Knowledge and Practice of Screening for Breast Cancer among Women in Uyo Akwa Ibom State Nigeria

Ekanem, M. J[1], Anarado, A. N[2]

[1]Central School of Nursing Ikot Ekpene, Akwa Ibom State Nigeria

[2]Department of Nursing Sciences, Faculty of Health Sciences and Technology, University of Nigeria Enugu Campus, Enugu Nigeria

Abstract: *The purpose of the study was to investigate the knowledge and practice of screening tests for breast cancer among women in Uyo. Three specific objectives and corresponding research questions with two hypotheses were used in the study. A descriptive cross-sectional design was adopted for the study. A multistage sampling technique was used to select 420 women aged 18 to 50 years from a population of 5,860. The data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 20. 0. Many of the women (66.7%) knew about Breast Self Examination (BSE), few of them (24.5% and 24%) knew Clinical Breast Examination (CBE) and Mammogram respectively. There was a significant association between knowledge of eligible women to be screened and practice of breast cancer screening with χ^2 value 17.62 and P value 0.00527 while no significant association existed between knowledge of body part, screening center, signs looked for and practice of breast cancer screening (x^2 = 4.93, 10.23, 6.83; P = 0.176995, 0.805028, 0.077625). The practice of breast screening was related to age and level of education with r = 0.590 and 0.464, P value = 0.00001 and 0.00001 which was significant to reject hypothesis two. Adequate health education through women friendly organizations and screening for all women during regular physician office visit for other health issues were recommended.*

Keywords: knowledge, breast cancer, screening, examination, mammogram

1. Introduction

Cancer is uncontrolled growth of abnormal cells anywhere in the body. The abnormal cells are termed malignant or misnomer cells [1]. Cancer is a group of more than 200 diseases characterized by unregulated growth of cells. It can occur in persons of all ages and all races and is a major health problem in many countries worldwide. It is known to be the most feared of all diseases, feared far more than heart diseases [2]. These authors viewed cancer as synonymous with death, pain, disfigurement and dependency.

Hippocrates coined the word carcinoma, meaning a tumour that spreads and destroys the host. However, ancient Egyptians and later Galen described cancer as being crablike in nature because cancerous tumours stick onto the body and prey on the flesh like crabs. They grasp the tissues they invade and cause pain that is throbbing, creeping, gnawing the flesh and resembling the pin ching of a crab [1]. In the females, the most occurring cancers are those affecting the mammary glands (breast cancer). Breast cancer is cancer that occurs in the breast tissue. It is a malignant proliferation of epithelial cells that line the ducts or lobules of the breast. It is formed when the processes that control normal cell growth breaks down, enabling a single abnormal cell to multiply at a rapid rate. These new cells tend to destroy an increasing portion of normal breast tissue overtime and may metastasize to other parts of the body [3]. Breast cancer is the most frequently diagnosed cancer among women in 140 of 180 countries worldwide [4]. In 2007, 1.7 million women were diagnosed with breast cancer and there were already 6.3 million women who were alive with the diagnosis of breast cancer in the previous five years [4]. Since 2008 estimates, breast cancer incidence has increased by more than 20% while the mortality has increased by 14% making it to be the most common cause of cancer death among women, with 522,000 deaths in 2012 worldwide [4,5].

The most common cancer in Nigeria among women is breast cancer 50.8% [6]. The standardized incidence rate of breast cancer from both Abuja Cancer Registry (ABCR) and the Ibadan Cancer Registry (IBCR) in 2012 was 58.3 per 100,000. For IBCR only, it was 52.0 per 100,000 while ABCR had 64.6 per 100,000 [6]. The incidence rate remains highest in more developed regions, but mortality is relatively much higher in less developed countries due to lack of early detection and access to treatment facilities. Breast cancer incidence and mortality rates are increasing in most countries of Africa and Asia [7, 8]. Breast cancer constitutes a major public health issue globally with over one million new cases diagnosed annually resulting in over 400,000 annual deaths and about 4.4 million women living with the disease [9].

Breast cancer is responsible for about sixteen percent (16%) of all cancer related deaths in Nigeria and is still the number one disease, and leading cancer scourge affecting humans with 25% of cases being reported early while 75% are reported late [10]. No single or specific cause of breast cancer has been identified, but a combination of genetic, hormonal and possibly environmental factors may increase the risk of its development. It is not a pathologic entity that develops overnight, it starts with a genetic alteration in a single cell and takes time to divide and double in size [10]. Doubling time varies but breast tumours are often present for several years before they become palpable. For this reason every woman needs to have a clear understanding of her risk factors, warning signs of breast cancer for example, a lump, discharge from nipple and her normal breast size and shape so that any abnormality can be detected at a very

early stage [7]. Unfortunately, some women often underestimate their risk of developing breast cancer and are rarely engaged in breast screening programmes and as such seek initial treatment after years of ignoring symptoms. Screening refers to the examination of individuals or groups of usually asymptomatic people to detect those with high probability of having a given disease, typically by means of inexpensive diagnostic tests [7]. Screening tests can often times detect cancer in its earliest stages, long before any actual symptoms can be noticed. There are specific cancer screening tests that are available for women. Each test is highly effective and recommended for all females particularly those for breast cancer. The World Health organization (WHO) in several reports indicated that cancers are largely preventable by effective screening programmes. Considerable reduction in breast cancer incidence and deaths have been achieved in developed nations with breast examination and screening programmes organized by the national breast cancer early detection programmes [11].

Despite evidence that breast cancer screening reduces morbidity and mortality reports shows that most women have not undergone regular screening examinations [12]. The major factor which determines people's participation in screening programmes either in high risk group or in the general population is the awareness which is a motivating factor [12].

Most people with chronic diseases including cancer in Nigeria prefer to consult traditional healers first, although these healers do not understand the scientific basis of cancer management [13]. Patients therefore utilize existing facilities in conventional hospitals as a last resort. This practice causes delay in presentation of cancer cases at the hospitals with a large proportion of patients being diagnosed at advanced stages of the disease [13].

The aim of this study was to investigate the knowledge and practice of screening tests for breast cancer among women aged 18 to 50 years in Uyo and to assess their practices based on age and level of education. The study was conducted in Uyo municipality and covered all women within the age range of 18 and 50 years who were present in the area during the period of the study.

2. Material and Methods

The research methods used in the study included the research design, setting, study population, sample and sampling technique, instrument for data collection, etc.

Research Design and Setting of the study
The design used for the study was a descriptive cross sectional type. The study was conducted in Uyo municipality. For the purpose of this study, Uyo municipality was divided into five already existing distinct zones, using the major roads that terminate at Ibom plaza.
Zone one – this includes Ikot Ekpene road after plaza up to Itam junction.
Zone two – covers Aka - Nung Udoe road after plaza and up to Aka Etinan junction
Zone three – describes Nelson Mandela road after central post office up to Ekom Iman junction

Zone four – include Wellington Bassey way, Ikpa road and the road network in the area.
Zone five – represent Oron - Nwaniba road after the plaza up to Itiam Etoi

Research Population and Sample
The study's population consisted of 5,860 women aged between 18 to 50 years who lived in Uyo and were present in the area during the study [14, 15]. The sample size for the study which was determined through power analysis at a confidence level of 95% was 382. The sample size was increased by 10% attrition rate to have a sample of 420. This sample was proportionately allocated to the zones with each zone contributing 18% of the sample depending on their population size.

Table 1: Distribution of sample according to the zones

Zones	No. of houses	No. of houses selected (18%)	No. of women selected per household	Total No. of women Selected
1	164	30	3	90
2	136	24	3	72
3	152	27	3	81
4	124	22	3	66
5	204	37	3	111
Total	780	140	3	420

Sampling Procedure
The study employed three stages of sampling technique. The first method was a stratified sampling method which adopted already existing strata of five zones in Uyo. A simple random sampling technique was used to choose the first house in each stratum, then a systematic sampling technique was used to select the required number of houses from the already existing house numbering [16]. Simple random sampling method was used to select three women each from every 5th house (18%) in all the zones to obtain the required sample size of 420. If the eligible women were less in the selected houses, the next household was used to complete the number. Only women aged 18 to 50 years and found living in houses during data collection were included in the study. The selection included only living houses to ensure that only women who lived in Uyo are included in the study. This is because Uyo is the capital city and women from other neighbouring villages and local government operate businesses on daily basis, hence shops and other business centres were not included in the study.

Research Instrument
The study used a researcher constructed questionnaire which consisted of fifteen (15) items in three sections A, B, and C. Section A elicited information about the demographic characteristics of the respondents with four (4) items while Sections B consisted of seven (7) items to elicit information on knowledge of breast cancer screening. Sections C elicited information about practice of breast cancer screening with four (4) items. The questionnaire was made up of closed ended questions which required the respondents to choose their best responses by ticking in the boxes or columns.

Ethical consideration
Ethical clearance was obtained through a written application to the research ethics committee of the Directorate of Planning, Research and Statistics (PRS) of Akwa Ibom State

Ministry of Health. The researcher also applied for and obtained permission to carry out the study in Uyo municipality. Verbal consent was obtained from all respondents and voluntary participation was ensured.

Procedure for data collection

The questionnaire were administered by the researchers and six research assistants to the respondents in their homes by face to face contact in the various selected houses of the area from 9.00am to 5.00 pm each day excluding Sundays. The English version of the questionnaire were administered to the literate respondents while the Ibibio version was used for those who did not understand English. A total of four (4) weeks was used for data collection. Copies of the questionnaire which were completely filled were retrieved by the researchers and assistants each day.

Method of data analysis

The data collected were arranged, coded and scored to allow for statistical computation. Analysis was done using statistical package for social sciences (SPSS) version 20. 0. All yes responses were considered correct and scored one points while 'No' responses were incorrect and scored no point. Multiple choice questions had only one correct answer for each question which was scored one point while all other options were incorrect and scored no point. Descriptive statistics including computation of frequencies and percentages were used for all variables, test of association in hypotheses one was done using chi square while Pearson product moment correlation (PPMC) was used to test hypotheses two for relationship between women's age, level of education and practice of breast cancer screening.

3. Results

Four hundred and twenty (420) questionnaire were administered and same completely filled with a return rate of 100%. The results are presented according to the Research questions and Hypotheses.

Table 2: Demographic distribution of Respondents, n = 420

S/N	Variable	Frequency	Percentage
	Age		
1	18 – 28 years	162	38.6
	29 – 39 years	120	28.6
	40 – 50 years	138	32.8
	(Mean age 33.4, SD 9.073)		
	Education Level		
2	Primary	86	20.5
	Secondary	243	57.8
	Tertiary	91	21.7
	Marital status		
3	Single	138	32.9
	Married	261	62.1
	Divorced	21	5
	Religion		
4	Christianity	405	96.4
	Islamic	13	3.1
	Traditional	2	0.5

Table 2 shows the demographic distribution of the respondents. 162 (38.6%) women were aged 18-28 years, 120 (28.6%) were 29-30years while 138 (32.8%) women were aged 40-50 years. The mean age of the respondents,

was 33.4 with a standard deviation of 9.073. Many of the respondents 243 (57.8%) had attended up to secondary school level, 91 (21.7%) attended up to tertiary while 86 (20.5%) attended only the primary education. Similarly, most women 261(61.1%) were married, 138 (32.9%) were single while only 21(5.0%) were divorced. Majority of participants 405 (96.4%) were Christians while only 13(3.1%) and 2 (0.5%) were of the Islamic and traditional religions respectively.

Table 3: Knowledge of Screening for breast cancer among women, n = 420

S/N	Variables	Yes (%)	No(%) Total
1	Body part screened for Breast cancer	419(99.8)	1(0.2) 420
2	Appropriate screening test		
	- BSE	280 (66.7)	140 (33.3) 420
	- CBE	103 (24.5)	317 (75.5) 420
	- Mammogram	10 (2.4)	410 (97.6) 420
3	Eligible women	67(16.0)	353(84.0) 420
4	Screening centres		
	- BSE	161 (38.3)	259 (61.7) 420
	- CBE	80 (19.0)	340 (81.0) 420
	- Mammogram	21 (5.0)	399 (95) 420
5	Who should perform the test		
	- BSE	193(45.9)	227(54.1) 420
	- CBE	31(7.4)	389(92.6) 420
	- Mammogram	30(7.1)	390(92.9) 420
6	Frequency of screening		
	- BSE	41 (9.8)	379 (90.2) 420
	- CBE	1 (0.2)	419 (99.8) 420
	- Mammogram	0 (0)	420 (100) 420
7	Signs looked for	404 (96.2)	16 (3.8) 420

Table 3 above describes the knowledge of women toward screening for breast cancer. Majority 419(99.8%) of the women had knowledge of the body part that is usually screened for breast cancer. 66.7 percent (280) knew BSE, 24.5% (103) knew clinical breast examination and only 2.4% (10) had knowledge of mammogram as a screening test for breast cancer. Only 67(16.0%) were able to indicate the group of women which should be screened for breast cancer. Few women 38.3%, 19.0% and 5.0% had knowledge of where the various tests should be done. Similarly, few women had knowledge of who should perform the tests. 9.8% knew how often BSE should be done, 0.2% knew frequency of CBE while none of the respondents knew the frequency of screening for mammogram. Majority of the women 96.2% (404) could identify the various signs which are often looked for during screening.

Table 4: Practice of Screening for breast cancer among women in Uyo, n= 420

Variable	Yes	%	No	%	Total
Ever practiced	228	54.3	192	45.7	420
Practiced within 3 years	73	32	155	68	228
Test type practiced:					
BSE	173	75.9	55	24.1	228
CBE	55	24.1	173	75.9	228
Mammogram	0	0	228	100	228
Number of times practiced:					
> Once	37	16.2	191	83.8	228
Once	191	83.8	37	16.2	228

Table 4 shows the practice of screening for breast cancer among women in Uyo. 54.3% (228) of the respondents agreed to have practiced breast cancer screening before. Thirty-two percent (73) of the women who have practiced did that within the past three years while 155(68%) practiced more than three years ago. Most of the women identified BSE as the test they have practiced (173), few (55) identified CBE whereas no respondent identified mammogram. Majority of the women (83.8%) who practiced did it once while only few 16.2% practiced more than once.

Research Questions 3:

What is the practice of screening for breast cancer based on women's age / level of education and the practice of breast cancer screening?

Table 5: Frequency distribution of women's age and practice of breast cancer screening, n = 420

Practice \ Age	18 – 28 years Frequency (%)	29 – 39 years Frequency (%)	40 – 50 years Frequency (%) Total
* Screened Before			
No	63 (38.9)	52 (43.3)	77 (55.8) 192
Yes	99 (61.1)	68 (56.7)	61 (44.2) 228
* Last screened			
Within 3 years	37 (37.4)	21 (30.9)	15 (24.6) 73
More than 3 years	62 (62.6)	47 (69.1)	46 (75.4) 155
* Which test:			
- BSE	93 (93.9)	58 (85.3)	22 (36.1) 173
- CBE	6 (6.0)	10 (14.7)	39 (63.9) 55
- Mammogram	0 (0)	0 (0)	0 (0) 0
* No of time screened:			
- Once	83 (83.8)	59 (86.8)	49 (80.3) 191
- More than once	16 (16.2)	9 (13.2)	12 (19.7) 37

Table 5 presents the practice of breast cancer screening of women in Uyo based on their ages. Most of the women aged 18 – 28 years 99(61.1%) agreed to have practiced breast screening before. Similarly, more than half of the women 68 (56.7%) in the ages of 29 – 39 years also practiced. Contrarily, (55.8%) of those aged 40-50 years did not practice. Many of the women who practiced breast screening agreed to have done so more than three years ago with (62.6%, 69.1% and 75.4%) for the different age groups while very few women 37.4%, 30.9% and 24.6% practiced within past three years in the respective age groups. Breast self examination was mostly practiced by age 18 – 28 years (93, 53.8%) while 65.4% (36) of age group 40 – 50 years practiced CBE. Few respondents have screened more than once in all age groups with 16.2%, 13.2% and 19.7% respectively.

Table 6: Frequency distribution of women's level of Education and practice of breast cancer screening, n = 420

Level of Education	Primary	Secondary	Tertiary
Practice-breast Screening	Frequency (%)	Frequency (%)	Frequency (%)
Ever Practiced			
• Yes	16 (18.6)	136 (60.0)	76 (83.5)
• No	70 (81.4)	107 (40.0)	15 (16.5)
* Last screened			
• Within 3 years	12 (75.0)	33 (24.3)	23 (30.3)
• More than 3 years	4 (25)	103 (75.7)	53 (69.7)
Which test:			
• BSE	13 (81.3)	116 (85.3)	44 (57.9)
• CBE	3 (18.7)	20 (14.7)	32 (42.1)
• Mammogram	0 (0)	0 (0)	0 (0)
Number of times screened			
• Once	14 (87.5)	120 (88.2)	57 (75)
• More than once	2 (12.5)	16 (11.8)	19 (25)
Total	86 (100)	243 (100)	91 (100)

Table 6 shows the practice of screening for breast cancer based on women's level of education. Few women 16(18.6%) with primary education were screened before whereas 136(60%) of those who had secondary and 76 (83.5%) of those within tertiary education agreed to have been screened before. Majority 75% of women aged 18 – 28 years agreed to have been screened within past three years. Breast self examination was practiced more in the age range 28 – 39 years while CBE was practiced more by women aged 40 – 50 years. No age group practiced mammogram. Very few women 12.5% (Primary), 11.8% (secondary) and 25% (tertiary) were screened more than once while the majority others. 87.5%, 88.2% and 75% for the three educational levels were screened only once.

Research Hypothesis 1

There is no significant association between knowledge of women and practice of screening for breast cancer

Table 7: Chi square test of association between knowledge and practice of screening for breast cancer among women in Uyo, N= 420

S/N	Knowledge of breast cancer		BSE	CBE	Mam.	No. Prac.	Total	χ^2	P.value
1	Body part screened:	Yes	173	55	0	191	419	4.93	0.176995
		No	0	0	0	1	1		
2	Appropriate screening test:	BSE	91	18	0	171	280	18	0.262666
			32	15	0	93	140		
		CBE	26	14	0	63	103		
			18	7	0	292	317		
		Mammogram	5	1	0	4	10		
			1	0	0	409	410		
3	Eligible women	Yes	50	15	0	2	67	17.62	0.00527*
		No	123	40	0	190	353		
4	Screening centre:	BSE	109	22	0	30	161	10.23	0.805028
			22	5	0	232	259		
		CBE	12	24	0	44	80		
			14	0	0	326	340		
		Mammogram	10	3	0	9	21		

			6	1	0	292	399		
5	Who performs the test	BSE	124	17	0	52	193	6.26	0.975003
			24	15	0	188	227		
		CBE	11	8	0	12	31		
			3	5	0	381	389		
		Mammogram	7	8	0	15	30		
			4	2	0	384	390		
6	How often to screen:	BSE	32	7	0	2	41	8. 97	0.879081
			46	23	0	310	379		
		CBE	0	1	0	0	1		
			39	6	0	374	419		
		Mammogram	0	0	0	0	0		
			56	18	0	346	420		
7	Signs looked for:	Yes	170	50	0	184	404	6.83	0.077625
		No	3	5	0	8	16		

Level of significance $P < 0.05$*, df = 3, 15

Table 7 shows association between knowledge and practice of screening for breast cancer among women in Uyo. Knowledge for body part screened for breast cancer, appropriate tests and screening center showed no significant association with practice of breast cancer screening with P value above 0.05 thus; 0.176995, 0.262666 and 0.805028. Similarly, knowledge of who performs the tests, how often to screen and signs looked also showed no significant association with practice of breast cancer screening with P values 0.975003, 0.879081 and 0.077625. However there was a significant association between knowledge of eligible women to screen and practice of breast cancer screening with χ^2 value 17.62 and P value 0.00527. Thus the hypothesis was rejected which shows a significant association between knowledge of women on eligible women to screen and practice of breast cancer screening with a corresponding low score for both.

Hypothesis II: There is no significant relationship in women's age and level of education and practice of screening for breast cancer.

Table 8: Pearson Correlation analysis of women's age, education and practice of screening for breast cancer in Uyo, n = 420

Variable	N	r-value	Df	p-value
* Age 18 - 28years and practice	162	0.590	159	0.00001*
* Education and practice	162	0.464	159	0.00001*
* Age 29 – 39 years and practice	120	-0.001	117	0.991351
* Education and practice	120	0.301	117	0.000836*
* Age 40– 50 years and practice	138	0.038	135	0.658129
* Education and Practice	138	0.513	135	0.00001*

Level of significance $P < 0.05$*

Data on Table 8 shows the Pearson Correlation values of age, education and practice of breast screening. The r-value of age 18-28 ye2ars and practice was 0.590 and 0.464 for education and practice at degree of freedom 159 and P value < 0.05 (0.00001, 0.00001). This was significant to reject the hypothesis which shows that the practice of breast cancer screening was influenced by their age and level of education as most respondents have attended up to secondary and tertiary levels which increased their awareness and then practice. r-value of -0.001 and P= 0.991351 shows there is no relationship between age 29-39years and practice because though the age is increased in this group their practice was low with a negative r-value but their education and practice

value was 0.301 (P = 0.000836), lower than ended higher levels of education.

Pearson r - 0.38 and P = 0.65812 showed no relationship between age 40-50years and practice of breast screening. This means that their level of practice was low despite their increased age, but the r-value 0.513(P = 0.0001) for education and practice indicated a significant relationship between education and practice because majority of the women who practiced had attained secondary and tertiary education.

4. Discussion

What is the women's knowledge of screening for breast cancer in Uyo?
Findings of the study presented in Tables 3 and 4 showed that majority of the women 99.8% had knowledge of the body part usually screened for breast cancer, 66.7% demonstrated knowledge of BSE while only 24.5% and 24% had knowledge of CBE and mammogram respectively. Very few women knew the group who should be screened for breast cancer, the screening centers and how often the screening tests should be done whereas majority (96.2%) could identify the various signs looked for during screening.

It has been observed from the findings that the respondents were more knowledgeable in the body part screened for breast cancer than other variables. This could be due to the name of the test 'breast cancer screening' in which the women could easily identify the body part for screening. Their knowledge of body signs looked for also indicates that the women had seen people with breast cancer presenting the various signs before. This finding corresponds with a study of knowledge and belief of breast cancer screening among British women in which 70% of the women had knowledge of various screening tests for breast cancer and signs of breast cancer often looked for during screening. Both studies were conducted in Urban areas and majority of the women in the study group were educated, exposed to health facilities/personnel and also have access to information from the media which helped to increase their knowledge [17].

However, the result is in contrast to findings of [18], where the women had 42.3% for knowledge and practice of breast cancer screening. The low percentage score for knowledge

and practice of breast cancer screening by this group of women could be as a result of unavailability of screening programmes and in exposure of the women to information about breast screening.

What is the practice of screening for breast cancer among women in Uyo?

Results presented in Tables 5 and 6 showed that more than half of the respondents (54.3%) had been screened for breast cancer before, with only (32%) screened in the past three years. The most practiced test was BSE (75.9%) and CBE only (24.1%) while none of the respondents screened for mammogram. Majority of the women (83.8%) who screened did that only once while only 16.2% practiced more than once. Breast self examination seems to be the most readily available breast screening test for the women because any healthy woman could be engaged in the act of touching her breast once in a while though it may not be in a regular or prescribed manner, whereas the CBE could have been performed as routine examination on women who present to the hospital for other health issues. This is in line with the findings of a study where the group of women studied frequently practiced BSE but did not go for mammogram [19].

Is there any relationship between women's age / level of education and the practice of screening for breast cancer?

Tables7 and 8 examined three age groups 18- 28years, 29-39years and 40-50years as well as three levels of education, primary, secondary and tertiary. In age 18-28years, most of the women (61.1%) agreed to have been screened before but more than three years ago (62.6%) and only once (83.8%). Women in the middle age group 29-39 years (56.7%) also have been screened before, (69.1%) screened more than three years ago and only once (86.8%). The last age group 40-50 years had only 44.2% of women who agreed to have been screened before. Majority (75.4%) of the women had screened more than three years ago and 80.3% screened only once.

18. 6% of the women in this study in the primary level of education practiced breast screening before and 75% of them screened within past three years with only 12.5% screening more than once. Women in the secondary and tertiary levels practiced by 136 (60%) and 76 (83.8%), but the majority of them still practiced once (88.2% and 75%) respectively. Few women 24.3% and 30.3% practiced within past three years and the test mostly practiced by the women was BSE (81.3%, 85.3% and 57.9%) for the three levels of education respectively.

Above findings indicates that the practice of screening for breast cancer is influenced by age and educational level of the respondents. Although there was no outstanding higher percentage for practice of breast cancer screening across the age groups and educational levels, the younger women aged 18 -28 years seem to have practiced more than others and those in the secondary and tertiary educational levels also practiced more. Those who practiced were not regular as

many of them practiced just once and more than three years ago. The test mostly practiced by the women was BSE with only few for CBE and none for mammogram. This finding is suggestive of the fact that women who practiced CBE may have done so by chance during a visit for other problems and that they did not have adequate knowledge about mammogram and hence did not practice.

The finding is in line with those of a study where majority of the women with knowledge were younger women while the older women demonstrated poorer knowledge of breast cancer screening and this greatly influenced their practiced and those who found in their study that very few participants had knowledge of breast cancer screening and only 43.2% practiced BSE with no practice of mammogram. It was found that participants with higher level of education were three to six times more likely to practice BSE [17, 18]. This explains the fact that the young age group is exposed to more education than the older group and education helps to increase knowledge which can also influence practice. More so, the older women may attribute signs of breast cancer to aging process and as such neglect breast screening programmes [17].

Hypothesis 1

There is no significant association between knowledge of women and practice of screening for breast cancer.

The above hypothesis was tested using chi square in table 7. Finding showed a significant association between knowledge of eligible women to screen and practice of breast cancer screening with χ^2 value 17.62 and P value 0.00527. Thus the hypothesis was rejected which shows that the women had low score for knowledge of eligible women with a corresponding low score for practice of breast cancer screening. There was no significant association between knowledge of body part, screening center, signs looked for and practice of breast cancer screening with P value less than 0.05 hence the null hypotheses were accepted. This indicated that a sizeable number of the women had knowledge on breast cancer screening but without corresponding high scores for the practices. The result of the study is in contrast with findings of a cross sectional study of women in Turkey on knowledge, attitude and practice of BSE and mammogram [20]. It was discovered that 56.1% of the women had sufficient knowledge of breast screening and their level of knowledge was significantly associated with the practice of BSE and mammogram.

Hypothesis 2

There is no significant relationship between women's age and level of education and the practice of screening for breast cancer.

The result of Pearson correlation presented in table 8 employed to test this hypothesis showed r = 0.590 and 0.464 with P = 0.00001 and 0.00001 which was significant to reject the hypothesis of no relationship, indicating that the practice of breast screening was related to age and level of education in the first age group 18- 28 years. This relationship may be due to the fact that this age group is the

youngest and are very conscious of their breast size and shapes or feels and looks. They may also have educational opportunities where concept of breast cancer and screening practices are taught, this may however increase their knowledge and enhance practice. There was no relationship between age and practice in ages 29 - 39 years and 40 – 50 years with their r-values 0.001 and 0.038 (P = 0.991351, 0.658129) which were greater than 0.05. The women in these age groups, though they were advanced in age, their practice scores were low.

However there was a significant relationship between education and practice in these age groups r = 0.301 and 0.038 (0.00836, 0.00001), This may be because most of the women who practiced breast screening in this age group had attended up to secondary and tertiary level of education.

The finding of [18] indicated that age was not significantly related to practice but it was observed that older women appeared to have higher scores for breast cancer screening compared to younger women. This was in contrast to the findings of this study. However it was observed that participants with higher level of education were three to six times likely to practice BSE which corresponds with the findings of this study.

5. Conclusion

The results of this study have demonstrated that women in Uyo municipality demonstrated fair knowledge and practice of screening for breast cancer. That this can be attributed to non existence of screening programmes and establishment of screening centres in the State before now. These results therefore suggested that a higher level of knowledge of cancer screening may be achieved through enhancement of breast and cervical cancers awareness among women of Uyo municipality.

6. Acknowledgement

The authors would like to thank all women in Uyo Akwa Ibom State and the research assistants for participating in the study.

7. Conflict of interest

The authors have declared that no conflict of interest exist.

References

[1] Dugdale, I., C. (2010). Biology of cancer Pub med health retrieved 2/10/2015 from www.ncbi.nlm.nih/gov/pubmed health/ppih002267.

[2] Seeley, R. R., Stephens, T. D. & Tate, P., (2010). *Anatomy and Physiology*. New York: McGraw-Hill Companies Inc.

[3] Smeltzer, S. C., Bare, B. G., Hinkle, J. L., & Cheever, K. H., (2010). *Textbook of medical Surgical Nursing*. China: Lippincott Williams and Wilkins.

[4] Ferlay, J., Shin, H. R., Bray, F., Forman, D., Mathrs, C. & Parkin, D. M. (2010). Estimate of worldwide burden of cancer in 2008: Globacan 2008. *International Journal of Cancer, 127*(12) 2893-2917 retrieved 15/8/2015 from doi:10.1002/ijc25516.

[5] Fasoranti, T. O. (2013). Combating breast cancer in Nigeria; The need for comprehensive screening programme www.gamji.com/article600/news7489.htm. retrieved 9/12/2015.

[6] Jeddy-Agba, E; Curado, M. P.; Ogunbiyi, O;Ogar, E; Fabowole, T; Osubor,G & Otu,T. (2012) Cancer incidence in Nigeria: A report of population based cancer registries. Cancer epidemiology http://dx.doi.org/10.1016/j.cancer.2012.04.007

[7] International Agency for Research on Cancer (IARC), (2012). Breast and Cervical cancer screening. Hand Book for cancer prevention Lyon: IARC press.

[8] National Cancer Institute, (2012). Mammogram, Screening Breast Cancer retrieved 2015-16-12 from www.nationalbreastcancer.org/mmamogram.

[9] National Cancer Institute, (2012). Mammogram, Screening Breast Cancer retrieved 2015-16-12 from www.nationalbreastcancer.org/mmamogram.

[10] Odeh, O. S. (2012). Breast cancer incidence retrieved 12/8/2015 from www.lakeshore cancer centre.org

[11] Elovainio, L., Njeminen, P., & Miller, A., (2007). Impact of cancer screening on women's health. *International Journal of Gyneacology and Obsetrics, 58*: 137-147.

[12] Odetola, T. D. (2011). Knowledge, attitude and practice of cervical cancer screening among women in Primary Health Care Centre in Ibadan South East LGA, *West African Journal of Nursing, 22*(1): 2-12.

[13] Sofoluwe,G. O. & Bennett, F. J. (2011). *Principles and Practice of community Health in Africa* Ibadan: University Press Limited.

[14] National Population Commission (NPC), (2009). 2006 Population and Housing Census of the Federal Republic of Nigeria, Priority Tables retrieved 29/3/2012 from www.Pop.Gov.Ng.

[15] Uyo Local Government Area Population Registry (2018). Uyo Capital City Register of Population retrieved 20/9/2019 from http://nscbconf2018. Wordpress.com

[16] Uyo Capital City Register (2007). *Uyo Municipality House Numbering Register* Uyo: Government Press

[17] Wrunfeld, K; Martin, H.P; Prendiville, W & Parask, E (2013). Knowledge and belief about breast cancer screening among British women. *British Medical Journal* retrieved 2/20/2015 from a 1284.doi:10.1136/bmj.all 284.Review

[18] Ukobia, M.N,; Nunkeer, G.H; Okonofua, F.E & Osime, O. (2006). Knowledge, attitude and practice of Nigerian women towards breast cancer screening. retrieved 24/3/15 from *World journal of surgical Oncology* 2006-4:11.doi:10.1186/1477-7819-4-11.

[19] Kiguli, M. E., Gonzaga, M. A., Francis, B., Kawooya, G. M., Naakatudde, B., & Byanyima, K.R. (2010). Current Knowledge, Attitudes and Practices of Women on Breast and Mammography. *The Pan African Medical Journal,* 5:9 http://www.panafrican-medical journal. Com lcontentharticle/5/9 retrieved 9/12/2015.

[20] Zundar, P.E.; Ozmen, D; Ozturk, B; Haspolat, G. & Coban, S. (2006). The knowledge and attitudes of breast self examination and mammography in a group of women in a rural area of Western Turkey retrieved 7 /3/2015 from doi:10.1186/1471-2407-6-43. MBC cancer 2006.