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Age of Women as The Etiology to Breast Cancer Screening for Early Detection: A Case Study of South-West Nigeria

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Abstract:

Attitude of women and practice towards breast cancer screening is still perceived to have some barriers such as difficulty in communication, cost, fear of the outcome, religious beliefs, cultural barriers and beliefs about cancer itself. The study therefore, investigated age of women as the etiology to breast cancer screening for early detection in Southwest Nigeria. Descriptive research design of the survey type was used for the study. The sample for the study consisted of 1800 women between the ages of 18-50 years in Southwest Nigeria. The sample size was selected using multistage sampling techniques. A self-designed questionnaire titled Psychosocial Factors and Breast Cancer Screening Questionnaire (PFBSQ) was used to elicit information from respondents. Data generated were analysed using inferential statistics. Findings from the study indicated that age has a significant influence on women's susceptibility to breast cancer screening. Age of women also correlates significantly with the women subjecting themselves to breast self-examination and mammography as types of breast cancer screening. Based on these findings, the study recommends that Government should oversee the strict applicability of breast cancer prevention programme through breast screening. Also, women should be encouraged and sensitized on the need to always go for regular breast cancer screening as early detection remains the best strategy that will guarantee successful management of breast cancer among women.

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Introduction

Breast cancer can be clearly defined as a type of cancer originating from breast tissue, most commonly from the inner lining of milk ducts or the lobules that supply the ducts with milk (Sariego, 2010). Breast cancer occurs because of an interaction between an environmental factor that is external, and a genetically susceptible host (internal). Normal cells in individuals divide as many times as needed and suppose to stop. They attach to other cells and remain in tissues. Cells now become cancerous when they lose their ability to stop dividing, to attach to other cells, to stay where they belong and to die at the proper time. A noticeable symptom of breast cancer is typically a lump that feels different from the other part of the breast tissue. This however, has been observed that more than 80% of breast cancer cases are discovered when the woman feels a lump in her breast (Beers & Fletcher, 2003). Indications of breast cancer other than a lump may also include thickening different from the other breast tissue, one breast becoming larger or smaller, a nipple changing position or shape. It could also have the symptoms of skin puckering or rashes on or around a nipple, discharge from nipples, constant pain in other parts of the breast and even swelling beneath the armpit (National Cancer Institute, 2005).

Breast cancer is now a pandemic disease posing a serious threat to the health of women of all races globally. According to the American Cancer Society (2008), an estimated 192,370 women were diagnosed with breast cancer in 2009 with 40,170 women dying from the disease. The incidence of breast cancer has risen gradually in the past century and the disease is currently considered the most common cancer and the second leading cause of cancer death among women in the United States of America surpassed only by lung cancer (NCI, 2005). It was also observed that one out of every eight women in the United States of America will develop breast cancer at some point in her lifetime. Worldwide, breast cancer is the most common invasive cancer in women. The incidence varies greatly around the world. It is lowest in less developed countries and greatest in more developed countries as this can partly be attributed to modern lifestyles (American Cancer Society, 2011). The burden of breast cancer as observed is rapidly increasing and it may likely continue as more people are exposed to the risk factors of breast cancer (Fasina, 2016). Breast cancer in Nigeria is common in women of age 50years and older (Adebamowo, 2007). The report captured from Breast Cancer Association of Nigeria (BRECAN), shows that the poor awareness of breast cancer symptoms contributes to the late presentation of breast cancer cases among women in Nigeria. It was observed that many Nigerian women who detect lump in their breast however disregarded it because it is not painful and many will seek treatment only when the lump has grown so big to cause discomfort.

Risk factors associated with breast cancer development include un-modifiable ones such as female sex, increasing age, history of breast cancer in close relatives especially in mothers and siblings. Non modifiable ones include early menarche before the age of 14 or menopause later than the age of 55years. Other risks include being overweight, using hormone replacement therapy, alcohol intake and having first child after 35 years of age. Also, the American Cancer Society (2011) observed that older age, personal health history, higher breast density, lack of physical activity and ethnicity are risk factors associated with breast cancer. It should be noted therefore that environmental risk factors for breast cancer

including any other factors that are newly identified are all likely to work in combination with other risk factors (Centre for Disease Control and Prevention, 2005). The reports of Cohen (2006) shows that Africa carries an increasing breast cancer burden as cases of about 75% are being presented at younger ages. Adebamowo and Ajayi (2000) in their study argued that breast cancer starts to increase at about the age of 20years and rises rapidly to about the age of 50years, but when the rate of increase rise to 75years of age, the incidence starts to decline. Adebamowo and Ajayi (2000) also reported that the peak age of incidence in Nigeria is 42.6% years and that 12% of cases occurred before 30years while post- menopausal women accounted for 20% of cases. Studies of Adebamowo and Adekunle (1999) on breast cancer in Nigeria found that the mean age of patients in Ibadan, Oyo State was 43years while it was 44years in Nnewi, Anambra State. According to them, these were similar to previous findings from other parts of Africa, but less than the mean age of 55years generally quoted for the Caucasians. In keeping with the earlier studies in Nigeria which have documented and equally shown that breast cancer occurs at a younger age, about a decade earlier than observed in Western countries like United Kingdom and America. In contrast, Ikpatt, Kuopio, Ndoma-Egba and Collan (2002), noted that the peak incidence of breast cancer was 50years and above, which is a decade earlier than what was observed in developed countries. Female breast cancer incidence may be strongly related to age with the highest incidence rates overall being in older women.

Important strategy in reducing breast cancer mortality is the use of screening to achieve earlier detection. It is also important because an excellent prognosis is directly associated with the stage at which the tumour is detected. Early diagnosis usually results in treatment before it spreads and this signifies a better outcome of management. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control.

Research Rationale

The psychological, social and financial implications of treatment of breast cancer in young Nigerian women are enormous and should be a source of concern to all Nigerians. The treatment of breast cancer involves a combination of different modalities including operations on the affected breast. Also it involves the use of anti-cancer drugs and other drugs that target this type of cancer being treated. The challenges of these for a Nigerian woman can be imagined based on the resources available. Breast cancer as a disease has been claiming the lives of many women because when all known risk factors and characteristics of the disease are added together including genetics and family history, up to 50% of breast cancer remain unexplained. This makes the problem alarming and worrisome because the main cause of the disease could not be ascertained. The age of presenting cases of breast cancer for early detection could be of great help in this regard.

Methodology

Descriptive research design of the survey type was used for the study. All women in the six states that represent South West Nigeria were used for the study. The sample for the study consisted of 1800 women which were randomly selected using multistage sampling procedure. This involves simple random sampling and proportional sampling techniques. A self-designed instrument titled psychosocial factors and breast screening questionnaire

(PFBSQ) was used to elicit information from the respondents. The validity of the instrument was ascertained using face content and construct validity. A correlation coefficient of 0.72 was obtained which made the instrument valid for usage. Using test-re-test reliability method gave a correlation of 0.75 which was obtained using Pearson Product Moment Correlation Coefficient. Data generated were analysed using Analysis of Variance (ANOVA) at 0.05 level of significance based on ages of women.

Research Hypotheses

H_{01} The age of women will not significantly influence their susceptibility to breast cancer screening.

H_{02} The age of women will not significantly influence their susceptibility to each type of breast cancer screening.

Results

Hypothesis 1:

In order to test the first hypothesis, scores relating to susceptibility of women to breast cancer screening by age were subjected to statistical analysis involving analysis of variance (ANOVA).

Table 1: Analysis of Variance (ANOVA) of Women to Breast Cancer Screening by Age

Source	SS	Df	MS	Fcal	Ftab
Between Groups	1436.621	6	239.437		
Within Groups	195517.379	1793	109.045	2.196*	2.10
Total	196954.000	1799			

From the above table, Fcal (2.196) is greater than Ftable (2.10) at 0.05level of significance. The null hypothesis is rejected. This implies that the age of women will significantly influence their susceptibility to breast cancer screening. In order to further locate the sources of pairwise significant among the groups, Scheffe Post-hoc test was used.

Table 2: Scheffe Post-hoc Analysis of Women's Susceptibility to Breast Cancer Screening by Age

	18-24	25-30	31-35	36-40	41-45	46-50	51-60	N	Mean
18-24								530	60.87
25-30								386	61.30
31-35							*	251	58.85
36-40								160	60.15
41-45							*	147	58.90
46-50								190	60.21
51-60								136	61.04

*P< 0.05

Table 2 shows that there is a significant difference between women of ages 31-35 years and 51-60 years, 41-45years and 51-60 years in their susceptibility to breast cancer screening at level of significance (0.05)

Hypothesis 2:

The age of women will not significantly influence their susceptibility to each type of breast cancer screening.

In testing the hypothesis, scores relating to subjecting to breast self-examination, clinical breast examination and mammography breast screening were subjected to statistical analysis and subsequently compared for statistical significance using analysis of variance at 0.05 level of significance based on the age of women.

Table 3: ANOVA Summary of Women Subjected to Each Type of Breast Cancer Screening

Type of Breast cancer screening	Source	SS	df	MS	Fcal	Ftab
Breast self-examination	*Between groups	81.119	6	13.520	1.485	2.10
	*Within groups	16320.561	1793	9.102		
	*Total	16401.680	1799			
Clinical breast examination	*Between groups	4.669	6	0.778		
	*Within Groups	1354.831	1793	0.756	1.030	2.10
	*Total	1359.500	1799			
Mammography	*Between Groups	31.996	6	5.333		2.10
	*Within Groups	2752.829	1793	1.535	3.473	
	*Total	2783.824	1799			

*P<0.05

Table 3 shows that the age of women will not significantly influence their subjecting themselves to breast examination (F= 1.485, P>0.05) and clinical examination (F=1.030, P>0.05) at 0.05 level of significance. However, age of women has a significant influence on their decision to subject to mammography type of breast cancer screening (F=3.473, P<0.05). Scheffe post-hoc analysis of women subjecting themselves to mammography based on their age is shown in the table below.

Table 4: Scheffe Post-hoc Analysis of Women Subjecting Themselves to Mammography Based on Their Age

	18-24	25-30	31-35	36-40	41-45	46-50	51-60	N	Mean
18-24								530	60.87
25-30								386	61.30

31-35							251	58.85
36-40							160	60.15
41-45							147	58.90
46-50							190	60.21
51-60							136	61.04

*P<0.05

The above table shows that women of ages 18-24 years differ significantly from 25-30 years in subjecting themselves to mammography type of breast cancer screening at level of significance (0.05).

Discussion

The present study revealed that the age of women significantly influenced their susceptibility to breast cancer screening. The findings of Olowokere, Onibokun, and Oluwatosin, (2012) and Henley, et al. (2017) all supported this view. They asserted that there is a peak age of presentation of women to breast cancer screening exercise. Ages of women also correlates significantly with subjecting themselves to breast self-examination (BSE) and mammography. This may be due to the fact that majority of them have been told about breast self-examination and mammography by a nurse or a physician. This was in line with the findings of a study carried out on Nigerian students (Nurses) residing in Warri. The result according to Akpo, Akpo, and Akhator, (2009) indicated that all the respondents in the study practiced breast self-examination. In contrast to this finding was the view of American Cancer Society (2011) which reported that in the United States of America, clinical breast examination is routinely included as part of a regular health examination. This provided the opportunity for a woman and her healthcare provider to discuss changes in her breast tissue. The report of Parsa, et al. (2008) negates this finding that previous studies have illustrated that only 3.8% of women in Malaysia, 6% in Iran and 7% in Jordan were reported to be performing breast self-examination regularly.

Conclusion

The study submits that age of women is a significant factor in their disposition to breast cancer screening. Also, the age of women correlates with subjecting themselves to breast self-examination and mammography.

Implications of the Findings

A factor to be reckoned with is the promotion of healthy behaviour which is important to facilitate lifelong healthy living and an overall enhanced quality of life, among the women. Age of women can be used as a factor to determine women's health behaviour towards breast cancer screening. Appropriate cancer control measures including counselling services should be provided to enhance improved breast cancer screening behaviour among the women of different age categories.

Recommendations

Based on the findings, it is recommended that:

i.   Programmes should be designed to provide information and services that would cut across different age groups for breast cancer screening among women.

ii. Appropriate counselling should be put in place to assist in enlightening women on the importance and efficacy of using different types of breast cancer screening.

iii. Appropriate public health programmes to enhance women's self-efficacy in using different types of breast cancer screening, should be encouraged.

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