

Knowledge and Attitudes about Breast Cancer among Women: A Wake-Up Call in Nigeria

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Abstract

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BACKGROUND: Preventable deaths resulting from the scourge of breast cancer has become alarming and worrisome in many societies in developing countries, including Nigeria. Of much concern is the fact that breast cancer has continued to claim the precious lives of young, middle-aged, old, educated and non-educated women irrespective of their religion, socio-economic background and socio-demographic characteristics.

AIM: This study attempts to ascertain the knowledge and attitudes of women to breast cancer in Ogun State, Nigeria.

METHODS: The study adopts both primary and secondary data sources to examine the level of knowledge and attitude of women towards breast cancer with the view of suggesting probable solutions and recommendations for policy.

RESULTS: The result indicates that the awareness about breast cancer is overwhelming but only few women know about mammography; women in older age are 0.193 times less likely to attend breast cancer screening ($p=0.000$). Older women with secondary education that are either self-employed outside the home or full-time housewives are unfavourably disposed to breast cancer screening.

CONCLUSION: The authors recommend that concerned stakeholders in the health sector and policy decision makers should intensify action on cancer programmes and campaigns that could target older women especially housewives and women in middle level education.

Introduction

Breast cancer is the most common cancer affecting 25.2% of women and is also the second leading cause of cancer-related deaths among women [1]. Almost half of breast cancer cases and 60% of breast cancer-related deaths are estimated to occur in middle-and-low-income countries [2]. Globally, the devastating effects on women diagnosed with breast cancer are appalling [3]. Global cancer statistics show increased global cases of breast cancer and the rise is occurring at a faster rate in populations of the middle-and-low-income countries which may be due

to increase in population growth and ageing [1], [2].

Breast cancer is an aggressive disease affecting women, irrespective of their age category. Women are particularly vulnerable and susceptible to breast cancer and their risks increases with advanced age [4]. The origin of breast cancer has not been fully unravelled but is attributable to some inter-related factors of genetics, hormones, the environment, socio-biology and physiological factors [3], [5]. Alatise and Schrauzer, for instance, have suggested that associated widespread pollution of the soil and water supply by a substance called “lead” may be a major contributory cause.

In a report by Siegel et al., [6] it was indicated that deaths as a result of breast cancer in Nigeria reached 13,264 or 0.70% and the age adjusted Death Rate is 28.11 per 100,000 population, ranking Nigeria 4th in the world. Adebamowo and Ajayi (1999) also stated that breast cancer is the most common cancer in Nigeria. In 2005, breast cancer was found to be the most common in Nigeria [7].

In the North-West geopolitical zone of Nigeria, cancer of the breast is second to cancer of the cervix, while the cancer registry at the University College Hospital (UCH), Ibadan revealed that it is the leading malignancy among women [3], [8], [9]. Also, in the North-central, breast cancer constitutes 22.41% of new cancer cases registered in 5 years and accounts for 35.41% of all cancers in women [10].

Breast cancer is undoubtedly the most dreaded cancer with lots of psychological impacts and one of the most popular malignancies that affect about one in every nine women [11]. It is a disease in which the malignant cells are developing in the tissue of the breast. Breast cancer is of two types, Lobular cancer which begins in many small sacks in the breast that produce milk and ductal cancer which develops in the tubes that carry milk from the lobules to the nipple [12]. It is also the type of cancer having the highest prevalence (45.7%) among the females in Nigeria and border Countries [13]. Common signs and symptoms of breast cancer include a change in a way the breast or nipple feels, change in how the breast or nipple seems and discharge of the nipple [11].

It is interesting to know that as debilitating as breast cancer disease is, majority of Nigerian women have little or no knowledge of the disease and even in situations where they are aware of the disease, their attitudes towards seeking healthcare is negative causing their untimely or preventable death. It has been observed that certain socio-cultural, religious, genetic and economic factors are responsible for this negative attitude.

Literature Review

It has been argued that a lack of basic knowledge and quality information delivery system for breast cancer is a great impediment to the life and well-being of women [14]. Breast cancer has been a major cause of death subtly killing women – especially those with little or no education. This is compounded by the lack of timely information about breast cancer and poor diagnostics screening methods for early detection [15], [14].

As important as knowledge of breast cancer is, it is not sufficient unless socio-cultural factors are taken into consideration by the health professional providing direct health-care [16]. Insufficient information concerning breast cancer has also been observed among the rural and urban dwellers in Nigeria; it is responsible for the poor perception of the

ability to cure cancer earlier detected and the efficacy of screening tests [4].

Furthermore, the lack of awareness on the issue of vulnerability and susceptibility associated with breast cancer discourage many women from seeking intervention early or associate the symptoms they are experiencing with other health conditions [14].

Level of awareness regarding how to perform simple life-saving diagnostic breast checks such as breast self-examination (BSE) further compounds the problem of late detection. Empowerment of women with information on BSE is of paramount importance, especially in countries without modern technologies for breast cancer screening [17]. Most of the Nigerian rural communities lacked the required technological resources [18], but BSE can contribute greatly if women are informed about this technique, and regular practice would reduce late presentation [14].

Mammography screening may also be done to detect breast cancer in asymptomatic women. In spite of its limitations in LMCs due to the challenge of poor infrastructure, poverty, and inadequate human resources, it has been seen as the method of choice for screening and diagnosis which can significantly reduce breast cancer morbidity and mortality [19], [20], [21].

Certain socio-cultural factors also contribute to breast cancer prevalence in Nigeria. As opined by Akhigbe and Akhigbe, 2012, health beliefs vary across culture, and the fatalistic consequence of cancer may discourage many from participating in health-promoting behaviours. This is because illnesses or catastrophic events in this part of the world are attributed to a higher power (such as God), or they are meant to happen and cannot be avoided; as a result, fatalism becomes part of the person's world-view.

Chronic conditions in many African societies are often associated with witchcraft and evil spirits. Cultural values and ethnic diversity have an impact on health beliefs, which may influence how rural women interact with the Western medication, especially conditions such as breast cancer. Some women delay seeking treatment because of fear or stigma concerning their daughters as it is believed that they also might be affected by breast cancer and might not be considered for a good marriage. Furthermore, it is believed that cancer is a death sentence from God [16]. All these have continued to be crucial factors that may account for breast cancer prevalence in Nigeria and other Sub-saharan African countries.

This study seeks to ascertain the knowledge and attitude of women towards breast cancer in Ogun state. It also attempts to examine the factors responsible for breast cancer prevalence, thereby suggesting probable solutions and recommendations for policy decisions.

Methods

Study Design

This study utilized the structured questionnaire to elicit useful information on behavioural risk factors for breast cancer among women.

The inclusion criteria for this study involved a focus on all women of reproductive age irrespective of their cancer experience.

Study Location

This study was located in Ogun state, Nigeria. The state was randomly selected from the South-west out of the six geo-political zones in Nigeria.

Study Population

The study population was selected through a random-route walk within the wards that were selected in a local government area in Ogun state.

The research instrument covered history of the participant's life style in terms of occupation, sexual relationship, knowledge of cancer, participation in breast screening exercises, and history of breast cancer.

Ethical Considerations

Approval was sought from Covenant University Health Research Ethics Committee (CUHREC), and formal permission was also duly sought and obtained from head of households.

Due community reconnaissance procedure such as seeking express permission from community leaders was also done and each participant's consent was solicited. Dual consent was obtained in situations where the husband or the male partner is accessible. Each respondent was assured of confidentiality of their responses. Notwithstanding, all participants were encouraged to participate but were given the option to withdraw from the interview or refuse to answer any question they are not comfortable with.

Data analysis

A total of 764 women were interviewed in a randomly selected local government area in Ogun State. The extracted quantitative data were analysed using a three-level technique of analysis: Univariate, bivariate and multivariate techniques.

Frequency distribution was used to summarise the profile of respondents, cross

tabulations were conducted simultaneously between two variables of interest and a binary logistic regression (BLR) was adopted to test the responsiveness of selected co-variates (such as age, educational attainment, working status, total life sexual partners and others) on women's participation in breast screening.

Results

Socio-demographic Profile of Respondents

A total of 764 women were sampled in Ogun state. Majority of them were between the age of 30-39 years (36.5%), with only about 0.7% aged 60 years & above. They were mostly married (64.8%), and 69.8% were Christian. Their highest educational attainment is secondary level education (44.6%), with majority claiming to be self-employed (58.6%). The most common source of income was trading (42.8%) (Table 1).

Table 1: Percentage Distribution of Respondents by Socio-Demographic Characteristics

| | Freq. | % |
|------------------------|-------|-------|
| Sample (N) | 764 | 100.0 |
| Age | | |
| Less than 20 | 61 | 8.0 |
| 20-29 years | 194 | 25.4 |
| 30-39 years | 279 | 36.5 |
| 40-49 years | 167 | 21.9 |
| 50-59 years | 58 | 7.6 |
| 60 years & above | 5 | .7 |
| Total | 764 | 100 |
| Marital Status | | |
| Single/Never Married | 190 | 24.9 |
| Married/LWP | 495 | 64.8 |
| Separated/Divorced | 46 | 6.0 |
| Widowed | 25 | 3.3 |
| Cohabiting | 8 | 1.0 |
| Total | 764 | 100 |
| Religious Affiliation | | |
| Christianity | 533 | 69.8 |
| Islam | 206 | 27.0 |
| Others | 25 | 3.3 |
| Total | 764 | 100 |
| Educational Attainment | | |
| No Schooling | 53 | 6.9 |
| Primary Education | 126 | 16.5 |
| Secondary Education | 341 | 44.6 |
| Tertiary Education | 244 | 31.9 |
| Total | 764 | 100 |
| Working Status | | |
| Employee | 160 | 20.9 |
| Self-Employed | 448 | 58.6 |
| Unemployed | 29 | 3.8 |
| Full-Time House-wife | 38 | 5.0 |
| Still Schooling | 89 | 11.6 |
| Total | 764 | 100 |
| Occupation | | |
| Manufacturing | 12 | 1.6 |
| Trading/Distribution | 327 | 42.8 |
| Farming | 5 | .7 |
| Education | 76 | 9.9 |
| Services | 157 | 20.5 |
| others | 187 | 24.5 |
| Total | 764 | 100 |

Source: Computed from 2015 Breast Cancer Survey.

Respondents' Breast Cancer Knowledge

The frequency distribution of respondent's knowledge of breast cancer revealed that 92.3% have heard about breast cancer, 70.5% knew that it is

preventable while only a fragment knew about mammogram: 17.7% (Table 2).

This revelation is a pointer to the fact that, respondents in the study area have merely heard about breast cancer and probably might have also merely heard that it is preventable, but only a few knew about the procedure for its early detection.

Table 2. Percentage Distribution of Respondents by Breast Cancer Knowledge

| Freq. % | | |
|-----------------------------------|-----|-------|
| Ever Heard about Breast Cancer | | |
| Yes | 705 | 92.3 |
| No | 59 | 7.7 |
| Total | 764 | 100.0 |
| Know Breast Cancer is Preventable | | |
| Yes | 539 | 70.5 |
| No | 219 | 28.7 |
| No Response | 6 | .8 |
| Total | 764 | 100.0 |
| Know Mammogram | | |
| Yes | 135 | 17.7 |
| No | 614 | 80.4 |
| No Response | 15 | 2.0 |
| Total | 764 | 100.0 |

Source: Computed from 2015 Breast Cancer Survey.

Respondents' Knowledge and Attitude towards Breast Cancer Screening

Table 3 showed the relationship between respondents' knowledge of mammography and their attitude towards breast cancer screening. It can be seen that 90.2% of respondents that are familiar with mammography are favourably disposed to breast cancer screening, while 9.8% are not. However, 86.9% of those not familiar with mammography are favourably disposed to breast cancer screening, while 13.1% are not.

This shows that many women in the study area have a favourable attitude towards breast cancer screening even though some of them claimed not to be familiar with mammography, as shown in Table 3.

Table 3: Relationship between Respondent's Knowledge about Mammograms and their Attitude towards Breast Cancer Screening

| | | Attitude towards Screening | | Total |
|-----------|-----|----------------------------|---------------|--------------|
| | | Favourable | Not Favorable | |
| Know | Yes | 120 (90.2%) | 13 (9.8%) | 133 (100.0%) |
| Mammogram | No | 485 (86.9%) | 73 (13.1%) | 558 (100.0%) |
| Total | | 605 (87.6%) | 86 (12.4%) | 691 (100.0%) |

Source: Computed from 2015 Breast Cancer Survey.

Co-variables of Women's Favourable Support for Breast Cancer Screening

Table 4 presents the Binary Logistic Regression (BLR) of the inter-relationship between selected co-variables and women's support for breast cancer screening.

The selected dependent variable is "attitude towards breast cancer screening" measured as "Yes" or "No" binary format.

Yes = 1 (favourable support for Breast screening)

No = 0 (unfavourable support for Breast

screening)

The selected independent variables measuring "socio-demographic characteristics" are age, residence, education, religion, marital status, total life sexual partners (TLSP) and working status.

The hypothesis estimated the log of likelihood $\log\left(\frac{p}{1-p}\right)$ on the independent variable.

$$\log\left(\frac{p}{1-p}\right) = \alpha + X_1\beta_1 + X_2\beta_2 + X_3\beta_3 \dots X_n\beta_n$$

β = Coefficient, SE = Standard Error, Wald = interpreted by its magnitude, Sig. = P value/significance level, Exp (β) = Odd ratio indicating the likelihood of the occurrence of the independent variable, while RC = Reference Category.

Table 4: Binary Logistic Regression Illustrating Co-variables of Women's Favourable Support for Breast Cancer Screening

| Selected variables | B | S.E. | Wald | Sig. | Exp(B) |
|-----------------------------|--------|-------|------------------------------|-----------------------------|--------|
| Age group | | | | | |
| ≤ 29 years | RC | | | | |
| 30-49 years | -1.643 | .349 | 22.136 | .000 | .193 |
| 50 & above | -2.214 | .716 | 9.569 | .002 | .109 |
| Residence: Rural (RC) | | | | | |
| Urban | -.079 | .283 | .078 | .779 | .924 |
| Education | | | | | |
| No Schooling | RC | | | | |
| Primary Education | .133 | .758 | .031 | .861 | 1.142 |
| Secondary Education | -.031 | .712 | .002 | .965 | .970 |
| Tertiary Education | .069 | .741 | .009 | .926 | 1.071 |
| Religious affiliation | | | | | |
| Christianity | RC | | | | |
| Islam | -.471 | .343 | 1.885 | .170 | .624 |
| Others | .545 | .632 | .745 | .388 | 1.725 |
| Marital Status | | | | | |
| Single/Never Married | RC | | | | |
| Married/LWP | 1.452 | .582 | 6.228 | .013 | 4.272 |
| Separated/Divorced | 2.288 | .762 | 9.008 | .003 | 9.857 |
| Widowed | 2.564 | .865 | 8.781 | .003 | 12.987 |
| Cohabitation | 1.231 | 1.013 | 1.478 | .224 | 3.426 |
| TLSP: Only One (RC) | | | | | |
| 2-3 Partners | .317 | .316 | 1.006 | .316 | 1.374 |
| 4 & above | .737 | .499 | 2.182 | .140 | 2.089 |
| Working status: Employee | | | | | |
| Self-Employed | -.695 | .370 | 3.522 | .061 | .499 |
| Unemployed | .600 | .711 | .712 | .399 | 1.823 |
| Full-Time Housewife | -.070 | .666 | .011 | .917 | .933 |
| Constant | -2.315 | .964 | 5.771 | .016 | .099 |
| -2 Log likelihood = 358.190 | | | | | |
| | | | Cox & Snell R Square = 0.078 | Nagelkerke R Square = 0.149 | |

Source: Computed from 2015 Breast cancer Survey.

This model measured women's attitude towards breast cancer screening about their age, residence, education, religion, marital status, total life sexual partners (TLSP) and working status. As depicted in table 4, women that are older are unfavourably disposed to breast cancer screening and have a negative attitude towards it (r = -1.643 and -2.214), and they will be 0.193 and 0.109 times less likely to attend screening when compared to younger women. P-value = 0.000 and 0.002 respectively.

This analysis revealed a high statistical significance denoting some level of resistance to screening among older women about the younger ones. Additionally, the analysis also showed that women with a tertiary education together with those with primary education are favourably disposed towards breast screening (r = 0.069 and 0.133) and will be 1.071 and 1.142 times more likely to attend screening compared to women with no education while women with secondary education have a

negative attitude towards screening ($r = -0.031$) and will be 0.970 times less likely to attend screening when compared to women with no education. All the categories of education are however, not statistically significant, p -value > 0.05 .

In the same vein, married women together with those that are separated/divorced including widows and those involved in co-habitation all showed a favourable attitude towards breast screening ($r = 1.452, 2.288, 2.564$ and 1.231). They will also be 4.27, 9.85, 12.9 and 3.4 times more likely to attend screening compared to women who are single and have never been married at p -value < 0.05 except women co-habiting at p -value ≥ 0.05 . Lastly, working status is not significantly related to breast screening (p -value > 0.05) with only the unemployed showing a favourable attitude towards screening compared to the employees, the self-employed and the full-time house-wives.

Overall, the Cox & Snell R Square = 0.078 and the Nagelkerke R Square = 0.149 implying that only 7.8% and 14.9% of the change in attitude to breast cancer screening could be explained by all the independent variables.

Discussion

This study examined the knowledge and attitude of women about breast cancer. It also looked at the relationship between socio-demographic characteristics and attitude of women towards breast cancer screening.

The study found that almost all respondents in the study area have heard about breast cancer, and more than half knew that it is preventable with just only a fraction knowing of mammography. Even with the majority of the women not knowing what mammography is, an appreciable number of them have a favourable attitude towards it. The multivariate analysis was done to see the relationship between respondents' socio-demographic characteristics and their attitude towards breast screening. This was aimed at examining whether factors such as age, education, marital status and working status had a significant influence on women's attitude towards breast screening.

The binary logistic regression (BLR) showed that older women, with secondary education, with outside employment, self-employment, or full-time house-wives, have an unfavourable attitude towards breast screening. Women with primary education, tertiary education, married, divorced, widowed, co-habiting, and unemployed showed a favourable attitude towards breast cancer screening.

The relationship between breast screening

and socio-demographic characteristics have been investigated in various studies across the world [25], [26].

Donato *et al.* for example compared attendees of breast cancer screening programs with non-attenders concerning demographic and socio-economic factors and found that response was higher amongst less educated, married, or widowed women than amongst the more educated, single, divorced, and immigrant women. Reasons for non-participation among others include lack of interest, fear and anxiety about breast cancer. In another study aimed at examining breast cancer awareness, attitude and screening practices in the six geopolitical zones in Nigeria [27], it was found that there was an unfavourable attitude towards breast screening even among those who were aware of the screening methods [28]. In other similar studies, no association was found between breast screening, age, educational attainment, profession and marital status [29], [30], [31].

Going by the findings from this study, it can be concluded that the majority of women in the study area have heard about breast cancer. They are, however, not familiar with mammography screening as one of the breast cancer screening method. Additionally, women that are older in age, women with secondary education, and women that are either employees, self-employed or full-time house-wives are unfavourably disposed to breast screening, while those with primary and tertiary education, that are either married, divorced, widowed, co-habiting, and unemployed showed a favourable attitude towards breast screening.

It is recommended that older women may be targeted for education on breast screening, and breast screening centres should be welcoming to older women. There is also a need for intensified campaigns and enlightenment programs to encourage all women irrespective of their educational background to participate in breast cancer screening. Finally, awareness campaigns and programs about breast screening should be taken to offices, market places, households and other places where we have women to encourage women who are busy with their employment or house chores to participate in breast screening activities.

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