

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

Running title: Nnebue, *et al.*, Breast cancer 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 knowledge and screening practices among them could improve intervention strategies.

Objective: To determine the breast cancer 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 was 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%). About 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 currently married (p= 0.021); 79 (27.8%), CBE and 45 (15.8%) mammography.

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

28 **Keywords:** Knowledge, screening, breast cancer, female teachers, Owerri Nigeria.

29 **1. Introduction**

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

39 The etiology of breast cancer is multifactorial [7]. These risk factors include [7]: increasing
40 age, female gender, race- more in Caucasian women, family history and genetic factors,
41 personal health history, menstrual and reproductive history and certain genome changes. Also
42 reported are environmental and lifestyle risk factors such as frequent consumption of alcohol,
43 sedentary lifestyle with little physical activity, poor diet, having radiation therapy to the chest
44 before the age of 30 years, taking combined hormone replacement, as prescribed for
45 menopause, overweight or obesity, [7]. However, 60-70% of breast cancer cases have no link
46 to these risk factors at all, while other people with risk factors will never develop breast
47 cancer [7]. This underscores the need for early detection of cancer cases.

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

67 Reports of recent studies have ignited intense discuss on whether the benefits of the breast
 68 cancer screening pr/ogram are outweighed by the risks [14,15]. It is also possible for a breast
 69 cancer to develop in between each three yearly mammogram (interval cancer) [16]. Breast
 70 screening cannot prevent breast cancer, but leads to early diagnosis, which is vital in the
 71 treatment of the disease as well as in determining prognosis [17,18]. Thus it's important to
 72 continue to be breast aware.

73 It is worrisome that though incidence rates of breast cancer are still highest in more
 74 developed climes (more than double the rate in Africa in 2012.), mortality is greater in less
 75 developed countries [2,19]. Key factors linked to the disparity in incidence of breast cancer
 76 between these populations include awareness, access to effective screening programs and
 77 access to treatment of the disease [19,20,21].. These factors are lacking, while the time of
 78 detection is late in developing countries. With the double burden of diseases, developing
 79 countries are transiting through rapid societal and economic changes towards western
 80 lifestyles with resultant rise in cancer rates [22]. Notwithstanding, there is focus on
 81 competing health priorities such as HIV/AIDS, tuberculosis and malaria. [8,11].

82 In Nigeria, about two thirds of women with breast cancer are diagnosed late [23], with mean
 83 ages of cancer diagnosis of 49.1 years in IBCR and 45.4 years in ABCR [6]. This has been
 84 linked to poor utilization of screening facilities [23]. Studies have reported possible reasons
 85 for low participation in breast cancer screening among women. These include: lack of
 86 knowledge about breast cancer [24,25], lack of awareness of the existence of such a screening
 87 test, its importance, cost and centers where such services are obtainable cancers
 88 [20,21,26,27,28]. Socio-demographic factors (age, educational level) [24], health behavioral
 89 factors (smoking, alcohol), psychological factors (fear, anxiety), religion, culture,
 90 forgetfulness and feeling of discomfort at touching the breast affect the uptake of breast
 91 cancer screening [26,27,28]. However, the knowledge and screening practices of this group in
 92 our study area have not been fully explored. Therefore this study was designed to determine
 93 the breast cancer knowledge and screening practices among female secondary schools
 94 teachers in Owerri, Imo state, Nigeria.

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97 **2. Methodology**

98 **2.1. Description of Study Area:** This study was carried out in Secondary schools in Owerri
 99 Municipal, one of the three local government areas (LGA) that constitute Owerri the Capital
 100 of Imo State in South East Nigeria. The LGA had a land mass of 8km^2 and a population of
 101 127,213 (males, females, adolescent girls) as at the 2006 census [29]. Owerri is a
 102 metropolitan city hosting several educational institutions ranging from the primary to the
 103 tertiary level. There are 14 registered private schools and 11 public secondary schools in the
 104 Municipality.

105 **2.2. Study Design:** This was a cross-sectional descriptive study.

106 **2.3. Study Population:** This comprised female secondary schools teachers in the registered
 107 secondary schools in Owerri municipal, Nigeria State.

108 **2.3.1. Inclusion Criteria:** Female secondary schools teachers who were aged 20 years and
 109 above, teaching in the select registered secondary schools in Owerri municipal and those who
 110 gave consent to participate in the study were enrolled.

111 **2.3.2. Exclusion Criterion:** Female teachers who were absent from school during the study
 112 period were excluded.

113 **2.4. Sample Size Determination:** The sample size was determined using the Leslie Kish's
 114 formula for single proportions which stated: [30] where, Z = standard normal deviate set at
 115 1.96 which corresponds to 95% confidence interval., $n = Z^2 pq / d^2 = 150$, p = percentage of
 116 awareness of breast cancer and breast self-examination among female secondary school
 117 teachers in Enugu metropolis South-eastern, Nigeria by Aniebue and Aniebue [27] = 89% =
 118 0.89, q = complementary prevalence $(1-p) = 1 - 0.89 = 0.11$, d = level of precision usually set at
 119 0.05.

Then a conversion was done using the formula for the calculation of minimum sample size in populations less than 10,000 [30], $nf = \frac{n}{1 + n/N}$, where N = target population= size of female secondary school teachers in Owerri Municipal = 1200. Therefore, $nf = 133$ 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 [30]. 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. 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 edited and 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). Descriptive and analytical statistics of the data were carried out using statistical package for social sciences (SPSS) Windows version 22.0. [31] 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. 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 266 (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 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 [27] as well as Tobin and Okeowo (100%) in Okada Edo state Nigeria [32]. This is however contrary to a study by Omotara among rural women in Northeast Nigeria [33], which showed a low level of awareness of about 58.2%. This low awareness recorded in Northeast Nigeria, could be hinged on the differences in study methodologies as well as the socio- cultural differences where these females in the North are denied autonomy, contrary to their Southern counterparts.

From the index study, the key sources of information on breast cancer include: health workers, TV/Radio, Friends, which agrees with the findings of the study on breast cancer knowledge and screening practices among a similar population in Lagos Southwestern Nigeria [34]. This could be because the study group reported high literacy level and are more likely to access health facilities and other sources of health information readily. Contrary to the findings by Aniebue and Aniebue [27], and Khadiga [35], where internet and print media were reported as the major sources of information, the current study noted these as the least reported sources. This implies that teachers in our study area do not access the internet or print media for health information. They may lack computer skills, hence future health programs should aim at addressing this inadequacy, to ensure delivery of improved health education for educators (Teachers).

It has been documented that knowledge about breast cancer is an important determinant of uptake of breast cancer screening by women [25]. Lack of knowledge about breast cancer further causes delay in presentation, treatment and by extension morbidity and mortality. In

231 this study only (39.1%) showed good knowledge on breast cancer. This could be attributed to
 232 the limited source of information (mainly health workers) reported, and would restrict
 233 information to only when the respondents come in contact with these health workers,
 234 probably to access care. Other major sources of information like Television; where health
 235 educational programs (soap operas and documentaries) might have been regularly displayed
 236 to them would have greatly improved their knowledge. This finding was similar to that of
 237 studies by Ojewusi [36] and Khadiga [35]. This study also showed a statistically significant
 238 relationship between level of education attained and level of knowledge of breast cancer. This
 239 implies that the higher the level of educational attainment the teacher has, the higher the
 240 probability of having a better knowledge of breast cancer. Hence, a more direct approach
 241 would be best applied to enhance their knowledge and by extension the knowledge of their
 242 female students so as to equip them with adequate information should the need arise.

243 In this study, most (90.1%) of the respondents are aware of BSE. This result is in keeping
 244 with reports from another study [27]. This may be because there is increased sensitization
 245 and mass campaign programs on BSE by health workers and broadcasting media (TV/Radio)
 246 in Owerri, Imo state. On the contrary, different results were documented in some other
 247 studies [28,37]. Among the Teachers (71.5%) had ever practiced BSE, and this was higher
 248 than the figures reported by other studies [27,34,35,36].

249 More than half (70.1%) were aware of CBE as a screening method. Since health workers was
 250 the major source of information on breast cancer, it probably explains the high awareness of
 251 CBE in this study. Similarly, Ojewusi revealed that more than half (53.1%) of respondents
 252 were aware of CBE [36]. The high awareness of CBE reported by our study was not matched
 253 by practice, as our study results revealed low practice of CBE (27.8%) of them had ever gone
 254 for CBE. Our finding was similar to the 23% in a study in Turkey [37]. However, our study

finding is higher than reports from studies in rural Northern Nigeria (11%) [28] and in Ibadan (14%) [36].

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% [38]. 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 [36]. 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.*, [39] and in Lagos state by Nasiru and Odusanya [40].

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.

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

282 should made available at subsidized cost or made free for screening women greater than 35
283 years by the government and non- governmental organisations; Teachers should be
284 encouraged to avail themselves of credible sources of information such as print media and
285 internet to improve their knowledge on breast cancer and its screening methods; Teachers
286 should be encouraged to screen for breast cancer using the CBE and mammography methods

287 **CONSENT**

288
289 As per international standard or university standard, client's/ patient's written consent has
290 been collected and preserved by the authors

291

292 **ETHICAL APPROVAL**

293

294 As per international standard or university standard, written approval of Ethics committee has
295 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

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

426

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	259 (91.2)	25 (8.8)
IN THE BREAST		
ILLNESS CAUSED BY ANCESTRAL	11 (3.9)	273 (96.1)
CURSES		
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	245 (86.3)	39(13.7)
DIAGNOSED EARLY		
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)

427 **TABLE 3: ASSOCIATION BETWEEN SOCIO-DEMOGRAPHIC VARIABLES**
 428 **AND LEVEL OF KNOWLEDGE OF BREAST CANCER**
 429

VARIABLES		LEVEL OF KNOWLEDGE OF BREAST CANCER FREQUENCY (%)			CHI- SQUA RE	P- VAL UE
		GOOD	FAIR	POOR		
AGE						
	20-29	-	16(41)	18(59)	8.538	0.383
	30-39	6(5.6)	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)		

430 **statistically significant*

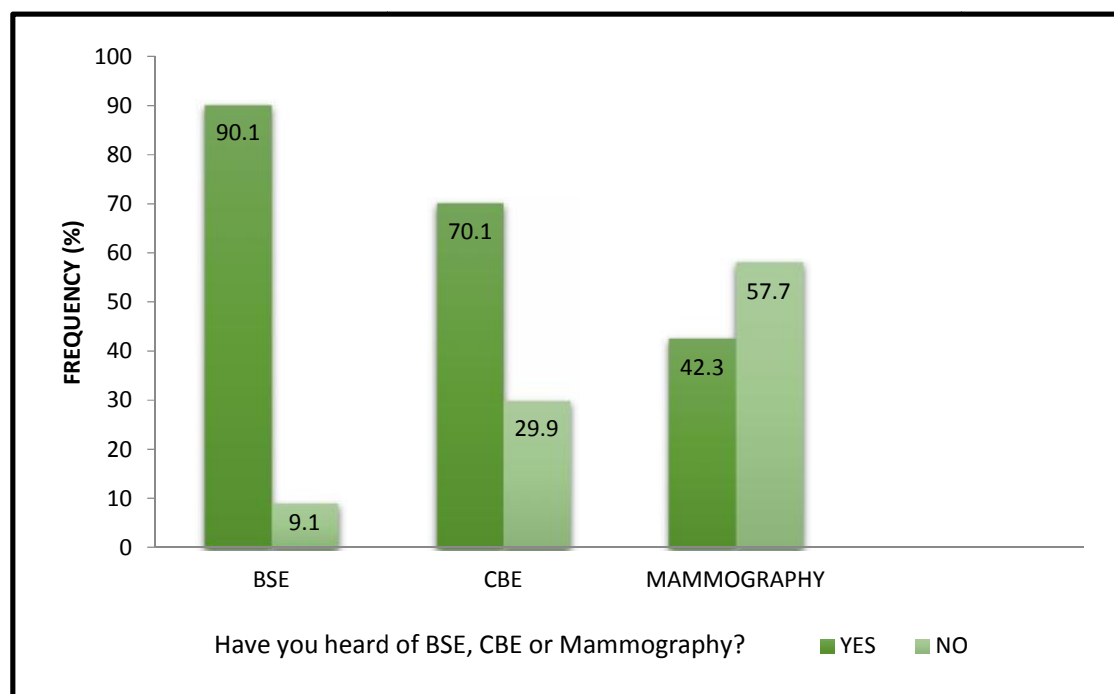


FIGURE 1: BAR CHART SHOWING THE AWARENES OF BSE, CBE AND MAMMOGRAPHY

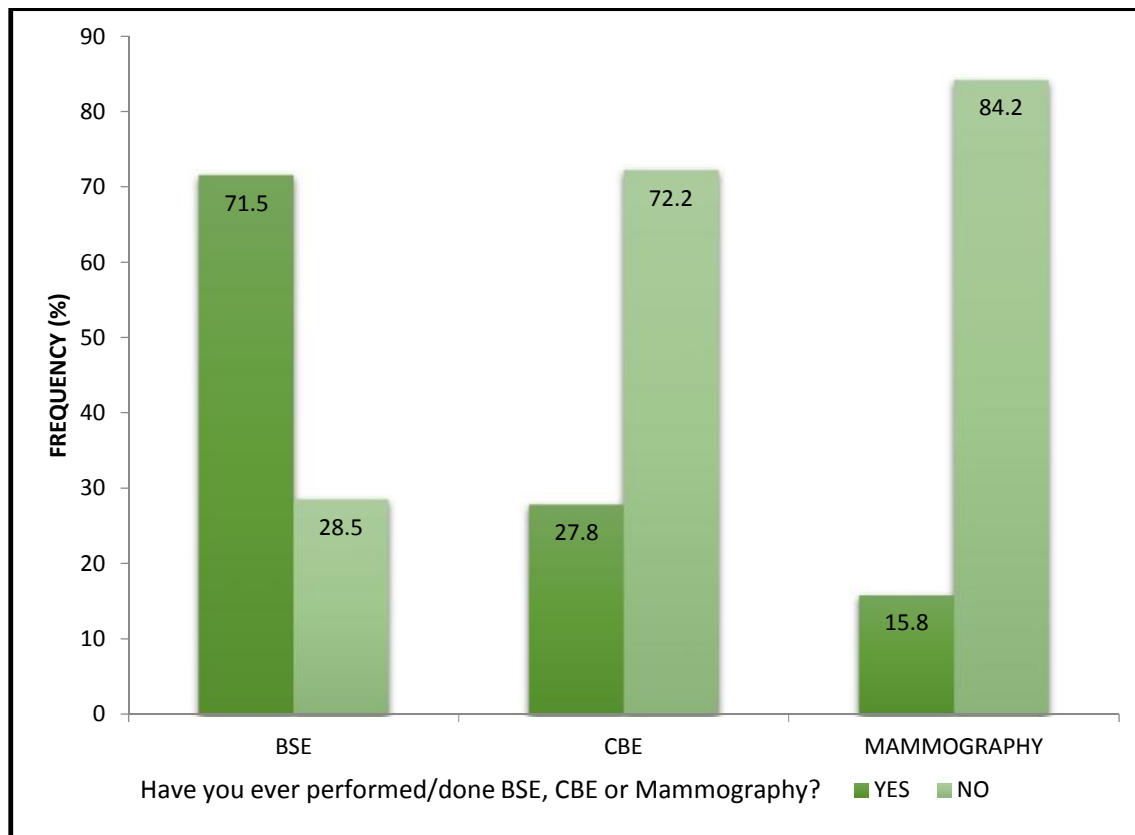


FIGURE 2: UPTAKE OF BREAST CANCER SCREENING METHODS

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 (471)	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.)		