

Determinants of Breast Cancer Screening Utilization among Female Healthcare Workers in Selected Hospitals in Ogbomoso, OYO State

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Abstract

Background: Breast cancer is the most common cancer in women worldwide and is increasing particularly in developing countries where majority of the cases were diagnosed at late stages. Early diagnosis of breast cancer is known to be vital not just in the treatment but also in determining its prognosis. Female healthcare providers have greater influence on women's positive perception of breast cancer and motivation to practice the screening methods for early detection of the disease. The purpose of this study is to identify the determinants of breast cancer screening utilization among female healthcare workers in selected hospitals in Ogbomoso.

Methods: Descriptive cross-sectional design was employed. Purposive sampling technique was used and calculated sample sizes of 215 female healthcare workers were the study participants. Data were collected from the selected participants with the aid of validated structured interviewer administered questionnaire. Data were analysed using statistical package for Social Sciences version 22 and presented in tables and figures. The hypotheses were tested using chi square at 0.05 level of significance.

Results: Findings from the study revealed that 40 (18.6%) were doctors, 104 (48.4%) were nurses and 71 (32.4%) were medical laboratory scientists, pharmacists, CHEW, optometrists and dietetics. Majority of the respondents (81.4%) had good knowledge of BSE with a mean score of 10.02 ± 2.07 and 73.4% had good knowledge of CBE with a mean score 3.47 ± 1.21 , but more than half of the respondents (52.6%) had poor knowledge of mammography with mean score of 2.34 ± 1.02 . Age, marital status, religion, ethnic group, lack of time, financial constraints, fear of positive diagnosis, lack of awareness, pain and fear of radiation were some of the factors identified influencing the utilization of the screening measures. There was no significant relationship between attitude of respondents and their utilization of breast cancer screening (BSE, CBE, Mammography), $p=0.428$, $X^2=0.629$ for BSE, $p=0.307$, $X^2=1.042$ for CBE and $p=0.162$, $X^2=0.162$ for mammography. Generally, the utilization of breast cancer screening was high for BSE (81.9%), below average for CBE (34.4%), and only 3.7% of the respondents had done mammography out of 38.2% that were eligible to undergo for the screening.

Conclusion: Majority of the respondents had good knowledge about breast cancer screening measures. Attitude towards breast cancer screening was also positive. However, only the practice of BSE was good while practice of CBE and mammography were quite poor. Therefore, there is an urgent need for sensitization of female healthcare workers on the need to undergo the screening especially clinical breast examination and mammography and establishment of more breast imaging centres as well as the inclusion of mammography into the national health insurance scheme to improve access to the services thereby reducing morbidity and mortality associated with the disease.

Keywords: Determinants; Breast cancer; Breast cancer screening; Female healthcare workers

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Introduction

Breast cancer is the second leading cause of death in women [1]. According to the WHO, breast cancer is the most common cancer in women worldwide, with nearly 1.7 million new cases diagnosed in 2012 [2]. It is the most frequent cause of death in both developing and developed regions [3]. Breast cancer affects women of all races without exception though severity and survival rate are often diverse [2]. About 85% of breast cancers occur in women who have no family history of breast cancer [4]. There is variation of breast cancer incident worldwide in which Africa is not excluded. Breast cancer is currently the most common cancer in Nigeria. One or two in every 25 Nigerian women are at risk of breast cancer [5]. Early diagnosis of breast cancer is known to be vital not just in the treatment of the disease but also in determining prognosis [6]. Some of the reasons that predict these differences in severity and survival rate are levels of awareness, knowledge, attitudes and screening behaviours. In developing or low income countries, breast cancer is often characterized by late clinical presentations or advanced stages of the disease, when only chemotherapy and palliative care can be offered, with resulting high mortality [7]. Despite increasing reports of growing awareness of breast cancer as an entity, tertiary centres in Nigeria continue to receive patients at late stages when treatment is least rewarding [8]. There are many screening methods like mammogram, breast self-examination, and clinical breast examination and in selected cases, Screening Magnetic Resonance Imaging (SMRI) etc., which helps people in early detection [9]. The major screening strategies considered in this study are Mammography, Breast Self-Examination (BSE), and Clinical Breast Examination (CBE). The results of the study conducted showed deficiency in screening practices even among those who were aware of the screening methods [10]. Breast Self-Examination (BSE) was the most common breast screening practice among respondents followed by Clinical Breast Examination (CBE) and mammography [10]. Studies from developed countries show that attitude and orientation of healthcare providers are important determinants of use of breast screening program [11]. Adequate knowledge and positive attitude towards breast cancer screening are essential for female healthcare workers if they are to play their expected roles in breast cancer campaign awareness in Nigeria. Even when female healthcare workers are not directly involved in referring patients for breast cancer screening, they play an important role in creating an environment supportive of screening behaviours by offering positive role models. Level of awareness did not translate into either knowledge or practice of the breast cancer screening modalities [12]. Healthcare providers/professionals play a very important role in the dissemination of health education/information and care of breast cancer because of their constant communication and contact with patients and their relatives. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control, it is therefore necessary to identify the determinants of breast cancer screening utilization among female healthcare workers in Ogbomoso.

Methods

Aim

The study was carried out to identify the determinants of breast cancer screening utilization among female healthcare workers in Ogbomoso, Oyo State.

Design

This was a cross-sectional, descriptive study carried out among female healthcare workers in eight government-owned health facilities in Ogbomoso, Oyo state.

Settings

The institutions used were LAUTECH teaching hospital, State hospital and six primary health centers which are Ibrahim Taiwo PHC, Jabata PHC, Katangua PHC Ahoyaya PHC, Baaki PHC and Taara PHC.

Participants

The categories of female healthcare workers are doctors, nurses, medical laboratory scientists, pharmacists, physiotherapists, community health extension workers, optometrists and dietetics. The sample size for the study was 215 using the formula for sample size determination for a cross-sectional descriptive study. All the female doctors, nurses, medical laboratory scientists, pharmacists, physiotherapists, community health extension workers, optometrists and dietetics employed by the health facilities at the time of the study were eligible to participate in the study with the exception of those not interested in the study and those on leave.

Instrument for data collection

A pre-tested, self-administered questionnaire was the tool for data collection. Informed consent was obtained from all the respondents. Information was collected on socio-demographic characteristics, knowledge of breast cancer, its risk factors and the screening methods (BSE, CBE and mammography), attitudes towards breast cancer screening as well as the practice of breast self-examination, clinical breast examination and utilization of mammography.

Statistical analysis

Data entry and analysis were done using Statistical Package for Social Sciences (SPSS) version 22. Data were summarized and presented using descriptive statistics in form of frequencies, means and standard deviations. Statistical significance was considered at $p < 0.05$. Chi square test was used for categorical variables and multiple regression analysis was done to predict the factors influencing breast cancer screening utilization.

Consent and ethical approval

Permission to study was obtained from the Ethics and Research committee of LAUTECH Teaching hospital, Ogbomoso and Oyo State ministry of health. Verbal informed consent was obtained from each participant before inclusion in the study.

Results

Socio-demographic characteristics of the respondents

The socio-demographic data of the respondents. The age of respondents ranges between 20 and 58 years with a mean age 36.5 ± 8.43 years and many 91 (42.3%) were aged between 31-40 years, less than 30 years were 57 (26.5%), 53 (24.7%) were aged between 41-50 while few 14 (6.5%) were aged between 51-60 years. Preponderant percentages 184 (85.6%) of respondents were married while 25 (11.6%) were singles. The common profession was nursing (48.4%) followed by 40 (11.2%) of doctors, 34 (15.1%) pharmacy 10 (4.7%), physiotherapy 5 (2.3%), and not many practice Dietetics 1 (0.5%) or Optometry 1 (0.5%). One hundred and fifty eight (73.5%) respondents were Christians, and dominant ethnic group was Yoruba (88.4%) (Table 1).

Characteristics	No of respondents (n=215)	Percentages
Age groups (years)		
<30 years	57	26.5
31-40 years	91	42.3
41-50 years	53	24.7
51-60 years	14	6.5
Mean \pm SD	36.5 ± 8.43	
Marital status		
Married	184	85.6
Single	25	11.6
Divorced	3	1.4
Widow	3	1.4
Profession		
Doctor	40	18.6
Nurse	104	48.4
Medical lab Sc	20	9.3
Physiotherapy	5	2.3
Pharmacy	10	4.7
Chew	34	15.1
Dietetic	1	0.5
Optometry	1	0.5
Religion		
Islam	57	26.5
Christianity	158	73.5
Ethnic group		
Yoruba	190	88.4
Hausa	12	5.6
Igbo	13	6
Education level		
Diploma	96	44.7
BSc	101	46.9
Masters	18	8.4
Years of working experience		
1-5 years	83	38.6
6-10 years	82	38.1
11-15 years	29	13.5

16- 20 years	18	8.4
Above 20 years	3	1.4
Level of practice		
Primary level	55	25.6
Secondary level	44	20.5
Tertiary level	116	54

Table 1: Socio-demographic profile of respondents.

Knowledge of the respondents on risk factors of breast cancer

The distribution of knowledge on risk factors of breast cancer in the study population. The most frequently identified risk factor was exposure to radiation 196 (91.2%) followed by positive family history 193 (89.8%). Lack of breast feeding was considered by 141 (65.6%) of respondents, and 162 (75.3%) considered recent long term use of estrogen and progestin as risk factors (Table 2).

Risk Factors	Correct (%)	Incorrect (%)
Positive family history	193 (89.8)	22 (10.2)
Exposure to radiation	196 (91.2)	19 (8.8)
No breast feeding	141 (65.6)	74 (34.4)
Recent long term use of estrogen and progestin	162 (75.3)	51 (23.7)
Obesity	119 (55.3)	96 (44.7)
Alcohol consumption	128 (59.5)	87 (40.5)
Benign breast diseases	165 (76.7)	50 (23.3)
Late menopause	111 (51.6)	102 (47.4)
Early menarche	99 (46.0)	116 (54.0)
Fatty diet	94 (43.7)	121 (56.3)
Mean score: 6.62 ± 2.71		

Table 2: Distribution of knowledge on risk factors of breast cancer.

Knowledge of the respondents on breast self-examination

The distribution of knowledge on breast self-examination. One hundred and ninety (89.3%) have heard of BSE, preponderant percentage (87.9%) reported BSE as means of early detection of breast cancer and less than half (40.9%) of the respondents were knowledgeable of the age BSE should begin (>20 years). Majority of respondents have knowledge regarding performance of BSE as 87% knew that the breast should be palpated with palm and minimum of three fingers, 83.7% had knowledge of undressing to the waist when doing BSE and knowledge of the use of finger pulp to examine any lump or thickening was observed in 80%. One hundred and eighty-one knew about the need to press the nipple for unusual discharge and the need to armpit examination when performing BSE was agreed to by 81.9% and examination of any unusual changes in the shape and size of the breast was emphasized by 87.4%. Further, 173 (80.5%) respondents had knowledge about retraction of nipple as a warning sign of breast cancer (Table 3).

Items	Correct (%)	Incorrect (%)
Heard of breast self-examination	192 (89.3)	10 (4.7)
BSE helps in early detection of breast cancer	189 (87.9)	10 (4.7)

At what age should BSE begin	88 (40.9)	111 (51.6)
BSE should be done in front of mirror	186 (86.5)	12 (5.6)
Palpate with one finger	114 (53.0)	85 (39.5)
Palpate with palm and minimum of three fingers	186 (86.5)	9 (4.2)
Undress up to the level of the waist when doing BSE	180 (83.7)	17 (7.9)
Use finger pulp to examine any lumps or thickening of the skin	172 (80.0)	25 (11.6)
Need to press nipple to check unusual discharge	181 (84.2)	16 (7.4)
BSE includes armpit examination to check for lump	176 (81.9)	21 (9.8)
Need to examine any unusual changes in the shape and size of the breast	188 (87.4)	9 (4.2)
Retraction of the nipple is a warning sign that should be observed	173 (80.5)	24 (11.2)

Table 3: Distribution of knowledge on breast self-examination.

Knowledge score on BSE ranges between 0 and 12 with an average score of 10.02 ± 2.07 . Predominantly, 81.4% of respondents had a score of 9 or more (good knowledge) while 18.6% had a score below 9 (poor knowledge).

Knowledge of the respondents on clinical breast examination

The distribution of knowledge on clinical breast examination. Preponderant percentage of respondents have heard about CBE (82.8%), and 24.7% believed that CBE can only be performed by a doctor. One hundred and fifty seven respondents (73%) had knowledge about the age CBE should be performed (>20 years) and less than half had knowledge about how frequent should CBE be performed. Further, 64.2% of respondents identified that CBE is performed after menses (**Table 4**).

Items	Correct (%)	Incorrect (%)
Heard of Clinical breast examination	178 (82.8)	37 (17.2)
CBE can be performed only by doctors	162 (75.3)	53 (24.7)
At what age should CBE be done	157 (73.0)	58 (27.0)
How often should CBE be done	103 (47.9)	112 (52.1)
When can CBE be done	138 (64.2)	77 (35.8)

Table 4: Distribution of knowledge on clinical breast examination.

However, knowledge score on CBE among respondents ranged

between 1 and 5 with a mean of 3.47 ± 1.21 . One hundred and fifty eight (73.4%) of respondents scored above 3 (Good knowledge) while 57 (26.6%) had at most score of 3 (Poor knowledge).

Knowledge respondents of on mammography

Depicts the distribution of knowledge on mammography among respondents. One hundred and forty eight (68.8%) respondents have heard about mammography, 121 (56.3%) perceived mammography as a screening method, and 63.3% perceived it as a diagnostic method. Notably, one quarter ($n=54$, 25.1%) perceived mammography as both screening and diagnostic methods. One hundred and twenty eight (59.5%) respondents had knowledge about age mammography should commence (>40 years), and 133 (61.9%) had knowledge about how frequent mammography should be performed (**Table 5**).

Items	Correct (%)	Incorrect (%)
Heard of Mammography	148 (68.8)	67 (31.2)
Mammography as screening method	121 (56.3)	94 (43.7)
Mammography as diagnostic method	136 (63.3)	79 (36.7)
Both screening and diagnostic methods	103 (47.9)	112 (52.1)
At what age should mammography begin	128 (59.5)	87 (40.5)
How often should mammography be done	133 (61.9)	82 (38.1)

Table 5: Distribution of knowledge on mammography.

Respondents were scored on the knowledge of mammography and the score ranged between 1 and 5 with a mean score of 2.34 ± 1.02 . One hundred and two (47.4%) respondents had a score above 3 (good knowledge) while 52.6% had a maximum score of 3 (Poor knowledge).

Attitude of respondents towards breast cancer screening

Attitude of respondents towards breast cancer screening and this is presented in Table 6. Thirty nine respondents (8.1%) agreed that BSE is not necessary for early detection of cancer, strong agreement was observed in 16.7% while 39.1% disagreed and strong disagreement was made by 17.7%. Nearly half (49.8%) of the respondents believed that cancer is a white man's disease (Agreed: 21.9%, strongly agreed: 27.9%) while 29.3% disagreed and 9.3% strongly disagreed. Thirty seven (17.2%) respondents agreed that they do not have time for breast cancer screening because of tight work schedule, 19.1% strongly agreed, while 42.8% disagreed and 9.8% strongly disagreed.

Items	SA	A	U	D	SD
BSE is not necessary for early detection of Cancer	39 (18.1)	36 (16.7)	2 (0.9)	84 (39.1)	38 (17.7)
Breast cancer is a white man's diseases	47 (21.9)	60 (27.9)	9 (4.2)	63 (29.3)	20 (9.3)

I don't have the time for breast cancer screening because of my tight work schedule	37 (17.2)	41 (19.1)	8 (3.7)	92 (42.8)	21 (9.8)
It is not in my culture to be touching my breast	22 (10.2)	14 (6.5)	29 (13.5)	88 (40.9)	46 (21.4)
I don't believe in the efficacy of the test	21 (9.8)	18 (8.4)	39 (18.1)	84 (39.1)	37 (17.2)
I don't have the symptoms so I don't think it is necessary	11 (5.1)	28 (13.0)	32 (14.9)	88 (40.9)	40 (18.6)
It is against my religious belief	13 (6.0)	22 (10.2)	34 (15.8)	83 (38.6)	47 (21.9)
I don't mind being examined by doctors for CBE	31 (14.4)	63 (29.3)	19 (8.8)	63 (29.3)	22 (10.2)
Breast cancer is caused by devil	20 (9.3)	28 (13.0)	47 (21.9)	98 (45.6)	12 (5.6)
Breast cancer is a curse from God	27 (12.6)	13 (6.0)	42 (19.5)	39 (18.1)	73 (34.0)

Table 6: Attitude towards breast cancer screening.

Some (16.7%) of the respondents believed that it is not in their culture to be touching their breast (Agreed: 10.2%, strongly agreed: 6.5%), many disagreed (40.9%) and strong disagreement was made by 21.4%. Further, 9.8% of respondents agreed that they don't believe in efficacy of breast cancer screening test, 8.4% strongly agreed, 39.1% disagreed and strong disagreement was made by 17.2%. Thirty nine (18.1%) of respondents believed that breast cancer screening is not necessary since they do not have symptoms (Agreed: 5.1%, strongly agreed: 13%), many disagreed (40.9%), and 18.6% disagreed.

Thirteen respondents (6.0%) agreed that breast cancer screening is against their religious belief, 10.2% strongly agreed, 38.6% disagreed and 21.9% strongly disagreed. Some (29.3%) of the respondents disagreed to not minding being examined by doctor for CBE, 10.2% disagreed while 43.7% felt otherwise (Agreed: 14.4%, strongly agree: 29.3%). Twenty (9.3%) respondents agreed that breast cancer is caused by devil, 13% strongly agreed, many (45.6%) disagreed, and few (5.6%) strongly disagreed. Also, 12.6% agreed that breast cancer is a curse from God, 6% strongly agreed, 18.1% disagreed and 34% strongly disagreed.

Practice of breast self-examination

Predominantly the prevalence of Breast self-examination utilization among respondents was 81.9%. Of the total 176 respondents who had utilized BSE, the common reason was to detect abnormalities early (85.2%), 44.3% did following recommendation by health care provider, 18.2% had BSE because they noticed a lump, and 13.1% had BSE because a family member had cancer (Table 7).

Variable	Ever n (%)	Never n (%)
Ever done BSE	176 (81.9)	39 (18.1)

Table 7: Utilization of breast self-examination among respondents.

Among population of respondents who never had BSE, the common reason was because they had no positive history of cancer (2.1%), no symptoms constituted 17.9%, tight work

schedule was reported by 12.8%, fear of finding problem in 15.4% and forgetfulness in 7.7% (Table 8).

Status	Reasons	No of respondents (%)
Ever	Recommended by health care provider	78 (44.3)
	Noticed a lump	32 (18.2)
	A family member had cancer	23 (13.1)
	To detect abnormalities early	150 (85.2)
Never	Tight work schedule	5 (12.8)
	I don't have symptoms	7 (17.9)
	Fear of finding problem	6 (15.4)
	No positive history of cancer	9 (23.1)
	Forgetfulness	3 (7.7)

Table 8: Reasons for utilization or non-utilization of breast self-examination.

Practice of clinical breast examination

The utilization of clinical breast examination in the study population. Seventy four respondents had utilized clinical breast examination which gives a prevalence of 34.4%, while 141 (65.6%) had never utilized it before (Table 9).

Variable	Ever n (%)	Never n (%)
Ever done CBE	74 (34.4)	141 (65.6)

Table 9: Utilization of clinical breast examination.

Among population of respondents who had utilized CBE, the common reason for utilization was routine medical check-up (77%), followed by recommendation by health care provider (54.1%), 25.7% noticed a lump and positive history of cancer constituted 14.9%. Further, the common reason for non-utilization of CBE was no recommendation by a doctor (40.4%), followed by no positive history of cancer (39%), fear of positive diagnosis in 25.6%, 26.2% said it is inconvenient and 22% said it is embarrassing (Table 10).

Status	Reasons	No of respondents (%)
Ever	Recommended by health care provider	40 (54.1)
	Noticed a lump	19 (25.7)
	Had positive history	11 (14.9)
	Routine medical check up	57 (77.0)
Never	Not convenient	37 (26.2)
	It is embarrassing	31 (22.0)
	It wasn't recommended by doctor	57 (40.4)
	No positive history of cancer	55 (39.0)
	Fear of positive diagnosis	22 (25.6)

Table 10: Reasons for utilization or non-utilization of clinical breast examination.

Utilization of Mammography by respondents

In Figure 1, out of the total 215 respondents involved in this study, 8 (3.7%) had utilized mammography. Of the total 8 respondents who utilized mammography, half (50%) noticed lump, 25% had positive family history and recommendation was made to all (100%) by a health care provider. Approximately one third (32.3%) of respondents who didn't utilize mammography believed it is not necessary since they had no symptoms, 28% were afraid of being exposed to radiation, 21.5% reported lack of facility for mammography at the place of work, 43% reported being aged below 40 years as the reason for non-utilization (Tables 11 and 12).

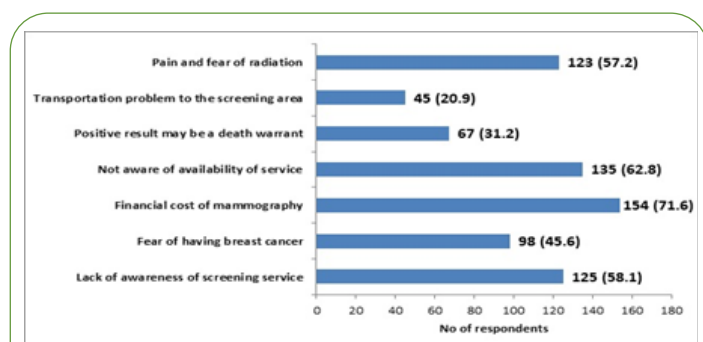


Figure 1: Distribution factors influencing breast cancer screening utilization.

Variable	Ever n (%)	Never n (%)
Ever done mammography before	8 (3.7%)	207 (96.3%)

Table 11: Utilization of mammography.

Status	Reasons	No of respondents (%)
Ever	Recommended by health care provider	8 (100)
	Noticed a lump	4 (50.0)
	Had positive family history	2 (25.0)
Never	Not recommended by doctor	86 (46.2)
	I aged below 40 years	80 (43.0)
	Not available where I work	40 (21.5)
	Fear of exposure to radiation	52 (28.0)
	I don't have any symptom so it's not necessary	60 (32.3)
	Lack of health insurance scheme	42 (22.6)

Table 12: Reasons for utilization or non-utilization of mammography.

Multivariate logistic regression analysis

On binary logistic regression, age and religion remained significantly independently associated with CBE. Older personnel were significantly more likely than younger personnel to have had CBE likewise Christians too were also more likely to utilize it more than their Muslims counterpart (Table 13).

Variables	Coefficient (B)	Odds ratio	95% CI for Odds ratio		p-value
Age (years)					
<30 (Ref)					
31 – 40	0.544	1.723	0.8	3.712	0.164
41 – 50	0.957	2.605	1.107	6.132	*0.028
51 – 60	2.156	8.634	2.214	33.67	*0.002
Religion					
Ref (Islam)	0.661	1.963	0.934	4.012	0.076
Christianity					

Table 13: Multivariate analysis of the effect of factors on utilization of CBE.

Factors influencing breast cancer screening utilization among female healthcare workers

Predominantly, financial cost of mammography was the most common (71.6%), 62.8% were not aware of the availability of mammography service, pain and fear of radiation (57.2%) and fear of having breast cancer (45.6%) were some of the factors implicated.

Discussion

Socio-demographic characteristics of the respondents

Findings from this study showed that majority of the respondent aged between 31-40 years (42.3%), married (85.6%), almost half of the respondents were nurses (48.4%), Christianity (73.5%) and they were mostly Yoruba's (88.4%). This may be due to the fact that the study was conducted in the south west region of the country which is mainly Yoruba dominated region and they are mostly Christians. There was no significant relationship between utilization of breast cancer screening (BSE) and the sociodemographic variables of age, marital status and religion, at $p=0.291$, 0.591 and 0.286 respectively. All these findings were substantiated in the observations of other researchers [13,14]. This in a way negates the findings [15], that age and marital status were found to be significant while, noted an associated between religion and practice of BSE [16].

There was also a statistical significant between the sociodemographic variables of age and religion of respondents and their utilization of clinical breast examination. In rates of CBE participants were found not to be influenced by age and religion which was in contrary to what was discovered from this study [17]. This was further negated in a study [18] that found age to be significant while found religion to be positively associated [19].

Further in the study, there was significant association between the socio-demographic variables (age, marital status and ethnic group) and the utilization of mammography at $p=0.001$, 0.028 and 0.031 . Of noted was the findings of some authors [17], that discovered association between age, marital status and ethnic group while contrary to these was the study that did not find an association between socio-demographic of age and marital status and the utilization of mammography [20].

Knowledge of breast cancer screening

The results of this investigation showed that 81.4% of the population had good knowledge of BSE and that it helps in the early detection of breast cancer (87.9%) but more than half of the respondents (51.6%) did not know the right age to commence BSE. These results were similar with the study conducted [21], that 86.1% of the respondents had high knowledge of BSE [22], reported that higher percentage of the respondents believe BSE as means of early detection of breast cancer but contrary to this was the investigation conducted on nursing and midwifery personnel that lower percentage of the respondents (13.1%) had good knowledge of BSE [23,24] also confirmed in her study that the right age to start BSE was poor which was in line with the discovery in this study.

This study also revealed that 73.4% of the respondents demonstrated good knowledge of CBE and this was substantiated [17], which discovered that majority of the respondents (93.2%), had good knowledge of CBE. The fact that less than half of the respondents had good knowledge about mammography (47.4%) had been noted and this could be related [25,26], that there was relatively low level of knowledge of mammography but this contradicts the findings in that more than half of the respondents (56.0%) had adequate knowledge of mammography [27].

Attitude towards breast cancer screening

The results of current study showed that 81.4% of the respondents had positive attitude towards breast cancer screening, less than half of the respondents (39.1%) agreed that they did not believe in the efficacy of the screening while quite a fewer number (19.1%) agreed that they did not have time because of their tight work schedule while some (40.9%) claimed they did not have problem with their breast. All these were corroborated in the findings [28,29], that there was a positive attitude towards breast cancer screening and not believing in the efficacy of the test and tight work schedule were factors hindering the utilization of breast cancer screening methods. This also in away negates the findings in a study conducted in Turkey [30], which revealed negative attitude towards the screening exercise. Further stated that having no problem with the breast was one of the reasons preventing women from utilizing the services [31]. Further in this study, disagreement was shown by quite a number of respondents (38.6%) that it was against their religious belief. This was corroborated [15]. That religiosity was negatively associated with the screening but this fact was negated [32] who found religiosity to be positively associated with the screening. It was also noted that a good number of the respondents (29.3%) agreed to be examined by doctors supporting the findings of [33] that many of the respondents agreed to have their breast examined by doctors.

Utilization of breast cancer screening

Findings of this study showed that 81.9% practiced BSE and the common reasons stated by the respondents were recommendations by their healthcare providers (44.3%) and fear of finding a problem in the breast (33.6%). This was similar to the findings [25], that 81.3% had practiced BSE and the most common reasons as stated [34,35] were recommendations by their healthcare provider and fear of finding problem in the

breast propelled some doctors, nurses and medical laboratory scientists to practice BSE. In contrary to these findings, discussed that the strongest reasons for not practicing BSE was fear of finding a problem while examining the breast [36].

Further in this study, only 34.4% had had CBE done in the past and one major reason for participation was recommendation by healthcare providers (54.1%). This was substantiated in [25], that the rate of utilization of CBE was slightly low (24.8%). Further corroborated this that less than half of the respondents (45.0%) had undertaken CBE and fear of breast cancer detection prompted them to seek for healthcare recommendation [37]. Of note in the study for not undertaking CBE was having no positive family history of breast cancer (39.0%). This was in line with the Observation of that not having positive history of breast cancer in the family was the reason for not having CBE done [38].

The study further depicted that utilization of mammography was only 3.7% among the study participants that were eligible to undergo mammography (38.9%) and all were recommendation by healthcare providers (100%). This was in line with several studies conducted in Nigeria [14] that showed low level of utilization of mammography. Parts of the reasons identified by participants in this study for not utilizing the services was that the screening was not recommended by health care provider (46.2%), fear of radiation exposure (28.0%), financial cost of the service (71.6%), lack of health insurance scheme (21.5%) and unavailability of the services (21.5%). All these were corroborated [17], that the reasons for low utilization of mammography includes lack of awareness, absence of health insurance scheme, fear of exposure to radiation while [39], discovered that lack of physician recommendation was a factor for neglecting the screening. Financial cost of mammography and not having insurance coverage were major barriers to the utilization of mammography [40]. Also, the fact that the facility is not readily available in most of the centers used in the study could be the reason for non-use. Even where it was available, the high cost of the procedure may be a barrier.

Financial cost of the screening (71.6%), unaware of the availability of the services (62.8%), fear of having breast cancer (45.6%), and transportation problem to the screening area were all factors postulated in this study to have influence on the utilization of breast cancer screening. This was corroborated [27] that one of the commonest reasons for not undergoing the screening was that respondents were not aware of the procedure being carried out at the centre. Furthermore, [41] pointed out that transportation problems such as large distance between women's residence and health facilities and the absence of mass transit system may also presents barriers to regular breast screening in rural areas. Found out that breast screening uptake decreased significantly with an increase in travel distance to screening facility. Out of pocket expenses were found to influence the uptake of mammography. Women having to pay out of pocket cost were less likely to be screened than those who have health insurance policies to take care of the experience [40]. Also observed factors like mammography induced pain and fear of radiation are possible barriers to effective utilization of mammography [41].

Limitation

The major limitation encountered in this study was the difficulty in accessing female health care workers especially at their free time to be ready to fill the questionnaires and the researcher had to go back severally to ensure they were completely filled. In addition, many complained that the items to fill were too much, however they were positively persuaded.

Conclusion

Conclusively, based on the findings, there is need to create more awareness on the screening measures especially on mammography. More centres should be developed with subsidization of the screening services. Therefore policy should ensure the creation of more breast imaging units and it would be necessary to include screening mammogram in the National Health Insurance Scheme. This will increase utilization thereby reducing morbidity and mortality associated with breast cancer disease.

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