International Journal of Community Medicine and Public Health
Motilewa OO et al. Int J Community Med Public Health. 2015 Nov;2(4):361-366
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20150964

Research Article

Knowledge of breast cancer and practice of self-breast examination among female undergraduates in Uyo, Akwa Ibom State, Nigeria

Olugbemi O. Motilewa*, Uwemedimbuk S. Ekanem, Chukwuemeka A. Ihesie

Department of Community Health, Faculty of Clinical Sciences, College of Health Sciences, University of Uyo, Uyo Akwa Ibom, Nigeria

Received: 10 October 2015
Revised: 18 October 2015
Accepted: 20 October 2015

***Correspondence:**
Dr. Olugbemi O. Motilewa,
E-mail: seyimotilewa@yahoo.com

ABSTRACT

Background: Breast cancer is the most common cancer globally, and in Nigeria the incidence of the disease has increased over the last two decades. Breast self-examination (BSE) is still the most important way of detecting the disease. Therefore, the study aimed at determining the level of knowledge and attitude of breast cancer and practice of BSE among female undergraduate students.
Methods: This was a cross sectional study of 401 female students that were selected by cluster sampling technique, data was collected using self-administered questionnaires and analysis done using Stata Version 10.
Results: The level of awareness of breast cancer and BSE was high among the respondents, 99% and 91.3 % respectively; but the knowledge of risk factors for breast cancer was poor. Breast lump was a well-known symptom of breast cancer. Just 20% of the respondents knew the correct time BSE should be done, and 4% had a good knowledge of BSE, the practice of BSE was poor, only 9% of them carried it out monthly; majority of the respondents (88%) said they will seek help immediately if they observed breast lump, and 80% were willing to know more about breast cancer. Seven percent of the respondents had previous history of lumps and 6% had first or second degree relation with breast cancer.
Conclusions: There is a need for appropriate educational programme in order to improve knowledge of breast cancer and practice of BSE among the students for early detection and control of the disease.

Keywords: Breast cancer, Breast self-examination, Undergraduate, Uyo

INTRODUCTION

Breast cancer is the most common cancer in women globally and has become an issue of public health importance. According to the International Agency for Research on Cancer (IARC) GLOBOCAN 2012, 1.7 million women were diagnosed with breast cancer in 2012.[1] It was responsible for approximately half a million deaths in women worldwide in 2012, affecting both developed and developing countries. This represented a marked increase of 20 % in incidence and 14% in mortality compared to 2008 estimates.[1,2] Although the incidence rates vary from less than 40 per 100,000 in most developing regions like Africa and Asia to greater than 80 per 100,000 in developed climes like western Europe and North America, there has been a recent disturbing trend of rising breast cancer incidence in African countries.[2,3] In Nigeria, a recent review of cancer registries reported a 100% increase in the incidence of breast cancer in women within the last decade, rising from 24.7 per 100,000 in 1998-1999 to 54.3 per 100,000 in 2009 to 2010.[4] The rising incidence and mortality from breast cancer in developing countries is a cause of concern to governments and policy makers.

The rising trend has been linked to factors surrounding lifestyle changes like high fat diet, lack of early detection programmes resulting in a high proportion of late-stage disease presentation and lack of adequate diagnosis and treatment facilities.[2] In addition, studies have shown that poor knowledge and care-seeking attitude of women for breast cancer contributes significantly to late-stage presentation of breast cancer patients in developing countries.[5,6]

Early detection of breast cancer plays an important role in decreasing its morbidity and mortality. This is especially important in young women in whom the disease is associated with significantly higher mortality.[7,8] A review of Young university females in 23 countries demonstrated a poor knowledge of risk factors for breast cancer compared to older women.[9] This necessitates the need for the study focus on young females (15-35 years), as this age group is both at the greatest risk of mortality from aggressive breast disease and has the greatest chance of benefit from early detection interventions like breast self- examination.

This study aims to articulate the level of knowledge and attitude of female undergraduates to breast cancer and assess their practice of breast self -examination. It is hoped that findings from the study can provide vital information for policy direction on breast cancer prevention programs in the University, Akwa Ibom State and Nigeria.

METHODS

University of Uyo was founded 1991. Until recently it was the only university in the oil rich Akwa Ibom State in the south-south part of Nigeria. The university has two campuses; town campus which has an annex housed the majority of the students, and the permanent campus. All the student hostels are located on the town campus.

A cross sectional descriptive study was carried out among the female undergraduate students of university of Uyo living in the hostel on the town campus. The sample size (n) was determined using $n=Z^2\ pq/d^{2.}$ With a proportion (p) of 50% and margin of error (d) of 5% at 1.96 Z score, a value of 384 was obtained. Adding an estimated non-response rate of 10%, the sample size was increased to 430.

Sampling technique

Cluster sampling technique was used, using the room as a sampling unit. The university has four female hostels (one located at the main campus and 3 at the annex) each of the hostels in the annex has 14 single rooms with 8 students in each room and 13 double rooms with 16 students in each room, while the only hostel in the main campus had 60 rooms and 6 students in each room, the rooms were selected using systematic random sampling technique in each hostel with a sampling interval of 3.

Data was collected from all the females in the selected rooms who consented to participate in the study, using self- administered structured questionnaire, the first part of the questionnaire was to elicit socio demographic characteristics of the respondents, the second part was on breast cancer knowledge including risk factors and symptoms, the third part was on breast self-examination (BSE), that is knowledge and practice, and the last part was an assessment of risk of the respondents

Data was cleared entered and analysed using STATA version 10, frequencies were expressed in percentages, chi square was used to test for association between two variables and P-value of 0.05 was termed significant. The level of knowledge of breast cancer was categorized into poor (0-40%), fair (41-70%) and good (above 70%) and the level of knowledge of BSE was categorized into poor (below 50%) and good (50% and above).

RESULTS

A total of 442 questionnaires were administered and 401 (90.7%) were cleared entered and analysed. The age range of the respondents is from 16 to 40, the mean age is 21.3 ± 2.7.

Table 1 shows that about 67% (267) of the respondents were within the age range 21 to 25 years, only 1% (4) was above 30 years. Majority of them were single (95%). Students in their 4th year of study constituted about 25% of the respondents.

Table 2 shows that 99% of the respondents were aware of breast cancer and 91.3% were aware of breast self-examination (BSE). Fig. 1 shows that health workers were the most important source of information on BSE (28.1%) followed by media (Radio/TV) 22% while 5.8% of them got their information from the family members. Table 3 shows that the proportion of the respondents that had correct knowledge of each item of risk factors of breast cancer was low except for smoking (57.6%), alcohol (52.1%) and previous history of breast cancer (54.9); only 46.4% recognized family history of breast cancer as a risk factor. Breast lump is the most familiar symptoms of breast cancer (92.5%) but skin change was not quite known as symptom. Age and the year of study of the respondents had a significant association with the level of knowledge of breast cancer (p value of 0.026 and 0.031 respectively) as seen in Table 1. The median knowledge score of breast cancer among the respondents was 42.8% and 28.9% had a good knowledge of breast cancer and 46.4% had poor knowledge.

Table 4 shows that only 20% knew the correct time to do a BSE and only 2.5% (10) were able to mention the three correct steps involved in carrying out BSE (look, feel and express nipple for discharge). Only 4% of the respondents had good overall knowledge of BSE. About 64% (256) said they practiced BSE but only 9% (36) carried it out monthly, while about 44% of the

respondents had not done BSE in the past three months. About 16% of the 145 who never did BSE said they did not know how it is done and 38.6% could not give any reason for not performing BSE, 24% were not aware of BSE (Figure 2).

Table 1: Socio demographic characteristics and the level of knowledge of breast cancer among the respondents, August 2013.

Characteristics	Level of knowledge of breast cancer n (%)			Total (n=401)	Statistical indices
	Poor (n=186)	Fair (n=99)	Good (n=116)		
Age group					
16-20	43 (23.1)	34 (34.3)	24 (20.7)	101 (25.2)	χ^2=15.3607
21-25	120 (64.5)	60 (60.6)	87 (75.0)	267 (66.6)	Df = 6
26-30	19 (10.2)	5 (5.1)	5 (4.3)	29 (7.2)	P value 0.026*+
31 and above	4 (2.2)	0 (0.0)	0 (0.0)	4 (1.0)	
Year of study					
1	23 (12.4)	28 (28.3)	25 (21.6)	76 (19.0)	
2	41 (22.0)	28 (28.3)	27 (23.3)	96 (23.9)	χ^2=16.9536
3	46 (24.7)	19 (19.2)	25 (21.6)	90 (22.4)	Df = 8
4	54 (29.0)	18 (18.2)	30 (25.9)	102 (25.4)	P value =0.031+*
5	22 (11.8)	6 (6.1)	9 (7.8)	37 (9.2)	
Marital status					χ^2=3.5659
Single	174 (93.6)	94 (95.0)	114 (98.3)	382 (95.3)	Df = 2
Married	12 (6.5)	5 (5.1)	2 (1.7)	19 (4.7)	P value =0.152*
Tribe					
Ibibio/Annang	132 (71.0)	64 (64.7)	75 (64.7)	271 (67.6)	χ^2=15.3607
Yoruba	3 (1.6)	4 (4.0)	9 (7.8)	16 (4.0)	df=6
Igbo	20 (10.8)	15 (15.2)	10 (8.6)	45 (11.2)	p value=0.145*
Others	31 (16.7)	16 (16.2)	22 (19.0)	69 (17.2)	

Most (88%) of the respondents said they would seek help immediately, if they observed any breast lump, and 90% of the respondents said they would consult a doctor for help. About 80% of the respondents said they were ready to know more about BSE (Table 5).

Table 2: Awareness of breast cancer and Breast self-examination among the respondents.

Variables	Frequency	Percentage
Awareness of breast cancer Yes	397	99.0
Awareness of BSE Yes	366	91.3

Table 6 shows that 25% of the respondents had their menarche before age 13, the median age of menarche is 13 (IQR 10-16). About 7% of them had previous history of lump and about 6% have a first or second degree relation who had breast cancer. While 3.5 % were termed as a high risk because they had family history of breast cancer and at least one of the other risk factors.

Table 3: Correct knowledge of risk factors and symptoms of breast cancer among respondents.

Variables	Frequency	Percentage
Risk factors		
Obesity	159	31.7
Women with no child	97	24.2
Smoking	231	57.6
High fat diet	189	47.1
Alcohol consumption	209	52.1
Use of oestrogen pills	182	45.4
No breastfeeding	85	21.2
Early menarche	80	20.0
Family history of breast cancer	186	46.4
Previous history of breast cancer	220	54.9
Symptoms of breast cancer		
Breast lump	371	92.5
Breast pain	259	64.6
Skin changes/ ulcer	163	40.7
Bloody discharge	200	49.9

DISCUSSION

Early detection of breast cancer remains one of the key strategies for the control of breast cancer In Middle and low income countries especially in sub-sahara Africa mammography machines are not available and even where they are, the cost of mammographic screening is not affordable by majority. Thus the knowledge of breast cancer and the practice of BSE will remain key component of early detection in such settings. This is more so among younger women were the disease is known to be more aggressive with accompanying worse outcome.[10]

Table 4: Level of knowledge and practice of BSE among the respondents, August 2013.

Variables	Frequency	Percentage
The correct time for BSE		
Before menstruation	37	9.2
Immediately after menstruation	82	20.4
Any time	142	35.4
Don't know	140	34.9
List three steps you will do in BSE		
Mentioned One correct	78	19.5
Mentioned Two correct	51	12.7
Mentioned Three correct	10	2.5
Don't know	262	65.3
Overall level of knowledge of BSE		
Good	16	4.0
Poor	350	87.3
Not aware of BSE	35	8.7
Do you practice BSE		
Yes	256	63.8
No	110	27.4
Not aware of BSE	35	8.7
How often do you perform BSE		
Weekly	55	13.7
Monthly	36	9.0
Three monthly	9	2.2
Yearly	8	2.0
Not regular	148	36.9
Do not practice BSE	145	36.2
Last time you did BSE		
Within the last 2 weeks	114	28.4
About a month ago	111	27.7
In the past three months	12	3.0
In the past 6 months	2	0.5
More than 6 months ago	17	4.2
Do not practice BSE	145	36.2

The awareness on breast cancer was very high among the respondents 99%, this is more than 87.8% and 85.7% reported among rural women in Ife and Ibadan respectively.[11,12] The knowledge of the risk factors among the respondents was very low, except for smoking, alcohol consumption and previous history of breast cancer. Only 47% recognized family history of breast cancer as a risk factor.

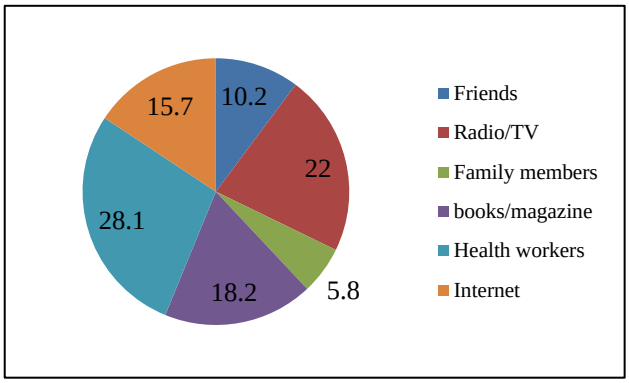

Figure 1: Sources of information of BSE among the respondents.

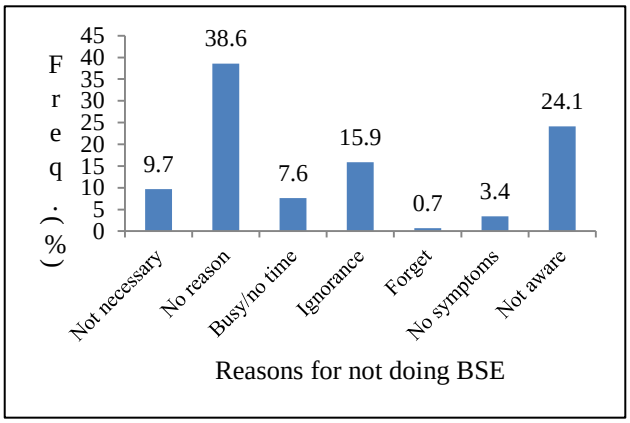

Figure 2: Reasons for not performing BSE among respondents who were not doing BSE.

Table 5: Attitude of the respondents on breast cancer, August 2013.

Variable	Frequency	Percentage
What would you do if you notice a lump		
Consult a doctor	361	90.0
Go to chemist	11	2.7
Go to prayer/spiritual house	13	3.2
Use traditional herbs	4	1.0
Wait and see	12	3.0
How soon will you seek help		
Immediately, within days	354	88.3
Within a month	15	3.7
May delay for a few month	4	1.0
May wait	28	7.0
Wants to know more about BSE		
Yes	320	79.8

Similarly the awareness on BSE was high among our respondents (90%); this may be as a result of their level of education. Health workers were the main sources of information (28%), while in similar study done in the northern Nigeria, the media was the main source of information 45% and Ghana 48% respectively.[13,14] However, the level of practice was very low, about 13.7% and 9.0% claimed that they practiced BSE weekly and monthly respectively, about 44% had not done BSE in the last 3 months, showing a wide gap between awareness and practice and this is similar to other studies in this setting. In Zaria 87% of the respondents were aware of BSE while 19% practice it monthly.[13] A study done among female undergraduates in 24 low middle countries which included Nigeria showed that-only 9.1% of the students practiced BSE monthly Regular monthly BSE is the simplest, economical, and non-invasive way of detecting breast cancer and more than 90% of breast cancer is still being detected by women themselves.[15-17] The knowledge of BSE was shown to be very poor among the respondents, this was rather surprising and disappointing because as a tertiary level of education; the students would be more knowledgeable about BSE. It is obvious from this study that even those that performed BSE did not know the right timing and frequency; a similar finding was reported in Ghana.[14] The poor practice of BSE could be due to the fact that the students were not convinced of the benefits of BSE that was why about 38.6% could not give any reason and 9% did not find it necessary, while 16% were completely ignorant of how it is done.

Table 6: Level of risk of the respondents.

Level of risk	Frequency	Percentage
Menarche below 13 years Yes	101	25.2
Age at first delivery 30 and above	3	0.7
Previous history of lumps Yes	29	7.2
Family history of breast cancer	23	5.7
High risk (family history of breast cancer with at least one of the above	14	3.5

Median age of menarche is 13, IQR 10-16 years

Concerning risk factors for breast cancer, the result of this study showed that 5.7% of the respondents had family history of breast cancer, this is lower than 9.0% reported in United Arab Emirate, family history of breast cancer has been reported to be the strongest predictor of lifetime risk of breast cancer, the median menarche is 13 years which is at the upper normal for breast cancer, early menarche.[18,19] Early menarche with late menopause is an established risk of breast cancer, thus the younger women are, at menarche, the higher the risk of breast cancer this risk increased by about 5% for every year younger and with the current global trend of declining age at menarche, theoretically, the incidence of breast cancer may continue to increase.[20,21]

In conclusion, though the awareness on breast cancer and the BSE is high among the study population the level of knowledge of breast cancer and BSE is still very low leading to poor BSE performance, this underscores the need for intensive health education among the students especially since majority of them were interested in knowing more about BSE, specifically we recommend that orientation programme for fresh students should include talks on screening for breast cancer. Media activities should also be intensified to give reliable information about breast cancer and BSE. Proper education of the female students will have a positive impact on the society at large.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. WHO. Latest world cancer statistics Global cancer burden rises to 14.1 million new cases in 2012: Marked increase in breast cancers must be addressed In: IARC, editor. Lyon, France: International Agency for Research on Cancer. 2013:1-3.
2. WHO. Breast cancer: prevention and control Geneva: World Health Organisation; 2015. http://www.who.int/cancer/detection/breastcancer/en/index1.html. Accessed 24 May, 2015
3. WCRF. Breast Cancer Statistics. London: World Cancer Research Fund International; 2015. http://www.wcrf.org/int/cancer-facts-figures/data-specific-cancers/breast-cancer-statistics. Accessed 24 May, 2015.
4. Jedy-Agba E, Curado MP, Ogunbiyi O, Oga E, Fabowale T, Igbinoba F, et al. Cancer incidence in Nigeria: a report from population-based cancer registries. Cancer epidemiology. 2012;36:e271-8.
5. Obaji N, Elom H, Agwu U, Nwigwe C, Ezeonu P, Umeora O. Awareness and Practice of Breast Self-Examination among Market Women in Abakaliki, South East Nigeria. Annals of medical and health sciences research. 2013;3:7-12.
6. Khokhar A. Level of awareness regarding breast cancer and its screening amongst Indian teachers. Asian Pacific journal of cancer prevention. APJCP. 2009;10:247-50.
7. Azage M, Abeje G, Mekonnen A. Assessment of Factors Associated with Breast Self-Examination among Health Extension Workers in West Gojjam Zone, Northwest Ethiopia. International journal of breast cancer. 2013;2013:814395.
8. Kalander A, Salah MA, Sanjor KP, Khalid A, Gebrehiwot GK. Breast Cancer Awareness and

Practice of Breast Self-Examination among Female Medical Students in Haramaya University, Harar, Ethiopia. International Journal of Interdisciplinary and Multidisciplinary Studies. 2014;2:10.
9. Peacey V, Steptoe A, Davidsdottir S, Baban A, Wardle J. Low levels of breast cancer risk awareness in young women: an international survey. European journal of cancer. 2006;42:2585-9.
10. Azim HA, Patridge AH. Biology of breast cancer in young women. Breast Cancer Research. 2014,16(4):427
11. Adegbenro CA, Ajala AM, Ajayi OO, Ajayi TD. Awareness of Breast cancer and Practice of breast self-examination among Rural Women in I fe North Logal Government Area, Osun State, South West Nigeria. Journal of Community Medicine and Primary Health care. 2014;26(1):76-87.
12. Oluwatosin OA, Oladepo O. Knowledge of breast cancer and its early detection measures among rural women in Akinjola Local governement area, Ibadan, Nigeria. BMC cancer, 2006:6;271
13. Gwarzo UM, Sabitu K, Idris SH. Knowledge and practice of breast-self examination among female undergraduate students of Ahmadu Bello University Zaria, Northwestern Nigeria. Ann Afr Med. 2009;8:55-8.
14. Akuamoah L, Awuah-Peasah DS, Acheampong E, Asamoh F. Knowledge, attitude and practice of self-breast Examination among female university students at Presbyterian University College, Ghana. American Journal of Research Communication, 2013;1(11):395-404
15. Supa P, Karl P. Knowledge Attitude and Practice of Breast self -examination among Female University students from 24 low, Middle Income and Emerging Economy Countries. Asian Pac. J. Cancer Prev. 2014;15(20):8637-40
16. Breast inplants and cancer risks. www.mdanderson.org/patients-and-cancer-information. Accessed 20th July 2015.
17. Balogun MO, Owoaje ET. Knowledge and Practice of Breast Self-Examination among Female Traders in Ibadan, Nigeria. Annals of Ibadan postgraduate Medicne. 2005;3(2):52-6.
18. Al-Sharbatti SS, Shaikh RB, Mathew E, Salman Al-Barte MA. Breast Self-Examination Practice and Breast Cancer Risk Perception among Female University Students in Ajman. Asian Pac J Cancer Prev. 2013;14(18):4919-23.
19. Breast cancer Risk factors: available at www.emedicine.medscape.com/article/1945957-overview. Accessed July 22nd 2015.
20. Collaborative Group on Hormonal Factors in Breast Cancer. Menarche, menopause, and breast cancer risk: individual participant meta-analysis including 118,964 women with breast cancer from 117 epidemiological studies. Lancet oncol. 2012;13(11):1141-51.
21. Tanner JM. Menarcheal age. Science: 1981;214(4521):604-6.

Cite this article as: Motilewa OO, Ekanem US, Ihesie CA. Knowledge of breast cancer and practice of self-breast examination among female undergraduates in Uyo, Akwa Ibom State, Nigeria. Int J Community Med Public Health 2015;2:361-6.