



Knowledge and Practice of Breast Cancer Screening among Rural Women in Imo State, Nigeria: A Cross-Sectional Study

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Authors' contributions

This work was carried out in collaboration among all authors. Author UWD conceived the study, designed the study and drafted the manuscript, Author CICE performed the statistical analysis, designed the study and revisited the manuscript writing. Author ICE data collection and statistical analysis, authors CJE, OOM and NEA did the literature search and participated in data collection and author INSD revisited the manuscript and critically evaluated the intellectual contents. All authors read and approved the final manuscript.

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ABSTRACT

Introduction: Breast cancer is among the leading causes of death among women globally. Its mortality and morbidity are highest in Africa despite the low prevalence. Sadly, breast screening has never been taken seriously in this region thus rendering management of the disease difficult. The study is designed to determine the knowledge and practice of breast screening among rural women in Imo State, Nigeria.

Methods: This cross sectional study was conducted using a multi-stage sampling technique to select 258 women from a sampled households. A pretested semi structured questionnaire was used for data collection and data analysis was done using mean scores and percentages.

Results: The result showed that 87.3% of the women was aware of breast cancer and the dominant sources of information on the disease were radio/television (91.0%), internet (88.0%),

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friends (85.0%) and newspapers/magazines (79.0%). It was further found that most (83.7%) of the women knew that breast cancer affected only the breast, 76.7% knew that breast cancer can be detected by breast self-examination and screening. Also, 96.1% of the women knew that breast cancer affects only women while 84.9% knew it can only be detected in the hospital/clinic. On the practice of breast screening, the majority (79.5%) of the women indicated they had not been screened whereas only 5.0% had been screened. However, the result revealed that breast self-examination (92.3%) was the most popular screening method among the women followed by clinical breast examination (7.8%). It was also found that 79.5% of the women had been screened more than once in a year whereas 15.5% were not sure the number of times they had been screened.

Conclusion: The study concludes, that in spite of the awareness and high knowledge of breast cancer and importance of screening in the area, the practice of breast screening among the women was very low. It is therefore, recommended sensitization campaigns on breast screening be intensified in rural areas.

Keywords: Breast cancer; knowledge of cancer; screening practice; information sources; rural women; Imo State; Nigeria.

1. INTRODUCTION

Cancer is an uncontrolled growth of abnormal cells (malignant or disorder cells) occurring on any part of the body and in persons of all ages and races. It is the major cause of adult mortality globally and poses a serious health concern. While great achievements have been made in understanding and developing suitable prevention strategies and therapies against the disease, the incidence and mortality continue to be on the rise [1]. In 2008, about 12.7 million cancer cases and 7.6 million deaths occurred worldwide [2]. The International Agency for Research on Cancer (IARC) predicts a near-doubling of the annual number of new cases and deaths in 2030 due to population growth and aging [2]. Sadly, this burden is expected to be borne mostly by developing countries. Already, 56% of new cancer cases and 64% of cancer deaths occur in developing countries while in 20 years' time, the figures will rise to 63% and 70% respectively [3]. Observations have shown that Africa will suffer the greatest burden of cancer. By 2030, cancer cases are forecasted to increase to 1.3 million with about 1 million deaths. This staggering rise in cancer cases and its inherent consequences will prolong Africa's development [1].

According to the World Health Organization, female breast cancer contributed a total of 5.8 million deaths in 2004, representing over 1% of all premature deaths amongst females, ranging from 8% in Europe to about 0.5% in Africa [4]. Breast cancer ranked as the fifth cause of cancer-related death globally [5]. Global trends suggest an increase in the prevalence and mortality over the past decades although, it is

stabilizing in some countries recently. But it has continued to increase in many parts of Africa, Asia, Central and South America [6,7]. The mortality rate of breast cancer ranked highest in Nigeria in spite that the incidence in African region is lower than other vulnerable continents [8]. About 250,000 cases of breast cancer are seen in Nigeria each year and nearly 10,000 deaths recorded (9). The rising death is blamed on inadequate integration of breast screening in the country's healthcare system, low utilization of available screening methods and delay in treatment seeking. The delay in treatment is due to poor knowledge, perceptions about the disease, low self-assessment of risk and wrong notions about the cause of the disease [9]. Furthermore, lack of knowledge of breast cancer, lack of awareness of the existence of screening test, its importance, cost and centres where such services are obtained have been found to be responsible for women's low participation in the screening [10]. Socioeconomic variables such as age, educational level, health behavioural factors and culture could also influence the uptake of cancer screening [11]. While the vulnerability of women to cancer in Nigeria has been established, studies investigating the participation of rural women in cancer screening are few [12, 13]. (Omotara *et al.*, 2012; Tayo *et al.*, 2019) thus creating a gap in knowledge. This study was therefore designed to fill the gap by determining knowledge and practice of breast cancer screening among rural women in Imo State, Nigeria.

2. MATERIALS AND METHODS

The study was conducted at Ibeku, Aboh Mbaise local government area of Imo State, Nigeria. The

study was conducted between June 2019 and June 2020. It is located within longitude .42°N and latitude 7.5°E and comprises four villages namely Akuwa, Okwu, Uborji and Ibekuta. The area experiences two seasons – the rainy which starts in April and lasts till October with annual rainfall varying between 1,500 mm and 2,200 mm; and the dry season which begins in October and ends in March. An average annual temperature above 20°C creates an annual relative humidity of 75%, with humidity reaching 90% in the rainy season. The dry experiences two months of harmattan from late December to late February. The hottest months are between January and March. Ibeku falls with the rainforest zone of eastern Nigeria and characterized by palm and bamboo trees. The community has a rich culture and many festivals. Agricultural activities form the mainstay of the economy of the area. Subsistence farming still accounts for a major part of the occupation in the area.

Ibeku is a typical rural community and as such shares the features of other rural areas in terms of healthcare. Rural areas in developing countries Nigeria inclusive are characterized by insufficient healthcare infrastructures and lack of qualified health practitioners.

The population for the study comprised women of child-bearing age (15 – 45 years) resident in the area. This is because of the increasing cases of breast cancer among women within this age range. The multi-stage sampling technique was employed in the study. The first stage was identifying the number of households in the villages. A total of 258 women were used for the study. Data were collected using structured questionnaire. The research instrument was validated using face-to-face and content validity methods while reliability was tested using the Cronbach's reliability technique. According to Kerlinger (1986) [14] a Cronbach's alpha value of 0.50 is considered appropriate for any measuring instrument. A Cronbach alpha correlation coefficient (r) of 0.70 was obtained which indicated a high correlation. Data were analyzed using Statistical Package for Social Sciences (SPSS). Percentage and mean score were used to analyze the data.

2.1 Sociodemographic Characteristics of the Women

Table 2 shows that most (58.1%) of the women were aged 26 – 35 years with the remaining 18.6%, 11.6%, 11.6% being in the age brackets

of 15–25, 36 – 40 and 41 – 45 years respectively. The mean age of the women was about 25 years. The result also showed that the majority (77.5%) of the women and 22.5% receiving different forms of formal education. The women were also found to be predominantly traders (44.8%) followed by 32.5% who were farmers. The majority (95.9%) of the women were found to be Christians and just 4.1% were Muslims. The result further found that most (64.4%) of the women were married while 35.6%, 10.9% and 4.7% were single, separated and divorced respectively.

2.2 Knowledge of Breast Cancer

Table 3 reveals that the majority (83.7%) of the women indicated they had the knowledge that breast cancer affects only the breast while the remaining 16.3% lacked the knowledge. The majority (76.7%) agreed that breast cancer can be detected by breast self-examination and screening while 23.2% did not. Furthermore, the majority (84.9%) of the women knew that breast cancer screening can be done only in the hospital/clinic, while 15.1% did not know. On the regularity of breast screening, most (76.7%) agreed that it should be done on a daily basis while 23.3% did not know. On the signs of breast cancer, 83.7 they know the signs while 16.3% did not know.

2.3 Awareness of Breast Cancer

Fig. 1 shows that the majority (87.3%) of the women were aware of breast cancer while the 13.3% were unaware.

2.4 Sources of Information on Breast Cancer

Fig. 1 shows that there were several sources of information on breast cancer among the women. However, the preferred ones include radio/television (91.0%), internet (88.0%), friends (85.0%), newspaper/magazine (79.0%), family members (79.0%), family members (70.0%), healthcare centres (70.0%), healthcare professionals (67.0%) and other patients (56.0%).

2.5 Practice of Screening for Breast Cancer

Table 4 shows that the majority (79.5%) of the women indicated that they had not been screened for breast cancer while only 5.0% indicated they had been screened. Out of the very low percentage that had been screened,

most (92.3%) underwent breast self-examination while 7.8% underwent clinical breast cancer examination. Furthermore, the majority (79.5%) of the women got screened more than once.

3. RESULTS

A total of 258 female respondents comprising of 90 in Akuwa, 48 in Okwu na uba, 54 in Oborji and 66 in Ibekuta as seen in Table 1 were used for this study.

4. DISCUSSION

This study was designed to determine the knowledge and practice of breast cancer screening among women in Aboh Mbaise local government area of Imo State, Nigeria. The findings of the study revealed that many of the women were aware of breast cancer. It was also shown that they got information on breast cancer through several sources. They were also found to have a sound knowledge of breast cancer. This was based on their response to the parameters used in determining the knowledge of breast cancer. The findings suggest access to information and acquisition of knowledge about vital health issues to rural residents. This could be attributed to the literacy level of the women and proper sensitization on the issue by

community health workers in the area. Knowledge of breast cancer would promote the undertaking of appropriate actions to curtail its spread at the community level such as screening and administration of recommended treatments. Poor knowledge of breast cancer might lead to late presentation of patients to hospitals for treatment. Also knowledge of breast cancer could improve the health-seeking behavior of patients. This is in line with the report of [15] that most females in Owerri Imo State were knowledgeable about breast cancer. People with higher knowledge of cancer are likely to have higher uptake of screening [15]. In contrast to expectation is the low uptake of screening in spite of the high knowledge of breast cancer among the women. Women in this age group are expected to have high participation in cancer screening. Several studies found a positive association between patients' screening behaviour and self-awareness of breast cancer [16,17,18]. This could be linked to the inadequacy of infrastructure, social norms and literacy level. Screening allows for earlier detection of breast cancer and necessary follow-ups in people who have no symptoms. According to [19] screening increases survival rate by reducing mortality, morbidity and cost of management.

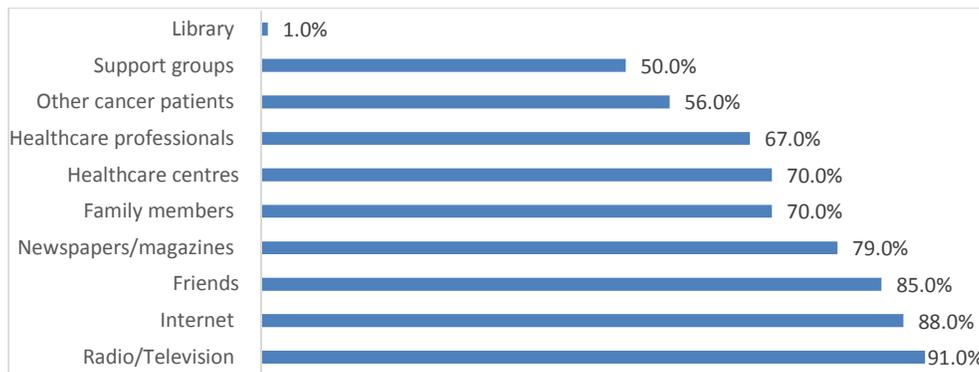


Fig. 1. Sources of information on breast cancer
Source: Field Survey Data, 2020

Table 1. Selection of respondents

Village	No. of households	No. of households selected	No. of women selected per household	Total No. of women selected
Akuwa	164	30	3	90
Okwu na uba	136	24	2	48
Oborji	152	27	2	54
Ibekuta	124	22	3	66
Total	576	103	10	258

Source: Field Survey Data, 2020

Table 2. Sociodemographic characteristics of the respondents

Sociodemographic characteristic	Frequency	%	\bar{X}
Age (Years)			
15 – 25	48	18.6	24.7
26 – 35	150	58.1	
36 – 40	30	11.6	
41 – 45	30	11.6	
Educational qualification			
No formal education	200	77.5	
Primary school	35	13.6	
Secondary school	20	7.8	
Tertiary	3	1.2	
Occupation			
Farming	84	32.5	
Trading	115	44.8	
Civil service	48	18.6	
Artisan	5	5.9	
Others	6	3.2	
Religion			
Christianity	250	95.9	
Islam	8	4.1	
Marital status			
Married	141	64.4	
Single	78	35.6	
Divorced	12	4.7	
Separated	28	10.9	

Source: Field Survey Data, 2020

Table 3. Knowledge of breast cancer

Knowledge statement	Frequency	Percentage
Breast cancer affects only the breast		
Yes	216	83.7
No	42	16.3
Breast cancer can be detected by breast self-examination and screening		
Yes	198	76.7
Agree	60	23.2
Breast cancer affects only women		
Yes	248	96.1
No	10	3.9
Breast cancer screening can be done only in the hospital/clinic		
Yes	219	84.9
No	39	15.1
Breast self-examination should be done on daily basis		
Yes	198	76.7
No	60	23.3
Lump, abdominal pains, discharge from nipple, redness and change in size are signs of breast cancer		
Yes	216	83.7
No	42	16.3

Source: Field Survey Data, 2020

Table 4. Practice of breast cancer screening among the women

Statement	Frequency	Percentage
Have you ever been screened for breast cancer?		
Yes	13	5.0
No	205	79.5
Not sure	40	15.5
Which of the following tests have you undergone?		
Breast self-examination	238	92.3
Mammogram	0	0
Clinical breast examination	20	7.8
If yes, how many times have you been screened in a year?		
Once	12	5.0
More than once	205	79.5
Not sure	40	15.5

Source: Field Survey Data, 2020

The preference of breast self-examination among the women could be as a result of its features. Breast self-examination is critical for early detection of breast cancer, particularly in low and middle-income countries where other early detection methods are costly and limited. Breast self-examination is suited for communities that have limited access to healthcare because it is inexpensive, non-invasive, simple to perform and can be done without health practitioners' assistance or special equipment [20,21]. Studies have shown that women in poor countries rely more on breast self-examination for the control of breast cancer [22,23]. The effectiveness of breast self-examination depends on knowledge and attitude of the patients. Although, many of the women indicated they were screened more than once in a year, it is very likely that the screening was done mainly with breast self-examination. It could thus be inferred from the result that the women had a poor practice of breast cancer screening because the uptake of breast screening showed more preference for breast self-examination than other methods for early detection. Meanwhile, the methods are meant to complement each other and disproportionate use of any of the methods might impair the management of breast cancer.

5. CONCLUSION

Breast screening is important for the management of breast cancer. However, knowledge of breast cancer is crucial to enhance early detection. This is particularly important among populations that can only afford cost-effective and private breast screening methods.

The study concludes therefore that in spite of the high knowledge of breast cancer, the practice of breast screening is very low among the women. It is thus recommended that sensitization campaigns on breast screening be intensified in rural areas as to improve their uptake of breast screening.

6. LIMITATIONS OF THE STUDY

The major limitation was finance which restricted the study in the area and did not allow the expansion of the sample size. Also, the unavailability of data breast cancer from the health centre in the study area interfered with the accomplishment of study.

CONSENT

This study was followed by the selection of consenting households from each of the villages selected. The next stage was the selection of women from each of the selected households. As per international standard or university standard guideline participant consent has been collected and preserved by the authors.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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