

## Knowledge and Practice of Breast Cancer Screening Among Healthcare Professionals in a Tertiary Health Institution in Nigeria

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**Abstract:** Breast cancer is the most common cancer afflicting women globally and in Nigeria. Breast cancer screening can reduce morbidity and mortality and improve the survival rate of breast cancer. It is expected that healthcare providers who maintain and develop the society's health, should have a higher level of knowledge, attitudes, and practice in the field of healthy behaviours. This study therefore assessed the knowledge of female healthcare providers/professionals on breast cancer, breast cancer screening services and also their awareness of the availability of these screening services in the tertiary institution where they work. The study employed a cross-sectional design. A self-administered semi-structured questionnaire was administered to healthcare providers of different professional backgrounds to determine their knowledge on breast cancer, screening services and also their awareness of the availability of breast cancer screening services in the hospital where they work. The findings of this study showed that majority of the healthcare providers (75.9%) had a good knowledge of breast cancer screening services, however, only few utilize the available screening services. Although more than half of the participants practice self-breast examination, only 51.7% practice it each month. Only 26.4% of the respondent has undergone clinical breast examination. Furthermore, majority (78.2%) of the respondents were aware of mammography as a screening test, however, only 9.2% of the respondents had ever undergone a mammography before. For health workers to function as effective promoters of breast cancer control through early detection, it is expedient for them to have adequate knowledge as well as appropriate attitude and belief concerning the disease and its early detection. It is therefore recommended that educational intervention be made to increase the knowledge and awareness of healthcare professionals on breast cancer.

**Keywords:** Awareness, Breast cancer, Healthcare professionals, Knowledge, Mammography

### I. Introduction

Breast cancer is the number one cancer scourge afflicting women as declared by World Health Organization and leading cause of death and disability among women [1]. Breast cancer can be expressed as a malignant disease that occurs when there is an uncontrolled growth of abnormal cells in the breast [2]. It is characterized by abnormal proliferation of breast cells. This condition can be found in both male and female but the rate of occurrence is more in females. Early detection and treatment of breast cancer is associated with better chance of long-term survival. In Nigeria, about two-third of patients with breast cancer go to the hospital with advanced stages when therapy offers minimal or no benefit at all [3, 4, 5, 6]. Breast cancer typically is detected either during a screening examination, before symptoms have developed, or after symptoms have developed, when a woman feels a lump. When cancer is suspected based on clinical breast exam or breast imaging, microscopic analysis of breast tissue is necessary for a definitive diagnosis and to determine the extent of spread (in situ or invasive) and characterize the pattern of the disease [7].

Breast cancer screening is the medical screening of asymptomatic/apparently healthy women for breast cancer in an attempt to achieve an early diagnosis. A number of screening tests have been employed, including clinical and self-breast examination, mammography, genetic screening, ultrasound, and magnetic resonance imaging [8]. Breast self-examination (BSE), Clinical breast examination (CBE) and Mammography are recognized screening methods for breast cancer. However, uptake of these methods by women depends on several factors including religious beliefs, attitude of their physicians to breast cancer screening and motivation by the community nurses.

Female healthcare professionals have greater influence on women's positive perception of breast cancer and motivation to practice screening methods for early detection of the disease. In addition, level of knowledge and attitudes of healthcare providers towards breast cancer are important determinants of their influence on

adoption of screening method by women in their localities [9]. Studies have shown varying levels of knowledge about breast cancer among health care workers. Improving their knowledge and screening practices through targeted interventions have positively influenced adoption of early detection methods by women in their communities [10].

In Nigeria, previous studies on breast cancer knowledge were conducted mainly among community dwelling women. Reports from these studies showed low level of awareness of breast cancer and practice of screening methods [4, 11, 12]. Adequate knowledge and positive attitude towards breast cancer screening are essential for female healthcare professionals if they are to play their expected role in breast cancer awareness campaign in Nigeria. Studies in Nigeria on knowledge, attitude and practice of healthcare providers towards breast cancer are few and most of these studies focused mainly on nurses. Rather than focusing on only nurses, this present study focused on all healthcare professionals across different professional groups since they all have a role to play in patient/client's education. Therefore, there is need to assess current level of knowledge of breast cancer risk factors and practice of screening methods among female healthcare professionals, this is in order to determine the need for continuing medical and health education programs that could improve adoption of early detection measures among this group of healthcare professionals. Health care 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. It is therefore important or tantamount to assess the attitude of health care professionals towards breast cancer screening methods/services.

The knowledge and control of modifiable breast cancer risk factors such as maintaining a healthy weight, regular exercise and reducing alcohol intake could eventually have an impact in reducing the incidence of breast cancer [13]. However, these strategies cannot eliminate the majority of breast cancers. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control. Early detection is a mainstay in improving the therapeutic outcome of breast cancer, it is therefore necessary to assess the attitudes of healthcare providers towards breast cancer and breast cancer screening services, as this may have influence on adoption of screening services by other women in their localities. This study seeks to examine and evaluate the knowledge of health care providers on breast cancer screening methods and also to assess the practice and availability of breast cancer screening services in Federal Teaching Hospital, Ido-Ekiti, Ekiti State.

## **II. Methodology**

The study took place in Federal Teaching Hospital, Ido-Ekiti, (FETHI), Ekiti state, Nigeria. FETHI is one of the tertiary institutions in Ekiti-State, Nigeria and it is one of the two teaching hospitals in the state. The hospital was established in July, 1998 as Federal Medical Centre but was later upgraded to a teaching hospital in September, 2014 by the Federal Government of Nigeria. The facility is located at Ido-Osi Local Government Area, Ekiti State. FETHI is a 280 bedded institution comprising of 24 functional wards with other ancillary units such as radiology department, laboratory and pharmacy. The total estimated number of female healthcare professionals working in FETHI was 330, comprising doctors, nurses, medical laboratory scientists, pharmacists, physiotherapists and dieticians. The study employed a descriptive cross sectional design to assess the knowledge of female healthcare providers/professionals on breast cancer screening services and also assessed the availability of breast cancer screening service in FEHTI. A self-administered questionnaire was given to female healthcare providers working in the tertiary institution in order to assess their knowledge and utilization of breast cancer screening services. A checklist was also employed to assess the availability of a mammogram and magnetic resonance imaging (MRI) in the health facility. A random sample of 87 respondents were recruited to participate in the study having fulfilled the inclusion criteria. Data were analysed using SPSS version 20. Data were presented as tables and charts. Knowledge score was categorised into poor, fair and good. The maximum score was 10. Scores between 0 – 3 were categorised as poor knowledge, 4 – 6 as fair knowledge and 7 – 10 as good knowledge. Verbal consent was obtained from respondents and ethical clearance was obtained from the ethical review board of FEHTI, Ido-Ekiti before data collection.

## **III. Results**

The socio-demographic characteristics of study participants are shown in Table 1. Of the 87 female healthcare providers, their ages ranged from 19–55 years. The mean age was 33.89±8.10 years. Majority (70.1%) of the respondents were married, Christians (87.4%) and had a university degree (46.0%). More than half (57.5%) of the respondents were nurses, 12.6% were doctors, 11.5% were medical laboratory scientists, 8.0% were physiotherapists and 10.3% were dieticians.

**Table 1** Socio-demographic characteristics of study participants

Sociodemographic characteristics	Frequency	Percentage
<b>Age Distribution (years)</b>		
20 and below	3	3.4
21-30	31	35.6
31-40	34	39.1
41-50	18	20.7
>50	1	1.2
<b>Marital status</b>		
Single	25	28.7
Married	61	70.1
Divorced	1	1.2
<b>Religion</b>		
Christianity	76	87.4
Islam	8	9.2
Traditional	2	2.3
Others	1	1.1
<b>Educational qualification</b>		
Diploma	39	44.8
Bachelor's degree	40	46.0
Master's degree	8	9.2
<b>Profession</b>		
Doctors	11	12.6
Nurses	50	57.5
Medical Laboratory Scientist	10	11.5
Physiotherapist	7	8.1
Dietician	9	10.3

As shown in Table 2, the study participants showed a good knowledge of breast cancer. More than half (89.7%) of the participants correctly identified breast cancer as the most common cancer amongst women. In response to the question on the genetic susceptibility of breast cancer, only 63.2% were aware that breast cancer could be inherited. Nearly all knew that early diagnosis improves outcome of treatment (93.1%) and breast self-examination is useful in early diagnosis (94.3%).

**Table 2** Knowledge of Respondent on breast cancer and breast cancer

Knowledge Questions	Frequency	Percentage
<b>Overall knowledge score</b>		
Good	66	75.9
Fair	18	20.7
Poor	3	3.4
<b>Breast cancer is the most common cancer in women</b>		
Yes	78	89.7
No	3	3.4
Don't know	6	6.9
<b>Breast cancer occur more commonly in old people</b>		
Yes	54	62.1
No	25	28.7
Don't know	8	9.2
<b>Breast can be inherited</b>		
Yes	55	63.2
No	22	25.3
Don't know	10	11.5
<b>Breast cancer is caused by evil spirits</b>		
Yes	2	2.3
No	76	87.4
Don't know	9	10.3
<b>Breast cancer usually present as a painless breast lump</b>		
Yes	71	81.6
No	11	12.6
Don't know	5	5.8
<b>Early diagnosis improves outcome of treatment</b>		
Yes	81	93.1
No	2	2.3
Don't know	4	4.6
<b>Breast self- examination is useful in early diagnosis</b>		
Yes	82	94.3
No	1	1.1
Don't know	4	4.6

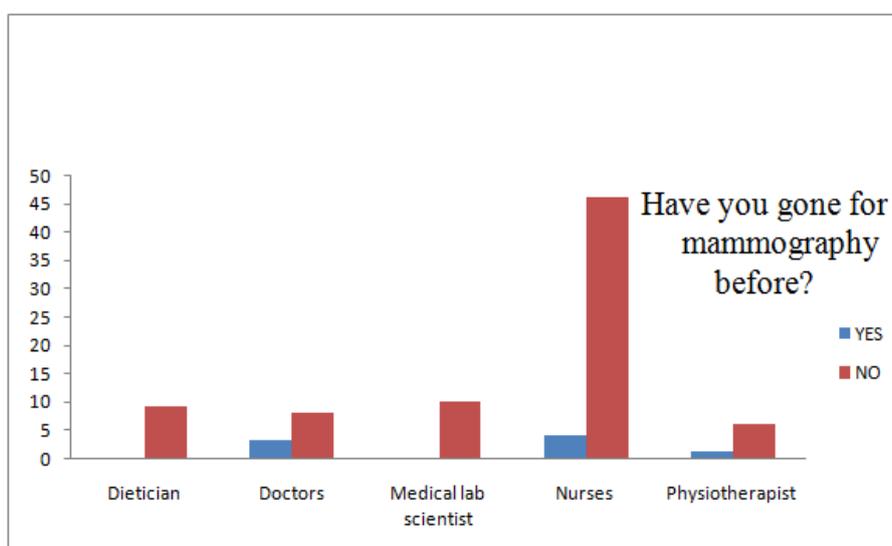
<b>Breast cancer is curable when detected early</b>		
Yes	79	90.8
No	1	1.2
Don't know	7	8.0
<b>Breast cancer screening services are simple and painless</b>		
Yes	82	94.3
No	0	0.0
Don't know	5	5.7
<b>Family history of breast cancer puts one at risk</b>		
Yes	67	77.0
No	12	13.8
Don't know	8	9.2

Nearly all (95.4%) were aware of self-breast examination, more than half of the participants (81.6%) practice self -breast examination, however, only 45(63.4%) out of 71 practice it each month. Only 26.4% of the respondent has undergone clinical breast examination. Majority (79.3%) of the respondents have heard of mammography and were aware of mammography as a screening test, however, only 9.2% of the respondents had ever done mammogram as revealed in Table 3.

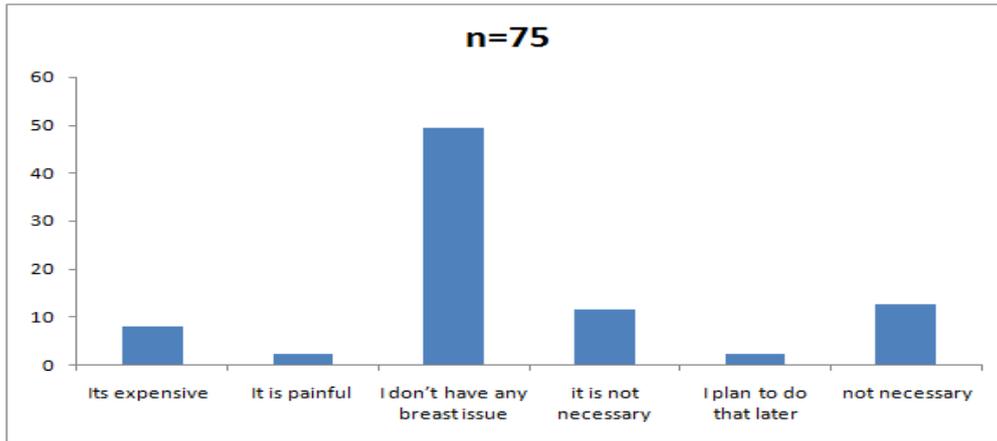
**Table3** Distribution of respondents according to practice of Breast Self- Examination (BSE), Clinical breast examination (CBE) and Mammography

Variable	Frequency	Percentage (%)
<b>Practice of BSE</b>		
Yes	71	81.6
No	16	18.4
<b>Frequency of practice of BSE (n = 71)</b>		
Once a month	45	63.4
Once in two months	13	18.3
Occasionally	13	18.3
<b>Practice of CBE</b>		
Yes	23	26.4
No	64	73.6
<b>Heard of mammography</b>		
Yes	69	79.3
No	18	20.7
<b>Undergone mammography</b>		
Yes	8	9.2
No	79	90.8

From Figure 1, out of the 87 healthcare providers, only eight (9.2%) respondents have gone for mammography out of which three were doctors, four were nurses and one physiotherapist.

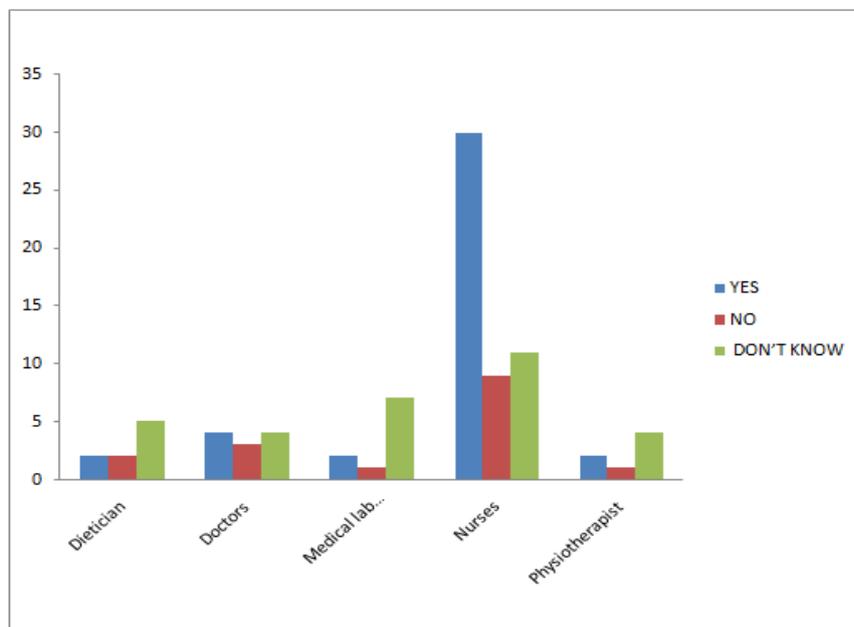


**Figure1:** Mammography screening across different professional groups



**Figure 2:** Reasons for not utilizing mammography screening as stated by respondents.

Some of the reasons identified by respondents for not undergoing a mammography screening are stated in Figure 2. Furthermore, few of the respondents were aware of the availability of a mammogram in FETHI (Figure 3). About 34.5% of the nurses were aware of the availability of a mammogram in FETHI, while 4.6% of doctors were aware and only 2.3% of other health care professionals were aware of the availability of a mammogram within the hospital.



**Figure 3:** Awareness of respondents on the available screening services in FETHI

#### IV. Discussion

##### 4.1. Knowledge of healthcare providers on breast cancer

The result of this study shows that female healthcare professionals have a good knowledge (75.9%) about breast cancer. This is similar to 67% adequate knowledge among female health workers in northern Nigeria [14], 65.8% among nurses in Brazil [15] and other studies in Los Angeles, Western Turkey and Ibadan [16, 17, 18, 19]. Reports from similar studies among female healthcare providers support this finding [9]. Odusanya and Tayo [11] reported that only 27% of the respondents in their understood as many as three of the risk factors, but none of the nurses in the sample knew all of the risk factors associated with breast cancer. A study in South India reported 14.03% good and 49.12% fair knowledge among nurses. [20]. This lack of knowledge was attributed to insufficient emphasis on screening methods and primary prevention in nursing curriculum, along with inadequate education regarding breast cancer risk factors.

We found out that nurses had good knowledge (84%) compared to doctors (81.8%). However, no doctor had a poor knowledge compared to 2.0% nurses with poor knowledge. This is in contrast to a study where 80% of female doctors had better knowledge of breast cancer than nurses [14] and other studies showing

doctors having better knowledge in Benin city and Lagos [9, 21]. Respondents with master's degree (87.5%) had better knowledge than those with bachelor's degree (72.5%) and diploma (76.9%).

#### **4.2. Breast cancer screening knowledge, awareness and practice**

In this study, despite the awareness of SBE (95.4%) and ever practice of SBE (81.6%), only 45 (51.7%) practice SBE monthly. This is similar to 54% observed among female health workers in northern Nigeria, [14], but higher than 35.5% among Ethiopian female healthcare professionals [19], 18% and 19.4% among Jordanian nurses [10, 22]. Our findings on monthly BSE practice is however lower than those found among Pakistani nurses (65.1%) [23], Nigeria health workers (95%) and nurses (89%) [24, 25]. About 82% of those who practice SBE had good knowledge on breast cancer and majority (66.2%) of those who practice SBE were married. This is similar to some other studies [10]. This may be because the singles may be afraid of finding something strange while examining their breasts at such a young age.

Healthcare professionals that practice CBE were only 23 (26.4%). A good number of them (78.2%) have heard of mammography. Many studies have also showed that healthcare workers are well aware of mammography as a screening for breast cancer [14, 19, 21, 23, 24, 26,]. However, only 8 (9.2%) among participants from different professions have ever had mammogram. This finding is quite low, which indicates that even healthcare professionals in this health facility are not utilizing the screening services available. Majority claimed they do not need it because they do not have any breast issue and that it is not necessary. In this study, 60% of the nurses were aware of mammography services in the institution while only 36.4% doctors were aware. If patients attending FETHI are going to undergo mammography, healthcare workers in the institution must have adequate knowledge. Similar result was reported in Northern Nigeria where only 9% had undergone mammography because the female healthcare workers were not even aware of the procedure being carried out in the health facility where they work and some felt it will be expensive [14]. Similar low level of utilization of mammography has also been reported by other studies [9, 11, 21, 27]. This low mammographic screening rate is an indication of a lost fight against the morbidity and mortality of breast cancer among women if awareness programmes are not conducted for these healthcare professionals.

On examination of the available screening services, the facility offers CBE services and mammography. But women don't really patronize these services especially CBE. There is only one available mammography machine available to cater for the needs of all the female patients that come to the hospital. The findings of this study revealed that although the facilities offers a mammography and CBE services, however only few of this respondents are aware of the availability of these services within the hospital and few of them utilizes this available services.

Although, practice of BSE among participants in this study is satisfactory, female doctors, nurses and other allied healthcare professionals should be encouraged to adopt regular CBE as well. This will positively influence their role in motivating other women in the society who look up to them for advice and guidance in adopting the practice of screening method. For health workers to function as effective promoters of breast cancer control through early detection, it is expedient for them to have adequate knowledge as well as appropriate attitude and belief concerning the disease and its early detection [24].

#### **4.3. Implication of the study to Public Health**

This study shows that although healthcare providers have a good knowledge of breast cancer, however, low percentage of these professionals utilize these screenings services. Nurses play a very important role in the dissemination of information and care of breast cancer, because of their constant communication and contact with patients and their relatives. It is therefore important for them to be at the forefront of battling against this problem to further encourage other women to adopt and utilize the available screening services for early detection. Healthcare providers therefore, should learn more about these screening services and utilize them appropriately, so as to help their clients. Educational programmes for healthcare professionals are urgently needed to improve their knowledge about breast cancer, its risk factors, and available screening procedures. Studies have shown that knowledgeable healthcare professionals practice CBE and teach women about risks of breast cancer more than healthcare providers who have limited levels of knowledge (11, 28).

#### **4.4. Limitations**

The sample size and sampled population of this study decreased the generalisability of this study to the entire healthcare workers in Ekiti state and Nigeria. However, the results obtained from the respondents could be a true representation of the research population. Causal relationships between variables cannot be established. All analyses are based on self-report with the possibility of over and under reporting.

## V. Conclusion

Knowledge of breast cancer is satisfactory among the female healthcare providers in FETHI, but there is poor utilization and practice of the breast cancer screenings. Considering healthcare professionals leading role in breast cancer awareness and information dissemination, efforts should be made by Government and Non-Governmental agencies to improve positive attitude among healthcare providers towards breast cancer screening services, especially the females but not excluding the males. Programmes to educate religious leaders and alternative medical practitioners about breast cancer should also be encouraged. The advantage of early presentation and treatment of patients suffering from breast cancer should be emphasized during such interactions. This is because of the high values Nigerians place on their spiritual beliefs.

## VI. Recommendation

There is need to carry out a research on the factors affecting the use of the available screening services. Further studies should be carried out on the awareness of breast cancer screening among women. Government should provide more mammography machines for healthcare facilities.

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