

**Knowledge and Awareness of Mammography among women attending
Radiology Department in Abubakar Tafawa Balewa University Teaching Hospital
(ATBUTH) Bauchi.**

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ABSTRACT

Background: Breast cancer is a leading cancer in women today and the greatest challenge is late presentation which leads to poor outcome and high mortality rate. Mammography is effective in early detection of breast cancer and consequently improves the breast cancer survival.

Objective: To assess the knowledge and awareness of mammography as a screening tool for breast cancer among women who came for radiology investigation at ATBUTH, Bauchi, North-Eastern Nigeria.

Materials and methods: This is a cross-sectional survey design conducted among women who came for an ultrasound scan in Radiology Department in ATBUTH Bauchi. The study was carried out from February 2017 to May 2017. 25 item questionnaires comprising of four sections was adopted for the study. One hundred and fifty questionnaires were administered of which 147 (98% response rate) was properly filled and returned.

Results: The mean age of respondents was 23.6 years (n=147). The percentage of respondents who have heard about mammography is 48.9% (n=72), only about 11 % (n=16) truly answered the age at which mammography should be done, 85% (n=125) correctly answered that mammography can detect breast cancer in early stage. 44.1% (n=64) of the respondents are aware of mammography and only 8.2% (n=12) of the respondents have ever performed mammography.

Conclusion: The level of awareness of mammography is fair; however, there is poor knowledge of mammography examination among respondents.

A massive health education campaign through multiple methods and operations are needed to enhance the knowledge and awareness of mammography among women in Bauchi State.

Key words: Breast cancer, Mammography, Awareness, Knowledge, Bauchi, Nigeria.

INTRODUCTION

Breast cancer is the second most common cancer in the world and by far the most frequent cancer among women with estimated 1.67million new cancer cases diagnosed in 2012 (25% of all cancers) [1]. Incidence rates vary across the world regions with rates ranging from 27 per 100,000 in middle Africa and Eastern Asia to 96 per 100,000 in Western Europe [1]. Although the survival rate of patients with breast cancer is considered high [2], it is one of the main causes of death among women all over the world, leading to about 522,000 deaths in 2008 and the possibility of 600,000 deaths in 2020 [1].

Annually, a lot of women die of breast cancer in Nigeria with the majority of them presenting in the late stages of the disease when little or nothing can be done to stop disease progression.[3] Studies have shown that breast cancer is now the second to cancer of the cervix in the northern part of Nigeria[4]. Early detection of breast cancer plays a leading role in reducing mortality rates and improving the patient's prognosis [5]. The 5-year survival rate is 92% with early detection of breast cancer. However, with local invasion, the survival rate reduces to 71% and if it's diagnosed at the latest stage only 18% of patients survive[6]. The risk of breast cancer increases with age.

The primary factors that increase the risk of breast cancer are certain inherited genetic mutations, a personal or family history of breast cancer and biopsy-confirmed hyperplasia[7].

The screening methods recommended for early detection of breast cancer are Breast self-examination (BSE), Clinical breast examination (CBE), and Mammography[8]. In developed countries, breast cancer mortality is declining where screening mammography is the standard care[9]. The level of awareness and utilization of these screening methods in Nigeria as in most other developing countries is quite poor[9].

Mammography is the only breast screening method with empirical evidence to have significantly reduced breast cancer mortality to about 63%[10]. However, challenges concerning its use still exist, such as costs, false positive, pain during the procedure and risk of radiation exposure[11]. Despite the benefits of mammography, previous studies show poor knowledge, attitude, and utilization among study populations in the developing world[12, 13, 14]. Several factors have been identified as influencing knowledge, awareness, and utilization of screening methods and these factors include socio-economic class and education, as studies have shown the level of knowledge, awareness, and utilization to be high among the educated ones and those of high socio-economic class[12]. Also, it has been shown that a positive family history of breast cancer may not translate into greater worry about breast cancer[13].

Studies have been conducted on knowledge, attitude, and practice of mammography among different professionals and social cadres in Nigeria, and they all agreed that women still present late due to a low level of awareness or poor knowledge about the use and benefits of mammography[15,16]. The goal of mammography is early detection of breast cancer through detection of characteristic masses or microcalcifications[17]. The U.S preventive services task force in 2009 recommended mammography every 2 years for women between the ages of 50 and 74[18]. Also, the American College of Radiology and American cancer society recommended yearly screening mammography starting at age 40 years[17]. The extent to which women in the North East Nigeria comply with the recommendation is yet to be investigated. The objective of this study is to assess the knowledge and awareness of mammography among women attending the radiology department in a teaching hospital in North-eastern Nigeria.

MATERIALS AND METHODS

This was a cross-sectional survey study carried out between February to May 2017 among women who attended Radiology department in Abubakar Tafawa Balewa University Teaching Hospital Bauchi, Bauchi State North-east, Nigeria. All women who attended radiology department were included in the study.

A pre-tested, self-administered questionnaire comprising of 3 sections and 12 questions was the tool for data collection. A total of 150 questionnaires were administered only 147 of the women completed their questionnaire with response rate of 98%.

Sections includes questions on socio-demographic characteristics, knowledge about mammography, the practice of breast self-examination and awareness of mammography. Ethical clearance was obtained from the research ethics committee of Abubakar Tafawa Balewa University Teaching Hospital Bauchi, Bauchi State, Nigeria. Data was analyzed using Statistical Package for Social Sciences version 21.0.

Sample size determination

The sample size was determined using the following formula:

$$\text{Sample size} = Z_{1-\alpha/2} \times \sqrt{p(1-p)} / d^2$$

Where $Z_{1-\alpha/2}$ = is the standard normal variate (at 5% type 1 error ($p < 0.05$) it is 1.96 and at 1% type 1 error ($p < 0.01$) it is 2.58. in majority of studies, p values are considered significant below 0.05 hence 1.96 is used in the formula [18].

P= expected proportion in population based on previous studies or pilot study.

d= absolute error or precision was decided by the researcher.

RESULTS

Figure 1 shows the demographic profile of the respondents. The age distribution revealed that about 57.8% (n=85) were aged 20-30 years, followed by 31-40 years (27.2%, n=40) while 10.2 % (n=15) and 3.4% (n=5) are in the age group of 41-50 years and 51-60years respectively. The remaining 1.4% (n=2) constituted women age 61years and above.

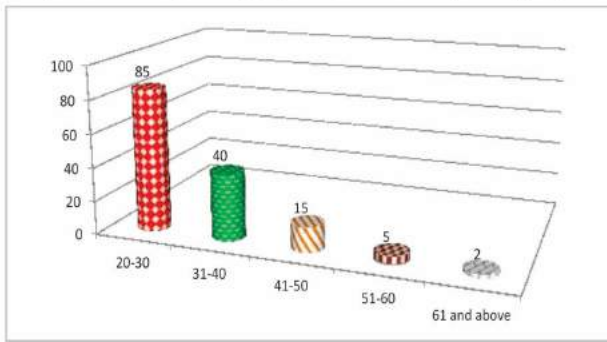


Figure 1 showing age distribution of respondents.

Table 1 Demographic characteristic of respondents.

Table 1 shows a total of 147 women with mean age of 23.6 yrs participated in the study. Sixty-nine (46.9%) of them are house wives, 38 (25.9%) were civil servants, 21 (14.3%) business women while 19 (12.9%) were students.

RESPONDENT CATEGORIES	FREQUENCY	PERCENTAGE
Civil Servant	38	25.9%
House Wife	69	46.9%
Business	21	14.3%
Others	19	12.9%
Total	147	100%

From figure 2, knowledge of specific aspects of mammography revealed that 49.6% of the respondents knew that mammography is an x-ray examination of the breast.

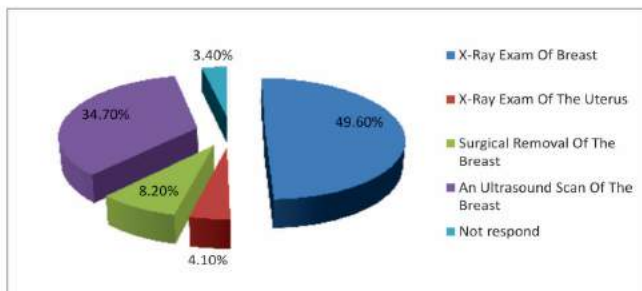


Figure 2 shows Pie chart distribution of respondents on knowledge of mammography

Table 2; Response on why mammography is done

Why is mammography done?	frequency	percentage
To detect cancer of the breast	125	85.0%
For surgical removal of the breast	11	7.5%
For biopsy	3	2%
Prevent cancer of the breast	2	1.4%
No response	6	4.1%
Total	147	100%

Table 2 shows that most of the women 85% (n=125) knew that the aim of mammography is to detect early stage of breast cancer.

Table 3 a, b and c; response on why mammography is done

From table 3, the majority of the respondents (54.5%) perform breast self-examination (BSE). Among those who perform breast self-examination, 6.1% carry out BSE daily while 7.5% did not specify how often they perform BSE. Assessment of awareness of mammography revealed that 44.1% of the respondents are aware of mammography.

Do you practice breast self-examination?	frequency	percentage
Yes	79	54.5%
no	66	45.5%
Total	145	100%

If yes, how often?	frequency	percentage
Daily	9	6.1%
weekly	20	7.6%
Monthly	32	21.8%
Bi-monthly	11	7.5%
Annually	7	4.5%
Total	147	100%

Are you aware of mammography?	frequency	percentage
Yes	64	44.1%
no	81	55.9%
Total	145	100%

DISCUSSION

Mammography is an x-ray examination of the breast that has decreased the risk of death from breast cancer by 25 to 30% [18]. It can detect breast cancer or carcinoma in-situ at 5 to 10mm in diameter [19]. Most physicians cannot reliably detect lesions smaller than 10mm on physical examination and patients generally seek medical attention for lesions that are 25mm larger [18]. Mammography has been established as the primary and standard imaging screening method for breast cancer detection [20].

This study showed poor knowledge of mammography among this hospital population which is not encouraging given the exposure to health education session and also contact by doctors and nurses. A low level of skills in conducting health education by health staff and poor attitude of health workers which has been previously documented in Nigeria may contribute to this [21]. Onwere et al., 2007[22] found out that only 1% of women attending antenatal care had their breasts examined by doctors while nurses had examined 2% of the antenatal clinic attendants.

Bello et al., 2007[21] revealed that only 3.3% of medical practitioners referred patients for yearly mammograms. The failure of health staff to educate patients on the importance of cancer screening affects the opportunity which the patients have to get information on health related issues.[16]

Breast self-examination is one of the three methods recommended for detection of breast cancer, our study found out that majority of the women (53.7%) are aware of breast self-examination and also adhere to it. This finding is similar to what Kiguli-Malwadde et al, found out in their study where majority of the women are aware of breast self-examination[23].

Our study showed a moderate level of awareness of mammography, the number or percentage of women who are aware of mammography in this study is 43.5%. This figure contrasts with the much lower population reported by Obajimi et.al,[16] which revealed a prevalence of mammography awareness of about 11%, this may be due to variability in characteristics of the study. However, findings in this study are similar to what Osieme et al.,[24] found in their study which revealed a prevalence of mammography awareness of about 35% among civil servants. The finding is also similar to Akintola et al.,[14] which revealed an awareness level of 40.5% among a hospital sample.

The number of women who have heard about mammography in our study is about 48.9% and the most common sources of information about mammography are school, training, electronic media, books/journals. It has been found out that health information through media can successfully promote knowledge and screening tests for breast cancer [23]. This figure contrasts with much lower proportions reported by obajimi et al.,[16] which revealed a proportion of about 5% in their study. Our findings here also contracts with Alharbi et al[25], which reported that only 14.3% of the respondents have heard about mammography. Among the women who have heard about mammography in our study very low proportion (8.2%) have had mammography done for them. This is contrasted with obajimi et al.,[16] which found that none of the women in their study had ever had a mammogram. Very low proportions of women from other studies reported they had mammograms.

One of the limitations of this study included the fact that it is hospital based and may not truly reflect the level of awareness among the general population.

CONCLUSION

This study has revealed that there is poor knowledge of Mammography as a screening tool for breast cancer in the population and consequently a good number of women have not undergone the procedure. Massive health education campaign through multiple methods and agencies are needed to enhance the knowledge and awareness of mammography. Also, clinicians and other health workers have an important role to play in improving the level of awareness concerning mammography, especially among hospital attendees.

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QUESTIONNAIRE

Knowledge and Awareness of Mammography among women attending Radiology Department in Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH) Bauchi.

Good Day Madam,

This questionnaire for a research work on KNOWLEDGE AND AWARENESS OF MAMMOGRAPHY AMONG WOMEN WHO ATTEND RADIOLOGY DEPARTMENT IN ABUBAKAR TAFAWA BALEWA UNIVERSITY TEACHING HOSPITAL, BAUCHI, BAUCHI STATE. We request your consent and permission to kindly tick or fill the questions provided.

Note: All information provided will be used for research purposes only. Information provided will be handled with utmost confidentiality.

SECTION A

Demographic Data

Instruction: Please indicate or tick [✓] the appropriate option and write on the space provided.

1. Age
a) 20-30 [] b) 31-40 [] c) 41-50 [] d) 51-60 [] e) 61 and above []
2. Profession
a) Civil servant [] b) House wife [] c) Business woman []
d) Others specify

SECTION B

Knowledge about mammography

3. Have you heard about mammography?
Yes [] No []
4. If yes, where?
a) In school [] b) training [] c) in a seminar/ workshop []
d) Others specify
5. What is mammography?
a) X-ray examination of the breast [] b) X-ray examination of the uterus []
c) Surgical removal of the breast [] d) An ultrasound scan of the breast []
6. Why is mammography done?
a) To detect breast cancer [] b) for biopsy []
c) for surgery [] d) none of the above []
7. The aim of mammography is (are)
a) Screening/diagnosis [] b) to prevent cancer of the breast []
c) to detect cancer at early stage [] d) all of the above []
8. Mammography examination is mostly done for women within the following age group
a) 10-20 yrs [] b) 21-30yrs [] c) 31-40yrs [] d) 41 years and above []

SECTION C

Breast self-examination

9. Do you adhere to breast self-examination?
a) Yes [] b) No []
10. If yes, how often do you practice?
a) Daily [] b) Weekly [] c) Monthly [] d) Annually []

Awareness on mammography

11. Are you aware of mammography?
a) Yes [] b) No []
12. If yes, when last did you go for screening?
a) I have never gone for any [] b) I will be going soon [] c) I don't have time to go for one [] d) Others specify

Thank you for your kind response. We wish you well.