ORIGINAL ARTICLE

Knowledge, Attitude and Perception of Breast Cancer among Female Staff of Nigerian University

Maxwell Ogochukwu Adibe[1], Nneka Uchenna Igboeli[1], Deborah Oyine Aluh[2]

[1]Department of Clinical Pharmacy and Pharmacy Management, University of Nigeria, Nsukka, Enugu State, Nigeria, [2]Pharmacotherapeutic Group, Department of Clinical Pharmacy and Pharmacy Management, University of Nigeria, Nsukka, Nigeria

ABSTRACT

Context: It has been estimated that by the year 2020, approximately 70% of new cancer cases will occur among individuals in developing countries, with a substantial fraction likely to be breast malignancies. This is as a result of late presentation, with about 70-90% of Nigerian women presenting late, hence diminishing survival probabilities. This late presentation is due mainly to poverty, ignorance of the disease and negative perception of and negative attitude toward screening and treatment services. **Aims**: This study assessed knowledge, attitude and perception of prostate cancer among male staff of University of Nigeria. **Design and Setting**: This cross-sectional descriptive study was carried out in the University of Nigeria. **Methods:** Female staff who accepted to participate gave oral consent and were recruited. A total of 686 female staff participated in the study. A self-administered questionnaire, written in English was used for this study. **Statistical Analysis**: The descriptive statistics were presented in simple frequency and percentages. **Results:** The mean percentage knowledge was 64.49%. Majority of female staff (89.7%, n=615) had high knowledge of breast cancer. The mean percentage attitude was found to be 43%. More than half of the staff (52.3%, n=359) had negative attitude towards screening and treatment. The mean percentage perception was found to be 58%. More than half of the respondent (57.8%, n=396) had positive perception of breast cancer screening and treatment. **Conclusion:** The staff of the University of Nigeria had good knowledge, positive attitude and perception towards breast cancer.

Key words: Breast cancer, knowledge, attitudes, perception, university, Nigeria

Correspondence:
Maxwell Ogochukwu Adibe,
Department of Clinical Pharmacy and Pharmacy Management, University of Nigeria, Nsukka, Nigeria.
E-mail: Maxwell.adibe@unn.edu.ng

Access this article online
Website: www.jbclinpharm.org
Quick Response Code:

INTRODUCTION

Globally, breast cancer is the most common cancer among women, comprising 23% of the female cancers.[1,2] One in eight women born today will be diagnosed with breast cancer at some time in her life.[2] It has been estimated that by the year 2020, approximately 70% of new cancer cases will occur among individuals in developing countries and population groups that have previously enjoyed low incidence, with a substantial fraction likely to be breast malignancies.[3] The incidence rate of breast cancer is rapidly increasing in developing countries due to increased life expectancy, growing urbanization, adoption of western lifestyle particularly in younger women.[4] The peak age of breast cancer in Nigerian women is about a decade earlier than in Caucasians.[5,6]

The recent falls from breast cancer in western nations is partly explained by earlier diagnosis as a result of early presentation.[7] With early detection 5-year survival rate is 92%. However, with local invasion, the survival rate decreases to 71% and further spirals down to 18% if it is diagnosed at Stage IV.[8] The survival rate of women with breast cancer in Nigeria still remains abysmally low. This is as a result of late presentation, with about 70-90% of Nigerian women presenting late, hence diminishing survival probabilities compounded by exorbitant costs.[3,5,9,10] This late presentation is due mainly to poverty, ignorance of the disease and negative perception of and negative attitude toward screening and treatment services.[7,11,12]

In developing countries with no resources of mammography screening, breast self-examination (BSE) has been recommended as the most appropriate method for early detection of breast cancer as several previous studies have shown that women who had practice breast self-examination were more likely to be diagnosed with early stage of breast cancer.[13] Despite interventions by both governmental and non-governmental organizations galvanizing action against breast cancer, the high incidence and mortality rate for this cancers still calls for concern. This indicates the need for more studies to ascertain recent levels of knowledge and perception and possibly re-strategize interventions. Understanding factors that influence patient delay is a prerequisite for strategies to shorten delay.[14]

As a result it is highly important that all necessary effort must be galvanized toward early presentation for treatment on the part of those affected. To do this the role of accurate mass education cannot be overemphasized. In order to commence mass education, it is necessary that knowledge levels and disposition of the general public should be assayed. Some studies have shown that factors related to women's knowledge and perception of breast cancer and its management may contribute significantly to medical help-seeking behaviors.[6,12-14] This study therefore, serves as a baseline/bedrock for accurate planning to be embarked upon by concerned bodies. The study would also give an indication of what may be expected in the general populace, since women in an academic environment are expected to have more access to information.

METHODS

Study design

The study was a cross-sectional descriptive study carried out in the University of Nigeria (Nsukka and Enugu campuses respectively). Both campuses are located in Enugu State in South-East Nigeria. The Nsukka campus is located on 871 hectares of hilly savannah in the town of Nsukka, about 80 km North of Enugu. The Enugu campus is located on 200 hectares in the heart of Enugu, the administrative capital of Enugu state of Nigeria.

Study population

The study population comprises male and female, academic and non-academic staff of University of Nigeria (Nsukka and Enugu Campuses). The staff strength of the entire university as compiled by the personnel and records department is 6223. The total staff strength of the 15 faculties listed above as compiled by same source is 3586 comprising 1360 females and 2226 males. This number excludes

Cite this article as: Adibe MO, Igboeli NU, Aluh DO. Knowledge, Attitude and Perception of Breast Cancer among Female Staff of Nigerian University. J Basic Clin Pharma 2018;9:09-013.

non-academic units like security department, works department, library, institutes, personnel department and staff of the offices of principal officers of the university.

Study sample selection

Participants of this research study were conveniently sampled from the fifteen faculties of the University of Nigeria. Female staff who accepted to participate gave oral consent and was recruited. A total of 686 female staff participated in the study. There was no financial benefit for participating in the research.

Ethical considerations

The Ethical approval for this study was obtained from the University of Nigeria Ethical Committee while verbal consent was obtained from the participants and they were assured of the confidentiality of their information.

The instruments and data analysis

The self-administered questionnaire, written in English, contained questions organized into four sections. Section A sought for information on Socio-demographic data, Section B; an assessment of Knowledge, Section C; an assessment of attitude and section D; an assessment of Perception. The knowledge domain consisted of 23 items with 'yes' or 'no' responses, some of which were negatively worded. Each correctly answered item was scored '1' and '0' if otherwise, given possible minimum and maximum sum total scores of 0 and 23 respectively for all the items. The sum total score was transformed into percentage knowledge score.

For ease of comparison, the knowledge status was divided into 'low' and 'high' knowledge based on the percentage mean knowledge score, respondents who scored below the mean were categorized as having low knowledge while respondents who had the mean score or above were categorized as having high knowledge of breast cancer. The attitude and perception domains comprised 10 and 12 items respectively with 5-likert scale of 'strongly disagree, disagree, undecided, agree and strongly agree'. The strongly disagree was scored '0', disagree '1', undecided '2', agree '3' and strongly agree '4'. The items were worded to reflect 'negative' to 'positive' attitude/perception when responses from 'strongly disagree' to 'strongly agree' were selected. This gave possible minimum and maximum sum total scores of 0 and 40 for attitude respectively and 0 and 48 for perception respectively. These sum total scores were transformed into percentage attitude and perception scores. For ease of comparison, the attitude/perception status was divided into 'negative' and 'positive' based on the percentage mean attitude/perception score, respondents who scored below the mean were categorized as having negative attitude/perception while respondents who had the mean score or above were categorized as having positive attitude/perception of breast cancer screening and treatments. The Statistical Package for Social Sciences, SPSS version 20 was used to analyze the data obtained. The information was presented in simple tables as frequencies, percentages and means.

RESULTS

Out of the 700 questionnaires distributed, 686 were completed and returned (98% response rate). Respondents were mainly married (72%, n=494) and between the age of 31 and 40 years (48.5%, n=332). Most of the female staff had a first degree (93.4%, n=640) and about one-third of them (34%, n=231) were Masters' degree holders. About 65% of the staff were academic staff See Table 1. The highest proportion of the respondents were from Faculty of Pharmaceutical sciences, contributing 9.5% (n=65) [Table 1].

The mean percentage knowledge was 64.49%. Respondents who fell below the mean were categorized as having low knowledge while respondents who had the mean score and above were categorized as having high knowledge of breast cancer. The mean percentage attitude score was 43%. Respondents who fell below the mean were categorized as having negative attitude while Respondents who had the mean score and above were categorized as having positive attitude towards breast cancer screening and treatments. The mean percentage perception was found to be 58%. Respondents who fell below the mean were categorized as having negative perception. Respondents who were at or above the mean were categorized as having positive perception, [Table 2].

Majority of female staff (89.7%, n=615) had high knowledge of breast cancer, whereas, 10.1% had low knowledge. More than half of the staff (52.3%, n=359) had negative attitude towards screening and treatment. More than half of the respondent (57.8%, n=396) had positive perception of breast cancer screening

Table 1: Demographic data of female staff

Characteristics	Frequency	Percent (%)
Gender		
Male	2	0.3
Female	684	99.7
Education		
Primary school	10	1.5
Secondary school	36	5.2
Tertiary	303	44.2
Master	231	33.7
PhD	106	15.5
Age		
18 to 30 Yrs	138	20.2
31 to 40 Yrs	332	48.5
41 to 50 Yrs	162	23.7
51 to 60 Yrs	48	7.0
61 to 70 Yrs	4	0.6
Marital Status		
Single	171	24.9
Married	494	72.0
Cohabiting/Living together	5	0.7
Divorced/Separated	4	0.6
Widowed	12	1.7
No Of Children		
0	197	28.7
1-4	349	50.9
>4	140	20.4
Sexual Orientation		
Heterosexual	635	92.6
Lesbian	43	6.3
Bisexual	8	1.2
Type Of Service		
Administrative staff	185	27.0
Academic staff	447	65.2
Technical staff	54	7.9
Length Of Service		
1-5	269	39.3
6-10	208	30.4
11-15	105	15.4
16-20	44	6.5
21-25	32	4.7
26-30	15	2.1
31-35	9	1.3
36-40	3	0.4
Level Of Staff		
Junior staff	120	17.5
Senior staff	566	82.5
Faculty		
Medical Sciences	14	2.0

Dentistry	18	2.6
Business Administration	40	5.8
Environmental Sciences	26	3.8
Health Sciences	14	2.0
Law	33	4.8
Pharmacy	65	9.5
Physical Sciences	60	8.7
Vet Med	57	8.3
Biological Sciences	55	8.0
Engineering	58	8.5
Arts	60	8.7
Agriculture	61	8.9
Education	63	9.2
Social Sciences	62	9.0

Table 2: Mean percentage knowledge, attitude and perception scores

Descriptive Statistics	Mean	Standard deviation
Percentage Knowledge (N=684)	64.4864	± 11.58319
Percentage Attitude (N=686)	42.8134	± 15.05562
Percentage Perception (N=685)	58.2603	± 15.10089

and treatment. About 47% of respondents with high knowledge fall within the age bracket 31-40 years. A Majority (68%, n=141) of staff with high knowledge of breast cancer were academic staff. A majority (39.3%, n=81) of female staff having high knowledge on breast cancer were MSc holders. Most of the respondents (13.6%) with high knowledge were staff from Faculty of Pharmaceutical Sciences.

Almost all (95.4%, n=375) of the female staff with positive attitude towards breast cancer treatment possessed a tertiary degree or greater. The greater majority of respondents (67.2%, n=266) who demonstrated positive attitude were academic staff. More than half (50.8%) of those with positive attitude were aged 31-40 years. Majority (10.7%) of female staff with positive attitude were from the Faculty of Social Sciences, Pharmacy and Veterinary Medicine.

Almost all (95.4%, n=375) the female staff who demonstrated a positive perception of breast cancer possessed a tertiary degree or higher. Academic staff constituted a majority (67.2%, n=266) of respondents who had positive perception of breast cancer screening and treatment. Majority (53.3%, n=154) of females with negative perception were aged 31 to 40 years. Faculty of Veterinary Medicine represents the highest percentage (10.6%, n=42) of female staff with positive perception towards breast cancer screening and treatment, [Table 3].

Almost all (95.2%, n=653) of the female respondents know that the earlier a cancer is detected, the better the chances of survival. More than three-quarter (79% n=542) of female staff know that a change in texture of the skin of the breast is a symptom of breast cancer. Less than a quarter (24.2%, n=166) agreed breast exam should be done every 6 months to 1 year. More than a quarter of the female respondents (28.6%, n=196) have very little likelihood of getting a mammogram if they are feeling healthy. Almost half of the respondents (46.4%, n=318) were worried their breasts would be removed if they had breast cancer. A very good proportion of the respondents (58.3%, n=400) are very much interested in learning more about breast cancer. *About (64%, n=439) of female staff do not believe that cancer is cured even if caught early. More than half (50.6%, n=347) strongly disagree that if they found out they had cancer, they would die from it or take it to the Lord in prayer. More than three-quarter (77.7%, n=533) strongly agree they are likely to get breast cancer.*

DISCUSSION

The findings of this study suggest that female staff of University of Nigeria have a good knowledge on breast cancer. This concurs with findings from studies conducted in a public university in Malaysia, in a tertiary institution in South-western Nigeria, among female medical students in the University of Lagos and among Nurses in Lagos State, Nigeria.[15-18] This result, however, is in contrast with the popular opinion that women in developing countries like Nigeria have poor knowledge of the disease.[7,19,20] The good knowledge obtained in this study could be as a result of a good number of educated women in the University community where this study was conducted.

More than half of the academic staff (68%) had high knowledge on breast cancer screening compared 31.6% of non-academic staff. It may be because the latest information on breast cancer screening was better circulated among the academic staff than the non-academic staff, as a result of higher education level among them. This is consistent with findings from the study carried out in Malaysia in similar settings.[15]

The findings of this study reveal that level of education is a strong determinant of knowledge of breast cancer among the women. The level of knowledge increased with increasing educational level with Masters' degree holders being the greatest percentage (39.3%) of respondents with high knowledge. This concurs with findings from several studies.[21-24] The PhD degree holders contributed only 18.9% of respondents with high knowledge probably because they had a small representative sample size of 106, 15.5% of the total population. It is shocking however to note that a huge proportion (94.2%) of respondents who demonstrated a low knowledge level possessed a first degree or greater. This indicates a need for more intensive educational interventions on Breast cancer.

The University staff was knowledgeable about symptoms of breast cancer with about 95% and 79% affirming that symptoms include lump in the breast and change in texture of breast skin respectively. This agrees with Grunfeld, Ramirez, Hunter and Richards who recognized breast lump as the most frequently identified symptom[25] and the study by Boulos and Ghali where breast lump was the most identifiable symptom of breast cancer amongst university students.[26] Findings from this study also indicate that age may have a significant influence on knowledge of breast cancer symptoms and risk factor. Younger women (31-40 years) had higher knowledge than the older ones. This may be because this age group formed majority of the respondents in this study. This finding is, however, not surprising since it agrees with most related studies. Grunfeld, Ramirez, Hunter, and Richard reported that older women were particularly poor at identifying symptoms of breast cancer, risk factors associated with breast cancer and their personal risk of developing the disease.[25] Poorer knowledge of breast cancer knowledge among older women they observed may help to explain the strong association between older age and delay in seeking help.[21] Fregene and Newman observed that breast cancer case ascertainment is low among older African women because of their lower literacy rates, poor socioeconomic status, and diminished awareness of breast cancer.[27]

The implication of younger women having higher knowledge than the older ones suggests that a relatively high proportion of the older women lack knowledge of breast cancer issues. This fact is alarming since breast cancer is predominantly an age related disease occurring more in older population than younger ones.[21,28] A high proportion (81.6%) of the respondents said they had performed Breast Self-Examination before. Early discovery of breast lumps through BSE is important for prevention and early detection of this disease. BSE is an easy screening method which costs nothing and absolute privacy maintained.[4] For younger women, BSE is usually the only avenue for detection of early or late breast cancer as clinicians rarely offer clinical breast examination.[29] Almost half of the respondents (46.4%) were worried their breasts would be removed if they had breast cancer. A study by Ajekigbe has identified fear of Mastectomy as a major cause of late presentation of Breast Cancer in Nigeria.[30] Almost all (95%) of the respondents were of the opinion that breast cancer could be cured if detected early. This is in consistent with related studies among nurses in general hospital Lagos, Nigeria where about 78.4% of the respondents agreed that breast cancer is curable if diagnosed and treated early.[18] This study further reveals that even though a relatively good number saw early screening procedures as effective in detecting breast cancer, they did not put this belief into practice.

Generally, the respondents in this study had a positive attitude and perception towards breast cancer and this is consistent with findings from similar studies.[17,19] Respondents with higher level of education had a more positive attitude and perception. This fact also concurs with findings from similar studies.[8,19,24] A good proportion (58.3%) of the respondents were very much interested in learning more about breast cancer. This intensifies the need for more aggressive enlightenment campaigns on periodic breast cancer screening and early presentation. If the social support network, including employers, colleagues in the workplace, family, and friends, can be improved through an appropriate health education campaign, then it is likely that a more positive attitude toward preventive health care will result.

Table 3: Association of respondents' characteristics and knowledge, attitude and perception classifications

Characteristics	Knowledge - frequency (%)		Attitude - frequency (%)		Perception - frequency (%)	
	Low	High	Negative	Positive	Negative	Positive
Overall	69 (10.7)	615 (89.7)	359 (52.3)	327 (47.7)	289 (42.2)	396 (57.8)
Education						
Primary school	0 (0)	2 (1.0)	8 (2.2)	2 (0.6)	6 (2.1)	4 (1.0)
Secondary school	4(5.8)	10 (4.9)	23 (6.4)	13(4.0)	19(6.6)	17(4.3)
Tertiary	36 (52.2)	74 (35.9)	165(46.0)	138 (42.2)	131(45.3)	172(43.4)
Master	21 (30.4)	81 (39.3)	108(30.1)	123(37.6)	96(33.2)	134(33.8)
PhD	8 (11.6)	39 (18.9)	55(15.3)	51(15.6)	37(12.8)	69(17.4)
Type of Service						
Administrative staff	20(29.0)	49(23.8)	108(30.1)	77(23.5)	84(29.1)	101(25.5)
Academic staff	44(63.8)	141(68.4)	217(60.4)	230(70.3)	180(62.3)	266(67.2)
Technical staff	5(7.2)	16(7.8)	34(9.5)	20(6.1)	25(8.7)	29(7.3)
Age						
18 to 30 Years	11(15.9)	37(18.0)	71(19.8)	67(20.6)	49(17.0)	88(22.3)
31 to 40 Years	38(55.1)	96(46.6)	167(46.5)	165(50.8)	154(53.3)	178(45.2)
41 to 50 Years	14(20.3)	53(25.7)	82(22.8)	80(24.6)	63(21.7)	99(25.1)
51 to 60 Years	4(5.8)	19(9.2)	36(10.0)	12(3.7)	21(7.3)	27(6.9)
61 to 70 Years	2(2.9)	1(0.5)	3(0.8)	1(0.3)	2(0.7)	2(0.5)
Faculties						
Medical Sciences	0(0.0)	8(3.9)	9(2.5)	5(1.5)	5(1.7)	9(2.3)
Dentistry	1(1.4)	3(1.5)	8(2.2)	10(3.1)	12(4.2)	6(1.5)
Business Administration	9(13.0)	11(5.3)	24(6.7)	16(4.9)	21(7.3)	19(4.8)
Environmental Sciences	3(4.3)	8(3.9)	12(3.3)	14(4.3)	10(3.5)	16(4.0)
Health Sciences	0(0)	8(3.9)	9(2.5)	5(1.5)	5(1.7)	9(2.3)
Law	7(10.1)	4(1.9)	17(4.7)	16(4.9)	14(4.8)	19(4.8)
Pharmacy	5(7.2)	28(13.6)	32(8.9)	33(10.1)	26(9.0)	39(9.8)
Physical Sciences	4(5.8)	17(8.3)	33(9.2)	27(8.3)	22(7.6)	38(9.6)
Vet Med	5(7.2)	21(10.2)	24(6.7)	33(10.1)	15(5.2)	42(10.6)
Biological Sciences	6(8.7)	19(9.2)	31(8.6)	24(7.3)	25(8.7)	30(7.6)
Engineering	4(5.8)	17(8.3)	36(10.0)	22(6.7)	20(6.9)	38(9.6)
Arts	6(8.7)	11(5.3)	32(8.9)	28(8.6)	28(9.7)	32(8.1)
Agriculture	3(4.3)	21(10.2)	35(9.7)	26(8.0)	30(10.4)	31(7.8)
Education	6(8.7)	17(8.3)	30(8.4)	33(10.1)	29(10.0)	34(8.6)
Social Sciences	10(14.5)	13(6.3)	27(7.5)	35(10.7)	27(9.3)	34(8.6)

Study limitations

The study sample may not be totally representative of the study population since they were conveniently sampled and the results of the study may not be generalized to other populations outside an Academic environment.

CONCLUSION

The staff of the University of Nigeria had good knowledge, positive attitude and perception towards breast cancer. A proportion of staff however, exhibited a low knowledge level, negative attitude and negative perception of the screening and treatment of Breast cancer. A significant number of these staff were well educated (possessing a tertiary degree or greater) signifying a knowledge gap among even educated women. This is an indicator to the need for more intensive educational programs which encourage screening behavior and early presentation. The key to reduction of the massive morbidity and mortality of Breast cancer lies on early detection and treatment. For early detection and treatment to be feasible, the level of knowledge (with regards to screening and treatment) possessed by the average Nigerian must increase exponentially. This would in turn lead to a more positive perception of and attitude toward screening and treatment of these diseases. Concerned bodies including the government need to make favorable policies which border on Promotion of health education on breast cancer, Establishment of more centers for breast cancer screening and possibly, Institution of free breast cancer screening services for women aged 40 years and above. Women should be encouraged to perform self-breast examination and to report to the nearest health center in cases of suspicious findings. Periodic assessment of the level of knowledge and attitudinal disposition of Nigerians to screening and treatment of breast cancer would also be beneficial.

REFERENCES

1. American Cancer Society. Cancer Facts and Figures 2016;1-9.
2. Stats F. Globocan, World 2008:1-8.
3. Azubuike S, Okwuokei S. Knowledge, attitude and practices of women towards breast cancer in benin city, Nigeria. Ann Med Heal Sci Res 2013;3:155-60.
4. Haque ATME, Mohd Hisham MA Bin, Ahmad Adzman NALB, Azudin NAB, Shafri NB, Haque M, et al. Cognizance and utilization about breast cancer screening among the health professional female students and staffs of University Kuala Lumpur, Royal College of Medicine Perak, Malaysia. Indian J Med Paediatr Oncol 2016;37:286-92.
5. Okobia MN, Osime U. Clinicopathological study of carcinoma of the breast in Benin City. Afr J Reprod Health 2001;5:56-62.
6. Ihekwaba FN. Breast cancer in Nigerian women. Br J Surg 1992;79:771-5.
7. Okobia MN, Bunker CH, Okonofua FE, Osime U. Knowledge, attitude and practice of Nigerian women towards breast cancer: a cross-sectional study. World J Surg Oncol 2006;4:11.
8. Parsa P, Kandiah M, Zulkefli NAM, Rahman HA. Knowledge and behavior regarding breast cancer screening among female teachers in Selangor, Malaysia. Asi. Pacific J Canc Prev 2008;9:221-8.
9. Anyanwu SN. Breast cancer in eastern Nigeria: a ten year review. West Afr J Med [Internet] 2000;19:120-5.
10. Amir H, Azizi MR, Makwaya CK, Jessani S. TNM classification and breast cancer in an African population: a descriptive study. Cent Afr J Med 1997;43:357-9.
11. Alwan NAS, Al Attar WM , Eliessa RA, Madfaie ZA, Tawfeeq and FN. Knowledge , attitude and practice regarding breast cancer and breast self-examination among a sample of the educated population in Iraq. East Mediterr Heal 2012;4:337-45.
12. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM et al. Estimates of worldwide burden of cancer in 2008 GLOBOCAN. Int J Canc 2010;127:2893-917.
13. Dahlui M, Ng CW, Al Sadat N, Ismail S, Bulgiba AM. Is breast self examination (BSE) still

relevant? A study on bse performance among female staff of University of Malaya. Asian Pacific J Canc Prev 2011;12:369-72.

14. Peto R, Boreham J, Clarke M, Davies C, Beral V. UK and USA breast cancer deaths down 25% in year 2000 at ages 20-69 years. Lanc 2000;355:1822.
15. Nor Afiah MZ, Hejar AR, Looi YK, Lim SJ, Ng CY, Tong CY et al. Breast cancer screening: How knowledgeable are female staff of a public university? Int Med J Malay 2011;10:23-30.
16. Olugbenga-Bello A, Oladele EA, Bello TO, Ojo JO, Oguntola AS. Awareness and breast cancer risk factors: perception and screening practices among females in a tertiary institution in Southwest Nigeria. Niger Postgrad Med J 2011;18:8-15.
17. Irurhe NK, Olowoyeye OA, Arogundade RA, Bassey RB, Onajole AT. Knowledge, Attitude And Practice Of Breast Self-Examination Among Female Medical Students In The University Of Lagos. Internet J Heal 2010;12:1.
18. Odusanya OO, Tayo OO. Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. Acta Oncol 2001;40:844-8.
19. Alwan NAS, Al-Diwan JKA, Al-Attar WM, Eliessa RA. Knowledge, attitude and practice towards breast cancer and breast self examination in Kirkuk University, Iraq. Asi. Pacific J Reprod 2012;1:308-11.
20. Pawan Kumar Sharma, Enakshi Ganguly DN and TK, Enakshi Ganguly AP, Dept. of Community Medicine MI of MS, Ghanpur, RR District AP, Knowledge, attitude and preventive practices of South Indian women towards breast cance. Heal Agenda 2013;1:16-22.
21. Ikechukwu C, Amari O, Nnenna L, Nwimo IO, Onwunaka C. Breast Cancer Knowledge among Women in Ebonyi State, Nigeria: Implication for Women Breast Cancer Education. J Heal Edu Res 2015;3:129.
22. Khokher S, Qureshi W, Mahmood S, Saleem A, Mahmud S. Knowledge, attitude and preventive practices of women for breast cancer in the educational institutions of Lahore, Pakistan. Asian Pac J Cancer Prev [Internet] 2011;12:2419-24.
23. Rasu RS, Rianon NJ, Shahidullah SM, Faisel AJ, Selwyn BJ. Effect of Educational Level on Knowledge and Use of Breast Cancer Screening Practices in Bangladeshi Women. Health Care Women Int 2011;32:177-89.
24. Opoku SY, Benwell M, Yarney J. Knowledge, attitudes, beliefs, behaviour and breast cancer screening practices in Ghana, West Africa. Pan Afr Med J 2012;11:28.
25. Anderson BO, Braun S, Lim S, Smith RA, Taplin S, Thomas DB, et al. Early detection of breast cancer in countries with limited resources. Breast J 2003;9:S51-9.
26. Boulos DNK, Ghali RR. Awareness of breast cancer among female students at Ain Shams University, Egypt. Glob J Health Sci 2014;6:154-61.
27. Fregene A, Newman LA. Breast cancer in sub-Saharan Africa: How does it relate to breast cancer in African-American women? Cancer 2005;103:1540-50.
28. Tamimi RM, Byrne C, Colditz GA, Hankinson SE. Endogenous hormone levels, mammographic density, and subsequent risk of breast cancer in postmenopausal women. J Natl Cancer Inst 2007;99:1178-87.
29. Ferlay JFB, DM P. Cancer Incidence, Mortality and Prevalence Worldwide. GLOBOCAN 2000;5.
30. Ajekigbe A. Fear of mastectomy: the most common factor responsible for late presentation of carcinoma of the breast in Nigeria. Clin Oncol (R Coll Radiol) 1991;3:78-80.