International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

ISSN:2347-6567

IJAMSCR |Volume 5 | Issue 1 | Jan - Mar - 2017
www.ijamscr.com

Research article *Medical research*

Breast cancer awareness among reproductive age group women in sebha, Libya

Darling .B. jiji[1]*, Bazil Alfred Benjamin[2]

[1]*Lecturer in College of Nursing, Sebha University, Sebha.*
[2]*Radiographer in Ministry of health, Brack, Shathi.*
***Corresponding Author**: **Darling .B. Jiji**
Email id: **jijinjijin2000@gmail.com**

ABSTRACT

Aim of the study

Breast cancer is a global health concern and a leading cause of morbidity and mortality among all the cancers that affect women. In 2008, it was estimated that the prevalence of breast cancer in women aged 15 years and over in Sub-Saharan Africa is 23.5 per 100,000 women. Global statistics shows that the annual incidence of breast cancer is increasing and this is occurring more rapidly in countries with a low incidence rate of breast cancer. Literature showing a rise in breast cancer incidence rates in Sub-Saharan Africa. The aim of the study were to determine the awareness of breast cancer among reproductive age group women and the prevention of breast cancer among reproductive age group women in Sebha, Libya.

Materials and Methods

A descriptive was conducted to assess the awareness, knowledge and risk factors of breast cancer among the reproductive age group women in Sebha, Libya. Purposive sampling technique was employed to select sample and it consisted of 258 women. Data was collected using structured interview schedule.

Results

Findings of the study showed that, an agreement with previous studies done in other parts of the world and showed the general lack of adequate knowledge on breast cancer. Out of 258 reproductive women only 118 (45.74%) had adequate knowledge of breast cancer and majority of 122 (47.27%) reproductive age group women had moderate knowledge of breast cancer and 18 (6.25%) reproductive age group women had inadequate knowledge of breast cancer. The prevalence of knowledge about breast cancer among reproductive women were 36.86%. There was significant association between the knowledge of breast cancer and selected variables like age, literacy, occupation, income, type of family, diet habits, residence, parity, gestational age, age at menarche, interval between labour, age at marriage(at $p<0.05$).

Conclusion

Findings of the study indicated the need to conduct frequent assessment of knowledge and risk factors of breast cancer. Breast cancer mortality rate is much higher among Sub-Saharan women as compared to women in Western countries, even though the incidence rate is much higher in Western women. Apart from the fact that reproductive age women develop a more aggressive form of breast cancer, the higher mortality rate has been attributed to a general lack of public awareness of the disease, coupled with limited screening programs which often results in late diagnosis of the disease even after it has already metastasized to other organs. WHO and several international and local organizations have, in recent years, begun campaigns to increase breast cancer awareness among women throughout Sub-Saharan Africa. Breast cancer occurs much earlier in women reaching a peak 10 years earlier (35-40 years) making it more important to increase breast cancer awareness at an earlier age.

Keywords: Breast Cancer (BC), Reproductive women, Awareness, Breast self-examination [BSE] and Risk factors.

INTRODUCTION

Breast cancer is the most common type of cancer in women worldwide. There has been a significant increase in the incidence of breast carcinoma in sub-Saharan African countries and in other low-resource countries [1, 2]. Women of reproductive age are a highly vulnerable group. There are different causes for the high mortality and morbidity rates of women of reproductive age. The most immediate cause is the limited availability of key reproductive health service [3]. In comparison to western countries, breast cancer in women tends to occur in premenopausal women with incidence peaking between the ages of 35 and 45 years [3]. Breast cancer has been identified as a major public health problem in both developed and developing nations because of its high incidence-prevalence, the over-burdened health system and direct medical expenditure [4, 5, and 6]. Unless medical care and screening practices are dramatically improved in every country, breast cancer mortality rates can be expected to remain disproportionately high [7]. The breast cancer disproportionately greater mortality rate compared to high-resource countries can be attributed to a lack of public awareness of the disease, absence of organized screening programs, delayed presentation and lack of accessible and effective treatment options [8, 9,10] . As a result of late detection, most patients are diagnosed well after the breast cancer is at an advanced stage and has metastasized to other organs [11]. The advanced stage distribution is partially explained by delayed presentation for medical evaluation, which, according to Anyanwu [12], can be as high as 11 years from the time of self-detected breast abnormality.

While in Western countries, breast cancer screening is usually done using mammograms, the use of mammograms is limited and inaccessible to most women in sub-Saharan Africa. This situation is unlikely to change in the foreseeable future [13, 14 and15]. In the absence of readily available mammographic screening, despite its known limitations, breast self-examination (BSE) remains a viable and practical alternative for all women especially in their reproductive age [16, 17]. With greater awareness of breast cancer and proper training in BSE combined with regular clinical breast examination, it is possible to diagnose breast cancer earlier. Women who regularly perform BSE become familiar with both the appearance and feel of their breasts which often helps them detect any changes early. However, if improperly done, BSE has the risk of giving false health security and may actually reduce willingness to undergo mammographic screening even in place where it is readily available [16, 18, and 19].

Awareness and understanding of breast cancer in Libya is generally low. In recent years, the World Health Organization and several international organizations such as The Breast Health Global Initiative (BHGI) have sought to increase breast cancer awareness among reproductive age women [20 -24]. Studies in other parts of the world have shown that general breast cancer awareness increases with level of education [17-23]. At least perform BSE regularly and potentially detect any changes early [9-18]. Previously, most studies aimed at investigating the level of understanding of breast cancer among reproductive age group women. It is our argument

that even though breast cancer is not common in men, well-informed men can play a significant role in increasing awareness among the general public. The high incidence of breast cancer necessitates the need for early detection because this would increase the treatment options available to affected women and thereby improve survival rates [23]. Some studies have shown that in most of the developing nations and resource constraint settings, breast cancer is diagnosed in advanced stages of the disease when compared with developed nations and thus has a poor outcome and high fatality rate [1,10 -17].

There are reports suggesting that factors related to women's knowledge and beliefs about breast cancer and its management may contribute significantly to medical help-seeking behaviours [27-30]. Recent studies in Senegal, Angola and Nigeria [33- 38] revealed a low level of awareness and knowledge on breast cancer risk factors and its early warning signs. Lack of understanding of the risk factors associated with breast cancer discourages people from seeking early intervention or even to admit that symptoms they may be experiencing are related to breast cancer.

Today, cancer is one of the most serious diseases threatening human life, and therefore global burnout is gradually growing [39]. Breast cancer (BC) is the top cancer in women, both in the developed and in the developing world. The incidence of BC is increasing in the developing world due to increased life expectancy, increased urbanization, and the adoption of western lifestyles. It is estimated that, worldwide, over 508,000 women died due to BC in 2011 [40, 41]. Several risk factors for BC have been well documented; however, for the majority of women with BC, it is not possible to identify specific risk factors [43-48]. Nevertheless, some risk reduction might be achieved with prevention. WHO promotes BC control within the context of comprehensive national cancer control programmes that are integrated into non-communicable diseases and other related problems. Comprehensive cancer control involves prevention, early detection, diagnosis and treatment, rehabilitation, and palliative care [44-50].Early detection plays a crucial role for BC.

Objectives of this study were to

1. To evaluate the level of breast cancer awareness among reproductive age women.
2. To determine the knowledge of risk factors, breast self-examination and the causes of breast cancer.
3. To determine the association between the knowledge of breast cancer and selected variables of reproductive age women such as age, marital status, education, occupation, family monthly income, residential area , dietary habit, type of family and sources of health information .

MATERIALS AND METHODS

To achieve the objectives a descriptive research design was adopted. Thus 258 reproductive age women were selected using purposive sampling technique. The purpose of the study was explained to participants and those who freely agreed to participate were enrolled in this study. Participants were drawn from the reproductive age between 15 to 48 years. This study was conducted at selected health care facilities in Sebha, Libya. A structured-interview schedule was used to collect the data. It consisted of two parts, viz. Part –I that helped to collect the demographic data of pregnant women; it was not scored, but used for descriptive analysis. Part – II that was aimed to assess the awareness and knowledge about breast cancer. We used a modified version of the Breast Cancer Perceptions and Knowledge. The questionnaire used in this study had a total of 25 questions, of which 13 assessed knowledge about breast cancer risk factors, 12 assessed perceptions of breast cancer and general knowledge about breast self-examination. Each correct answer was assigned a score of 1, while an incorrect answer was awarded a score of 0. Data were analysed using Statistical Package for the Social Sciences (SPSS, Version 19). Chi-Square test was used to examine the association between variables, with significance level set at p. The prepared tool was validated by experts. The reliability of the tool was found to be r =0.98. Interview schedule was used to collect the data.

RESULTS

The study sample consisted of 258 women. Table 1 show that majority of the 84 (32.56%) of reproductive women belong to the age between 21 to 30 years. Around 79(30.62%) reproductive women belong to the age group of 31to 40 years. Recording marital status 125 (48.45%) reproductive women were married, 120(46.51%) reproductive women were unmarried and 13 (5.04%) reproductive women were divorced. In educational status majority 110 (42.64%) reproductive women were had secondary education and only 12 (4.65%) reproductive women were illiterate, and 16 (6.20%) reproductive women had degree. About occupation majority 173 (67.05%) reproductive women were employed. Regarding monthly family income majority 113 (43.8%) reproductive women were belong to the 600 and below dinar income group. Majority 125 (48.45%) reproductive women were belong to nuclear family. 253 (98.06%) reproductive women were had the habit of vegetarian diet. Majority 171 (66.28%) reproductive women were from residence of rural area and 87(33.72%) of reproductive women were resident of urban area. Regarding age at menarche more than half 137 (53.1%) reproductive women were attained menarche between 10 to 15 age, 84 (32.56%) of reproductive women were attained menarche between 13 to 15 years. Majority 130 (50.38%) reproductive women got breast cancer information from family members and only 2(0.78%) of reproductive women were didn't get any information about breast cancer. Table 2, out of 258, reproductive age women majority 122(47.27%) of reproductive age women had moderate knowledge, 118(45.74%) reproductive age women had adequate knowledge and only 18 (6.25%) of reproductive age women got inadequate knowledge. Table 3 shows that there is significant association between knowledge of breast cancer and selected variables like age, literacy, occupation, income, type of family, diet habits, residence, age at menarche and sources of information at $p<0.05$.

Table 1 Distribution of reproductive women according to their socio demographic variables. N = 258

S .no	Variables	Frequency	Percentage (%)
1.	Age		
	20 and below	78	30.23
	21 - 30	84	32.56
	31 – 40	79	30.62
	41 and above	17	6.59
2.	Marital status		
	Unmarried	120	46.51
	Married	125	48.45
	Divorced	13	5.04
3.	Educational status		
	Illiterate	12	4.65
	Primary	69	26.74
	Secondary	110	42.64
	Higher secondary	51	19.77
	Degree	16	6.20
4.	Occupation		
	Employed	173	67.05
	Un employed	85	32.95
5.	Monthly family income (in dinar)		
	600 and below	113	43.80
	601 – 800	91	35.27
	8001 – 1000	42	16.28
	1001 and above	12	4.65

6.	Types of family		
	Joint family	120	46.51
	Nuclear family	125	48.45
	Extended family	13	5.04
7.	Dietary habits		
	Vegetarian	5	1.94
	Non - vegetarian	253	98.06
8.	Residential area		
	Urban	87	33.72
	Rural	171	66.28
9.	Age at menarche (in years)		
	10 and below	37	14.34
	Between 11 -13	137	53.10
	Between 14 – 16	84	32.56
	Above 16	-	-
10.	Source of information		
	Health personnel	95	36.82
	Family members	130	50.38
	Mass media	29	11.24
	Magazine	2	0.78
	No information	2	0.78

Data depicted in Table 1 indicates that majority 84 (32.56%) of reproductive women belong to the age between 21 to 30 years. Around 79(30.62%) reproductive women belong to the age group of 31to 40 years, 78(30.23%) of the reproductive age women were under 20 years of age, and only 17 (6.59%) reproductive women were in the age group of 41 and above. Recording marital status 125 (48.45%) reproductive women were married, 120(46.51%) reproductive women were unmarried and 13 (5.04%) reproductive women were divorced. In educational status majority 110 (42.64%) reproductive women were had secondary education and only 12 (4.65%) reproductive women were illiterate, and 16 (6.20%) reproductive women had degree. About occupation majority 173 (67.05%) reproductive women were employed and 85 (32.95%) reproductive women unemployed. Regarding monthly family income majority 113 (43.8%) reproductive women were belong to the 600 and below dinar income group and 12 (4.65%) reproductive women were belong to 1001 and above income. Majority 125 (48.45%) reproductive women were belong to nuclear family. 253 (98.06%) reproductive women were had the habit of vegetarian diet. Majority 171 (66.28%) reproductive women were from residence of rural area and 87(33.72%) of reproductive women were resident of urban area. Regarding age at menarche more than half 137 (53.1%) reproductive women were attained menarche between 10 to 15 age, 84 (32.56%) of reproductive women were attained menarche between 13 to 15 years and only 37(14.34%) reproductive women were attained menarche below the age of 10. Majority 130 (50.38%) reproductive women got breast cancer information from family members, 95 (36.82%) of reproductive women were got breast cancer information from health personnel, 29(11.24%) of reproductive women got breast cancer information from mass media, 2(0.78%) of reproductive women got breast cancer information from magazines and only 2(0.78%) of reproductive women were didn't get any information about breast cancer.

Table 2a: Perceptions and knowledge of breast cancer N= 258

Perception and knowledge aspect	**yes**	**%**	**No**	**%**
Family history of cancer causes breast cancer(BC)	177	68.6	81	31.4
Eating fatty foods, with little vegetables cause BC	213	82.6	45	17.4
stressful life causes BC	100	38.8	158	61.2

Wearing tight bras cause BC	166	64.3	92	35.7
Being overweight cause BC	257	99.6	1	4
Regular exercise prevent BC	134	51.9	124	48.1
Using oral contraceptives cause BC	134	51.9	124	48.1
Mammograms prevent BC	134	51.9	124	48.1
Hard blow to the breast cause BC	182	70.5	76	29.5
Breast feeding prevent BC	83	32.2	175	67.8
Breast Implant cause BC	65	25.2	193	74.8
Early child birth(before 20 years) cause BC	166	64.3	92	35.7
Hormone replacement therapy (HRT) cause BC	174	67.4	84	32.6
Black women more likely develop breast cancer	190	73.6	68	26.4
Surviving breast cancer is very low, even if it is found early	196	76.0	62	24.0
Change in the colour or shape of a woman's nipple could be a sign of breast cancer	186	72.1	72	27.9
Best time to check for lumps in the breast is just after the period ends	177	68.6	81	31.4
Lumps in the breast that are cancer are usually painful	-	-	258	100
Breast cancer is one of the most prevalent cancers in women	37	14.3	221	85.7
The best way to find breast cancer early is by checking the breasts every month (breast self-examination)	36	14.0	222	86.0
Breast cancer is more common in women with big breasts	45	17.4	213	82.6
Massaging the breast can prevent cancer	177	68.6	81	31.4
Unmarried women easily get breast cancer	213	82.6	45	17.4
Early menarche causes breast cancer	100	38.8	158	61.2

BC –breast cancer.

Table2b: Distribution of subjects according to the level of knowledge N= 258

Level of knowledge	Frequency	Percentage
Adequate knowledge (76 – 100%)	118	45.74
Moderate knowledge (51 - 75%)	122	47.27
Inadequate knowledge (0 – 50%)	18	6.25

As shown in Table 2b, out of 258, reproductive age women majority 122(47.27%) of reproductive age women had moderate knowledge ,118(45.74%) reproductive age women had adequate knowledge and only 18(6.25%) of reproductive age women got inadequate knowledge.

Table 3 –. Association between degrees of anaemia and selected Variables N=258

S.no	Variables	Level of knowledge			Total	χ^2	Df	P-value
		Ade	Mod	Inade				
		118	122	18				
1.	Age in years							
	20 and below	3	65	10	78			
	21 - 30	83	1	-	84	159.48	3	2.37309E-34
	31 - 40	28	46	5	79			***
	41 and above	4	10	3	17			
2.	Marital status							
	Unmarried	19	88	13	120			
	Married	97	24	4	125	99.44	2	2.55754E-22
	Divorced	2	10	1	13			***
3.	Educational status							

	Non – formal	4	5	3	12			
	primary	14	43	12	69	45.05	4	3.88117E-09
	Secondary	65	44	1	110			***
	Higher secondary	25	25	1	51			
	Degree	10	5	1	16			
4.	Occupation							
	Employed	108	61	4	173	64.43	1	1.00276E-15
	Un employed	10	61	14	85			**
5.	Family monthly income							
	600 and below	24	74	15	113	77.11	3	1.27726E-16
	601 – 800	73	16	2	91			***
	801 – 1000	16	25	1	42			
	1001 and above	5	7	-	12			
6.	Type of family							
	Joint family	19	88	13	120			
	Nuclear family	97	24	4	125	99.44	2	2.55754E-22
	Extended family	2	10	1	13			***
7.	Dietary habits							
	Vegetarian diet	3	2	-	5	0.6398	1	0.423784809
	Mixed diet	115	120	18	253			**
8.	Residential area							
	Urban	41	33	13	87	14.42	1	0.0001459
	Rural	77	89	5	171			**
9.	Age at menarche (in years)							
	10 and Below	10	14	13	37	96.91	3	7.18649E-21
	Between 10 – 12	44	90	3	37			***
	Between 13 -15	64	18	2	84			
	16 and above	-	-	-	-			
	Source of information							
	Health personnel							
	Family members	29	57	9	95			
	Mass media	62	59	9	130	27.36	4	1.67727E-05
	Magazine	23	6	-	29			***
	No information	2	-	-	2			
		2	-	-	2			

(* - significant at $p<0.05$.) [Ade- adequate knowledge, Mod –moderate knowledge, Inade – inadequate knowledge].

Table 3 shows that there is significant association between knowledge of breast cancer and selected variables like age, literacy, occupation, income, type of family, diet habits, residence, age at menarche and sources of information at $p<0.05$.

DISCUSSION

Breast cancer is a global health concern and a leading cause of morbidity and mortality among all the cancers that affect women [1-18]. In 2008, it was estimated that the prevalence of breast cancer in women aged 15 years and over in Sub-Saharan Africa is 23.5 per 100,000 women [23-30]. Breast cancer has been identified as a major public health problem in both developed and developing nations because of its high incidence-prevalence, the over-burdened health system and direct medical expenditure [15-30]. Global statistics shows that the annual incidence of breast cancer is increasing and this is occurring more rapidly in countries with

a low incidence rate of breast cancer [40-45]. Findings from Elima Jedy-Agba et al. in 2012 [27-29] documented that the incidence of breast cancer among reproductive age women has risen significantly with incidence in 2009–2010 at 54.3 per 100 000, thereby representing a hundred percent increase in the last decade. Some cases have been reported among women aged below 30 years in Nigeria [44, 45]. This is supported by the literature showing a rise in breast cancer incidence rates among reproductive age women from 15 to 48 years. This study shows that knowledge about breast cancer is associated with young age, lower education, occupation, income, residential area, age at menarche and sources of information.

CONCLUSION

Findings of the study showed that out of 258 reproductive age women majority 122(47.27%) of reproductive age women had moderate knowledge ,118(45.74%) reproductive age women had adequate knowledge and only 18(6.25%) of reproductive age women got inadequate knowledge. There is significant association between knowledge of breast cancer and selected variables like age, literacy, occupation, income, type of family, diet habits, residence, age at menarche and sources of information at ($p<0.05$).

RECOMMENDATION

Today, cancer is one of the most serious diseases threatening human life, and therefore global burnout is gradually growing. Findings of the study indicated the need to conduct frequent assessment of knowledge and risk factors of breast cancer among reproductive age women. Awareness programmes should be conducted among the reproductive age women for their promotion of health. Breast cancer (BC) is the top cancer in women, both in the developed and in the developing world. The incidence of BC is increasing in the developing world due to increased life expectancy, increased urbanization, and the adoption of western lifestyles. It is estimated that, worldwide, over 508,000 women died due to BC in 2011.Several risk factors for BC have been well documented; however, for the majority of women with BC, it is not possible to identify specific risk factors. Nevertheless, some risk reduction might be achieved with prevention. WHO promotes BC control within the context of comprehensive national cancer control programmes that are integrated into non-communicable diseases and other related problems. Comprehensive cancer control involves prevention, early detection, diagnosis and treatment, rehabilitation, and palliative care. Early detection plays a crucial role for Breast cancer (BC).

Acknowledgement

We are extremely grateful to all women who took part in this study. We are also thankful to the management and staff of the health care facilities for allowing us to carry out this research in their institution.

REFERENCES

[1]. Shrivastava SR, Shrivastava PS, Ramasamy J. Self-Breast Examination: A Tool for Early Diagnosis of Breast Cancer. American Journal of Public Health Research 1(6), 2013, 135–139.
[2]. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. Int J Cancer. 127, 2010, 2893–2917.
[3]. Bray F, Ren JS, Masuyer E, Ferlay J. Global cancer prevalence for 27 sites in the adult population in 2008. Int J Cancer 132(5), 2013, 1333–1145.
[4]. Wilson CM, Tobin S, Young RC. The exploding worldwide cancer burden: the impact of cancer on women. Int. J. Gynecol. Cancer 14, 2004, 1–11.
[5]. Parkin DM, Bray F, Ferlay J, Pisani . Global cancer statistics, 2002. CA. Cancer J. Clin. 55(2), 2005, 74–108.
[6]. Jedy-Agba E, Curadob MP, Ogunbiyi O, Oga E, Fabowale T, Igbinoba F, et al. Cancer incidence in Nigeria: A report from population-based cancer registries. Cancer Epidemiology 36(5), 2012, e271–e278.
[7]. Lee HC, Gould JB. Factors Influencing Breast Milk versus Formula Feeding at Discharge for Very Low Birth Weight Infants in California. The Journal of Pediatrics. 155(5), 2009, 657–662.

[8]. Hill GJ, Arnett DB, Mauk E. Breast-feeding intentions among low-income pregnant and lactating women. Am J Health Behav. 32(2), 2008, 125–136.
[9]. Nommsen-Rivers LA, Chantry CJ, Cohen RJ, Dewey KG. Comfort with the idea of formula feeding helps explain ethnic disparity in breastfeeding intentions among expectant first-time mothers. Breastfeed Med. 5(1), 2010, 25–33.
[10]. McMenamin M, Barry H, Lennon A, Purcell H, Baum M, Keegan D, McDermott E, et al. A survey of breast cancer awareness and knowledge in a Western population: lots of light but little illumination. European Journal of Cancer. 41, 2005, 393–397.
[11]. Fregene Alero, Newman Lisa A. Breast cancer in Sub-Saharan Africa: How does it relate to breast cancer in African-American women? Cancer. 103, 2005, 1540–1550.
[12]. Ly M, Antoine M, André F, Callard P, Bernaudin JF, Diallo DA. Breast cancer in Sub-Saharan African women: review. Bull Cancer. 98(7), 2011, 797–806.
[13]. Somdyala NIM, Bradshaw D, Gelderblom WCA, Parkin DM. Cancer incidence in a rural population of South Africa, 1998-2002. Int J Cancer. 127(10), 2010, 2420–9.
[14]. Elgaili EM, Abuidris DO, Rahman M, Michalek AM, Mohammed SI. Breast cancer burden in central Sudan. Int J Womens Health. 2, 2010, 77–82.
[15]. Yarney J, Vanderpuye V, Clegg Lamptey JN. Hormone receptor and HER-2 expression in breast cancers among Sub-Saharan African women. The Breast Journal. 14, 2008, 510–511.
[16]. Stark A, Kleer CG, Martin I, Awuah B, Nsiah-Asare A, Takyi V, Braman ME, Quayson S, Zarbo R, Wicha M, Newman L. African ancestry and higher prevalence of triple-negative breast cancer. Cancer. 116, 2010, 4926–4932.
[17]. Kamangar F, Dores GM, Anderson WF. Patterns of cancer incidence, mortality, and prevalence across five continents: defining priorities to reduce cancer disparities in different geographic regions of the world. Journal of Clinical Oncology. 24(14), 2006, 2137–2150.
[18]. Jemal A, Bray F, Forman D, Ferlay J, Center M, Parkin MD. Cancer burden in Africa and opportunities for prevention. Cancer. 2012
[19]. Wadler BM, Judge CM, Prout M, Allen JD, Geller AC. Improving breast cancer control via the use of community health workers in South Africa: A critical review. J Oncol. 2011, 150423.
[20]. Ukwenya AY, Yusufu LM, Nmadu PT, Garba ES, Ahmed A. Delayed treatment of symptomatic breast cancer: the experience from Kaduna, Nigeria. S Afr J Surg. 46(4), 2008, 106–10.
[21]. Wabinga H, Parkin DM, Nambooze S, Amero J. Cancer survival in Kampala, Uganda, 1993-1997. IARC Sci Publ. 162, 2011, 243–7.
[22]. Panieri E. Breast cancer screening in developing countries. Best Pract Res Clin Obstet Gynaecol. 2012.
[23]. Anderson BO, Braun S, Lim S, Smith RA, Taplin S, Thomas DB. Early detection of breast cancer in countries with limited resources. Breast J. 9(l 2), 2003, S51–59.
[24]. McCready T, Littlewood D, Jenkinson J. Breast self-examination and breast awareness: a literature review. Journal of Clinical Nursing. 14, 2005, 570–578.
[25]. Yip C, Cazap E, Anderson BO, Bright KL, et al. Breast cancer management in middle-resource countries (MRCs): Consensus statement from the Breast Health Global Initiative. The Breast. 20, 2011, S12–S19.
[26]. Anderson BO, Shyyan R, Eniu A, Smith RA, Yip CH, Bese NS, et al. Breast cancer in limited-resource countries: an overview of the Breast Health Global Initiative guidelines. Breast J. 12(1), 2005, S3–15.
[27]. Matalqah L, Radaideh K, Yusoff ZM, Awaisu A. Predictors of Breast Cancer among Women in a Northern State of Malaysia: a Matched Case-control Study. Asian Pac J Cancer Prev. 12(6), 2011, 1549–1553.
[28]. Anyanwu SN. Breast cancer in eastern Nigeria: a ten year review. West Afr J Med. 19(2), 2000, 120–5.
[29]. 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. 8(1), 2009, 55–58.
[30]. Ahmed BA. Awareness and practice of breast cancer and breast-self-examination among university students in Yemen. Asian Pac J Cancer Prev. 11(1), 2010, 101–105.
[31]. Sait WA, Al-Amoudi SM, Tawtai DA, Abduljabbar HS. The knowledge of breast cancer among young Saudi females. Saudi Med J. 31(11), 2010, 1242–1244.

[32]. Al-Naggar RA, Al-Naggar DH, Bobryshev YV, Chen R, Assabri A. Practice and barriers toward breast self-examination among young Malaysian women. Asian Pac J Cancer Prev. 12(5), 2011, 1173–1178.
[33]. Thomas E. Original Research: Men's awareness and knowledge of male breast cancer. Am J Nurs. 110(10), 2010, 32–37.
[34]. Powe BD, Underwood S, Canales M, Finnie R. Perceptions about breast cancer among college students: Implications for nursing education. J Nurs Educ. 44(6), 2005. 257–65. 25. American Cancer Society. Breast cancer facts and figures 2009-2010.
[35]. Karayurt O, Ozmen D, Cetinkaya AC. Awareness of breast cancer risk factors and practice of breast self-examination among high school students in Turkey. BioMed Central Public Health. 8, 2008, 359–367.
[36]. Ahmed F, Mahmud S, Hatcher J, Khan SM. Breast cancer risk factor knowledge among nurses in teaching hospitals of Karachi, Pakistan: A cross-sectional study. BioMed Central Nursing. 5, 2006, 6.
[37]. Yadav P, Jaroli DP. Breast cancer: Awareness and risk factors in college-going younger age group women in Rajasthan. Asian Pacific Journal of Cancer Prevention. 11, 2010, 319–322.
[38]. Odusanya OO, Tayo OO. Breast cancer knowledge, attitudes and practice among nurses in Lagos, Nigeria. Acta Oncol. 40, 2001, 844–848.
[39]. Azubuike SO, Okwuokei SO. Knowledge, attitude and practices towards breast cancer. Annals of Medical and Health Sciences Research 3(2), 2013, 155–160.
[40]. Coughlin SS, Ekwueme DU. Breast Cancer as a global health concern. Cancer Epidemiology 33, 2009, 315–318.
[41]. Elmore JG, Armstrong K, Lehman CD, Fletcher SW. Screening for breast cancer. JAMA. 293(10), 2005, 1245–1256.
[42]. Ertem G, Kocer A. Breast self-examination among nurses and midwives in Odemis health district in Turkey. Indian J Cancer 46(3), 2009, 208–213.
[43]. Harirchi I, Kolahdoozan S, Karbakhsh M, Chegini N, Mohseni SM, Montazeri A, et al. Twenty years of breast cancer in Iran: downstaging without a formal screening program. Ann Oncol. 22(1), 2011, 93–97.
[44]. Sadjadi A, Nouraie M, Ghorbani A, Alimohammadian M, Malekzadeh R. Epidemiology of breast cancer in the Islamic Republic of Iran: first results from a population-based cancer registry. East Mediterr Health J. 15(6), 2009, 1426–1431.
[45]. Bellgam HI, Buowari YD. Knowledge, Attitude and Practice of Self Breast Examination among Women in Rivers State, Nigeria. The Nigerian Health Journal 12(1), 2012, 16–18.
[46]. Ginseng GM, Lauer JA, Zelle S, Baeten S, Baltussen R. Cost effectiveness of strategies to combat breast, cervical, and colorectal cancer in Sub-Saharan Africa and South East Asia: Mathematical modelling study. BMJ. 344, 2012, e614–e614.
[47]. 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. 4, 2006, 11.
[48]. Hadi MA, Hassali MA, Shafie AA, Awaisu A. Evaluation of breast cancer awareness among female University students in Malaysia. Pharm Pract (Internet) 8, 2010, 29-34.
[49]. Gueye SMK, Bawa KDD, Ba MG, Mendes V, Toure CT, Moreau JC. Breast cancer screening in Dakar: knowledge and practice of breast self -examination among a female population in Senegal. Rev Med Brux. 30, 2009, 77–82.
[50]. A. Jemal, F. Bray, M. M. Center, J. Ferlay, E. Ward, and D. Forman, “Global cancer statistics,” CA—A Cancer Journal for Clinicians, 61(2), 2011, 69–90.

How to cite this article: Darling .B. jiji, Bazil Alfred Benjamin. Breast cancer awareness among reproductive age group women in sebha, Libya. Int J of Allied Med Sci and Clin Res 2017; 5(1): 258-267.
Source of Support: Nil. **Conflict of Interest:** None declared.