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Original Research Article

Knowledge, attitude and uptake of mammography among female health workers in two tertiary health facilities of Sokoto state, Nigeria

Mansur O. Raji[1]*, Shehu P. Adamu[3], Hafsat O. Akinnibosun-Raji[2], Hadija O. Raji[4], Umar M. Ango[1], Aminu U. Kaoje[1]

[1]Department of Community Health, [2]Department of Radiology, Usmanu Danfodiyo University, Sokoto, Nigeria
[3]BMT Tourist Clinic and Diagnostic Centre Abuja, Nigeria
[4]Department of Obstetrics and Gynaecology, University of Ilorin, Kwara state, Nigeria

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***Correspondence:**
Dr. Mansur O. Raji,
E-mail: mansurraji@gmail.com

ABSTRACT

Background: Globally, breast cancer is the most common cancer in women and early detection remains the cornerstone of breast cancer control in terms of outcome and survival. Female health care workers, being frontline healthcare providers, often come in contact with patients and their relatives and can disseminate accurate mammography information. This study thus aimed to determine the knowledge, attitude and uptake of mammography among female health workers working in two tertiary health care facilities in Sokoto state, Nigeria.
Methods: The study was cross sectional in nature. Using formula for estimating sample size for cross-sectional studies, a sample size of 209 was obtained. All female health care workers were eligible to participate in the study. Systematic sampling was used to recruit them into the study. A self-administered questionnaire was used for data collection. Data was subsequently entered into IBM statistical software package version 20. Descriptive and inferential analysis was performed All statistical tests were carried out using 2 tailed test with alpha set at 0.05.
Results: Less than a fifth of the respondents knew the age screening mammography end if no breast problem is detected, less than half (44.4%) of the respondents knew how frequent a screening mammography be obtained after the age of 40 years. Less than a tenth (7.9%) of the respondents had ever had mammography done.
Conclusions: Majority of our study participants had good overall mammography related knowledge, most of them demonstrated positive attitude towards mammography, the uptake of mammography in our study population was very low.

Keywords: Attitude, Female Health workers, Knowledge, Mammography, Uptake

INTRODUCTION

Globally, breast cancer is the most common cancer in women, and is the second leading cause of cancer deaths among females; after lung cancer.[1-3] There is an estimated 1,384, 155 new cases worldwide and over 459,000 related deaths annually.[4] Since 2008, estimates of the World Health Organization (WHO) showed that, worldwide, the incidence of breast cancer has increased by more than 20%, and mortality has increased by 14%.[2]

If discovered early breast cancer can usually be cured, as such, primary prevention is the best strategy to decrease breast cancer related morbidity and mortality, and early detection remains the cornerstone of breast cancer control in terms of outcome and survival.[3] Currently the only breast cancer screening method that has proven to be effective is mammography.[2] Screening for breast cancer with mammography aims at detecting breast cancer at an early, curable stage.[5] A mammogram is an x-ray of the breast that uses a very small amount of radiation. A

screening mammogram is used to look for breast diseases in women who have no present indication for breast problems.[2] Combined results from randomized screening trials suggest that mammography reduces the risk of mortality from breast cancer by 15% to 20%.[5,6] Annual mammography remains the gold standard of asymptomatic breast cancer screening for women starting at the age of 40.[1,2,5] The recommended interval between two screens varies from 1-3 years.[5] The high cost of mammography, fear or irradiation, difficulty accessing health care services generally are some of the reasons that prevents large scale screening in most countries.[7]

Studies have shown that recommendation by a physician is a very strong incentive for women to obtain screening mammography.[3,8-10] Female health care workers have the potential to disseminate accurate information and knowledge on mammography to the general public. This is because as frontline healthcare providers, they often come in contact with patients and their relatives. Female HCW have a role to play as health educators on mammography as well as advocates for early presentation to hospital. It has also been observed that for health workers to be effective as educators they must possess the appropriate knowledge, attitude and beliefs concerning the health behaviour being promoted.[3,8-10] Studies from developed countries show that attitude and orientation of healthcare providers are important determinants of use of breast screening program.[8-10]

This study aimed to assess the knowledge, attitude and uptake of mammography among female health care workers working in 2 health care institutions in Sokoto, Nigeria.

METHODS

The study was carried out between May and August 2016 at 2 tertiary hospitals located in Sokoto metropolis; Usmanu Danfodiyo University Teaching Hospital (UDUTH) and Specialist Hospital Sokoto. UDUTH is a tertiary health care facility, it renders preventive, curative and rehabilitative services including mammography services. It has over 650 bed capacity with staff strength of 1,705 including 362 female health workers.

Specialist Hospital Sokoto also offers preventive, curative and rehabilitative services, with a bed capacity of 520 and staff strength of 1,654 including 251 female health workers.The study was cross sectional in nature. Using formula for estimating sample size for cross-sectional studies, with a prevalence of 0.876 (prevalence of knowledge of mammography) 8 and correction of non-response of 20% a sample size of 209 was obtained.

Inclusion criteria

All female health professionals (doctors, nurses, medical laboratory scientist, pharmacist) employed by the hospitals were eligible to participate in the study.

Exclusion criteria

Health care workers who had spent less than 6 months at place of work were excluded from participating in the study.

After obtaining the list of the female health workers from their respective departments/units systematic sampling was used to recruit them into the study. A semi-structured, self-administered questionnaire was used for data collection. The questionnaire had sections that assessed socio-demographic and professional characteristics, respondents' mammography related knowledge, mammography related attitude and respondents' uptake of mammography. Informed consent was obtained from individual respondents and ethical approval for the study was obtained from the ethics committee of Usmanu Danfodiyo University Teaching Hospital, Sokoto. The questionnaires were distributed and retrieved by trained research assistants (medical students). The retrieved questionnaires were manually checked for completeness. Mammography related knowledge of respondents was obtained by calculating the percentage of questions answered correctly, each question answered correctly attracted a score of 1 and any question wrongly answered attracted a score of zero, the total score was divided by the total number of questions and multiplied by 100. For each respondent, a score of 50% and above was regarded as good mammography related knowledge, while a score of less than 50% was regarded as poor mammography related knowledge.

Data was subsequently entered into IBM statistical software package version 20. Data editing and cleaning were performed, and data was only analysed after it was confirmed to be clean. Descriptive analysis was performed using frequency and percentages for categorical data and means and standard deviation for quantitative data. Chi-square analysis was performed to determine factors associated with mammography related knowledge of respondents. All statistical tests were carried out using 2 tailed test with alpha set at 0.05.

RESULTS

The study participants comprise of Hausas (29.7%), Ibo (25.8%), Yoruba (22%), Fulani (15.8%). Majority (77.5%) of the study participants were less than 40 years old and Islam was the predominant religion (60.3%). Majority of the respondents had ever married (85.5%). Nurses were the predominant profession (83.2%), followed by doctors (11.5%), laboratory scientist (3.4%) and pharmacists (1.9%). Few (21.2%) of the respondents had been practicing for more than 10 years (Table 1).

Only 2 (1%) of the respondents reported having been diagnosed with breast cancer, 22 (10.6%) of the respondents reported having a family member with breast cancer, 13 (6.3%) had a friend with breast cancer (Table 2).

Table 1: Respondents socio-demographic and professional characteristics.

Variables		n (%)
Age (years)	<40	162 (77.5)
	≥40	47 (22.5)
Tribe	Hausa	62 (29.7)
	Fulani	33 (15.8)
	Yoruba	46 (22)
	Igbo	54 (25.8)
	Others	14 (6.7)
Religion	Islam	126 (60.3)
	Christianity	83 (39.7)
Marital status	Never married	30 (14.5)
	Ever married	177 (85.5)
Profession	Doctors	24 (11.5)
	Nurses	173 (83.2)
	Pharmacist	4 (1.9)
	Laboratory scientist	7 (3.4)
Highest qualification	Basic qualification	88 (42.1)
	Post basic qualification	121 (57.9)
Duration of practice (years)	≤10	160 (78.8)
	>10	43 (21.2)

Table 2: Respondents cancer related history.

Variables		n (%)
Ever been Diagnosed with breast cancer?	Yes	2 (1)
	No	204 (99)
Any family member with breast cancer?	Yes	22 (10.6)
	No	173 (83.6)
	I don't know	12 (5.8)
Any friend with breast cancer?	Yes	13 (6.3)
	No	136 (66)
	I don't know	57 (27.7)

Majority of the respondents (83.4%) knew that a woman who is forty years or more should go for a mammography, 86.2% knew that a woman less than forty years who has a family history of breast cancer should go for a mammography, majority also knew that mammography can be used to diagnose breast cancer (95.6%). Less than a fifth of the respondents knew the age screening mammography end if no breast problem is detected, less than half (44.4%) of the respondents knew how frequent a screening mammography be obtained after the age of 40 years (Table 3).

More than half (55.2%) of the respondents would undergo a mammography if the need arises, majority (70%) do not think that going for a screening mammography is inconvenient, more than half (53.7%) of the respondents think that the possibility of physical discomfort during mammography will not discourage them from accessing the procedure, majority of the respondents (76.3%) feel that possibility of pain during the procedure would not discourage them from assessing mammography, while lack of time to go to the hospital would not discourage 83.7% of the respondents (Table 4).

Table 3: Respondents mammography related knowledge.

Variables	Appropriate response n (%)	Inappropriate response n (%)
Should a woman who is ≥40 years without any breast disease go for mammography?	171 (83.4)	34 (16.6)
Should a woman <40 years who has a family history of breast cancer go for mammography?	175 (86.2)	28 (13.8)
Can mammography be used to diagnose breast cancer?	194 (95.6)	9 (4.4)
At what age should a screening mammography end if no breast problem is detected	20 (19.2)	84 (80.8)
How frequent should a screening mammography be obtained after the age of 40 years?	40 (44.4)	50 (55.4)

Table 4: Respondents attitude towards mammography.

Variables	Appropriate response n (%)	Inappropriate response n (%)
Would you be willing to undergo a mammography	107 (55.2)	87 (44.8)
Do you think that going for a screening mammography is inconvenient	131 (70)	56 (30)
Possibility of physical discomfort during mammography will discourage me from going for the procedure	101 (53.7)	87 (46.7)
Possibility of pain of mammography will discourage me from accessing mammography	145 (76.3)	45 (23.7)
Lack of time to go to hospital stops me from going for mammography	164 (83.7)	32 (16.3)
Would not consider going for mammography except my doctor ask me to go	136 (70.1)	58 (29.9)
I think mammography is difficult to access	131 (67.9)	62 (32.1)

Less than a tenth (7.9%) of the respondents had ever had mammography done (Figure 1).

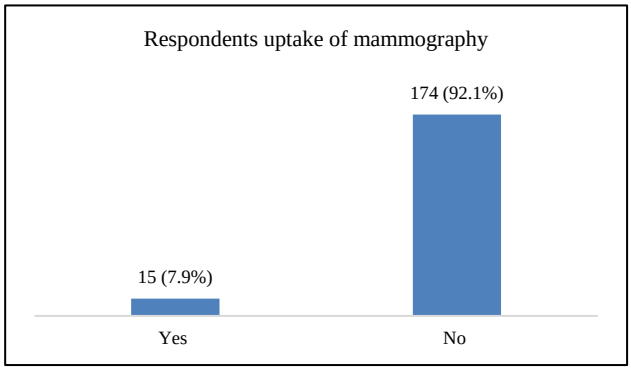

Figure 1: Respondents uptake of mammography.

Reasons respondents gave for not going for a mammography include but not limited to; nothing is wrong with me (30.1%), I feel healthy (27.8%), my doctor did not refer me for one (10.2%) among other reasons (Table 5).

Respondents with in-adequate knowledge were more likely to be less than 40 years (OR=1.5), this was not statistically significant (p=0.276). Most of the respondents who had adequate knowledge were nurses (81%), there was no statistically significant relationship between cadre and mammography related knowledge. Respondents with in-adequate knowledge of mammography were more likely to have had only basic education (OR=1.63), this was not statistically significant. Respondents that had in-adequate knowledge of mammography were more likely to have less than 10 years' duration of practice (OR= 1.24). Respondents with negative mammography related attitude were 6.7 times more likely to have in-adequate mammography knowledge. Respondents with in-adequate mammography related knowledge were less likely to have ever performed a mammography (OR=0.26), this was not statistically significant (p=1.00) (Table 6).

Table 5: Reason for not undergoing mammography.

Variables		n	%
Reason for not doing mammography	Nothing is wrong with me	53	30.1
	I feel healthy	49	27.8
	My doctor never referred me	18	10.2
	I don't have time	18	10.2
	The test is too expensive	6	3.4
	The centres are not available in my neighbourhood	4	2.3
	I am too young	9	5.1
	I never heard of such test	1	0.6

Table 6: Factors associated with respondents' knowledge of mammography.

Variables		Knowledge score		Test statistics and p value
		Inadequate	Adequate	
Age (in years)	<40	55 (82.1)	107 (75.4)	χ^2=1.19, p=0.276, OR=1.5
	≥40	12 (17.9)	35 (24.6)	
Marital status	Never married	10 (15.2)	20 (14.2)	χ^2=0.034, p=0.854, OR=1.08
	Ever married	56 (84.8)	121 (85.8)	
Cadre	Doctor	2 (3.0)	22 (15.5)	χ^2=10.18, p=0.017
	Pharmacist	3 (4.5)	1 (0.7)	
	Nurse/midwife	58 (87.9)	115 (81)	
	Laboratory scientist	3 (4.5)	4 (2.8)	
Highest educational level	Basic qualification	34 (50.7)	55 (38.7)	χ^2=2.067, p=0.150, OR= 1.63
	Post graduate degree	33 (49.3)	87 (61.3)	
Duration of practice (years)	0-10	52 (81.3)	108 (77.7)	χ^2=0.331, p=0.567,OR=1.24
	>10	12 (18.8)	31 (22.3)	
Attitude towards mammography	Negative	3 (4.8)	1 (0.7)	P=0.096 (Fisher's Exact), OR= 6.7
	Positive	60 (95.2)	134 (99.3)	
Ever had mammography	No	46 (75.41)	118 (92.2)	P=1.00 (Fisher's Exact), OR=0.259
	Yes	15 (24.59)	10 (7.8)	

DISCUSSION

Female health workers having good mammography related knowledge is encouraged as it impacts the quality of information given to woman who assess health care services since health care facilities is an important source of health related information. Most of our study participants knew that a woman who is forty years or more should go for a mammography, majority knew that a woman less than forty years who has a family history of breast cancer should go for a mammography. Most of them also knew that mammography can be used to diagnose breast cancer (95.6%). This is similar to findings from a previous study which reported that 80.7%

of respondents knew that mammography can be used to diagnose breast cancer.[3] However, less than a fifth of the respondents knew the age screening mammography should end if no breast problem is detected, less than half (44.4%) of the respondents knew how frequent a screening mammography be obtained after the age of 40 years. Low level of knowledge of mammography among female health care workers (who are in the best position to provide health education) may lead to provision of wrong mammography information to women who may require mammography and this in turn may lead to low or non-utilization of mammography.

Most of our study participants demonstrated positive attitude towards mammography as more than half reported willingness to undergo a mammography, majority do not think that going for a screening mammography is inconvenient, more than half of the respondents think that the possibility of physical discomfort and or pain during mammography will not discourage them from accessing the procedure. This is in consonance with a study conducted in Malaysia which also reported positive attitude among respondents to mammography.[11]

Less than a tenth (7.9%) of the respondents had previously had mammography done. This is comparable to previous studies which noted that few study respondents reported having undergone a mammography and low level of mammography uptake among female health care workers.[3,8,12-16] However, a previous study conducted among health personnel in Malaysia reported a much higher rate of 80.3%.[17] The high rate of mammography screening in the study was ascribed to the wellness program domiciled in the study site.

My doctor did not refer me for one was also found to be an important reason for not performing a mammography, some studies suggest that a major reason for the underutilization of mammography is the failure of physicians to recommend that it be done, as studies have revealed that physician recommendation was significantly associated with having mammogram.[13,18-20] Another study however reported that a clear recommendation to undergo a mammography is helpful but 48% of women given this recommendation did not follow through to obtain the mammogram.[21] The test is expensive is another reason giving for not utilizing mammography services, some studies have reported cost as a barrier to the uptake of mammography.[1,11] The issue of cost can be reduced if mammography is incorporated into social health insurance schemes. Other studies found that cost was not a barrier to uptake of mammography as breast cancer screening was free or covered by health insurance.[22,23]

Other reasons respondents gave for not going for a mammographic examination include but not limited to; nothing is wrong with me, I feel healthy. There is need to do more to encourage women to undergo mammography. Perhaps, influencing women's values and beliefs regarding mammography could be part of the solution. Health education and mammography campaigns may be an important way of improving response to mammography. According to health belief model, a woman must believe that she is personally susceptible to the disease; that the disease itself would substantially affect her life and that taking action now would be beneficial without excessive cost, inconvenience and pain.[24] Perceived susceptibility to breast cancer was significant with mammography uptake among hospital workers in Turkey.[25,26]

Respondents less than 40 years were 1.5 times more likely to have in-adequate mammography knowledge compared with those that were 40 or above. It is possible that as women become older, they may gain more information about health challenges that occur in that age group, this may be the reason why the older study participants had more knowledge about mammography compared with the younger ones. A previous study reported lower level of knowledge among older women, although this study was not carried out among health care workers.[15]

Respondents with in-adequate knowledge of mammography were 1.63 times more likely to have had only basic education, however, this was not statistically significant. This finding is in consonant with previous studies that also reported strong association between education and mammography knowledge.[27,28]

This study was conducted in 2 tertiary hospitals, thus the findings of this study may not be generalizable to female health workers in Sokoto state.

CONCLUSION

Majority of our study participants had good overall mammography related knowledge, although most of them did not know the frequency a screening mammography should be obtained after the age of 40 and the age screening mammography end if no breast problem is detected. Most of them demonstrated positive attitude towards mammography, the uptake of mammography in our study population was very low. Incorporating mammography into Continuous professional development programs of health workers (with emphasis on the important role of early detection of breast tumours) may go a long way in increasing uptake of mammography among female health workers. Further research such as a qualitative study on the barriers towards obtaining mammography may provide more in-depth understanding of these barriers.

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