware of breast self-examination (BSE) as a screening method for breast cancer. However, 48.5% of the participants had been taught how to perform BSE. Less than half, 40.5%, of the women practiced BSE and only 10.6% did it monthly, while the others rarely performed BSE. The major reason stated for not practicing BSE was a lack of knowledge on how it should be done and forgetfulness. A little above half, 51.8% of the study participants were aware of clinical breast examination (CBE) as a screening method for breast cancer. Only 12.4% of the respondents had gone for a CBE. Mammography as a screening method for breast cancer had the lowest rate of awareness at 27.7%, with only 9.5% who had ever had it. Most of the participants stated lack of awareness, unavailability, and cost of mammography as the reasons for not having it done. The study participants' awareness and practice of breast cancer screening methods are shown in Figures 1 and 2.

DISCUSSION

In this study, the mean age of the participants was 43.26 years and a majority (48.2%) of them had attained a tertiary level of education. This is probably due to the nature of the study site which was an urban area of the State. However, the study participants were of diverse socioeconomic status. From this study, 90.5% of the respondents were aware of breast cancer as a disease. This finding is supported by a study done in the Southeastern region of Nigeria where 87.3% of rural women were aware of breast cancer.[18] The respondents in this study identified the media (television, radio, internet), books, seminars, and family and friends as the major sources of information on breast cancer. Studies conducted in other regions of the country also reported similar major sources of information.[18-20] However, Olowokere *et al* in their study done in rural communities reported the hospital as the major source of information.[12]

This study recorded a 70.1% awareness

rate of breast self-examination (BSE) with only 10.6% who practiced it monthly. This is similar to studies conducted in other regions of the country. An urban study by Ojewusi & Arulogun conducted among secondary school teachers in Southwest Nigeria reported a 76.2% awareness rate for BSE.[19] However, Amoran & Toyobo in their study conducted in a rural town reported a lower rate of 58.2%.[21] This variance may be due to the different study sites as the study by Amoran & Toyobo was a rural community-based survey while this study was conducted in an urban setting. In contrast, Dozie et al in a study done among rural women had a BSE awareness rate of 76.7%.[18] The BSE monthly practice rate from this study was 10.6%. This low practice rate was also reported by Ossai *et al* in their study done among female university undergraduates in Southeast Nigeria with a rate of 15.9% and Olowokere *et al* with a rate of 11.7% from their study conducted among women in some selected rural communities in Southwest region of Nigeria.[12,22] A neighboring African country, Cameroon, found a BSE awareness rate of 73.5% by Nde *et al* in a study conducted among female university undergraduates and a BSE practice rate of 15.0% by Azemfac *et al* in their community-based study.[23,24]

This study found a 51.8% awareness rate for clinical breast examination (CBE) among the participants with only 12.4% who had practiced it. In contrast, Obaji *et al* in their study conducted in Nigeria's Southeast region reported a very low awareness rate of 13.0%.[10] This variation may be because of the study population as their study was conducted among market women. For CBE practice rate, Yusuf *et al* reported a lower rate of 4.6% from a study done among university undergraduates in Southwest Nigeria, while another study also from the same region by Olasehinde reported a higher CBE practice rate of 19.7%.[25,26] These observed variations may be due to the different age groups for the studies. Abeje *et al* from their study conducted in Ethiopia had a CBE awareness rate of 61.8% and a lower practice rate of 7.6%.[27]

Mammography as a breast cancer screening method recorded the lowest rates for awareness and use in this study. Only 27.7% of the study participants were aware of mammography and 9.5% had ever done it. Lower rates have been reported by earlier studies conducted in Nigeria.[10,20,28] A rate of 13.4% for the awareness of mammography was reported by Obaji *et al* in a study conducted among market women in Southeast Nigeria, while Obajimi *et al* from their study among women attending the

outpatient clinics of a teaching hospital in Southwest Nigeria reported a much lower rate of 5.0%.[10,20] Omisore et al reported a mammography screening utilization rate of 15.4% in a national survey done among female health workers.[28] These may be explained by the difference in study population and timeline when these studies were conducted. However, Abeje *et al* in their study conducted in Ethiopia recorded a higher awareness rate of 40.9% and a low practice rate of 3.8% for mammography.[27]

Strengths and limitations of the study

This was a cross-sectional survey among a diverse group of women from different sociocultural backgrounds with an appreciable sample size. However, the convenience sampling technique used in this study may over- or under-represent certain groups of women, which can lower the generalization of the study findings. Another limitation of this survey is the sample population of women attending a conference in an urban area, which may also limit the generalization of findings from this study. A self-administered questionnaire was employed in data collection which can reduce the influence of interviewer bias and may improve the validity of the study findings. This was a descriptive cross-sectional survey, so analysis for a causal factor could not be done.

CONCLUSION

Breast cancer screening is crucial for the early detection of breast cancer to reduce the morbidity and mortality associated with it. This study has highlighted the low awareness and practice rates of breast cancer screening methods among women. Collaborative and intersectoral efforts aimed at providing breast cancer screening methods should be intensified. It is recommended that policymakers foster strategies for strengthening awareness campaigns on the practice of breast cancer screening methods. Further studies to identify factors that influence the practice of these screening methods are encouraged.

Conflict of Interest: The authors declare that there was no conflict of interest in this study.

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Table 1: Distribution of the study participants' sociodemographic characteristics (n = 274).

Sociodemographic variables	Frequency	Percentage
Age group (years)		
18 – 39	82	29.9
40 – 59	179	65.3
≥60	13	4.8
Mean age ± SD = 43.26 ± 9.58		
Marital status		
Single	11	4.0
Married	238	86.9
Separated/Divorced	5	1.8
Widowed	20	7.3
Educational level		
No formal education	13	4.7
Primary education completed.	57	20.8
Secondary education completed.	72	26.3
Tertiary education completed.	132	48.2
Occupation		
Housewife	27	9.8
Civil service	70	25.5
Business/trading	88	32.1
Teaching	21	7.7
Health worker	7	2.6
Artisans/others	61	22.3

SD = Standard deviation. Others = farmers, students
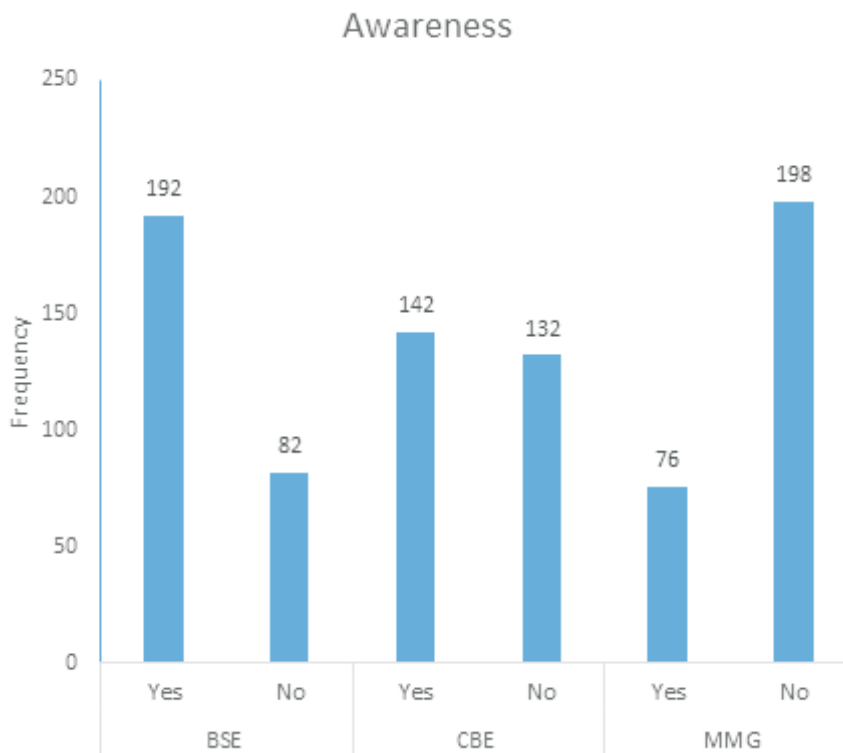
BSE = Breast self-examination. CBE = Clinical breast examination. MMG = Mammography

Figure 1: Distribution of the awareness of breast cancer screening methods among the respondents (n = 274).
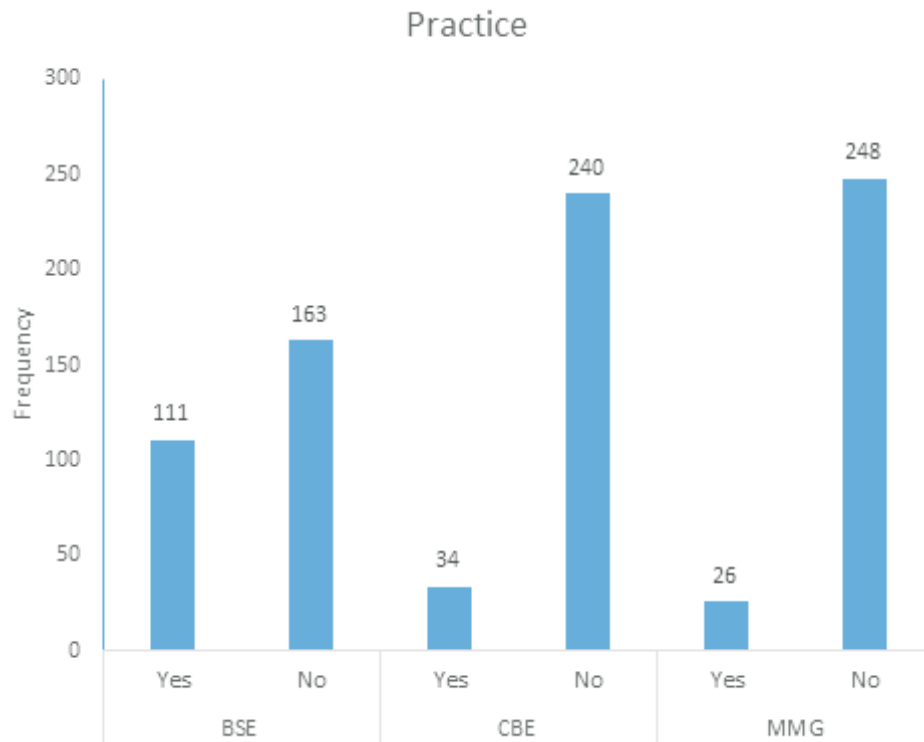
BSE = Breast self-examination. CBE = Clinical breast examination.
MMG = Mammography

Figure 2: Distribution of the practice of breast cancer screening methods among the respondents (n = 274).