

Full Length Research Paper

Early Detection and Prevention: A Community-Based Assessment of Breast Cancer Awareness in Rural Nigeria

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Globally, the devastation that befalls women diagnosed of breast cancer remains inestimable. Early detection remains a major effective approach that should be employed to combat the disease. The issue of concern, however, is whether women in the rural underserved areas are aware of these early detection methods. This study was designed to assess rural women's awareness and knowledge of breast cancer and their screening practices. The study was a descriptive cross-sectional study utilizing self developed structured questionnaire. Reliability of the instrument was determined and alpha correlation values range between 0.81 and 0.95 for the different components of the questionnaire. Data was processed using descriptive analysis and associations tested with Chi-square at 5% level of significance. The results of the findings showed that 52.7% of the women had adequate knowledge about breast cancer risk factors and symptoms. Regarding the women's awareness about breast cancer screening methods, 52.8 and 51.7% of women have heard about Breast Self-Examination (BSE) and Clinical Breast Examination (CBE) respectively. However, few numbers of respondents (3.9%) were aware about mammography and these are people who did it for the purpose of diagnosing breast problem. Majority of the women (72.8%) did not practice BSE which is the most readily available screening method. Considering the lack of sophisticated diagnostic technology such as mammography for breast screening in the rural areas, BSE provided a unique opportunity for the women to be breast aware and to identify breast problems which may constitute danger to their health in the future. Health care professionals, most especially those at the primary health care level, should enhance the women's skills to use this simple procedure effectively to promote their health.

Key words: Community health nurses, breast awareness, breast examination, knowledge, practice.

INTRODUCTION

The rising global incidence of malignant diseases as documented by World Health Organization (WHO, 1996) is an issue of serious concern, particularly in the developing countries where the increase seems to be more preponderant. In Nigeria for example, over 100,000 people develop cancer annually with majority of patients arriving medical centres at a late stage, thus resulting in a high mortality rate (Sasco, 2001). Over the years, people had the belief that breast cancer is an older woman's disease, therefore, the primary focus has been on prevention, detection and treatment of breast cancer for

Women who are 50 and older (Kinnon, 2003). But in the African-American community, the disease can strike well at a younger age and this prompted physicians and cancer advocate groups to recommend that women should get baseline mammograms at age 40. The American Cancer Society (2012) also recommends that women, starting from age 20 should be educated on the benefits and limitations of performing a monthly Breast Self-Examination (BSE).

Breast screening refers to tests and examinations used to detect a disease such as cancer in people who do not have any symptoms. Since the degree of success in treating breast cancer is influenced primarily by the stage at which intervention is introduced, secondary prevention (early detection) is the mainstay (Morrison, 1996).

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Changes in the breasts can be detected early by screening methods such as breast self examination (BSE) which is also known as breast awareness, clinical breast examination (CBE) and mammography screening. An ideal screening test would be simple, inexpensive, and effective. Breast self-examination fulfils the first two criteria, but previous results of two randomised trials conducted in Russia and China suggest that it would not be effective in reducing mortality from breast cancer (Semiglazov et al., 1993; Thomas et al., 1997). Despite the varying controversies about the use of BSE, including its sensitivity, specificity in detecting breast cancer as highlighted by Allen et al. (2010), BSE still remains the most readily available methods of screening to rural women especially in most part of the low resource countries where sophisticated diagnostic screening methods are not easily accessible in term of affordability and availability. Therefore, it is still important for women to be breast aware and also to be able to do this simple procedure efficiently to detect any abnormality in their breasts.

Clinical breast examination is also relatively simple and inexpensive, but its effectiveness in reducing mortality from breast cancer has not been directly tested in a randomized trial. Mammography is complex and expensive, but may pick up tumors long before they can be detected in any other way, thus enhancing better prognosis than those whose cancer is detected in some other ways (Aldridge, 2005). However, early diagnosis has been found to improve survival chances irrespective of the method that is used. Early diagnosis is only possible by educating women on the importance of examining their breast regularly to identify any abnormality, which could later lead to significant health problems. Although mass screening programmes for breast cancer were welcome for health promotion purposes, they are not always attended by those women mostly in need (Faithful, 1994). Despite the fact that the benefits of screening for breast cancer are well documented, many women, particularly poor, medically underserved, and ethnic minority, do not participate in the screening programmes. Past literatures have linked poor participation in screening to barriers such as high cost, lack of awareness of the need for screening and fear of breast cancer (Adam, 2000). Poor participation in breast self examination has also been linked to lack of confidence in performing the procedure (McMillan, 1990; Salazar, 1994; Budden, 1995; Javandi et al., 2002; Ahuja and Chakrabarti, 2010). In the developed countries, the National Breast Screening Programme currently provides routine mammograms every three years for women between 50 and 64 years. For women who are too young or too old to be included in the screening programme, breast awareness has been of great importance to help in the discovery of any early changes in the breast tissues. Women age 20 and older have been advised to receive clinical breast examination every 3 years; women age 40

and older to receive clinical breast examinations every year.

This study was influenced by researchers' interaction with clinic attendees of the General Outpatient Department of a tertiary Institution in the same state where the current study was done. Many women were referred to this institution on diagnosis of breast disease, which was usually confirmed to be advanced carcinoma of the breast. From consultation with these women, many of them were not really aware of the exact problem they have. Majority thought it was a mere infection of the breast that could be easily cured with drugs. It was also discovered that majority of the women came from the rural parts of the state and other rural areas in the Southwestern states of Nigeria. These generated a lot of questions as to whether these women are aware about breast cancer, the risk factors and screening methods. This study was therefore designed to determine the knowledge of women in the rural communities about risk factors and symptoms associated with breast cancer, awareness level about the screening methods and their screening practices. The study is part of a larger study that looks into women's knowledge and health beliefs about breast cancer and screening practices in Egbeda Local Government Area of Oyo State.

METHODOLOGY

Study design

This study adopted a descriptive cross sectional design using four rural local communities in Egbeda Local Government Area (LGA) of Oyo State, Nigeria.

Study location

Egbeda Local Government Area is a semi-rural LGA and about 60% of the LGA is rural. This percentage is beginning to change with the rapid development in the erstwhile rural parts of the LGA. The local government consists of 11 political wards with projected estimated population of 242, 297, while women of childbearing age in the local government was 53,305.

Sampling of study location and subjects

The study utilized a multistage sampling method for selection of location and study samples. The LGA selected for the study was purposively selected among the 11 LGAs in Ibadan, Oyo State. Selection was because the LGA consists of core rural areas that are ideal for the study among other LGAs. Three wards were randomly selected for the study out of the eleven political wards and six primary health care facilities (PHCF) were randomly selected from the list of eighteen PHCF in the selected wards by simple balloting, with two PHCF selected from each ward. The average monthly attendance of women attending the clinics in these health facilities were 150, 70, 60, 170, 90 and 60, respectively. Proportional method was used to select 30% of the women from each clinic to form a sample size of 180. The study utilized convenience sampling to identify women who participated in the study and these were women within the age range of 20 and 60

attending the clinic at the time of visitation of interviewers and who gave their consent to participate.

Data collection

Interviewer-administered technique was employed. Data was collected using self-developed questionnaire by the researchers after extensive review of literature for a period of four weeks. The instrument explored respondent's level of knowledge on the symptoms and risk factors of breast cancer and their screening practices. Some questions were asked sequentially on the participant's knowledge and scores were attached to each of the question answered. Seven different questions were asked and a total score of 21 obtainable. The women's knowledge were graded as good and poor. The knowledge is poor when a woman scores below the average score of 11 that is between 0-10 and good when she scores between 11 to 21. The instrument also sought information on respondent's awareness of breast cancer screening methods and their practices. Questionnaire was translated into local language to facilitate understanding and uniformity of information by the interviewers. Six research assistants were recruited and trained from Egbeda Community Women Action Group (a voluntary community based organization in the Local Government Area that works with the PHCF) to administer the questionnaire. The women consisted majority of retired and active health care practitioners. Reliability of the different components of the instrument was done through test-retest method with alpha correlation of 0.81 to 0.95.

Data analysis

The raw data from the field was screened for inconsistencies and duly edited. Data was processed using Statistical Package for Social Sciences. Analysis was done using descriptive statistics and inferential statistics. The results obtained were plotted on frequency distribution. Cross tabulation was used to examine relationships between variables. Associations were tested using Chi-square test.

Ethical consideration

Permission to carry out the study was sought from the medical officer in charge of the local government area and each clinic before the commencement of the study. Participation in the study was made voluntary. Informed consent was obtained and participants were assured of the confidentiality of their responses.

RESULTS

There were 180 women recruited for the study on their knowledge and health beliefs about breast cancer and screening practices. The average age of the women was 37.13 years, with standard deviation of 11.94. Their minimum and maximum ages were 20 and 60 years, respectively, while a good proportion of women's age was between 20 to 21 years (31.7%). Equal proportion of women (8.3%) was found between age 50 to 59 years and 60 to 69 years (8.3%). A little above thirty percent (30.6%) of the women had tertiary education followed by those with secondary education (29.4%). Equal proportion (20.0%) of women conferred that they had no formal education and primary education. Majority (78.9%) of the women were married, while 14.4% were single,

3.9% were separated, while 1.1 and 1.7% were widows and divorcees respectively (Table 1).

Table 2 shows the awareness of respondents about the screening methods and their practices. A little above half of the women (52.8%; n=95) declared that they have heard about breast self-examination, 51.6% (49) of these women performed BSE out of which 20% (36) of them performed it for the purpose of detecting breast cancer early. Meanwhile, few women (7.2%; n = 13) performed BSE during pregnancy and not for breast cancer purposes. The major reason for not performing BSE by the respondents was lack of self confidence to do it. Majority of the women (47.2%; n = 95) who have heard about BSE got the information from the health professionals. This was followed by the media which constituted 4.5% of the total population. The last and very negligible source of information was family and friends. Out of the 49 (27.2%) women who practiced BSE, 21 (11.7%) of them did it on monthly basis, followed by women who only practiced it during pregnancy period (7.2%; n=13). The rest would either do it everyday, twice a month, or every six month. Only one respondent did it on a yearly basis. Majority of the women (61.1%; n= 110) who were not practicing BSE would like to start doing it, while few of the women (11.7%; n= 21) did not see any reason for examining their breasts on a regular basis. According to them, every human being must experience what he/she had been destined to experience and therefore, there was no reason to worry themselves over what they did not have control over.

Clinical breast examination (CBE) was known to 51.7% (n=93) of the women and 31.7% (n=57) of them confirmed that they have had breast examination by health professionals. While 19.4% (n=35) had it for the purpose of detecting breast cancer, others had it during pregnancy as part of general examination. CBE was mostly performed by the medical doctor in 32 (17.8%) and followed by nurses in 25 (13.9%). Majority of the respondents (41.1%; n= 74) were of the opinion that women should visit hospital to have their breast examined by health professionals on a yearly basis. This was followed by those who felt that women should examine their breast on a monthly basis (10.6%; n=19). However, 38.9% (70) of the women did not know the frequency of performing CBE. Others were those who felt that women should go for breast examination with health care providers once in two years (6.7%; n= 12), twice a year (2.2%; n= 4) or once in a week (0.6%; n= 1). The study also showed clearly that majority (77.8%; n=140) of the women have not heard about mammography as a screening test for breast cancer. Forty women (22.2%) said they had heard about the screening method out of which 3.9% (n=7) of them confessed that they had the screening for the purpose of knowing whether they have breast cancer. Most women (18.3%; n= 33) got information on mammography from the hospital and this was followed by the mass media which constituted 3.3%

Table 1. Demographic characteristics of respondents.

Characteristics	Frequency (n = 180)	Percent (%)
Age (years)		
20-29	57	31.7
30-39	51	28.3
40-49	42	23.3
50-59	15	8.3
60-69	15	8.3
Level of education		
None	36	20.0
Primary	36	20.0
Secondary	53	29.4
Tertiary	55	30.6
Marital status		
Single	26	14.4
Married	142	78.9
Separated	7	3.9
Divorced	2	1.1
Widowed	3	1.7
Religion		
Christianity	113	62.8
Islam	65	36.1
Traditional religion	2	1.1

Table 2. Respondents' awareness of breast cancer screening methods and practice.

Breast cancer screening methods awareness and practice	Frequency (N = 180)	(%)
Breast self examination		
Heard about breast self examination		
Yes	95	52.8
No	85	47.2
Performing breast self- examination		
Yes	49	27.2
No	46	25.6
Not applicable	85	47.2
BSE for detecting breast cancer		
Yes	36	20.0
No	13	7.2
Not applicable	131	72.8
Mammography		
Heard about mammography		
Yes	40	22.2
No	140	77.8
Had a mammogram		
Yes	7	3.9

Table 2. Contd.

No	33	18.3
Not applicable	140	77.8
Mammogram for detecting breast cancer		
Yes	7	3.9
Not applicable	173	96.1
Clinical breast examination		
Heard about clinical breast examination		
Yes	93	51.7
No	87	46.1
Had breast examination by health professional		
Yes	57	31.7
No	36	20.0
Not applicable	87	48.3
CBE for detecting breast cancer		
Yes	35	19.4
No	22	12.2
Not applicable	123	68.3

Table 3. Respondents' knowledge of breast cancer symptoms and risk factors.

Level of Knowledge /range of score	Frequency (N = 180)	Percentage (%)
Poor knowledge (0 - 10)	78	43.3
Good knowledge(11 - 21)	102	56.7

(n=6) of the overall population. A respondent got information on mammography from the mother. Examining the participants' opinion about the age for the first mammogram, findings showed age range 15-24 as being considered the best age for the first mammogram for women (34.4%; n=66). Respondents were of the opinion that mammogram should be performed by women who are still sexually active especially women in the reproductive age range.

Respondent's level of knowledge about the risk factors and symptoms of breast cancer is provided in Table 3. Less than fifty percent (43.3%; n=78) of the study population had poor knowledge of breast cancer and its risk factors. The symptoms and risk factors of breast cancer were known by more than half (56.7%; n=102) of the respondents. This means that women with good knowledge of breast cancer dominated the study (56.7%). They were women who scored above the average of total score while those who scored below the average were women with poor knowledge (43.3%). The demographic variables such as age, marital status and religion had no significant association with the women's screening practices. However, a significant association

was found between the educational status of women and their screening practices ($p=0.000$ for BSE; 0.01 for Mammography and 0.000 for CBE). Meaning that the higher the educational status of women, the more the likelihood that they are going to participate in screening test for breast cancer.

DISCUSSION

The knowledge demonstrated by the participants ranged from little to adequate knowledge. The level of knowledge reported among the women was in contrast with studies conducted in Turkey where majority of the women has little knowledge (Cetingoz et al., 2002) and among US minority where the knowledge of the women is limited (Ko et al., 2003). Also, the result was in contrast with findings by Oluwatosin and Oladepo (2006) that knowledge of breast cancer risk factors among rural women was poor. The knowledge of the women in this study supported findings by other researchers that knowledge of breast cancer varies among women (Milaat, 2000; Odusanya, 2001). The practice of women regarding BSE

corroborated the studies by Hill et al. (1988), Sadler et al. (2001) and Ahuja and Chakrabarti (2010) that many women do not practise BSE. This was contrary to previous studies in suburban and urban communities in Nigeria where it was reported that higher percentages of population practise BSE. However, they do not practice BSE according to the classic technique (Ajayi and Adebamowo, 1999; Jebbin and Adotey, 2004).

Exploring the intention of the women to start practicing regular screening showed that some of the women (11.7%) still do not see any reason for screening. This attitude towards screening could be linked with the Filipino-American beliefs of "*bahala na*" that one needs not worry about unpleasant circumstances because such events are beyond the individual control (Wilson and Billones, 1994). From this study, the main reason for not performing BSE as stated by the respondents was majorly lack of self confidence. This supported findings by McMillan (1990), Salazar (1994), Budden (1995), Javandi et al. (2002) and Ahuja and Chakrabarti (2010). The women's commonest source of information on BSE was through health care professionals. The same trend was observable for other screening methods. These findings were in line with studies by Ko et al. (2003) among the US minority groups where health care professionals remain the commonest source of information. Other studies by Ajayi and Adebamowo (1999), Friedman et al. (1999) and Jebbin and Adotey (2004) are equally in agreement. However, our result disagreed with findings by Ahuja and Chakrabarti (2010) where majority get information from family and friends.

Furthermore, the findings from the study that majority of women have not heard about mammography as a screening modality for breast cancer was in line with study by Adebamowo and Ajayi (2000) that mammography is not known to many women in Nigeria and Oluwatosin and Oladepo (2006) where none of the respondents studied acknowledged mammography as an early detection measure. The findings from this study further showed that mammography was not known by women and it was not a readily available method of screening in the rural areas. Even though, mammography method of breast screening is not easily accessible to the rural dwellers, there is need for them to be well informed on this as the need for it may arise in the future. They can be prepared for such tests, thereby reducing the perceived barriers that may be associated. In this study, only the level of education had been significantly linked with respondents screening practices. The findings also revealed that the higher the level of education, the more the likelihood that a woman would practice BSE and easily utilize other screening methods if the need arises. This corroborated the studies cited by Maxwell et al. (2000, 2001). For example, the level of education of a woman is likely to influence a woman's adherence to mammography screening. Also, a woman with higher level of education is likely to report promptly to the

hospital for proper examination if any symptoms suggestive of cancer are seen or felt. The finding was however in contrast to study by Sensiba and Stewart (1995) that educated women often forget to practise BSE. Past literatures and the present study have confirmed that health care providers remain the major source of information to the people on breast issues. The community health nurse (CHN) is rightly placed to encourage and teach preventive behavior to rural women since women in the rural setting patronize primary health care centers more than other levels of health care. The CHN should combine approaches in encouraging women to develop self confidence and be compliant with screening especially BSE and to do it regularly and correctly through:

(1) Education/Information: Providing regular information to women on breast cancer and screening method through the clinics and community awareness and sensitization programmes. Community structures as designed within the primary health care system can also be utilized by community health nurses as a medium for dissemination of information on breast cancer and screening practices. Such structures include Community Development Committee (CDC), Village Development Committee (VDC) and Traditional Birth Attendants (TBA). With these, women will be empowered to identify deviation from normal in their breast and report promptly to the health centre.

(2) Demonstration: Women can effectively use BSE to detect abnormality in their breast if they develop self efficacy in doing it. The technique of BSE should not only be taught, but should be demonstrated using the model of the breast. Women should be allowed to practise it on the model and feedback provided. This will enhance their self confidence and increase their compliance with BSE practice.

(3) Reinforcement: Women need a reminder to encourage them to perform BSE regularly. This may be developed in relation to each person's schedule. The reminder may be associated with something done as a routine monthly. For example women's performance of BSE may be linked with their monthly 'market' or church programmes that is of importance to them. The particular time should however be left to their discretion.

(4) Advocacy: The community health nurse can also play advocacy role between the government and the people. Breast cancer is a disease with fatality and the importance of addressing the well-being of women needs to be advocated for. This can encourage a sponsored periodic community sensitization and awareness activities by the local health authority on the general health of the women including breast awareness. Media programme, including jingles which are presented in language that can be easily understood by people could also be used to provide necessary information. Women identified through this means with benign growth in the

breast or with early stage of cancer could be supported by government or other interested stakeholders for prompt treatment.

This study focused more on breast awareness and breast self examination because it is the most easily and readily accessible method to rural dwellers. However, other screening methods were explored such that when the women need such services; the barrier to accessing them could be minimized based on prior information and knowledge of the usefulness of such screening measures. This research is descriptive in nature and therefore relied on self-reported behaviour, which could have been sensitive to demand and presentation concerns. The main limitation of this study was the small sample size and its geographical restriction to one Local government area in Nigeria. Therefore, caution should be taken in generalizing the findings of this study. In addition to the aforementioned limitation, there had not been any specific data on existing cases of breast cancer in the Local Government Area which would have been more appropriately employed in calculating the proportion of the population to be sampled. There may be need for intervention studies to further ascertain the usefulness of BSE in Nigeria and other low resource countries. Such studies should be designed to explore greater number of women in the rural areas for better representation.

Conclusion

A lot of research has been done to promote treatments and prognosis of breast cancer. However, early detection still remains the best antidote. One easy and accessible way of detecting any abnormality in the breast is through breast awareness, which also includes BSE. All women need to be encouraged to be responsible for their own health and well-being by utilizing this simple procedure. They need to be encouraged to perform BSE regularly and earnestly report any abnormality to the health care providers. Community health nurses are rightly positioned to advocate for this behaviour and by so doing, express their commitment to community vis-à-vis reduction in the mortality associated with breast cancer.

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