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Breast Cancer Awareness and Screening Practices: A Cross - Sectional Assessment Among Women of Reproductive Age at General Out-Patient Clinic of a Secondary Health Institution in South-South Nigeria

[1]*Victory Edet Iyanam,* [2]*Eno-Obong Udomobong Bassey,* [3]*Emem Imo Akpanudo,* [4]*Henry Effiong Jombo,* [1]*Sunday Bassey Udoh,* [1]*Alphonsus Udo Idung*

[1]*Departments of Family Medicine, Faculty of Clinical Sciences, University of Uyo, Nigeria.*
[2]*Paediatrics, Faculty of Clinical Sciences, University of Uyo, Nigeria.*
[3]*Surgery, Faculty of Clinical Sciences, University of Uyo, Nigeria.*
[4]*Mental Health, Faculty of Clinical Sciences, University of Uyo, Nigeria.*

Abstract

Breast cancer remains a leading cause of mortality among women globally especially women of child bearing age in low and medium income countries thereby constituting serious public health concern. Awareness and screening practices for early detection and prompt intervention is of immense benefit.
Objective: This study was done to assess the level of awareness and screening practices for breast cancer among women of child bearing age who presented at the General Outpatient Clinic (GOPC) of a secondary health facility in south-south Nigeria.
Materials and Methods: It was a cross-sectional study done among 168 women of child bearing age selected conveniently at the GOPC of General Hospital, Ikot Ekpene, Akwa Ibom State, South South Nigeria. Data were obtained using interviewer-administered questionnaire and analysed with EPI-INFO Version 3.1
Results: Majority of the respondents, 73.81%, had heard of breast cancer and their source of information was mostly from health workers, 72.02%. On screening practices, only 9.52% and 7.74% had ever done self-breast examination (SBE) and radiological screening, mammography, respectively. Breast self-examination was significantly associated with age (P=0.001), educational status (P=0.01), marital status (P=0.001) and parity (P=0.01).
Conclusion: While the awareness of breast cancer was high, screening practices for early detection and prompt treatment was poor. This calls for a more intense public awareness sensitization on the existence of breast cancer and the imperative of screening for early detection. Moreover, considering the cost implication of mammography, it is recommended that this modality of screening should be highly subsidized or made free for the population at risk, especially at the low income setting.

Key words: Awareness and screening practices, breast cancer, child bearing age women, South-South Nigeria.

Introduction

Breast cancer remains the commonest cancer among women population and the leading cause of cancer mortality among women globally, thereby presenting an all-time immense public health concern.[1,2]

The WHO reports that in 2022, there were 2.3million women diagnosed with breast cancer and 670,000 mortalities globally caused by breast cancer, thereby constituting the highest cancer death among

Corresponding Author:

Dr Victory Iyanam
Department of Family Medicine, Faculty of Clinical Sciences, University of Uyo, Uyo, Nigeria.

vickiyanam@gmail.com

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women.[1,3,4] Findings from studies have shown that despite its deadly nature, its incidence seems not to be declining in both developed and developing countries especially among women of reproductive age.[1,2,5] In the United States, the national cancer institute showed that approximately 310,720 women in the United States will be diagnosed with breast cancer in 2024 and 42,250 will die of it.[6] Epidemiologic survey further reveals alarmingly that more than half of the breast cancer cases and the related deaths occur in low and middle income countries.[7,8] Sub-Saharan Africa has been found to have the highest age-standardised incidence of breast cancer of 20-50/100,000 women per year, with worst survival rate within five years and with the highest incidence found in South Africa, Nigeria and Namibia.[5,8,9,10] According to the International Agency for Cancer Research (IACR), 28,380 new cases of breast cancer were recorded in Nigeria in 2020 with age-standardized incidence of 63/100,000 women per year with a relatively young median age of diagnosis. Nigeria has one of the world's highest age-standardized mortality rate of breast cancer and the highest in Africa.[11,12]

Breast cancer is a unique disease entity in terms of its pathology, clinical course, manifestation and prognosis. It also has peculiar risk factors which could be genetic, reproductive and non-reproductive, which again could occur in isolation or in combination. Genetically, mutations in some genetic factors including breast cancer antigen (BRCA 1 and 2), tumor suppressor factor (TP53), check point kinase 2 (CHECK 2) and phosphatase and tension homolog (PTEN), could predispose to breast cancer.[1,13,14] Reproductive factors contributing to breast cancer include early menarche, long interval between puberty and child birth, advanced primiparity, nulliparity, non-breast feeding, late menopause, large breast density and prolonged use of hormonal replacement therapy; while non-reproductive factors such as advanced age, female gender, family history of breast cancer, tobacco smoking, alcohol abuse, radiation exposure, sedentary lifestyle, obesity and previous history of breast cancer could constitute non-reproductive risk factors for breast cancer.[1,13,13]

While some of the factors are modifiable and some are non-modifiable, the female gender has been found to be the single strongest risk factor for developing breast cancer as 99% of cases of breast cancer occur in women.[3,14,15]

Although breast cancer runs destructive and virulent course especially at advanced stage, studies have shown that its early detection through adoption of screening practices such as self-breast examination (SBE) and mammography could be immensely beneficial in early detection and timely treatment intervention, with possible re-assuring prognosis and outright survival in some cases.[1,3,16,17] It has been severally shown that while quite a number of women know about breast cancer, their utilization of screening practices for its early detection is poor, thereby giving rise to the high incidence of the disease and its devastating consequences globally.[4,8,18,19]

This study therefore was conducted to assess the level of awareness of breast cancer and the practice of screening procedures among women of child bearing age who presented at a general out-patient clinic of a secondary health facility in south-south Nigeria. It is envisaged that it will contribute to the existing pool of literature on breast cancer especially among women of child bearing age. It will also offer some recommendations on breast cancer disease prevention and breast health promotion among the studied population in particular and women population generally.

Materials and methods

Study Area: The study was conducted at the general outpatient clinics (GOPC) of General Hospital, Ikot Ekpene, Akwa Ibom State, South-South Nigeria, between January and March 2021. The hospital is a secondary health facility owned and run by the Akwa Ibom State Government through the State Hospital Management Board (SHMB). It has various categories of health care personnel in its employ and it is a referral center for Ikot Ekpene senatorial district .

Study Design: This was a descriptive cross-sectional facility based study.

Sample Size: The study was conducted among 168 women of child bearing age (20-49) years who presented at the general outpatient clinic of the facility during the period of the study.

Sampling Procedure, study Population and Data **Collection:** A non-probability sampling method was used to select the respondents and they were recruited consecutively during their visit to the

clinic. The inclusion criteria were all consenting women within the studied age bracket (20-49 years) seen at the GOPC of the facility during the period of the study. The exclusion criteria were, women who were diagnosed with breast cancer, receiving treatment for breast cancer and those women who were too ill to participate in the study. An interviewer administered questionnaire was used to obtain data from the respondents. English language was the medium of communication. Respondents with no formal education were assisted with use of their local dialect by research assistants. The data collected from the respondents include socio-demographic characteristics, knowledge of breast cancer, sources of information, screening practices for breast cancer using self-breast examination (SBE) and mammography.

Data Analysis: The data obtained from the study were processed and analysed using CDC EPI-INFO statistical package.[20] The data were summarized using proportion for categorical variable and mean and standard deviation for continuous variables that were normally distributed. Associations between independent variables and dependent variables were determined using chi square test.

Determinants of screening practices for breast cancer was done using binary logistic regression. The level of statistical significance was set at $P<0.05$.

Ethics: Ethical approval was obtained from the research and ethical committee of Akwa Ibom State Ministry of Heath via letter: MH/PRJ/99/VOL.V/821. Permission for the study was also officially obtained from the administrative head of the facility and matron in charge of GOPC before commencement of data collection. Verbal consent was obtained from the respondents before administration of the questionnaire.

Results

A total of 168 women of child bearing age (20-49 years) were recruited into the study. The results obtained are shown below.

The socio-demographic characteristics of the women are shown on Table 1. Their ages range from 20-49 years with mean and standard deviation of 31.76+ 6.44. Most of the respondents, 86(51.19%) belonged to middle reproductive age group (30-39 years), were married, 72.02% and had higher education, 52.38% . Greater percentage of the respondents were employed, 54.17% and were of lower parity, para<5), 91.67%

Knowledge and awareness of breast cancer among

Table 1: Socio-demographic characteristics of the respondents

Characteristics	Frequency (n=168)	Percentage (%)
Age (years):		
20-29	64	38.10
30-39	86	51.14
40-49	18	10.71
Marital Status:		
Yes	121	72.02
No	47	27.18
Educational Status:		
No Formal Education	4	2.38
Primary	20	11.91
Secondary	64	38.10
Tertiary	80	47.62
Occupation: *		
Unemployed	37	22.02
Farming	17	10.12
Trading	47	27.98
Seamstress	27	16.07
Civil Servant	40	23.81
Schooling	17	10.12
Monthly Income Level (₦)		
< 30,000	91	54.17
30,000 - 49,000	40	23.81
50,000 -99,000	17	10.12
≥ 100,000	20	11.91
Parity:		
0	40	23.81
1	40	23.81
2	37	22.02
3	24	14.29
4	13	7.74
>5	14	8.33

* Some respondents had more than one occupation.

Table 2: Knowledge and awareness of breast cancer among the respondents

Characteristics	Frequency (n=168)	Percentage (%)
Heard of Breast Cancer?:		
Yes	124	73.81
No	44	26.19
What are the symptoms of BC? (n=124?):		
Breast lump	71	57.26
Breast pain	33	26.61
Nipple Discharge	14	11.29
Do not know	6	4.84
Who are at risk of having BC? (n=124)		
Advanced age women	67	54.03
Family History of BC	25	20.16
Obesity	19	15.32
Use of Hormonal Contraceptive	8	6.45
Nulliparity	5	4.03
Aware of early detection of BC? (n=124):		
Yes	91	73.39
No	33	26.61
What means of early detection of BC do you know? (n=91):		
Breast Examination	53	58.24
Mammographym/Breast Ultrasound scan	25	27.47
Both	13	14.29

the respondents are shown on table 2. Majority of the respondents were aware of breast cancer, 72.81%. Among those who knew about BC, greater percentage of them knew breast lump as a symptom of BC, 57.26% and advanced age, 54.03%, as a risk factors for having breast cancer . Most of the respondents who knew about breast cancer knew that it could be detected early, 73.39% and majority of those who knew it could detected early knew breast self-examination (BSE), 58.24%, as a means of doing so.

Table 3 shows sources of information on Breast Cancer among women of child bearing age in the study. Majority of the women, 72.02%, obtained information on breast cancer from health workers while the least number, 5.35%, got their information from friends and neighbours.

Table 4 displays breast cancer screening practices among the women in the study. Only 9.52% and 7.74% of the respondents did breast self-examination and mammography/ultrasound respectively. On the reasons for not practising the screening for breast cancer, 44.74% and 47.74% complained of not being aware of BSE and mammography/breast ultrasound scan respectively.

Table 3: Sources of Information on Breast Cancer among the respondents

Characteristics	Frequency (n=168)*	Percentage (%)
Health Workers	121	72.02
Social Media	40	23.81
Religious Organizations	36	21.43
Family Members	35	20.83
Electronic Media	11	6.55
Friends and Neighbours	9	5.36

*: Some women had more than one source of information on breast cancer.

Table 4: Breast cancer screening practices among the respondents

Characteristics	Frequency (n=168)	Percentage (%)
Have you been examining your breasts routinely to detect any abnormality?		
Yes	16	9.52
No	152	90.48
Ever done mammography/Breast ultrasound scan?		
Yes	13	7.74
No	155	92.26
Reasons for not practicing breast self-examination (n=152):*		
Not heard of it	68	44.74
Not taught how to do	63	41.45
Not seen it done	47	30.92
Reasons for not doing mammography /Breast Ultrasounds/(n=155):*		
Not heard about it	74	47.74
Cannot afford it	65	41.93
Do not know where to do it	48	30.97
Afraid of result	37	23.87

*: Some respondents gave multiple reasons for not practicing Breast Self-Examination and for not doing mammography/breast ultrasound scan**

Table 5: Relationship between socio-demographic variables and breast self-examination practice

Socio-demographic Variables	Breast self-Examination (BSE) practice		Odd Ratio	95% CI	P-Value
	Yes(%)	No(%)			
Age (years):					
<30	6(3.57)	58(34.52)	0.09	0.041-0.18	0.001*
≥30	10(5.95)	94(55.95			
Educational Status:					
Lower Level	2(1.19)	22(13.10)	0.15	0.003-0.051	0.001*
Higher Level	14(8.33)	130(77.38)			
Income Level (₦):					
<100,000	14(8.33	134(79.76)	0.00	0.00-0.259	0.261
≥100,000	2(1.19)	18(10.71)			
Parity:					
Para < 5	15(8.93)	139(82.74)	0.103	0.002-0.722	0.010*
Para ≥5	1(0.59)	13(7.74)			
Marital Status:					
Yes	11(6.55)	110(65.48)	6.03	2.877- 12.645	0.001*
No	5(2.98)	42(25.00)			

*=significant p value

The association between socio-demographic variables and practice of breast self-examination is shown on table 5. Breast self-examination was significantly associated with advanced reproductive age (> 30 years), [p=0.00, OR=0.09, CI: 0.041-0.18], higher educational status, [p=0.001, OR=0.15, CI: 0.003-0.051], marital status, [p = 0.001, OR=6.03, CI: 2.877-12.645] and lower parity [p=0.01, OR=0.103, CI: 0.002-0.722].

Discussion

The study has shown that majority of the respondents had heard of breast cancer as a disease common among women population. This is similar to findings from several other studies among women on breast cancer globally.[1,4,5,7,8] Also their commonest source of knowledge on the disease was health workers, followed by social media. Again, this was similar to findings from other studies.[3,4,8,10] This emphasizes the crucial role of health workers in health education of the populace on disease of public health importance as breast cancer.[21] Also, the use of social media in dissemination of information on health related issue like breast cancer for ready accessibility to the reading population, cannot be over emphasized.[22-24]

There is a high awareness rate of breast cancer in the study which is similar to finding recorded by

Mehajabin, etal in Bargladesh,[1] but lower than findings from studies done by Afaya, et al in Lezotho, South Africa,[4] Ohari, et al at Ibadan, Oyo State, Nigeria,[24] and higher than the findings from Funga et al in West Badewaha, South Ethiopia, East Africa.[15] The high awareness in this study could be attributable to higher educational status among the respondents in the study. The importance of educating the girl child on knowledge on several issues including health awareness, cannot be over-emphasized.[25,26]

Furthermore, awareness of key symptoms of breast cancer and major risk factors and means of early detection were high among the study population, which are quite similar to studies done in other settings.[2,4,15,27]

However, the screening practices for early detection of breast cancer among the respondents were poor. The low utilization of breast self-examination and mammography are as found in several other studies among women of reproductive age globally.[1,2,5,15,27] This is highly unacceptable considering the benefits accruing from these screening practices in early detection and prompt intervention in cases of breast cancer.

It has been found from several studies that the use of breast self-examination (BSE), clinical breast examination (CBE) and mammography could offer enormous benefits in early detection and prompt treatment of breast cancer with consequent good prognosis and outright survival in some cases.[1,5,19,27,28]

The reasons for not doing the screening given by the respondents which include not hearing and not being taught BSE; non-accessibility of mammography and other reasons are similar in other studies.[2,5,9,19] This calls for deliberate effort to include BSE demonstration in health education counseling and programs to women of reproductive age in clinics and primary health centers. The need to make mammography available, affordable and possibly compulsory to women of reproductive age in health facilities globally cannot be over-emphasized considering its benefit in early detection for prompt treatment of breast cancer, which constitutes a heavy socio-economic burden on individuals, families, health care system and the society at large.

Statistical analysis shows a positive association between BSE and some socio-demographic variables including advanced reproductive age, higher educational status, lower parity and marital status. This again emphasizes the need to direct health education on BSE to all categories of women, especially women of reproductive age irrespective of their socio-demographic status

The WHO Global Breast Cancer Initiative (WHO-GBCI) aims to reduce global breast cancer mortality by 2.5% per year thereby averting 2.5 million breast cancer deaths globally between 2020 and 2040. This is further projected to avert 25% of breast cancer among women under 70 years of age.3One of the cardinal pillars torwards achieving this lofty objective is health promotion for early detection through BSE and other early screening modalities.

Conclusion:

The study has shown high awareness of breast cancer among the respondents. However, the screening practices for early detection and timely treatments for good outcome is poor in the study population. It is recommended that a more intense health education campaign for breast cancer awareness and need for screening practices should be emphasized. Breast self-examination should be taught in clinics and primary health care facilities while mammography should be made available, affordable and possibly compulsory for women especially in poor environment of Sub-Saharan Africa and other low and middle income countries (LMICs).

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