

Breast Cancer Awareness, Knowledge and Screening Uptake among Female Secondary Schools Teachers in Owerri, Nigeria.

Running title: Nnebue, *et al.*, Breast cancer awareness, knowledge and screening uptake

Abstract

Background: Teachers as key stakeholders play vital roles in preventing and controlling diseases and health related conditions in schools and communities. Assessment of breast cancer awareness, knowledge and screening practices among them could improve intervention strategies.

Objective: To determine the breast cancer awareness, knowledge and screening practices among female secondary schools teachers in Owerri,, Nigeria.

Materials and methods: This was a descriptive cross- sectional study of 284 female secondary schools teachers in Owerri Nigeria selected by multi-stage sampling technique. Data were collected using a pre-tested semi-structured self-administered questionnaire. Data were analysed with statistical package for social sciences version 22.0. Statistical significance were identified using Chi-square test at p value ≤ 0.05 .

Results: Majority of respondents, 273 (96.1%) were aware of breast cancer, with key sources of information as: 111 (39.1%) health workers, 87 (30.6%) TV/Radio, The level of knowledge of breast cancer was poor, thus; aged 50-59, 3(7.7%); tertiary education attainment 8(3.3%) (p=0.000); currently married 9(4.3%). Then, 236(90.1%) of them were aware of BSE, 199(70.1%), CBE and 120(42.3%), mammography. About 209(71.5%) ever practiced BSE (mostly the currently married (p= 0.021); 79 (27.8%), CBE and 45 (15.8%), mammography.

25 **Conclusions:** This study found overall high awareness, poor knowledge of breast cancer
26 and poor screening uptake. We recommend periodic but sustained quality health
27 education programs targeted at improving awareness, knowledge of breast cancer and
28 screening uptake among these teachers.

29 **Keywords:** Awareness, knowledge, screening, breast cancer, female teachers, Owerri
30 Nigeria.

31 **1. Introduction**

32 Carcinoma of the breast remains the commonest malignancy in women worldwide and
33 second commonest cancer overall [1,2,3,4]. It accounts for 12% of all new cancers and a
34 quarter (about 1.67 million) of all female cancers as at 2012 [2,5]. Breast cancer is also
35 ranked the fifth most common cause of fatalities from cancer in women [1,2,4]. Recent data
36 from two population based cancer registries in Nigeria (the Ibadan cancer registry (IBCR)
37 and the Abuja cancer registry (ABCR)) suggest substantial increase in incidence of breast
38 cancer [6]. The age standardized rate (ASR) for all invasive cancers from the IBCR was
39 130.6 per 100,000 women [6]. In the ABCR, it was 138.6 per 100 000 women. Generally,
40 the Nigerian national incidence by ASR per 100,000 for breast cancer was 52 in IBCR and
41 64.6 in ABCR [6].

42 The etiology of breast cancer is multifactorial [7]. These risk factors include [7]: increasing
43 age, female gender, race- more in Caucasian women, family history and genetic factors,
44 personal health history, menstrual and reproductive history and certain genome changes. Also
45 reported are environmental and lifestyle risk factors such as frequent consumption of alcohol,
46 sedentary lifestyle with little physical activity, poor diet, having radiation therapy to the chest
47 before the age of 30 years, taking combined hormone replacement, as prescribed for
48 menopause, overweight or obesity, [7]. However, 60-70% of breast cancer cases have no

49 link to these risk factors at all, while other people with risk factors will never develop breast
50 cancer [7]. This underscores the need for early detection of cancer cases.

51 Breast cancer screening refers to examinations and tests used in presumptive detection of
52 breast cancer in people who apparently do not have any symptoms [8,9]. Breast
53 self-examination (BSE), clinical breast examination (CBE) and mammography are the most
54 commonly known and used breast cancer screening methods in the world [8,10]. The
55 American Cancer Society new guidelines for early detection of breast cancer recommend that
56 women with an average risk of breast cancer- most women -should begin yearly
57 mammograms at age 45; women should be able to start the screening as early as age 40, if
58 they want to [11]. It's a good idea to start talking to your health care provider at age 40 about
59 when you should begin screening; at age 55, women should have mammograms every other
60 year, though women who want to keep having yearly mammograms should be able to do so;
61 regular mammograms should continue for as long as a woman is in good health [11]. Breast
62 exams, either from a medical provider or self-exams, are no longer recommended [11]. The
63 guidelines are for women at average risk for breast cancer. Women at high risk- because of
64 family history, a breast condition, or another reason – need to begin screening earlier and/or
65 more often [11].The BSE had been recommended for women starting in their 20s [9].
66 Nonetheless, it remains the most readily available method of screening to women especially
67 in rural areas where sophisticated screening methods like mammography are not easily
68 available and also based on cost implications [12,13]. In Nigeria, there is no organized
69 government screening policy, screening is thus offered at the request of patient/ client or
70 health personnel.

71 Reports of recent studies have ignited intense discuss on whether the benefits of breast cancer
72 screening programs are outweighed by the risks [14,15]. It is also possible for a breast cancer
73 to develop within the duration between each three yearly mammogram (interval cancer) [16].

74 Breast screening cannot prevent breast cancer, but leads to early diagnosis, which is vital in
75 the treatment of the disease as well as in determining prognosis [17,18]. Thus it's important
76 to continue to be breast aware.

77 It is worrisome that incidence rates of breast cancer are still highest in more developed climes
78 (more than double the rate in Africa in 2012.), but as survival from the disease in less
79 developed countries is poor, mortality is greater in sub-Saharan Africa [2,19]. Key factors
80 linked to this disparity in incidence of breast cancer between these populations include
81 awareness, availability of organised and effective early detection programs and access to
82 facilities for accurate and timely diagnosis and treatment of the disease [19,20,21].. These
83 factors are lacking, while the time of detection is late in developing countries.

84 Stage at diagnosis is a key determinant of overall cancer outcome such as cancer mortality,
85 prognosis, etc. [[22,23] In sub-Saharan Africa, early-stage disease is associated with a better
86 prognosis than late-stage disease [24,,25]. Nonetheless, most patients with breast cancer in
87 this region present with late-stage disease [22,26,27,28].Though incidence increases with
88 screening particularly in screening naïve populations, reductions in mortality may be most
89 effectively achieved by diagnosing breast cancers before they progress to stage 4[[22]. Also,
90 with the double burden of diseases, developing countries are transiting through rapid societal
91 and economic changes towards western lifestyles with resultant rise in cancer rates [29].
92 Notwithstanding, there is focus on competing health priorities such as HIV/AIDS,
93 tuberculosis and malaria. [8,11]. Thus, strategies for early diagnosis of breast cancer should
94 be regarded as a major priority by cancer control programs in sub-Saharan Africa.

95 In Nigeria, about two thirds of women with breast cancer are diagnosed late [30], with mean
96 ages of cancer diagnosis of 49.1 years in IBCR and 45.4 years in ABCR [6]. This has been
97 linked to poor utilization of screening facilities [30]. Studies have reported possible reasons
98 for low participation in breast cancer screening among women. These include: lack of

99 knowledge about breast cancer [31,32], lack of awareness of the existence of such a screening
100 test, its importance, cost and centers where such services are obtainable [20,21,33,34,35].
101 Socio-demographic factors (age, educational level) [31], health behavioral factors (smoking,
102 alcohol), psychological factors (fear, anxiety), religion, culture, forgetfulness and feeling of
103 discomfort at touching the breast affect the uptake of breast cancer screening [33,34,35].
104 However, the knowledge and screening practices of this group in our study area have not
105 been fully explored. Therefore this study was designed to determine the breast cancer
106 awareness, knowledge and screening practices among female secondary schools teachers in
107 Owerri, Imo state, Nigeria.

110 2. Methodology

111 **2.1. Description of Study Area:** This study was carried out in Secondary Schools in Owerri
112 Municipal, one of the three local government areas (LGAs) that constitute Owerri the Capital
113 of Imo State in South East Nigeria. The LGA had a land mass of 8km² and a population of
114 127,213 (males, females, adolescent girls) as at the 2006 census [36]. Owerri is a
115 metropolitan city hosting several educational institutions ranging from the primary to the
116 tertiary level. There are 14 registered private schools and 11 public secondary schools in the
117 Municipality.

118 **2.2. Study Design:** This was a cross-sectional descriptive study, conducted from August to
119 October, 2017.

120 **2.3. Study Population:** This comprised female teachers in the registered secondary schools
121 in Owerri municipal, Nigeria State.

2.3.1. Inclusion Criteria: Female teachers who were aged 20 years and above, teaching in the select registered secondary schools in Owerri municipal and those who gave consent to participate in the study were enrolled.

2.3.2. Exclusion Criterion: Female teachers who were absent from school during the study period were excluded.

2.4. Sample Size Determination: The sample size was determined using the Leslie Kish's formula for single proportions which stated: [36] where, Z = standard normal deviate set at 1.96 which corresponds to 95% confidence interval., $n = Z^2 pq / d^2 = 150$, p = percentage of awareness of breast cancer and breast self-examination among female secondary school teachers in Enugu metropolis South-eastern, Nigeria by Aniebue and Aniebue [34] = 89% = 0.89, q = complementary prevalence $(1-p) = 1 - 0.89 = 0.11$, d = level of precision usually set at 0.05.

Then a conversion was done using the formula for the calculation of minimum sample size in populations less than 10,000 [37], $n_f = n / (1 + n/N)$, where N = target population = size of female secondary school teachers in Owerri Municipal = 1200. Therefore, $n_f = 133$ female teachers.

Anticipating a response rate of 90%, an adjustment of the sample size estimate to cover for non-response rate was made by dividing the sample size estimate with a factor f , i.e. n/f , where f is the estimated response rate [37]. Thus the calculated sample size $= 133 / 0.90 = 148$ female teachers. However, to increase the statistical power of the sample size, we multiplied 148 by 2 = 296 female teachers

2.5. Sampling Technique: Our study participants were selected in multi stages. The first stage involved the selection of Owerri municipal LGA out of the three LGAs in Owerri (Owerri West, Owerri North, and Owerri Municipal), using simple random sampling

technique by balloting. The second stage involved grouping of the secondary schools based on ownership status into private and public secondary schools (10 private and 10 public) using stratified sampling technique and each selected school was considered a cluster. Thirdly, there was proportionate allocation of the sample size calculated to private (148 respondents) and public (148 respondents) secondary schools. Then, with the staff emolument register as the sampling frame and via simple random sampling technique by balloting, the eligible schools were picked and every consenting female teacher was selected for the study until the required sample size was obtained.

2.6. Data Collection Technique: Data collection in this study was done using pre-tested, self-administered, semi- structured questionnaires developed from review of relevant literatures. The questionnaire is divided into three sections (A-C) to obtain data on A) the socio- demographic characteristics of the respondents; B) awareness and knowledge of breast cancer, its risks, screening tests and barriers to the screening tests and C) uptake of breast cancer screening tests. All questions were written in English language and pre-tested on similar set of respondents at a Secondary School in Orlu, another Urban LGA in Imo state Nigeria. This was done, to check for the reliability, validity, appropriateness of format, wording and time needed to fill the questionnaire. Thereafter the instruments were reviewed by colleagues, necessary adjustments and corrections were effected before administering the questionnaire to the study participants. To ensure data quality, the data collection team was trained, and there was field monitoring of data collection. The study instruments were made available on time, while data collection team met at the end of every day to share experiences, submit completed forms and solve field problems.

2.7. Data Management and Analysis: The data were entered into the computer. Data cleaning was done by carrying out range and consistency checks. Knowledge of Breast cancer was measured by calculating the total score for positive responses on questions assessing knowledge with a total score of 18. Scores were graded on three levels: Good (15-18), Fair (11-14) and Poor (0-10). Data analysis was carried out using International Business Machine/ statistical package for social sciences (IBM/SPSS) Windows version 22.0. [38].

Descriptive data were presented as charts, simple frequencies and percentages. Statistical significance were identified using Chi square tests for proportions. A p value of ≤ 0.05 was considered significant.

3. Results

Table 1 shows the sociodemographic characteristics of respondents. Two hundred and ninety six questionnaires were administered, out of which 284 were returned and analysed, giving a response rate of 95.95%. The ages of respondents ranged from 20-62 years with a mean age of 39.1 ± 9.1 . The modal age group (38%) was 30-39 years. Majority of them (93.7%) attained tertiary level of education, 211 (74.5%) were married and 162 (57%) Christians of the Roman catholic denomination.

Table 2 shows awareness, knowledge, risk factors and symptoms of breast cancer among respondents. Most of the respondents 273 (96.1%) were aware of breast cancer. The key sources of information on breast cancer include: 111 (39.1%) health workers, 87 (30.6%) TV/Radio, 46(16.5%) Friends. On general knowledge of breast cancer, 280 (98.6) posited thus: disease of young girls only, 259 (91.2%) abnormal growth of tissue in the breast, 245 (86.3%) breast cancer can be cured if diagnosed early. Only 111(39.1 %) had good knowledge. on risk factors, 172 (60.6%) cited smoking, 176 (62%) family history, while on symptoms of breast cancer 269 (94.7%), 157 (56.3%) and 138 (48.6%) cited breast lump, bloody nipple discharge and breast ulceration respectively.

Table 3 shows association between socio-demographic variables and level of knowledge of breast cancer among respondents. The level of knowledge of breast cancer was highest 3(7.7%) among those aged 50-59, 8(3.3%) among those that have attained tertiary level of education, 9(4.3%) among the currently married, and 7(4.3%) among the Roman Catholics. There was a statistically significant association between level of education and level of knowledge of Breast cancer ($\chi^2=28.952$, $p=0.000$).

Figure 1 shows the awareness of BSE, CBE and mammography among respondents. Two hundred and thirty six (90.1%) of respondents had heard of BSE, 199(70.1%) were aware of CBE, while only 120(42.3%) had ever heard of mammography.

Figure 2, shows uptake of breast cancer screening methods among respondents Two hundred and nine (71.5%) of respondents had ever performed BSE, 79 (27.8%) CBE and 45 (15.8%) mammography.

Table 4 shows association between socio-demographic variables and practice of BSE among respondents. The 30-39 years is the modal age group with respect to the practice of BSE 79(73.1). One hundred and ninety four (72%) of respondents had attained tertiary level of education, and there is statistically significant association between practice of BSE. Majority of the respondents who practiced BSE were the currently married 159(75)) and there is a statistically significant association between practice of BSE and marital status; ($\chi^2= 11.595$, $p= 0.021$). Though the Roman Catholics are the predominant religion, 120(74.) of them still formed the largest proportion of religious group that practiced BSE.

Table 5 shows association between level of knowledge and practice of BSE, CBE and mammography among respondents. There is no statistically significant association between level of knowledge of respondents and practice of BSE, CBE and Mammography ($\chi^2=5.427$, $p= 0.066$; ($\chi^2= 0.669$, $p=0.716$ and ($\chi^2= 3.757$, $p=0.153$) respectively.

4. Discussion

This was a cross sectional descriptive study that determined breast cancer awareness, knowledge and its screening practices among female secondary schools teachers in Owerri, Imo state. From this study, most (96.1%) of the respondents were aware of breast cancer. This finding is similar to those noted in studies done by Aniebue and Aniebue (88.8%) in Enugu, Nigeria [34] as well as Tobin and Okeowo (100%) in Okada Edo state Nigeria [39]. This finding is however contrary to that of a study by Omotara among rural women in Northeast Nigeria [40], which showed a low level of awareness of about 58.2%. This low

234 awareness recorded in Northeast Nigeria, could be hinged on the differences in study
235 methodologies as well as the socio- cultural differences where these females in the North are
236 denied autonomy, contrary to their Southern counterparts.

237 From the index study, the key sources of information on breast cancer include: health
238 workers, TV/Radio, Friends, which agrees with the findings of a study on breast cancer
239 knowledge and screening practices among a similar population in Lagos Southwestern
240 Nigeria [41]. This could be because the index study group reported high literacy level and are
241 more likely to access health facilities and other sources of health information readily.
242 Contrary to the findings by Aniebue and Aniebue [41], and Khadiga [42], where internet and
243 print media were reported as the major sources of information, the current study noted these
244 as the least reported sources. This could imply that there is a poor access of the internet or
245 print media for health information, among teachers in our study area. Therefore, future health
246 programs should aim at addressing possible hindrances to accessing the internet or print
247 media for health information.

248 It has been documented that knowledge about breast cancer is an important determinant of
249 uptake of breast cancer screening by women [32]. Lack of knowledge about breast cancer
250 further causes delay in presentation, treatment and by extension morbidity and mortality. In
251 this study only (39.1%) showed good knowledge on breast cancer. This could be attributed to
252 the limited source of information (mainly health workers) reported, and would restrict
253 information to only when the respondents come in contact with these health workers,
254 probably to access care. Other major sources of information like Television; where health
255 educational programs (soap operas and documentaries) might have been regularly displayed
256 to them would have greatly improved their knowledge. This finding was similar to that of
257 studies by Khadiga [42] and Ojewusi [43]. This study also showed a statistically significant
258 relationship between level of education attained and level of knowledge of breast cancer. This

implies that the higher the level of educational attainment the teacher has, the higher the probability of having a better knowledge of breast cancer. Hence, a more direct approach would be best applied to enhance their knowledge and by extension the knowledge of their female students so as to equip them with adequate information should the need arise.

In this study, most (90.1%) of the respondents are aware of BSE. This result is in keeping with reports from another study [34]. This may be because there is increased sensitization and mass campaign programs on BSE by health workers and broadcasting media (TV/Radio) in Owerri, Imo state. On the contrary, different results were documented in some other studies [35,44]. Among the Teachers, (71.5%) had ever practiced BSE, and this was higher than the figures reported by other studies [34,41,42,43].

More than half (70.1%) were aware of CBE as a screening method. Since health workers was the major source of information on breast cancer, it probably explains the high awareness of CBE in this study. Similarly, Ojewusi revealed that more than half (53.1%) of respondents were aware of CBE [43]. The high awareness of CBE reported by our study was not matched by practice, as our study results revealed low practice of CBE (27.8%) of them had ever gone for CBE. Our finding was similar to the 23% in a study in Turkey [44]. However, our study finding is higher than reports from studies in rural Northern Nigeria (11%) [35] and in Ibadan (14%) [43].

Reports of the current study shows that while less than half (42.3%) of the respondents are aware of Mammography, Osime in their study among civil servants, found an awareness level of about 35% [45]. From the index study, of all the teachers who were aware of Mammography as a screening method, only 15.8% had ever gone for a mammogram. This was higher than the (4.8%) reported by Ojewusi [43]. Okobia reported that none of the participants ever had a mammography screening [20].

Some variables showed relationships between socio-demographic characteristics and practice of BSE. Marital status was statistically associated with BSE practice. Breast Self-Examination was practised most among women who were currently married and least among those who were never married. This was also noted in Delta state by Eguvbe *et al.*, [46] and in Lagos state by Nasiru and Odusanya [47].

Limitations to the study: This study is based on self-reported health seeking behaviors, and the data is therefore subject to reporting errors. This we overcame by using anonymous questionnaires and ensuring the teachers that their answers would be strictly confidential and strictly for research purposes. This study did not set out to find and or compare differences in the results between private and public schools. However, it is a fact that we would like to recommend for further studies.

Conclusions: This study has revealed an overall poor knowledge of Breast cancer among female Secondary School Teachers in Owerri, Imo state despite a high level of awareness. There was also noted a high level of awareness and practice of Breast Self-examination, contrary to the picture in other screening methods- CBE and mammography.

Recommendations: The findings of this study may have implications for improved awareness of breast cancer and practice of screening methods. This should be targeted at both policy makers and the teachers. This is needed to effectively implement early detection as a means of reducing breast cancer mortality. We therefore recommend as follows: There should be regular comprehensive educational programmes to increase sensitization should be directed towards female teachers in both public and private schools; Mammography services should made available at subsidized cost or made free for screening women greater than 35 years by the government and non- governmental organisations; Teachers should be encouraged to avail themselves of credible sources of information such as print media and internet to improve their knowledge on breast cancer and its screening methods; Teachers should be encouraged to screen for breast cancer using the CBE and mammography methods

CONSENT

310
311 As per international standard or university standard, client's/ patient's written consent has
312 been collected and preserved by the authors
313

314 **ETHICAL APPROVAL**
315

316 As per international standard or university standard, written approval of Ethics committee has
317 been collected and preserved by the authors.
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TABLES AND FIGURES

TABLE 1: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS.

VARIABLES	FREQUENCY (n= 284)	PERCENT (%)
AGE		
20-29	34	12.0
30-39	108	38.0
40-49	100	35.2
50-59	39	13.7
60 ABOVE	3	1.1
HIGHEST LEVEL OF EDUCATION		
PRIMARY	0	0.0
SECONDARY	17	6.0
TERTIARY	266	93.7
NONE	1	0.4
MARITAL STATUS		
NEVER MARRIED	61	21.5
CURRENTLY MARRIED	211	74.5
SEPARATED	5	1.7
DIVORCED	2	0.6
WIDOWED	5	1.7
RELIGION		
ROMAN CATHOLIC	162	57.0
PENTECOSTAL	95	33.5
ISLAM	1	0.4
OTHERS*	26	9.1

Others* - Anglican, Methodist

TABLE 2: AWARENESS, KNOWLEDGE, RISK FACTORS AND SYMPTOMS OF BREAST CANCER.

VARIABLE	FREQUENC Y(%)	FREQUENC Y(%)
	YES	NO
AWARENESS OF BREAST CANCER	273 (06.1)	11(3.3)
SOURCE OF INFORMATION		
HEALTH WORKER		
111(39.1)		
FRIENDS		
46(16.5)		

TV/RADIO	87	
(30.6)		
PRINT	12 (3.9)	
INTERNET	28 (9.9)	
GENERAL KNOWLEDGE OF BREAST CANCER		
ABNORMAL GROWTH OF TISSUE IN THE BREAST	259 (91.2)	25 (8.8)
ILLNESS CAUSED BY ANCESTRAL CURSES	11 (3.9)	273 (96.1)
DISEASE OF YOUNG GIRLS ONLY	280 (98.6)	4 (1.4)
DISEASE OF OLD WOMEN ONLY	9 (3.2)	274 (96.5)
BREAST CANCER CAN BE CURED IF DIAGNOSED EARLY	245 (86.3)	39 (13.7)
BREAST CANCER CANNOT BE CURED	28 (9.9)	256 (90.1)
LEVEL OF KNOWLEDGE OF BREAST CANCER		
GOOD	111 (39.1)	
FAIR	115 (40.5)	
POOR	158 (55.6)	
RISK FACTORS OF BREAST CANCER		
SMOKING	172 (60.6)	79 (27.8)
FAMILY HISTORY OF BREAST CANCER	176 (62.)	75 (26.4)
ADVANCED AGE	63 (22.2)	187 (65.8)
EARLY AGE OF MENSTRUATION(<12 Yts)	26 (9.9)	222 (78.2)
WOMEN WHO HAVE GIVEN BIRTH	32 (11.3)	219 (77.1)
LATE AGE AT MENOPAUSE (>55 Yrs)	26 (9.2)	224 (78.9)
SYMPTOMS OF BREAST CANCER		
BREAST LUMP	269 (94.7)	1 (0.4)
BREAST ULCERATION	138 (48.6)	136 (47.9)
HEADACHE	71 (25.)	203 (71.5)
BLOODY NIPPLE DISCHARGE	157 (56.3)	115 (40.5)
INVERSION, PULLING ON THE BREAST	105 (37.)	167 (58.8)
ABDOMINAL PAIN	103 (36.3)	169 (59.5)

TABLE 3: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLES AND LEVEL OF KNOWLEDGE OF BREAST CANCER

VARIABLES		LEVEL OF KNOWLEDGE OF BREAST CANCER FREQUENCY (%)			CHI-SQUA RE	P- VALU E
		GOOD	FAIR	POOR		
AGE						
	20-29	-	16(41)	18(59)	8.538	0.383
	30-39	6(5)	46 (42.6)	56 (51.9)		
	40-49	2 (2.0)	42 (42.0)	56 (56.0)		

50-59	3 (7.7)	10 (25.6)	26 (66.7)		
60 ABOVE	-	1 (33.3)	2 (66.7)		
LEVEL OF EDUCATION					
NONE	1 (100)	-	-	28.952	0.000*
SECONDARY	2 (11.8)	8 (47.1)	7 (41.2)		
TERTIARY	8 (3.0)	107(40.2)	151(56.8)		
MARITAL STATUS					
NEVER MARRIED	2 (3.3)	19 (31.1)	40 (65.6)	5.510	0.700
CURRENTLY MARRIED	9 (4.3)	91 (43.1)	111(52.6)		
SEPARATED	-	1 (20.0)	4 (80.0)		
DIVORCED	-	1 (50.0)	1 (50.0)		
WIDOWED	-	3 (6	2 (40.0)		
RELIGION					
CATHOLIC	7 (4.3)	66 (40.7)	89 (84.9)	3.998	0.677
PENTECOSTAL	4 (4.2)	35 (36.8)	56 (58.9)		
ISLAM	-	-	1 (100)		
OTHERS	-	14(53.8)	12 (46.2)		

483 *statistically significant

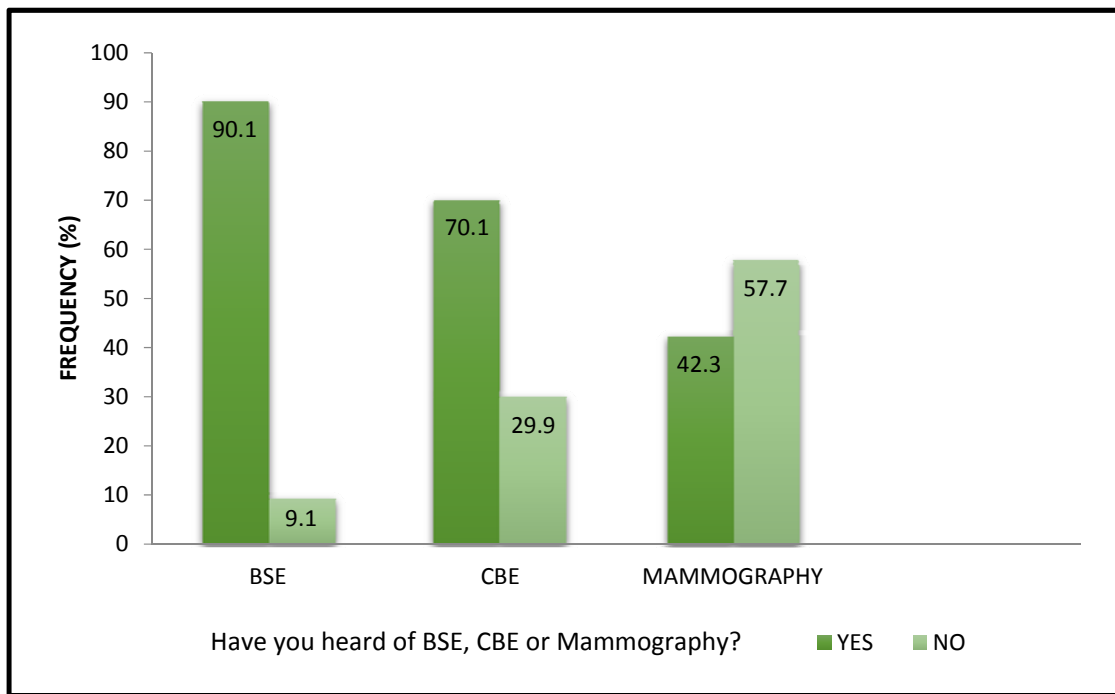


FIGURE 1: BAR CHART SHOWING THE AWARENES OF BSE, CBE AND MAMMOGRAPHY

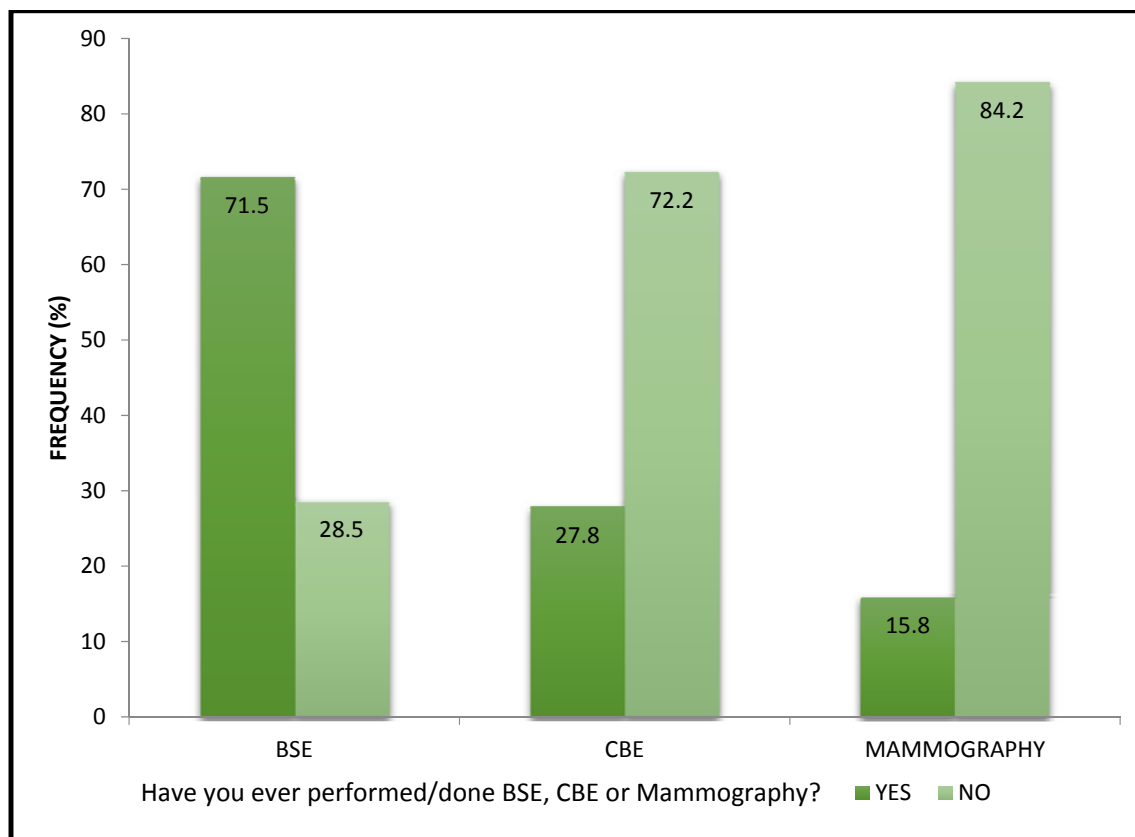


FIGURE 2: UPTAKE OF BREAST CANCER SCREENING METHODS

TABLE 4: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLES AND PRACTICE OF BSE

VARIABLES	PRACTICE OF BSE FREQUENCY (%)		CHI- SQUAR E	P- VALUE
	YES	NO		
AGE				
20-29	22(64.7)	12(35.3)	2.978	0.561
30-39	79(73.1)	29 (26.9)		
40-49	69(69.0)	31 (31.0)		
50-59	30(76.9)	9 (23.1)		
60 ABOVE	3 (100)	-		
LEVEL OF EDUCATION				
NONE	1 (100)	-	5.647	0.059
SECONDARY	8 (47.1)	9 (52.9)		
TERTIARY	194(72)	72 (27.1)		

MARITAL STATUS

NEVER MARRIED	34(55.7)	27 (44.3)	11.595	0.021*
CURRENTLY MARRIED	159(75)	52 (24.6)		
SEPARATED	5 (100)	-		
DIVORCED	1 (50.1)	1 (50.0)		
WIDOWED	4 (80.0)	1 (20.0)		

RELIGION

CATHOLIC	120(74.)	42 (25.9)	3.381	0.277
PENTECOSTAL	64 (57.4)	31 (32.6)		
ISLAM	-	1 (100)		

TABLE 5: ASSOCIATION BETWEEN LEVEL OF KNOWLEDGE AND PRACTICE OF BSE, CBE AND MAMMOGRAPHY

VARIABLES	FREQUENCY (%)		CHI-SQUAR E	P- VALU E
LEVEL OF KNOWLEDGE	YES	NO		
PRACTICE OF BREAST SELF EXAMINATION				
GOOD KNOWLEDGE	10(4.9)	1(1.2)	5.427	0.066
FAIR KNOWLEDGE	88(43.3)	27(33.3)		
POOR KNOWLEDGE	105(5)	53 (65.4)		
PRACTICE OF CLINICAL BREAST EXAMIANTION				
GOOD KNOWLEDGE	3 (3.8)	8 (3.9)	0.669	0.716
FAIR KNOWLEDGE	35 (44.3)	80 (39.0)		
POOR KNOWLEDGE	41 (51.9)	117(57.)		
PRACTICE OF MAMMOGRAPHY				
GOOD KNOWLEDGE	1 (2.2)	10 (4.2)	3.757	0.153
FAIR KNOWLEDGE	24 (53.3)	91 (38.1)		
POOR KNOWLEDGE	20 (44.4)	138(57.)		