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3

4 **Abstract**

5 Globally, breast cancer has become a health priority due to its increasing incidence.
6 Understanding the knowledge attitude and practice of breast cancer screening services is an
7 essential step. The aim of this study is to determine the knowledge and practice of breast
8 cancer screening among women in Enugu South. A descriptive cross sectional research design
9 was adopted for the study. The study population for this study consisted of adult women aged
10 15 years at Enugu South LGA. A multistage random sampling technique was used in
11 recruiting a total of 396 participants that participated in the study. A structured
12 questionnaire was used for the study and Statistical Package for Social Science (SPSS) version
13 23.0 was used for the analysis of the study. Results from the study showed that 34.0

14

15 *Index terms—*

16 **1 Introduction**

17 lobally in a publication by World Health Organization (WHO) (2016) breast cancer screening is an important
18 practice in preventing breast cancer. Breast cancer is reported to be the second most common cancer in the world
19 and, by far, the most frequent cancer among women with an estimated 1.67 million new cancer cases diagnosed
20 in 2012 (25% of all cancers) (WHO, 2014). It ranked as the fifth cause of death from all cancers and the second
21 most common cause of female cancer-related mortality worldwide (WHO; 2014; Abdel-Aziz et al., 2017; Diab et
22 al., 2018).

23 Studies have shown a reduction of breast cancer screening has a steady increase in the incidence of breast cancer
24 in Nigeria from 15.3 per 100,000 in 1976 to 33.6 per 100,000 in 1992 to 52.1 per 100,000 in 2012 (Cancer Research,
25 2017; Olasehinde et al., 2017; Hanson et al., 2019; El Bcheraoui et al., 2015). Globally, there is a regional variability
26 in the incidence rates of this disease ranging from 27 per 100 000 in African and Middle Eastern countries to 96 per
27 100 000 in Western Europe and it is, also, the most frequent cause of cancer mortality among women in the less
28 developed regions and the second in the developed countries (Aminisani et al., 2016; International Cancer Institute,
29 2019; WHO, 2013). In developed countries, however, mortality from breast cancer has been on the decline despite
30 the higher incidence of breast cancer. This is a result of early detection through organized screening programs
31 and effective treatment modalities (Olasehinde et al., 2017; Hanson et al., 2019; El Bcheraoui et al., 2015).

32 Breast cancer mortality has fallen considerably after the introduction of breast cancer screening in the western
33 countries (WHO, 2013; Cancer Research, 2017). However, the screening is unavailable or less utilized (if
34 available) in the developing countries where the majority of breast cancer deaths are occurred (Pierz et al., 2020;
35 WHO, 2019; Keten et al., 2014; Aminisani et al., 2016).

36 There is growing evidence that the knowledge of breast cancer screening is more aggressive in Nigeria than
37 in the United States and Europe, including an earlier age of onset and a higher incidence of basal-like and
38 HER2-enriched subtypes of the disease (Ojewole et al., 2017; Sung et al., Rosenberg & Jemal, 2019; Keten et
39 al., 2014). When detected early and treated promptly, these cancers have a high cure rate in a well-resourced
40 high-functioning health system (Pruitt et al., 2020). The aetiology of breast cancer is not well known (American
41 Cancer Society, 2018). However, several risk factors have been shown to impact an individual's risk of developing
42 breast cancer and their ultimate prognosis. These well-established risk factors include older age, family history,
43 oral contraceptives, null parity, hormone replacement therapy, and early menarche, late first fullterm pregnancy,
44 late menopause, dense breast tissue, and tobacco smoking (Sung, Siegel, Rosenberg & Jemal, 2019; Diab et al.,
45 2018). Breast cancer is curable when detected at an early stage. Women with early stage disease have an excellent
46 prognosis with a 100% five years survival rate for stage 0 and I, while those with metastatic disease at diagnosis
47 have a five years survival of around 20%, so it is important for women to be aware of the importance of early
48 detection through screening (Diab et al., 2018).

7 H) INSTRUMENT FOR DATA COLLECTION

49 According to a report by Federal Ministry of Health in Nigeria (2015) early recognition and detection of Breast
50 Cancer can play a significant role in reducing cancer morbidity and mortality as it gives more treatment options
51 and increases survival rate if diagnosed early. Early detection of BC can be achieved by one of the following
52 screening methods: breast selfexamination (BSE), clinical breast examination (CBE), and mammography (Breast
53 Cancer Now, 2019; Cancer Research, 2017; American Cancer Society, 2017). Although BSE alone is inadequate
54 for early detection of BC, it is recommended by the American Cancer Society as an option for women starting
55 from the early 20s of age as a method for breast awareness and early recognition and detection of BC. Unlike
56 mammography and CBE, BSE does not require hospital visit and expertise, and it is cheap, simple, and non-
57 invasive method that can performed by women themselves at home (Agodirin et al., 2017). According to American
58 Cancer Society (2018) recommendations, women should be aware how their breasts usually feel and report any
59 breast changes without delay to their healthcare providers. Several previous studies have shown that female
60 students had poor awareness and negative attitudes concerning BC and BSE. Such negative indicators continue
61 to be present as a recent descriptive study among women in a community found that those women to have
62 inadequate knowledge regarding BC and BSE (45.5%), fairly positive attitudes (56.3%), and low frequent practice
63 of BSE (37.5%) (Ojewole et al., 2017;Nwaneri et al., 2017; ??ancer Research, 2017;Denny et al., 2012).

64 Worldwide, many interventional studies have been conducted to increase knwoeldge of BC screening and
65 practice of BSE among women (Keten et al., 2014; ??DC, 2019;Anderson et al., 2018). For instance, a study
66 by Abdel-Aziz et al (2017) evaluated the effectiveness of a breast health awareness program on knowledge of
67 BC and BSE practice among women in Rural Nigeria based on the health belief model. The study revealed
68 that the educational intervention had a positive impact on increasing BC knowledge among the participants.
69 Similar findings were revealed among some young Nigerian women and Saudi women (Abdel-Aziz et al., 2017).
70 Therefore, all recommendations were to increase the level of the women's knowledge about BC and emphasize
71 the importance of increasing BC awareness and promoting the practice of BSE for early detection of breast
72 abnormalities ??Hanson et

73 2 b) Study Design

74 This study adopted a cross-sectional study using a quantitative method of data collection on the knowledge and
75 practice of breast cancer screening among women at Enugu South.

76 3 c) Study Population

77 The study population for this study consisted of adult women aged 15 years at Enugu South LGA. The estimated
78 population of women is 11,407.

79 4 d) Inclusion Criteria

80 This study includes; i. All women aged 15 years and above at Enugu South who gave in their consent for the
81 study. ii. Any individual who volunteered to provide information vital to the research among women at Enugu
82 South.

83 5 e) Exclusion Criteria

84 This study excludes;
85 i. Any woman aged 15 years and above at Enugu South who refuses to give in her consent for the study. ii.
86 Any woman aged 15 years and above at Enugu South who is sick, psychologically malnourished, disabled and on
87 admission to the hospital during the time of data collection of the study.

88 6 f) Sample Size

89 The sample size for this study is 406 (see appendix A) g) Sampling procedure A multistage random sampling
90 technique was used. The procedure was as follows: Stage 1: Selection of Communities; Simple random sampling
91 was used to select 5 Communities from the total number of communities in Enugu South LGA. Stage 2: Selection
92 of Villages: Two villages each were selected from each of the five selected communities. Also Systematic random
93 sampling was once more is used to select households on each street to give every household an equal chance of
94 selection. This would be done by the researcher. Finally, simple random sampling was used to select 3 females
95 of reproductive age (15years and above) in each household giving a total of 406 respondents.

96 7 h) Instrument for Data Collection

97 A self administered semi structured questionnaire was used for the study on the knowledge and practice of breast
98 cancer screening among women at Enugu South. The questionnaire was designed for simplicity and assimilation
99 by the respondents.

100 8 i) Validity of the Instrument

101 The research instrument being the questionnaire which was used for data collection was developed by researcher
102 and submitted to the project supervisor as well as two experts from department of public health for face validity
103 and proper scrutiny in order to ensure that the questionnaire met the objectives of study.

104 9 j) Reliability of Instrument

105 Reliability of the instrument was determined using test retest method. Copies of the questionnaire were given to
106 some women outside the area of study by the researcher because this area for reliability testing shared similar
107 characteristics with Enugu South LGA that was used for the study. Chrombach alpha test was used to test for
108 the reliability coefficient of the questionnaire.

109 10 k) Method of Data Collection

110 Data was obtained using a self administered based semi structured questionnaire. This was done with the aid
111 of Two (2) field assistants who were Hired and trained to aid the researcher in the data collection process. The
112 purpose of the research was explained face to face to the respondents before distribution of the questionnaires to
113 them.

114 11 l) Method of Data Analysis

115 The Statistical Package for the Social Sciences (SPSS) was used in the analysis of the data gotten from the study.
116 Results were expressed in percentages, frequencies, tables and charts (Descriptive Statistics). Chi square test
117 was then used to analyze the hypothesis of the study $p = (0.05)$.

118 12 m) Ethical Consideration

119 A letter of introduction and ethical clearance was obtained from the Department of Nursing Sciences, University
120 of Nigeria Nsukka before the research was conducted. The purpose of the research was explained to each
121 respondent and verbal informed consent obtained from them before inclusion into the study. Also, anonymity
122 of the respondents was also assured and ensured. The confidentiality of the information they gave was also be
123 maintained.

124 13 III.

125 14 Results

126 A total of Four hundred and six (406) copies of questionnaires were distributed for the study and three hundred
127 and ninety-six (396) questionnaires were retrieved and they were properly filled and crosschecked for correctness
128 and were used for the purpose of the analysis.

129 15 a) Socio-demographic Characteristics

130 From table 1 below, it was posited that 34.0% (135) of the women represented age groups between 45-49, 30.3%
131 (120) of the women were 50 years and above, 21.4% (85) of the respondents were 35-44 years of age, 8.2% (32) were
132 aged 25-34, and 6.1% (24) aged 15-24 years. 63.2% (250) of the women were of Igbo origin, 29.1% (115) reported
133 'others', 5.1% (20) Yoruba, and 2.7% (11) Hausa/Fulani. 66.9% (265) of the respondents were Christians, 14.7%
134 (58) listed religions not included in the options but label 'others', 11.4% (45) Traditional and 6.9% (28) Muslim.
135 35.9% (142) of the women had a child, 8.9% (35) had two children, 26.6% (105) had 3 children and above,
136 and 28.7% (113) had no children. Concerning the education level of the respondents, 39.0% (154) had attained
137 tertiary education, 28.9% (115) for secondary education levels, 22.1% (88) had attained primary education levels
138 and just 9.9% (39) had informal education levels. Students among the respondents totaled 24.7% (98), 25.2%
139 (100) were civil servants, 23.9% (95) 'farmers', 5.9% (23) identified as traders, and 20.3% (80) 'others'. 35.8%
140 (142) reported 'yes' concerning monthly income satisfaction, while 64.2% (254) of the women said "no". 42.8%
141 (169) of the respondents were single, 35.2% (139) married, 16.5% (65) separated, and 5.6% (22) widowed. When
142 the women were asked about their household level of income, 16.5% (65) reported income above 100,000, 20.9%
143 (83) between 2,000-10,000, 10.2% (40) earned from 11,000-30,000, 2.9% (11) 1-1,000, 19.9% (79) listed 'other'
144 income levels, 18.6% (74) earned figures from 61,000-100,000, and 11.0% (44) from 31,000-60,000. 47.4% (188)
145 of the respondents affirmed they had a health plan at a healthcare center, while 52.6% (208) reported they did
146 not. 1. below), 23.0% (87) of the respondents reported 'newspaper/magazines' as their sources of information
147 on breast cancer screening, 19.0% (75) said "Tv/radio programs", 18.9% (75) reported social media, 3.8% (15)
148 health practitioners, 14.9% (59) parents/family, 11.4% (45) school, and 9.0% (36) reported sources not listed
149 but label 'others'. 40.3% (159) of the women affirmed they had been part of a breast cancer screening, 32.5%
150 (129) reported 'no', and 27.3% (108) were not sure. Respondents who accepted to have undergone breast cancer
151 screening reported to have done so between 6 months to a year (26.4%), 24.4% (39) reported 'longer than a year',
152 21.9% (35) said "4-6 months", 14.8% (23) reported 2-3 months, and 12.6% (20) reported in less than a month.
153 52.5% (208) of the women affirmed that mammography is a method used to screen for breast cancer, while

154 47.5% (188) replied "no". Women in Enugu-South accepted that breast self examination is encouraged as part
 155 of a breast education program, while 15.3% (60) said "no". When the respondents were asked if lump swelling
 156 under armpit, bleeding or discharge and nipple retraction is a warning sign of breast cancer, majority agreed
 157 (78.8%), while 21.2% (84) reported otherwise. 3 below, majority of the respondents reportedly demonstrated
 158 their approval to undergo breast cancer screening if offered a chance (92.5%), while 7.5% (30) denied. 53.9%
 159 (214) of the respondents reported 'Yes' when they were asked if they had been advised by a physician to screen
 160 the breast prior to the time of this investigation, 26.4% (105) could not remember, and 19.7% (78) said "No".
 161 47.0% (186) of the respondents had not screened for breast cancer or any infection relating to the breast before
 162 filling the questionnaire, 36.3% (144) replied "Yes", and 16.7% (66) reportedly could not remember. 32.7% (47)
 163 of the respondents who reported 'yes' said they last screened for periods longer than a year, 24.6% (35) reported
 164 4-6 months ago, 18.1% (26) said "6 months to a year", 16.6% (24) reported 'in less than a month', and 8.0% (12)
 165 reported 2-3 months ago. When they were asked concerning reasons for breast cancer screening, over half of the
 166 women (57.3%) reported 'for prevention', 18.1% (26) explained that they were presented with symptoms, 16.6%
 167 (24) just decided to go for the examination, and 8.0% (12) as a result of cases in the family respectively. 85.4%
 168 (338) of the women had never had an abnormal test result in breast cancer screening, while 14.4% (58) reported
 169 'Yes'.

16 AWARENESS OF BREAST CANCER SCREENING

17 e) Association between the knowledge of Breast cancer 172 screening and the Socio demographic characteristics of fe- 173 males

174 Table ?? below showed the results for the test of a statistically significant association between sociodemographic
 175 characteristics and knowledge of breast cancer screening among women in Enugu South Local Government Area,
 176 Enugu State. There was a statistically significant association between age of women and knowledge of breast
 177 cancer screening ($p = 0.010$). Given the association between marital status of women and knowledge of breast
 178 cancer screening among women in the study population ($p=0.300$), there was no significant association. On the
 179 hypothesis between number of children (parity) and knowledge of breast cancer screening among women in primal
 180 population, There was also a statistically significant association ($p=0.0008$). Given the association between level
 181 of income of women and knowledge of breast cancer screening in the study population, there was a statistically
 182 significant association ($p=0.0092$). There was a statistically significant association between level of education
 183 and knowledge of breast cancer screening in the study population ($p=0.0327$). Finally, there was no statistically
 184 significant association between occupation and knowledge of breast cancer screening in the study population
 185 ($p=0.127$).

186 Table ??: Association between the knowledge of Breast cancer screening and the Socio demographic
 187 characteristics of females f) Association between the knowledge of Breast cancer screening and the Practice
 188 of breast cancer screening among women at Enugu South Table 6 below showed the results for the test of a
 189 statistically significant association between knowledge of breast cancer screening and practice of breast cancer
 190 screening among women. There was a statistically significant association between good knowledge and practice
 191 of breast cancer screening among women ($p = 0.0032$). IV.

18 Discussion

193 Findings of this study respect to the socio demographic characteristics of the respondents, 34.0% of the women
 194 were in the age range of 45-49 years and this is comparable to findings of Ogunkorode et al. (2017) which showed
 195 that 35% of the population studied was between the ages of 45-49 years. Also, observation from this study
 196 showed that majority of the participants in the breast cancer screening survey were Christians ??t al. (2015)
 197 where majority, of the respondents had good knowledge about breast cancer. However this as in contrast to the
 198 level of knowledge reported among students in Turkey where low knowledge level was reported (Hanson et al.,
 199 2019). In the study, 23.0% of the women listed newspaper/magazines as their source of information on breast
 200 cancer screening. This could be due to some campaigns and awareness on breast cancer screening on mainstream
 201 media. Additionally, 40.3% of the respondents had reportedly undergone breast cancer screening. This is however
 202 in contrast with a study by Aminisani et al. (2016) Knowledge and Practice of Breast Cancer Screening Among
 203 Women in Enugu South, Nigeria corroborate this finding and this is also in agreement with the finding of Akande
 204 et al. (2015) where majority of the students were well informed about mammography as a screening method
 205 for breast cancer. This was also observed by Kami?ska et al. (2015) and finding is similar to the results of
 206 another study conducted. From the study 92.5% of the women demonstrated their approval to utilize breast
 207 screening services if offered a chance these points out the lack of access towards breast cancer screening among
 208 respondents. A previous study by Diab et al. (2018) suggested similar findings among respondents in a Kenyan
 209 study. 53.9% of the women accepted they had been advised by a physician to screen the breast prior to the
 210 time of this investigation. A study by Poehls (2019) corroborates this finding and demonstrated that physicians
 211 actively sensitized their female patients on breast cancer screening. This study revealed that 85.4% of the women

212 had never had an abnormal test result in Breast cancer screening as supported by several studies (Kanaga et al.,
213 2011;Karabay et al. 2018;Al-Hussami, 2014).

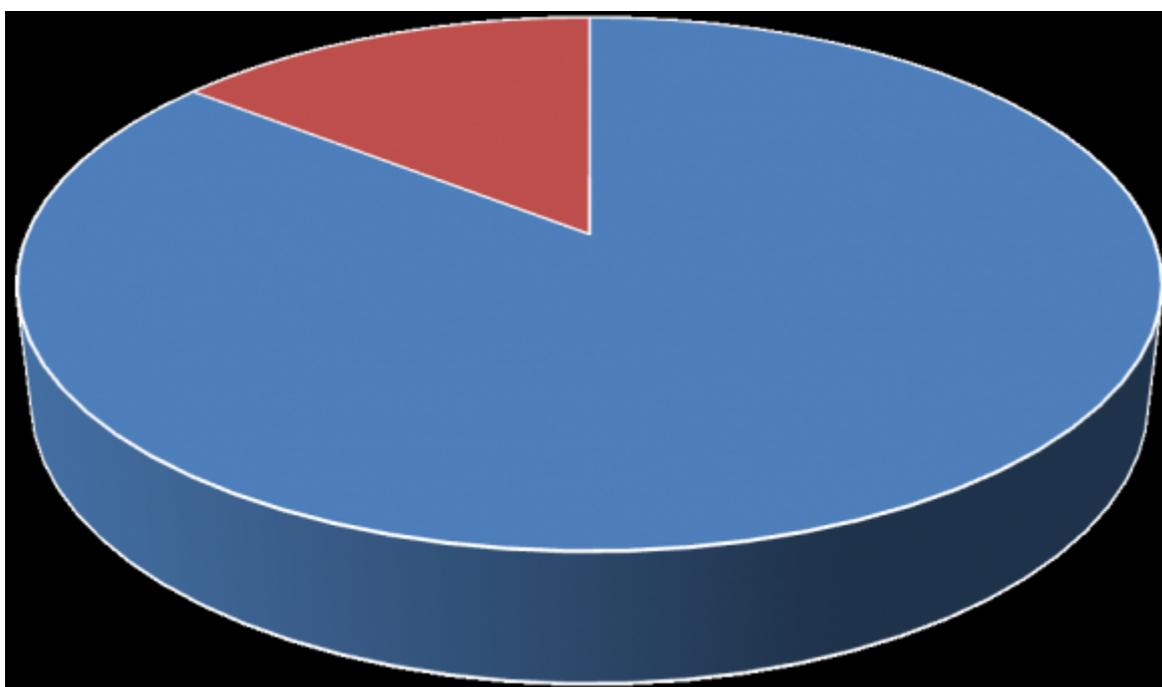
214 The finding of the study revealed that the commonest factor affecting their practice of breast cancer screening
215 was 'distance to facility' (19.3%). This goes in consistence with a study by Poehls (2019) on the practice of
216 breast cancer screening screenings. Another study by Hedge et al. (2018) in agreement to this finding and
217 suggests that 26.6% of women who underwent breast cancer screenings listed affecting factors such as financial
218 constraints, followed by distance to facility.

219 Findings from this study regarding the association between Socio-demographic characteristics and practice of
220 Breast cancer screening among women revealed that Age is significantly associated with practice of breast cancer
221 screening screening among women($p = 0.010$). Study shows that older women groups utilized breast cancer
222 screening relative to younger groups. This goes in line with a study by Hedge et al. (2018) which found age
223 to be associated with practice of breast cancer screening ($p = 0.00271$). Further investigation into the study
224 demonstrated that marital status is not significantly associated with the practice of breast cancer screening ($p =$
225 0.300). This goes in line with a report published by Al-Amri (2015) that there was no significant association. This
226 implies that women who wanted to utilize screenings did, irrespective of their marital status. Although certain
227 studies suggested some women did not participate in screening exercises due to permission/acceptance from their
228 husbands (Chigbu et al., 2017;Nnebue et al., 2018). Also, from the study among women in Enugu South, it was
229 posited that there was a significant association between number of children (Parity) and practice of breast cancer
230 screening among women in the study population ($p =0.0008$). Few studies support this finding (Adejumo et al.,
231 2018;Chigbu et al., 2017;Nnebue et al., 2018;Olasehinde et al., 2017). Considering the hypothesis between level
232 of income of women and practice of breast cancer screening, there a significant association ($p =0.0092$). This
233 goes in consistence to a previous study by Al-Amri (2015). This signifies that women with better level of income
234 were more likely to utilize breast cancer screening services. This study also indicates that women with higher
235 level of education were significantly involved in breast cancer screening than those with low levels of education.
236 Women without any formal education level hardly came in for screening. This indicates that more enlightened
237 a person is, the more likely they were to undertake breast cancer screenings. Hence level of education of women
238 and practice of breast cancer screening are significantly associated ($p = 0.0327$). A preceding study by Al-Amri
239 (2015) confirms this finding. Findings of this study showed an association between knowledge of breast cancer
240 screening and practice of breast cancer screening among female women($p= 0.00532$).This implies that women who
241 were well informed know the importance and would easily seek breast cancer screening as opposed to those who
242 lacked information. A study by Poehls (2019) corroborates this finding on the association between knowledge of
243 breast cancer screening and practice of breast cancer screening.

244 V.

245 19 Conclusion

246 Breast cancer is a major health concern and remains the most common malignancy in women worldwide. In this
247 study, It was seen that age, educational level, level of income, marital status and knowledge were all related with
248 practice of breast cancer screening among the women in Enugu South. Findings from this study establish that
249 even though a number of women showed considerable knowledge of breast cancer screening, several others were
250 deficient of relevant information. Women need to be encouraged to perform BCS regularly and earnestly report
251 any abnormality to the health care providers since they generally showed willingness to participate if afforded an
252 opportunity. Also, perceived factors affecting breast cancer screening practices such as distance to facilities must
253 be put into consideration to ease uptake. Emphasis must be made on the importance and effectiveness of breast
254 cancer screening. Also Policies must be implemented to accommodate low income earners and encourage breast
255 cancer screening.



1

Figure 1: Fig. 1 :

speaking.

al.,
2019;
El
Bcheraoui

et al., 2015; Agodirin et al., 2017). Early detection and prompt attention as a result of adequate knowledge and awareness about breast cancer and screening methods go a long way in reducing the associated high mortality rate (Elobaid et al., 2014; Aduayi et al., 2016; Keten et al., 2014).

Recent findings from a Nigerian Breast Cancer Study show that the majority of patients have advanced stage at diagnosis than has been reported in other populations (Arisegi et al., 2019; Dodo et al., 2016; Akande et al., 2015). This underscores the need for systems-level interventions to downstage breast cancer in Nigeria (Dodo et al., 2016; Akande et al., 2015; Pruitt et al., 2020). The causes of late-stage diagnosis are complex and, in addition to aggressive molecular subtypes, include lack of access to comprehensive screening and preventive care as well as social and cultural factors such as alternative healing, financial concerns, and lack of education (Breast Cancer Now, 2019; Pierz et al., 2020; Akande et al., 2015). Delayed diagnosis of breast cancer in Nigeria has been well documented and has a significant impact on breast cancer morbidity and mortality. Improved awareness campaigns and better understanding of the causes of delay in care is critical to develop relevant and effective screening measures. It is due to this that the current study aimed to investigate the knowledge and practice of breast cancer screening among women in Enugu South, Nigeria

II.

Methods

a) Study Setting

Enugu South is a Local Government Area of Enugu State, Nigeria. Its headquarters are in the town of Uwani. It has an area of 67 km² and a population of 198,723 at the 2006 census. The postal code of the area is 400. The geographic coordinates of Enugu South is given as 5° 57'40"N 8° 42'39"E. The people of Enugu South are majorly farmers. Enugu South is a major producer of banana and plantain for the Nigerian market. It is known for the Christianity and Igbo

Figure 2:

1

Characteristics	Frequency (n=396)	Percentage (%)
Age		
15-24	24	6.1
25-34	32	8.2
35-44	85	21.4
45-49	135	34.0
50 and Above	120	30.3
Total	396	100
Ethnicity		
Igbo	250	63.2
Hausa/Fulani	20	5.1
Yoruba	11	2.7
Others	115	29.1
Total	396	100
Religion		
Christianity	265	66.9
Muslim	28	6.9
Traditional	45	11.4
Others	58	14.7
Total	396	100
Number of Children (Parity)		
None	113	28.7
1	142	35.9
2	35	8.9
3 and above	105	26.6
Total	396	100
Education level		
Informal education	39	9.9
Primary	88	22.1
Secondary	115	28.9
Tertiary	154	39.0
Total	396	100
Occupation		
Student	98	24.7
Farmer	95	23.9
Trader	23	5.9
Civil servant	100	25.2
Others	80	20.3
Total	396	100

Figure 3: Table 1 :

2

Variables

Figure 4: Table 2 :

3

Variable	Frequency (n=396)	Percentage (%)
Do you Practice breast cancer screening if offered a chance?		
Yes	366	92.5
No	30	7.5
Total	396	100
Have any physician advised you to screen the breast before?		
Yes	214	53.9
No	78	19.7
Cannot Remember	105	26.4
Total	396	100

Figure 5: Table 3 :

4

Variable	Frequency (n=396)	Percentage (%)
Which of the following related as possible factors affecting your Utility of Breast cancer screening		
Distance to facility	82	19.3
Cultural related factors	42	10.0
Family/Husband Acceptance	79	18.7
Financial Constraints	56	13.3
Lack of Information	58	13.8
Religious Factors	2	0.5
Behavior of Health workers	48	11.3

[Note: F© 2023 Global Journals]

Figure 6: Table 4 :

6

Practice of breast cancer screening	knowledge of breast cancer screening	X ²	P-value	Decision
	Good Knowledge (%)	Poor Knowledge (%)		
Yes	89.0%	11.0%	1.93760.0032	Sig
No	32.8%	67.2%		

Figure 7: Table 6 :

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Figure 8:

.1 Appendix A

.2 Sample size determination

The sample size will be determined using the Yamene formula ??1967)

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[Ethnicity] , Igbo [] (b) Hausa [] (c) Yoruba [] (d) Fulani [] (e) Others. *Ethnicity* (please specify) _____ 4. Marital status (a) Married [] (b) Single [] (c) Separated [] (d) Widowed []

5. Education level (a) No formal education. c) Secondary [] (d) Tertiary [] 6. Your occupation: (a) Artisan e.g Carpenter, Hairdresser, Tailor, Driver [] (b) Civil servant e.g Teacher. d) Unemployed [] (e) Professionals e.g. Doctor, Nurse, Lawyer, Accountant [] (f) Others (please specify)

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[] Health practitioner i.e nurse, doctor, auxiliary health personnel etc Have you heard about Breast Cancer Screening? (a) Yes []

b) No [] 12. What is your source of information on breast cancer Screening? (a) School [] (b) Parents/family

[] (c) Social media]b109 'Health practitioner i.e nurse, doctor, auxiliary health personnel etc'. *Have you*

heard about Breast Cancer Screening? (a) Yes [] (b) No [] 12. What is your source of information on breast

cancer Screening? (a) School [] (b) Parents/family [] (c) Social media, (d) Tv/radio programs [] (e. f)

news papers/ magazines [] (l) others(please specify)

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[Are you satisfied with your monthly income? (a) Yes] *Are you satisfied with your monthly income? (a) Yes, b.)*

1 [] (c.) 2. 9. Number of children (Parity) (a.) None (d.) 3 [] (e) 4 and above. 10. Do you have a Health

plan at any healthcare Center? (a) Yes [] (b) No [] SECTION B: KNOWLEDGE OF BREAST CANCER

SCREENING AMONG WOMEN INSTRUCTION: Please tick (?) the correct options besides each question

and also fill in the spaces provided where appropriate with the correct options)

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475 encouraged as part of a breast education program (a) Yes [] (b) No [] 17. Lump swelling under armpit,
476 bleeding or discharge and nipple retraction is a warning sign of breast cancer (a) Yes 14. When was that?
477 (a) Not Yet [] (b) less than a month]b110 'Mammography is a method used to screen for breast cancer (a)
478 Yes [] (b) No [] 16. Breast self examination is encouraged as part of a breast education program (a) Yes []
479 (b) No [] 17. Lump swelling under armpit, bleeding or discharge and nipple retraction is a warning sign of
480 breast cancer (a) Yes'. 14. *When was that? (a) Not Yet [] (b) less than a month*, 15. (Have you been part of

481 a Breast Cancer Screening Program (a) Yes [] (b) No [] (c) Not Sure. c) 2-3 months [] (d) 4-6 months [] (e)
482 6 months to a year [] (f) longer than a year. b) No [] SECTION C: PRACTICES OF BREAST CANCER
483 SCREENING AMONG WOMEN 18. Do you Practice breast cancer screening if offered a chance? a) Yes []
484 (b) No [] 19. If No to Question (25) Why? _____ 20.
485 Have any physician advised you to screen the breast before? (a) Yes [] (b) No [] (c) Cannot Remember 21.
486 Have you screened for breast cancer or any infection relating to the breast before? (a) Yes [] (b) No [] (c)
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