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Factors associated with breast cancer screening practices among female healthcare professionals in Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State, Nigeria

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Abstract

Breast cancer is the most frequent malignancy affecting females in Nigeria. It was observed that female healthcare professionals have relatively poor screening practices of breast cancer. This study aims to investigate factors associated with breast cancer screening practices among female healthcare professionals in Olabisi Onabanjo University Teaching Hospital, Ogun State. The study was a cross sectional study design, with the population of interest of female healthcare professionals in the Institution as 345. The sample size was calculated using Yamane formula giving a total of 204. The respondents received the self-administered structured questionnaire and 200 were retrieved with a response rate of 98.5%. The data were analyzed statistically using IBM SPSS version 25 and descriptive methods. The level of significance was set at $P<0.05$. According to the conclusions of this study, 100% of the respondents were aware of BSE. 92.5% and 89.5% of respondents had a positive attitude and perception of breast cancer screening, respectively. Findings from this study demonstrated that majority of the respondents had adequate knowledge of BSE, however, the level of utilization of screening techniques was low. Most of the female healthcare professionals need additional and frequent trainings, that would cause perennial screening for breast cancer. These should be considered while developing interventions, which will lead to increased use of screening services and, ultimately, a drop in the morbidity and mortality rate of breast cancer.

Keywords: Breast cancer screening, female healthcare professionals, knowledge of breast cancer screening practices, clinical examination of the breast, breast ulceration.

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Introduction

Breast cancer (BC) is one of the top causes of morbidity and mortality among women globally, with more than 2 million women diagnosed with the disease and roughly about 700,000 deaths of females of reproductive age as at the year 2020 (WHO, 2021). According to this same report by the World Health Organization in the year 2021, the occurrence of breast cancer was found to be at an increased rate amongst women in Western countries such as the USA, the UK, and neighboring European countries, as compared to women in the continent-Africa. Although, it was recorded that Africa has the higher number of women to die of breast cancer (Vanderpuye, Grover, Hammad, Simonds, Olopade, & Stefan, 2017). Breast cancer has recently shown a declination pattern in terms of incidence and mortality in highly developed countries. However, most developing countries have seen an increase in the number of cases (Ginsburg, Bray, Coleman, Vanderpuye, Eniu, Kotha, Sarker, Huong, Allemani, Dvaladze, Gralow, Yeates, Taylor, Oomman, Krishnan, Sullivan, Kombe, Blas, Parham, Kassami, & Conteh, 2017).

Currently, breast cancer accounts for about 60 percent of majority of malignant cases in Nigeria, in regard to about 80 percent of women in Nigeria, being diagnosed with end-stage cancer (Azubuike, Muirhead, Hayes, & McNally, 2018). In Nigeria, the predicted year of survival rate for cancer of the breast which is five years continues to be less than 10 percent, as opposed to West part of Europe and Northern America, which records close to 80 percent rate of survival (American Cancer Society, 2021). The etiology of breast cancer worldwide, on the other hand, is idiopathic, owing mostly to exempted diagnoses and erroneous information from underfunded registries for cancer known for primarily collection of data from hospitals. Nonetheless, current statistics from various sections of the country showed rising number of female malignancies, with cancer of breast leading in the forefront (Amoo, Olawole-Isaac, Okorie, Ajayi, Adekola, Amana, & Olu-Owolabi, 2018).

A study of breast cancer awareness screening conducted at Osun State University, in South West, Nigeria revealed that more than half of the respondents had good understanding about breast cancer, almost 70 percent of women assessed in that study had the awareness that examination of breast is a method of screening while about 68 percent had the awareness of mammography being effective in the early detection of lumps (Olufemi, Omowunmi, Ajoke, & Olufemi, 2017). Early diagnosis and screening are two critical options for early detection. Early detection has been demonstrated as helpful for therapy of cancer of the breast, with a 5-year survival rate of roughly 92 percent (Ogochukwu, Uchenna, & Oyine, 2018). A key component of early diagnosis is raising knowledge of the early signs of cancer among doctors, nurses, other healthcare professionals, and the general public. Screening, on the other hand, entails the use of basic tests to detect cancer in individuals, even before symptoms develop. Screening procedures for cancer of the breast includes breast self-examination (BSE), clinical breast examination (CBE), and X-ray examination of the breast for tumors (World Health Organization, 2018).

In this study, factors associated with breast cancer screening practices among female healthcare professionals would be investigated. The result from this study would enable policy makers and relevant health authorities to put up measures that encourage health care professionals to routinely practice breast cancer screening.

There is a prevalence of breast cancer among female professionals in Olabisi Onabanjo University Teaching Hospital, most especially those in the clinical department, who by the virtue of their training and education ought to know and do better. However, this is not the case in this Institution. There is no evidence for these due to lack of a cancer registry in the health facility, but there has been an uprise of the incidence of breast cancer among healthcare professionals. This increase could be due lack of easy access to screening facility where mammogram could be done. Regardless, the institution has a facility (Uplift Unit) sanctioned with the responsibility of performing Clinical Breast Examination, Breast Ultrasound and administration of chemotherapy. A study done in some specific local government in Ogun State by Allo, Imhonopi, Amoo, Iruonagbe, and Jegede (2019), revealed that only about 20% of the respondents including health professionals practice BSE despite the looming threat of

breast cancer to the lives of the women in the community.

It is against this backdrop that this study seeks to find out the factors associated with breast cancer screening practices among female healthcare professionals in the teaching hospital, that is responsible for poor screening uptake, thereby suggesting probable solutions/recommendations for policy decisions, assist in planning and implementation of effective breast cancer screening programs in order to reduce the mortality and morbidity resulting from the disease.

MATERIALS AND METHODOLOGY

The study adopted a quantitative descriptive design in an attempt to assess the factors associated with breast cancer screening practices among female health practitioners in Olabisi Onabanjo University Teaching Hospital, Sagamu in Ogun State. The research area for this study is the Olabisi Onabanjo University Teaching Hospital, Sagamu, Ogun State.

The population of interest was female healthcare practitioners in the Clinical Department who have been staffed in the institution for not less than 6 months.

Following the data obtained from Olabisi Onabanjo University Teaching Hospital Administrative Internal Data, the number of female health workers in clinical departments was 345. The sample size was calculated using Yamane formula (Yamane, 1976), giving a total of 204. This constituted the population of this study.

Data was gathered using a semi-structured questionnaire, having both open ended and close ended questions, which was self-administered by respondents because they were knowledgeable. The questionnaire was adopted from literatures of previous studies based on the specific objectives of the study by the researcher (Bello, Olugbenga, Oguntola, Adeoti, & Ojemakinde, 2011; Madubogwu, Egwuonwu, & Njelita, 2017; Agboola, Deji-Agboola, Oritogun, Musa, Oyebadejo, & Ayoade, 2009) and divided into 5 sections. Sections using Likert scale to elicit the respondents view on the "predisposing, enabling and reinforcing factors of breast cancer screening" were utilized. The Predisposing factors include knowledge and attitude of the respondents towards breast cancer screening, which had a 23-point entry scale, and 18-point entry scale respectively. This was then divided into three categories: Low: 0-17, Medium: 18-35, High: 36-56.

To establish the number of responders from each department, the proportionate sampling technique was utilized. The self-administered structured questionnaire was distributed to the respondents, who were selected by simple random sampling by balloting on the days of their departmental meetings, and 200 were retrieved with a response rate of 98.5%.

The questionnaire used for this investigation were serially numbered, and the researcher was responsible for data collection. Prior to these, the essence of the research were carefully stated to all respondents. To ensure voluntary participation, informed consent forms (linked to the questionnaire) were provided to potential responders which were signed. The questionnaires were then reviewed by the researcher for completion and omissions. The collection of data took a maximum of three weeks.

RESULT

Sociodemographic characteristics

The respondents' sociodemographic characteristics showed that larger proportion of the women, 94 (47.0%) were 25-30 years, 41 (20.5%) were 31-35 years, 27 (13.5%) were 36-40 years and 25 (12.5%) were 40-50 years. 121 (60.5%) of the respondents were married of which 24 (12.0%) had parity of 1, 47 (23.5%) had parity of 2, 38 (19.0%) had parity of 3 and 10 (5.0%) had parity 4. More than two third of the respondents 157 (78.5%) were Christians and 40 (20.0%) were Muslims. The ethnicity of the respondents shows that 17 (83.5%) were Yoruba, 29 (14.5%) were Igbo and 4 (2.0%) were Hausa. The profession of the respondents shows that 45 (22.5%) were medical doctor, 93 (46.5%) were Nurses, 26 (13.0%) were Pharmacist, 17 (8.5%) were Medical laboratory scientist and 18 (9.0%) were Physiotherapist. Year of practice as a health care professional shows that 70 (35.0%) had 0-5 years of practice, 60 (30.0%) had 6-10 years of practice and 70 (35.0%) had over 10 years of practice. This is clearly illustrated in Table 1.

Table 1: Socio demographic of the study subjects n=200

Variable	Categories	Frequency	Percent
Age	25-30	94	47.0
	31-35	41	20.5
	36-40	27	13.5
	40-50	25	12.5
	>50	13	6.5
	Total	**200**	**100**
Relationship Status	Single	67	33.5
	Married	121	60.5
	Divorced	5	2.5
	Widowed	5	2.5
	Separated	2	1.0
	Total	**200**	**100**
Number of Children	None for now	80	40.0
	1	24	12.0
	2	47	23.5
	3	38	19.0
	4	10	5.0
	5 and above	1	0.5
	Total	**200**	**100**
Religion	Christianity	157	78.5
	Islam	40	20.0
	Traditional	2	1.0
	Others	1	0.5
	Total	**200**	**100**
Ethnicity	Yoruba	167	83.5
	Igbo	29	14.5
	Hausa	4	2.0
	Total	**200**	**100**
Profession	Medical doctor	45	22.5
	Nurse	93	46.5
	Pharmacist	26	13.0
	Medical laboratory scientist	17	8.5
	Physiotherapist	18	9.0
	Others	1	0.5
	Total	**200**	**100**
Year of practice as a health care professional	0-5 years	70	35.0
	6-10 years	60	30.0
	> 10 years	70	35.0
	Total	**200**	**100**

Knowledge of breast cancer and screening

Among the healthcare professionals, 191 (95.5%) knew that an unexplained breast lump or swelling could be a sign of cancer, 130 (65.0%) did not agree that breast cancer has the same prognosis irrespective of the stage of the cancer. The variable that asked who is at risk of breast cancer shows that 7 (3.5%) indicate men, and 149 (74.5%) indicate women. 150 (75.0%) believed that increase in age is one of the risk factors of breast cancer, 112 (56.0%) agreed that obesity would increase the risk of breast cancer and women who have never given birth to children are at higher risk for developing breast cancer. 72 (36.0%) affirmed that women who started menstruation at early stages (before 12years) are at lower risk of breast cancer, 91 (45.5%) agreed that women who had their first child after 30years are at higher risk of developing breast cancer, 83 (41.5%) do not accept that women who reached menopause at later ages (after 50years) were at higher risk of developing breast cancer.103 (51.5%) do not agree that a woman with breast cancer in one breast has decreased risk of developing cancer in the other breast and 102 (51.0%) agreed that breast cancer is curable. The results stated is illustrated in Table 2.

Table 2: Knowledge of breast cancer and screening n=200

Variable	Categories	Frequency	Percent
Do you know that an unexplained breast lump or swelling could be a sign of cancer"	Yes	191	95.5
	No	7	3.5
	Don't know	2	1.0
Breast cancer has the same prognosis regardless of stage of diagnosis	Yes	56	28.0
	No	130	65.0
	Don't know	14	7.0
Who is at risk of breast cancer	Men	7	3.5
	All women	149	74.5
	Adolescents	7	3.5
	Postmenopausal women	37	18.5
Increase in age is one of the risk factors of breast cancer	Yes	150	75.0
	No	39	19.5
	Don't know	11	5.5
Obesity increases the risk of breast cancer	Yes	112	56.0
	No	59	29.5
	Don't know	29	14.5
Women who started menstruation at earlier stages (before 12years) are at lower risk of BCA	Yes	72	36.0
	No	68	34.0
	Don't know	60	30.0
Women who have no children are at higher risk for developing BCA	Yes	112	56.0
	No	70	35.0
	Don't know	18	9.0
Women who had their first child after 30years	Yes	91	45.5

are at higher risk of developing BCA	No	66	33.0
	Don't know	43	21.5
Women who reached menopause at later ages (after 50years) are at higher risk of developing BCA	Yes	76	38.0
	No	83	41.5
	Don't know	41	20.5
A woman with breast cancer in one breast has decreased risk of developing cancer in the other breast	Yes	87	43.5
	No	103	51.5
	Don't know	10	5.0
Can breast cancer be cured	Yes	102	51.0
	No	82	41.0
	Don't know	16	8.0

Figure 1 presents the overall attitude towards breast cancer screening among the respondents.

In the figure, 185 (92.5%) had good attitude towards breast cancer screening and 15 (7.5%) had poor attitude towards breast cancer screening.

Hypothesis testing

Decision rule: The null hypothesis (HO) will be rejected and the alternative hypothesis (HA) will be accepted if the P-value is less than 0.05; otherwise, the null hypothesis will be accepted and the alternative hypothesis will be rejected.

Ho1: There is no statistically significant association between the respondents' breast cancer screening practices and the predisposing factors—knowledge and attitude—that affect such practices.

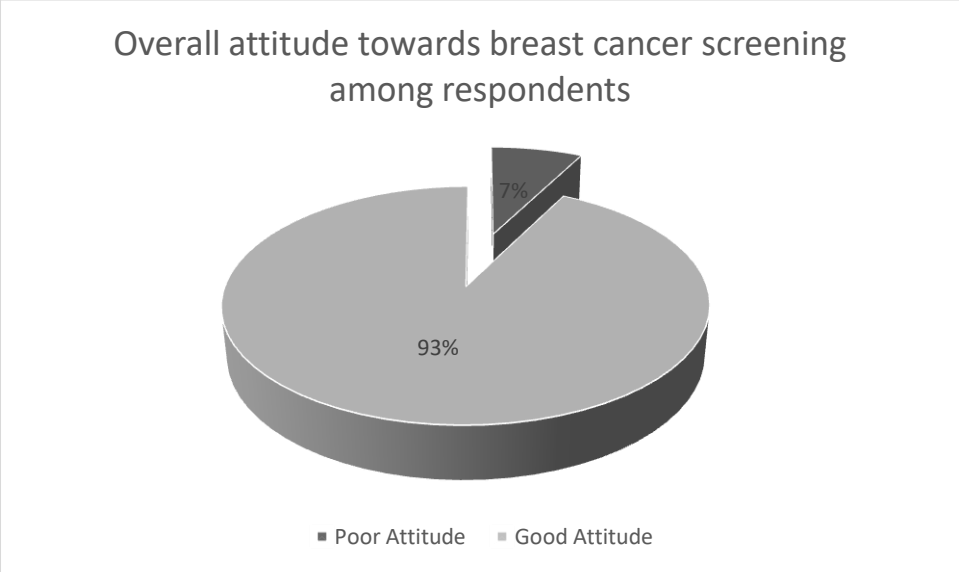

Figure 1: Overall attitude towards breast cancer screening among respondents

		Have you done breast cancer screening before?					
		Yes	No	Total	x^2	**Df**	**P-value**
Age	25-30	80	14	94	6.178[a]	4	0.186
	31-35	39	2	41			
	36-40	24	3	27			
	40-50	24	1	25			
	>50	13	0	13			
Total		180	20	200			

Inference: The Pearson product moment correlation was used to determine the statistical relationship between the predisposing factor and the practice of breast cancer screening of the respondents.

From tables illustrated above, there is no statistical significant relationship between predisposing factors that influence breast cancer screening practices among the respondents' and their practice of breast cancer screening (X^2 =6.178, *P*= 1.86) tested at *P*<0.05. Hence the null hypothesis which states that 'there is no significant relationship between the predisposing factors- knowledge and attitude, that influence breast cancer screening practices among the respondents' and their practice of breast cancer screening is accepted as *P* is greater than 0.05.

Practice of breast cancer screening among respondents

Among the respondents, 90.0% have done breast cancer screening earlier. The variable based on how often the respondent does self-breast examination shows that 2.5% indicated daily, 12.0% indicated weekly, 43.0% indicated monthly, 33.5% indicated occasionally and 9.0% have never done the screening before. 51.5% of the respondents had done breast cancer screening in the past 6 months and a large percentage of them did the screening as part of regular medical check-up. Table 3 illustrates this.

Table 3: Practice of breast cancer screening among respondents n=200

Variable	Categories	Frequency	Percent
Have you done breast cancer screening before	Yes	180	90.0
	No	20	10.0
How often do you do self-breast examination	Daily	5	2.5
	Weekly	21	10.5
	Monthly	86	43.0
	Occasionally	67	33.5
	Never	18	9.0
	Rarely	3	1.5
When last did you do the breast cancer screening	<6months	103	51.5
	1 year ago	58	29.0
	2 years ago	15	7.5
	>3years ago	6	3.0
	Never	18	9.0
What was your reason for doing breast cancer screening	To prevent breast cancer	65	32.5
	Advice from family/friends	19	9.5
	"As part of regular "check-up"	95	47.5
	"Others	1	0.5
	"Not applicable	20	10.0

DISCUSSION

Breast cancer morbidity and death in Nigeria are significantly affected by delayed diagnosis, which lacks adequate and detailed research and documentation (Ogunkorode, Holtslander, Ferguson, Maree, Anonson, & Ramsden, 2021). For the purpose of creating pertinent and efficient interventions, a deeper understanding of the reasons for care delays is essential. More than two thirds of the respondents had good understanding of the risk factors for breast cancer, which contrasts with a study conducted by Akhigbe and Omuemu, 2019 among nurses, which stated that the figure was 11.6 percent. In that same study, increased age was seen as a risk factor in 10.6 percent of the participants. Although more than half of the participants in the stated study had heard about breast cancer, they had good level of knowledge of the strongest risk factors associated with breast cancer; as 94 percent indicate strongly agree to breast cancer as the proliferation of abnormal cells, 89 percent strongly agreed that breast feeding could reduce the risk of breast cancer, 32 percent indicate strongly agree that breast cancer can be caused by obesity, 42 percent indicate strongly agree that history of breast cancer within the family can increase a woman’s risk of having breast cancer,and 93 percent indicate strongly agree that drinking alcohol could predispose a woman to breast cancer.

In this study, female healthcare professionals demonstrated significant levels of self- and clinical breast screening procedure awareness and usage. In a study by Okesiji and Amosu (2021), Nurses are seen as fountain of knowledge due to the peculiarity of their profession. Nurses have evolved in their strategies/approaches to enlightening women about cancer of the breast, these strategies include advocating publicly for cancer of the breast, improving care, support and researches made to improve the comfort and confidence of women in discussing these health situations, which is of great concern in a country like Nigeria, where there is inadequate facility for diagnosing the disease condition. The positive finding from this study's information is that healthcare professionals at all levels of Nigeria's healthcare system are eager for more breast cancer training and are willing to devote their professional time to it. Education of healthcare providers is a desirable and potentially effective leverage point in the effort to clinically downstage breast cancer in Nigeria at the time of diagnosis due to this attitude and the knowledge gaps. Since all participants in this study were enlightened and aware of the negative impacts of breast cancer, the study's findings imply that educational level has a favorable impact on the practice of breast cancer screening. This conclusion is supported by a study conducted in Iran that revealed the same result (Tilaki, 2015).
Additionally, a study from Addis Ababa found that a woman's participation in breast cancer screening practices is influenced by her educational level (Abeje, Seme, & Tibelt, 2019). This is not shocking because it is anticipate that educated women will have a thorough grasp of breast cancer (BC), its screening procedures, and the significance of BC early diagnosis. Additionally, studies from China (Kim, Oh, Li & Min, 2011), Qatari Arab women (Donnelly & Mohamed, 2014), Malaysian women in the Muar district, and an analysis of WHO studies (Marzo, Vimalan Letchumanan, Anbarasu, & Ramiah, 2018) all lend support to this finding, which indicates that higher educational levels significantly increase screening rates in low- and middle-income countries. This might be as a result of women's views, understanding about BC, and health-seeking behavior increasing with higher education. However age, relationship status, religion, ethnicity, profession and year of practice as a health care professional shows non-significant association with perception towards breast cancer screening among respondents at (X^2=7.440, P=0.114), (X^2=7.378, P=0.117), (X^2=0.381, P=0.944), (X^2=1.309, P=0.520), (X^2=6.264, P=0.281) and (X^2=0.707, P=0.702) respectively as P>0.05 in each case.

Respondents in this study have a favorable opinion of the care given to breast cancer patients. The majority of people had the opinion that surgery was by far the most successful form of treatment and that the disease could be treated in its early stages. These results corroborate a study conducted among nurses in Lagos, Nigeria, which revealed that 89 percent would consent to a mastectomy if they were ever diagnosed with breast cancer. (Odusanya & Tayo, 2001). Okobia, Bunker, Okonofua, and Osime (2006) revealed that 41% of participants in a recent survey conducted among women from a semi-urban neighborhood in southern Nigeria believed that breast cancer is treatable if caught in time. In contrast, only 5% of literate Nigerians asked in a study conducted nearly ten years ago thought that cancer could be cured if discovered early. (Ishida, Toomata-Mayer & Braginsky, 2001).

Conclusion

The results of this study show that while doctors generally have enough awareness of breast cancer risk factors, many nurses and other allied healthcare professionals in this study did not. Government and non-government organizations should work to increase the knowledge of breast cancer among healthcare professionals other than doctors given their key role in raising awareness and disseminating information about the disease. It is believed that knowledge has a way of influencing screening practices. At the institutional level, it would be ideal to have frequent continuing medical education programs on breast cancer. Additionally, more emphasis needs to be put on breast cancer in the curricula of nursing and other healthcare educational programs so that students will be better knowledgeable about the disease. Time, concerns about the screening's outcome, and other sociocultural variables were identified as obstacles to the screening methods' wider use, and they should be taken into consideration while developing interventions. This may lower the obstacles, enable greater utilization, and ultimately result in a decline in the incidence of breast cancer-related morbidity and mortality.

Recommendation

In addition to tactics for raising awareness and promoting breast cancer screening, there should be initiatives in place to inform, inspire, and encourage women to have mammograms and BSE as preventive measures for the early diagnosis of breast cancer.

Healthcare practitioners should emphasize to women the importance of using these screening techniques. Governments and other interested parties should support efforts to educate women and give them the necessary information on breast cancer prevention screening. Making mammograms more widely available, inexpensive, and accessible should be the focus of efforts.

The female healthcare professionals also need additional and frequent trainings (breast cancer screening seminars) that would cause perennial screening for breast cancer. The hospital management of various health institutions in collaboration with non-governmental organization could organize annual breast cancer screening such as mammography for her member of staff. This would go a long way in reducing the incident of morbidity and mortality caused by breast cancer among female healthcare professionals.

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