

Psychosocial Variables and Women's Susceptibility to Breast Cancer Screening in Southwest Nigeria

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Abstract:

Breast cancer is a significant cause of morbidity among women. Even though early detection of breast cancer is found to be associated with breast cancer survival, many women still do not follow prescribed recommended screening procedures. Age, location, religious beliefs, knowledge are some of the risk factors affecting breast cancer. The risk of developing breast cancer increases as a woman gets older. The study, therefore, investigated some psychosocial variables and women's susceptibility to breast cancer screening in Southwest Nigeria. Descriptive research design of the survey type was used for the study. The sample for this study consisted of 1,800 women between 18-50 years of age in Southwest Nigeria selected using multistage sampling techniques. A self-designed questionnaire titled "Psychosocial Factors and Breast Screening Questionnaire (PFBSQ)" was used to elicit information from respondents. The data generated were analyzed using inferential statistics. The results indicate that location, knowledge about breast cancer, and religious beliefs are factors that influenced women to subject themselves to breast cancer screening. It was on therefore recommended that counselors should design an effective program that would create awareness on women's health issues as a way of detecting breast cancer in its early stage through breast cancer screening.

EASIJ

Accepted 22 March 2020
Published 30 April 2020
DOI: 10.5281/zenodo.3782539



Keywords: Women, Breast Cancer, Breast Cancer Screening, Location, Knowledge, Religious Beliefs,

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Introduction

Breast cancer screening is the checking for cancer before there are signs or symptoms of the disease. The attempt is to achieve early diagnosis of breast cancer when it can be treated for a possible cure. This procedure can be carried out by the woman herself or at a clinic, hospital, or doctor's office. Given the high incidence of breast cancer among women (American Cancer Society, 2008), the researchers believe that all women need to be informed about this disease by their health care providers about the best screening options for them and thus avoid the risks of breast cancer. Although breast cancer screening cannot prevent breast cancer, it can help early detection of breast cancer when it is easier to treat (Aderounmu & Egbewale, 2006). In other words, it is meant for the early detection of the disease even when the woman is healthy. Also, when the woman is not showing signs of the disease and it can help to decrease the woman's chance of dying from the disease.

Breast cancer screening may involve several different methods. Some of these, according to the National Cancer Institute (2013), include breast self-examination (BSE), clinical breast examination (CBE), mammography, ultrasound, magnetic resonance imaging, thermography, and tissue sampling. These methods are, especially necessary as various researches are highlighting the increasing mortality rate of breast cancer especially in developing countries (Akpo, Akpo & Akhator, 2009). The American Cancer Society advanced that breast cancer is the second leading cause of death common with women apart from lung cancer (American Cancer Society, 2007). It is perceived as a significant cause of morbidity and mortality among women. This might be responsible for why every woman is seen to be at risk of developing breast cancer. The illness looks like a universal issue that poses threats to the lives of women regardless of health services, diagnosis, and social sensitivity towards the health risk.

Breast cancer is a type of cancer that originates from breast tissues, most commonly from the inner lining of milk ducts or the lobules that supply the tubes with milk (Sariago, 2010). Prognosis and survival rates of breast cancer in the Western World as reported are high, while survival rates in developing countries are, however, very low poor (World Cancer Report, 2008). The burden of death from breast cancer among women in Nigeria seems to be increasing, and it is likely to continue as women are left without a deliberate attempt to guide them on issues relating to breast cancer and the risk factors.

A vast number of factors have been considered to increase the risks of breast cancer among women. These include early menarche, late menopause, bearing the first child at a late age, overweight after menopause, alcohol consumption, and the use of menopausal estrogen replacement therapy (Colditz, Hankinson, Hunter, Willet, Manso & Stampfer, 1995). However, given the increasing mortality rate arising from breast cancer, early detection of its symptoms through breast cancer screening would be a significant strategy in breast cancer control. The researchers believe that the aim of the breast cancer control program in Nigeria should be to specifically reduce the risk factors for breast cancer to improve the quality of life. This can only be achieved by prevention, early detection, and diagnosis with treatment as well as palliative care and psychosocial support. Meanwhile, it has been found that the awareness

about breast cancer is overwhelming in Nigeria. Still, only a few women know about mammography, and women in older age seldom attend breast cancer screening (George, Allo, Amoo, & Olonade, 2019).

Health psychologists have, over the years, been active in assisting people in understanding the roles they can play in maintaining their health and their life expectancy (Baum, Revenson & Singer, 2001). They have promoted early detection of diseases by educating people about the warning signs of cancer and other severe illnesses and encouraging them to seek medical attention while life-saving treatment is possible (Taylor & Pham, 1999). Many psychosocial factors explain the different aspects of health-related behaviors, such as breast cancer screening exercise. Such factors, such as self-efficacy, beliefs, and social influence, may determine breast cancer screening behavior among women. In an empirical review, Sheran (2002) reported that there was a strong relationship between beliefs and health behaviors. Similarly, belief components such as touching of the breast by the technician and x-ray exposure may influence attitude to breast cancer screening. Sometimes views can be altered by other factors such as acculturation (McPhee, Stewart, Brock, Bird, & Pham, 1997), the influence of family and friends (Abdullah & Leung, 2000), fear of breast cancer (Umeh & Rogen, 2001) and inability to perceive the importance of breast cancer screening test (Hisham & Yip, 2003).

Location of women may likely affect their access to information, techniques of breast self-examination and even to hospitals for early detection. The needed information about the benefits of initial screening, which could be a useful and valuable tool for decreasing the suffering and death from breast cancer, may not probably be within reach of women in the rural areas as compared with the urban areas. Urban and rural differences tend to be relevant to the study as it can be observed that women in rural areas may not have the risk of breast cancer as compared with women who live in urban areas. A study on a Nigerian sample showed that the rural population in Nigeria is usually neglected in health education issues (Okobia, Bunker, & Osimi, 2006). The study reported that 73 out of 326 breast cancer patients who participated in the study were from the rural area.

According to Odusanya (2001), knowledge is an essential requirement for any individual to maintain health. Adequate knowledge of the various methods of carrying breast cancer screening will go a long way in enhancing public awareness on the problems of breast cancer and the mechanisms to control its incidence. Women would thereby have adequate information on early diagnosis of the signs and symptoms of breast cancer. The researchers believe that knowledge is a crucial component in curbing breast cancer among women. This belief agrees with the submission of Royse and Dignan (2009) that knowledge objectives are vital elements of virtually all health promotion activities. In a study carried out among female health workers in Nigerian urban cities, Akhigbe and Omuemu (2009) reported that most women had feeble knowledge about breast cancer screening in Nigeria. Also, the lack of awareness and understanding are some of the factors that are attributed to the rate of mortality arising from the problem of breast cancer among women. The researchers are, therefore, of the opinion that investigating the levels of knowledge of breast cancer screening

mechanisms would likely be a journey towards the reduction of breast cancer and the attending mortality among women in Southwest of Nigeria.

Several kinds of researches have reported that there is a strong relationship between religious beliefs and health behaviors, such as mammography (Sheeram, 2002). It had been found that some effects of religious beliefs with other variables can influence the various practices of breast cancer screening. A study on religious beliefs and breast cancer screening submit that belief in "religious intervention in place of treatment" may help to explain why African American women delay the presentation of palpable breast lumps, contributing to advanced-stage cancer diagnosis (Mitchell, Lannin, Lannin & Swanson, 2003). According to Pandela et al. (2016), some religious beliefs allows a better understanding of the cultural perspective affecting the women's behavior to breast screening. In a study carried out on cancer screening among Muslims in Greater Chicago, Padela, Peek, Johnson-Agbakwu, and Hosseinian (2014) observed that some negative religious beliefs such as viewing health problems as a punishment from God are associated with the cancer screening programs. Religion can, therefore, play some significant roles the women's behavior to breast screening programs.

From the preceding, two research questions were raised

1. What types of breast cancer screening method is effective among women in Southwest Nigeria?
2. How regularly do women conduct breast self-examination?

Also, the following hypotheses were postulated

1. The location of women will not significantly influence they're subjecting to breast cancer screening.
2. The location of women will not significantly influence they're subject to each type of breast cancer screening.
3. Women's knowledge about breast cancer will not significantly influence the women's subjecting themselves to breast cancer screening.
4. Religious beliefs of women will not significantly influence their disposition to breast cancer screening.
5. None of the identified psychosocial variables will significantly predict the susceptibility of women to breast cancer screening.

Methodology

Research Design

Descriptive research of the survey type was used for this study. The population for this study consists of all women in Southwest Nigeria. The age group of women was 18 – 50 years. The sample for this study consisted of 1,800 women between selected using multistage sampling techniques. The first stage involved the use of the Simple Random Sampling technique by a balloting system to select three states out of the six states in Southwest Nigeria.

The second stage entailed the use of a proportional sampling technique to select the local government areas based on their population. Five local government areas were thus selected from the three states earlier selected. The third stage also involved the use of a stratified simple random sampling technique by a balloting system to choose the sample from the local government areas selected. In all, a total of 1800 women participated in the study.

A self-designed questionnaire titled “Psychosocial Factors and Breast Screening Questionnaire (PFBSQ)” was used to elicit information from respondents. The survey consists of three sections, identified as A, B, and C. Section A contains information on demographic characteristics of the respondents such as age, marital status, years of marriage, educational qualification, religion, place of residence, place of work, and family background. The items in Section B were used to elicit information on the knowledge about breast cancer screening. It also brought about the information about women’s susceptibility to breast cancer. The continuum to be used is an adapted four-point Likert type scale (4 - Strongly agree, 3 - Agree, 2 – Disagree, 1 - Strongly disagree). Section C contains information about screening methods practiced by women. It also enabled non-user of any type of screening method to tick from the Yes or No options.

The instrument was subjected to Face, Content, and Construct validity, and the reliability coefficient was 0.75 and found significant at 0.05 level of significance. The instrument was administered to 1,800 respondents by the researchers and six trained research assistants. The research questions were analyzed using descriptive analysis, while Hypotheses 1, 2, and 3 were tested using Pearson Product Moment Correlation. Regression analysis was used to test hypothesis 4. All the hypotheses were tested at 0.05 level of significance.

Results

Question 1: What type of breast cancer screening method is useful among women in Southwest Nigeria?

In answering this question, responses on the screening methods in Section B were obtained and subjected to frequency counts and percentages. The results are presented in table 1. below.

Table 1: Effectiveness of Breast Screening Methods

S/N	Breast Cancer Screening Method	Agree		Disagree	
		Freq	%	Freq	%
1.	Clinical Breast Examination	1063	59.1	738	40.9
2.	Breast Self Examination	1088	60.4	713	39.6
3.	Mammography	878	48.8	922	51.2

The result in Table 1 revealed that one thousand and sixty-three (59.1%) of the respondents agreed that clinical breast examination is useful, while seven hundred and thirty-eight (40.9%) disagreed. One thousand and eighty-eight (60.4%) women agreed that breast self-examination is useful, whereas seven hundred and thirteen (39.6%) women opposed. Also, eight hundred and seventy-eight (48.8%) of the respondents agreed that mammography is an effective method of breast cancer screening while nine hundred and twenty-two (51.2%) women disagreed. This result shows that the majority of the women that breast self-examination is more effective than other methods.

Question 2: How regularly do women conduct breast self-examination?

In answering this question, responses to items relating to the conduct of breast screening practice in Section A were subjected to statistical analysis involving frequency counts and percentages. The result is shown in Figure 2.

S/N	Conduct of Breast Cancer Screening	Agree		Disagree	
		Freq.	%	Freq.	%
1.	Should be done regularly	1112	61.8	688	38.2
2.	Monthly	1182	65.7	618	34.3
3.	Not to be done at all	802	44.6	998	55.4

Table 2 shows that one thousand, one hundred and twelve (61.8%) of the total sample agreed that breast cancer screening is best done regularly while six hundred and eighty-eight (38.2%) women disagreed. One thousand, one hundred and eighty-two (65.7%) of the respondents agreed that the screening could be done monthly, whereas six hundred and eighteen (34.3%) women did not support that breast cancer screening should be done periodically. Eight hundred and two (44.6%) were not in support of the exercise at all, but nine hundred and ninety-eight (55.4%) would favor it. The result shows that more respondents were in support of breast cancer screening exercise.

Testing of Hypotheses

Hypothesis 1: The location of women will not significantly influence they're subjected to breast cancer screening.

To test the hypothesis, scores relating the location of women and subjected to breast cancer screening were analyzed involving Pearson Product Moment Correlation at 0.05 level of significance. See the result in Table 3 below.

Table 3: Pearson Product Moment Correlation summary between Location and Breast Cancer Screening

V a r i a b l e s	N	Mean	S D	r - c a l	r-table
L o c a t i o n	1800	15.63	2.88	0.492*	0.195
Susceptibility to breast screening	1800	60.40	10.46		

* P<0.05

Table 3 shows that r -cal (0.492) is greater than r -table (0.195) at 0.05 level of significance. The null hypothesis is rejected which implies that the location of women will significantly influence women in subjecting themselves to breast cancer screening.

Hypothesis 2 (ii): The location of women will not significantly influence their subject to each type of breast cancer screening.

The scores on the location of women and their subjection to each type of breast cancer screening were analyzed using Pearson Product Moment Correlation at 0.05 level of significance, and the result is shown in Table 4 below.

Table 4: Correlation Matrix of Location of Women and Susceptibility to each Type of Breast Cancer Screening

V a r i a b l e s	Location of women	Breast self-examination	Clinical breast examination	Mammography
Location of women	1 . 0 0 0	0 . 3 0 0 *	0 . 2 4 4 *	0 . 3 2 8 *
Breast self-examination		1 . 0 0 0	0 . 3 9 8 *	0 . 4 0 8 *
Clinical breast examination			1 . 0 0 0	0 . 3 0 8 *
M a m m o g r a p h y				1 . 0 0 0

* $P < 0.05$

Table 4 shows that the location of women correlates significantly with their subjection to each type of breast cancer screening. Breast self-examination ($r = 0.300$, $P < 0.05$), clinical breast examination ($r = 0.244$, $P < 0.05$) and mammography ($r = 0.328$, $P < 0.05$). The result implies that the null hypothesis, which states that the location of women will not significantly influence their being subjected to each type of breast cancer screening, is rejected. There is also a significant ($P < 0.05$) positive correlation among the breast screening types: breast self examination and clinical breast examination ($r = 0.398$, $P < 0.05$), mammography and breast self examination ($r = 0.408$, $P < 0.05$), clinical breast examination and mammography ($r = 0.308$, $P < 0.05$).

Hypothesis 4: Women's knowledge about breast cancer will not significantly influence their subjecting themselves to breast cancer screening.

In testing the hypothesis, the scores relating to women's disposition to breast cancer screening were computed and compared for statistical significance based on their religious beliefs (Christianity, Islam, Traditional and Others) at 0.05 level of significance. The result is presented in Table 5 below.

Source	Ss	df	ms	F-cal	F-tab
Between Group	39.877	3	13.292	0.766	2.60*
Within Group	29535.649	1703	17.343		
Total	29575.252	1706			

* $p > 0.05$

Table 5 shows that F-cal (0.766) is lesser than F-table (2.60) at 0.05 level of significance. The null hypothesis is, therefore accepted. The result implies that the religious beliefs of women will not significantly influence their disposition to breast cancer screening.

Hypothesis 5: The religious beliefs of women will not significantly influence their disposition to each type of breast cancer screening.

The scores on disposition to each type of breast cancer screening were obtained and subsequently compared for the level of significance using Analysis of Variance (ANOVA) at 0.05 level of significance. The result is presented in Table 6 below.

Table 6: ANOVA Showing Women's Disposition to each Type of Breast Cancer Screening by Religion

Types of Breast Cancer Screening	Source	ss	df	ms	F-cal	F-tab
Breast Self-Examination	Between Groups	34.496	3	11.499	1.250	2.60
	Within Groups	15671.586	1703	9.202		
	Total	15706.082	1706			
Clinical Breast Examination	Between Groups	3.774	3	1.258	1.641	2.60
	Within Groups	1305.348	1703	0.766		
	Total	1309.122	1706			
Mammography	Between Groups	4.490	3	1.497	0.968	2.60
	Within Groups	2633.754	1703	1.547		
	Total	2638.244	1706			

$P > 0.05$

Table 6 shows that religious beliefs of women will not significantly influence their disposition to breast self-examination ($f = 1.250$, $P > 0.05$), Clinical Breast Examination ($f = 1.641$, $P > 0.05$) and Mammography ($f = 0.968$, $P > 0.05$) at 0.05 level of significance. Therefore, the null hypothesis is accepted.

Discussion

The result of this study revealed that location, knowledge about breast cancer, and religious beliefs are factors that influenced women to subject themselves to breast cancer screening. This finding is in agreement with the findings of Magai et al. (2007). This could have been as a result of the fact that breast cancer screening as behavior is characterized by some psychosocial attributes of women.

The study also found that the location of women could significantly influence their subjecting themselves to breast cancer screening. Maheswaran et al. (2006) have reported that distance, urban or rural status, location, and type of testing are all associated with their attendance for breast cancer screening. The possible explanation could be that the effect of the distance from the screening centers to the location of women could be discouraging. Also, Agbo et al. (2013) also reported that the advance stage of breast cancer was more among rural women than the

urban women in the Sokoto State of Nigeria. The location of women and accessibility to breast cancer screening facilities could determine the preferable methods of the breast screening. Knowledge of breast cancer is another factor that this study revealed that would influence the susceptibility of women to breast cancer screening. The result could be that through the experience, women recognized the serious health threat that breast cancer pose and that early detection of the disease is essential. The study of Karima and Ashraf (2010) in Jordan found out that women who have learned about the risk factors of breast cancer have a positive attitude towards breast cancer screening.

Furthermore, the result of this study revealed that the religious beliefs of women did not significantly influence their disposition to breast cancer screening. The result agrees with the findings of Ahmadian (2011) that women are not interested in those practices that require their bodies to be touched by male physicians and thus make these women abhor breast screening practices. Conversely, the findings of Montazeri, Ebrahimi, Ansari, and Sajadian (2003) showed that some women believed that breast cancer screening practices were not against their religious beliefs.

Based on the findings of this study, it could be concluded that some psychosocial variables could influence women to subject themselves to breast cancer screening. Also, breast self-examination and clinical breast examination are more effective methods of breast cancer screening than mammography among women in Southwest Nigeria.

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Cite this article:

Author(s), DR. FASINA BOSEDE OLUWAYEMISI, *DR. IBIMILUYI FRANCIS OLU, DR. IRETOR-OSCAR OLUWASEUN BAMIDELE, DR. AYODELE CHRISTIAN (2020). "Psycho-Social Variables and Women's Susceptibility to Breast Cancer Screening in Southwest Nigeria", **Name of the Journal**: Euro Afro Studies International Journal, (EASIJ.COM), P, 15 – 27. DOI: www.doi.org/10.5281/zenodo.3782539 , Issue: 4, Vol.: 1, Article: 2, Month: April, Year: 2020. Retrieved from <https://www.easij.com/all-issues/>

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