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Knowledge, Attitude and Practice of Libyan Females Attending Primary Health Care Centers Regarding Breast Cancer in Benghazi 2017

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ABSTRACT: Breast cancer is the most common cancer among women. The occurrence of breast cancer in the female Libyan population is strongly associated with young age with nearly 70.9% of cases arising in female individuals who are 50 years or younger. In 2004 breast cancer in Libya was the most common malignancy in females as recorded by Benghazi Cancer Registry. To determine the knowledge, attitudes, and practices (KAP) of Libyan females attending primary health care centers in Benghazi regarding breast cancer. A cross – sectional descriptive study, total of 500 women attending health care centers in Benghazi. Nearly all participants 499 (99.8%) had heard about breast cancer, 295(59%) of participants had never heard about breast self-examination (BSE), the majority of them had not practiced BSE 344 (68.8%), 137 (27.4%) underwent screening by CBE, most of them 442 (88.4%) had not performed mammogram examination. The result revealed that the Libyan women attending the selected health care institutions had a good knowledge level about basic information regarding breast cancer, its signs, symptoms and its risk factors. It revealed they had poor knowledge for BSE, CBE and mammography, and had positive attitudes but poor practice.

Keywords: Breast Cancer, Screening, BSE, CBE, Mammogram.

Introduction

Nowadays, cancer is the second most common cause of death worldwide, and the top cause of death amongst women 40 and 45years of age [(1)]. Breast cancer is by far the most frequent cancer of women (23% of all cancers), ranking second overall when both sexes are considered together [(2- 4)]. The most recent estimate indicates that over 1.6 million new cases of breast cancer occurred amongst women worldwide in 2010 [(5- 6)]. More than one million women are estimated to be diagnosed with breast cancer every year [(7)]. In 2017, an estimated 255,180 new cases of invasive breast cancer were expected to be diagnosed in men and women, along with 63,410 new cases of non-invasive breast cancer (also known as carcinoma in- situ) [(8)]. The estimated number of new cases of breast cancer expected in the United States (US) in 2016 of both sexes is 249.260, male 2.600 and female 246.66 (29%) [(9)]. Breast cancer alone is expected to account for 29% all new cancer diagnoses in women [(9)]. About 1 in 8 U.S. women or 12.4% will develop invasive breast cancer over the course of her lifetime [(8)].

The most common cancer site was breast cancer (464,000 cases, 13.5% of all cancer cases) [10]. About 40,610 women are expected to die in 2017 from breast cancer, although there has been a decrease in death rates since 1989, with larger decreases in women under the age of 50. These decreases are thought to be the result of treatment advancements, earlier detection through screening, and increased awareness [8]. It is estimated that worldwide over 508 000 women died in 2011 due to breast cancer [11- 12]. It is the most common cause of cancer death amongst women in both high resource and low resource countries. Mortality and survival rates in different parts of the world vary from 4 to 10 fold [13].

Breast Cancer in Libya and Arabic Countries

In Arab countries studies are not comprehensive. The background of Arabic patients may better be related to other African breast cancer patients as opposed to European breast cancer patients [19]. The impression amongst Arab physicians dealing with breast cancer is that it presents at an earlier age and at a more advanced stage than that of western countries. However, the statistical data to support this are remarkably scarce [20].

In Libya, the precise number of cancer cases diagnosed each year is unknown since a complete cancer registry has not yet been established in a number of areas. In 2007, the Ministry of Health created the National Cancer Registry Program, following the commencement of the Sabratha Cancer registry in 2006.The incidence in Libya is markedly lower than that in Europe or the US. The incidence in Libya (18.9) per 100,000 female individuals, is in concordance with results published from other North African countries (Tunisia 19.6, Egypt 24.2 and Algeria 23.4) [19]. The occurrence of breast cancer in the female Libyan population is strongly associated with young age -about 70.9% of cases were found in females who are 50 years or younger [21-22].The mean age of breast cancer patients in Libya is 46 years [19]. Breast cancer was the most common malignancy in Female Libyans as documented by Benghazi Cancer Registry in 2004. It represented 23% of all cancers in females [23]. In Libya and other African countries, premenopausal breast cancer is more common than postmenopausal breast cancer [19].

In Morocco, the most frequently occurring cancer in females is cervical uterine neoplasia (35%) followed by breast cancer (22.3%), which is also diagnosed at advanced stages [19]. In another study, breast cancer is the most common cancer amongst women in Morocco, about two-thirds of patients with this disease present with advanced stages when therapy offers minimal benefit [24]. In Egypt, approximately 35% of all female cancer is breast cancer [19]. Saudi Arabia; Breast cancer is the most common malignancy among women [7, 25]. And according to Saudi Cancer Registry (SCR) 2004, breast cancer ranked number one amongst females in Saudi Arabia as it represented 22.4% of all newly diagnosed female cancers [7]. In Iraq, breast cancer ranks the first amongst the commonest malignancies among all the population, and accounts for approximately one-third of the registered female cancers according to the latest Iraqi Cancer Registry. It showed a trend for the disease to affect younger women [26- 27]. Kuwait; breast cancer had the highest incidence amongst Kuwaiti population (15 cases/100,000 populations), it has increased by 3 folds (50 cases/100,000 populations) over the last 33 years [3, 20]. Yemen; Breast cancer is the most common cancer among females in Yemen, a study done by capture-recapture technique revealed. BC prevalence for 5 years (2001-2005) was 4623 cases. The crude prevalence rate of BC was 20.8 per100, 000 [28]. In Oman; also, breast cancer is the most common cancer in the women (17% of all cancers) and its incidence is on the rise with an increase

from 53 reported cases in 1996 to 104 reported cases in 2008. According to National cancer registry of Oman, 2008, the highest incidence of breast cancer was noted in Muscat (45per 100, 0000) [29]. Screening programs are not well established and do not effectively reach the majority of women throughout the country and the diagnosis delay is a very serious problem in Libya. By understanding the causes of delay it may be possible to reduce delays and also improve early diagnosis. The average time before medical advice and diagnosis was long, and the diagnosis time was higher than in developed or developing countries. Perhaps this trend can be attributed to low awareness of health issues among women, to poor information campaigns, and to the absence of mammographic or other screening programs for early detection of breast cancer in Libya [58].

Due to the annual increasing of breast cancer in the world, and because early detection is very important for optimal prognosis, the diagnosis delay of breast cancer is a serious problem in Libya. The average time before medical advice and diagnosis is long, and the diagnosis time is higher than in developed or developing countries. Perhaps this trend can be attributed to low awareness of health issues among women, to poor information campaigns, and to the absence of mammographic or other screening programs for early detection of breast cancer in Libya (Eraman Ermiah et al, 2012) , hopefully, this research will raise awareness among Libyan women . The study will provide useful information that could be utilized by both researchers and those involved in public health programs and may be helpful in promoting screening for breast cancer.

Method and subjects

A cross – sectional descriptive study design was approached among Libyan women attending four primary health care (Elkish, Elfoyhat, Elhadiag and Rassobida) in Benghazi who agreed to participate. The study was conducted from 1st August 2017 to 30th of December 2017. The sample size was estimated depending on the total number of women living in Benghazi (population size) by using (Krejcie and Morgan table; see appendix 2) [78]. The study included 500 Libyan females aged ≥ 20 years attending the four selected primary health care centers. The total period of data collection was divided between the four centers, where women attending the center during that one-month time were selected.

The data had been collected after the verbal informed consent by interview using a semi-constructed self-administrative questionnaire informing about demographic data such as age, educational level, job, residence, marital status, age at marriage, age of menarche, age of menopause, and if the women had history of breast cyst or mass, or family history of breast cancer. Several questions were asked about their knowledge, attitudes and practices regarding breast cancer issues. The questionnaire was validated in a pilot study before finally utilized. The questionnaire was composed of four parts.

1- Collection of data on demographical characteristics of women (9 questions)
2- About women's knowledge of the nature of breast cancer, warning signs, its risk factors and its treatments, its screening and finally the source of their knowledge (18 questions).
3- About women's attitude towards breast cancer causes, screening, and barriers for the presumed action (9 questions).
4- About their practice of breast self-examination, clinical examination and mammography (6 questions) (Appendix 1).

The knowledge of women about breast cancer, its signs, symptoms and risks, protective factors evaluated by (18 questions), the scoring was done depending on the total numbers of correctly answered questions. Each correct response carried one mark, whereas a wrong answer was given zero. Knowledge scores were categorized into correct answer but poor score from (3 to 6), from (7-10) a correct answer considered as a good score, from (11-14) a correct answer considered very good and ≥ 15 a correct answer considered excellent.

Data Analysis

Data entry and statistical analysis were performed using Statistical Package for Social Sciences (SPSS version 20). Descriptive statistics, such as percentages, frequencies, means, and standard deviations, were used to measure the demographic variables and the responses to knowledge, attitude and practice statements. Analytical statistics were applied to investigate the association of knowledge and attitude with age, education, occupation, and family history of breast cancer. Statistical significance was set at $p < 0.05$ for all analysis.

Results

The mean age of participants was (36.5± 9.9 years), about 202 (40.2%) of them had a university level education. 208 (41.6%) of them were house wives, their marriage age mean was (24.79 ± 6.19), their menarche age mean was (13.32± 1.6), and menopausal age mean (47± 3.6). Details of socio-demographic profile are given in table 2(a,b).

Table 1(a): - Distribution of Socio-demographic profile of Libyan women attending health care institutions.

Variable	NO.	%	Mean ± St.D
Age /years			
20 – 29	**143**	**28.6**	
30 – 39	**155**	**31.0**	
40 – 49	**158**	**31.6**	**36.5 ±9.9**
50 – 59	**30**	**6.0**	
≥ 60	**14**	**2.8**	
Education level			
Primary	**36**	**7.2**	
Secondary	**84**	**16.8**	
College	**157**	**31.4**	
University	**202**	**40.2**	
Other *	**21**	**4.2**	

Job		
Non- employed	**249**	**49.8**
House wife	**208**	**41.6**
Student	**41**	**8.2**
Employed	**251**	**50.2**
Teacher	**103**	**20.6**
Employee	**97**	**19.4**
Other **	**51**	**10.2**

***Other = illiterate, post graduate**

**** Other = pharmaceutical, technician, nurse, baby sitter**

Table12(b):- Distribution of Socio-demographic profile of Libyan women attending health care institutions.

Variable	No	%	Mean ± SD
Marital status			
Single	**100**	**20.0**	
Married	**382**	**76.4**	
Divorced	**8**	**1.6**	
Widowed	**10**	**2.0**	
Total	**500**	**100**	
Age at marriage/years			
<20	**79**	**19.8**	
20-29	**247**	**61.8**	**24.8± 6.1**
30-39	**63**	**15.8**	
40-50	**11**	**2.6**	
Total	**400**	**100**	
Menarche age /years			
<10	**5**	**1.0**	
10 – 15	**455**	**91.0**	**13±1.6**
>15	**40**	**8.0**	
Total	**500**	**100**	
Menopausal age/year			
40-45	**17**	**31.5**	
46 – 50	**26**	**48.1**	**47±3.6**
>50	**11**	**20.4**	
Total	**54**	**100**	

Figure 1 showed the percentage of Libyan women attendance of health care institutions, 36.4 % of participants was attending Elkish health care center.

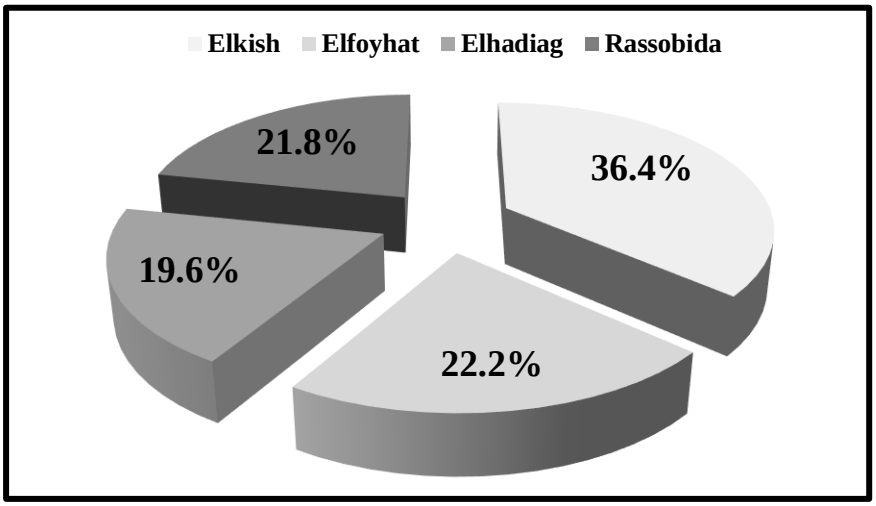

Figure 1: Distribution of women according to health care institutions in Benghazi, Libya 2017.

The study findings showed that there was a statistical significant difference between the women knowledge level and the selected health center (p value =0.002); where the women attending Elkish health center had very good level of knowledge than other health centers. Table 2

Table 2: - Distribution of the difference of women knowledge level to health care institutions.

The majority of the participant had family history of breast cancer 146 (29.2%), about 29 (19.6%) their mother had breast cancer.

Nearly all participants 499 (99.8%) had heard about breast cancer, the majority of them 401(80.2%) knew that it was common, more than half 295 (59%) of participants had not heard about breast self-examination (BSE), 291 (58.2%) had heard about (CBE), the majority of the women 314 (62.8%) had lack of information about mammogram, details in table 3

Table 3: - Distribution of women according to knowledge about breast cancer.

Variable	Yes		No		Total	
	N	%	N	%	N	%
Do you know what breast cancer is	499	99.8	1	0.2	500	100
Is breast cancer common	401	80.2	99	19.8	500	100
Is it a genetic disease	212	42.4	288	57.6	500	200
Is it an infectious disease	16	3.2	484	96.8	500	100
Do you know its signs and symptoms	278	55.6	222	44.4	500	100
Is there a treatment for breast cancer	402	80.4	98	19.6	500	100
Do you know the methods of treatment	210	42.0	290	58.0	500	100
Have you heard about BSE	205	41	295	59	500	100
Have you heard about CBE	291	58.2	209	41.8	500	100
Do you know about mammogram	186	37.2	314	62.8	500	100
Is change in size a dangerous sign	395	79	105	21	500	100
Is a mass with no pain dangerous	435	87	65	13	500	100
Is a mass with pain dangerous	364	72.8	136	27.2	500	100
Is change in nipple color or disfiguration a dangerous sign	360	72	140	28	500	100
Is bloody or watery discharge a dangerous sign	425	85	75	15	500	100
Does early menarche increase breast cancer	64	12.8	436	87.2	500	100
Does late menopause increase breast cancer	100	20	400	80	500	100

More than half 281(56.2%) of women get knowledge about breast cancer from the Television (TV). More than half the women 261(52.2%) had a very good score, and 146(29.2%) with a good score. Table

Table 4:-Distribution of women according to knowledge levels about breast cancer signs, symptoms and risk factors.

Level of knowledge	No.	%
Poor	21	4.2
Good	146	29.2
Very good	261	52.2
Excellent	72	14.4
Total	500	100

In general, the women participants had positive attitudes towards breast cancer. (Table 5)

Table 5: - Distribution of women according to their attitude toward breast cancer.

Variable	Yes		No	
	N	%	N	%
Do you think oral contraceptive increases BC	155	31	345	69
Do you think there is a relation bet. Obesity and BC	116	23.2	384	76.8
Do you believe breast feeding prevents BC	383	76.6	117	23.4
Do you believe exercise prevents BC	368	73.6	132	26.4
Do you think early detection improves BC treatment	438	87.6	62	12.4
Do you think BSE is important for early detection	383	76.6	117	23.4
Do you feel the women have to have mammogram examination regularly	144	28.8	356	71.2
Do you feel a mammogram can detect early BC	237	47.4	263	52.6

About two third of participant women 344(68.8%) did not regularly examine their breasts. Figure 2

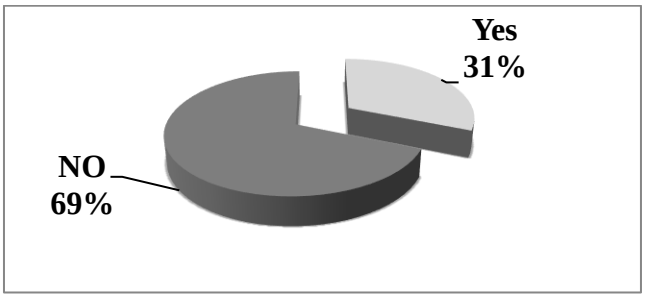

Figure 2:- Distribution of women according to BSE practice.

The women's reasons for not practicing the BSE are ; nearly a third 110 of the women (33.1%) had no idea about breast self-examination (BSE), and 26.2% thought that they did not have a problem, In 65 (19.6%) of the cases, fear of finding a mass in their breast was the reason for negligence of BSE . See figure 3

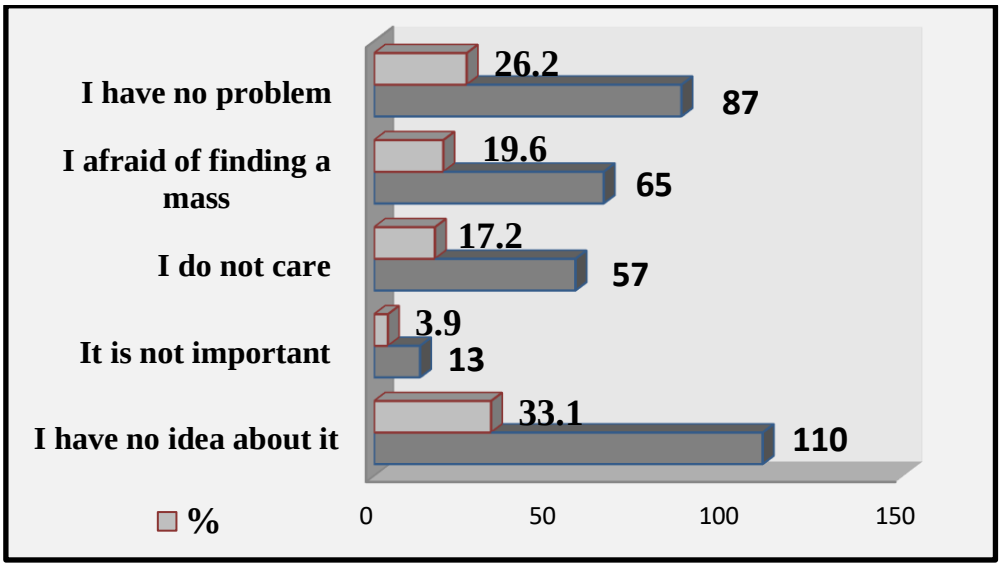

Figure 3: - Distribution of the women according to reasons for not practicing BSE.

When the women were asked about the clinical breast examination (CBE) most of them 363(72.6%) had no previous CBE, and the women who had performed CBE 137(27.4%) was because they had had a problem 99(72.3%) not for screening.

Most of the participant women 441(88.2%) had no previous mammogram examination and about 21(35.6%) of them performed mammogram because they had breast pain and 18(30.5%) of women had a breast mass. Majority of participants 336(77.1 %) said that what kept them from practicing a mammogram was lack of knowledge.

The result showed statistical significant association of women's level of knowledge and socio-demographic characteristics (Age, marital status and job) p value (.039, 0.008, 0.000 respectively); the women above 40 years of age, who were employed and married, had a very good level of knowledge, however there is no statistical significant difference between the women's knowledge level with those had family history of breast cancer those not **(**p = 0.431).

Discussion

This study included 500 Libyan female participants. Participants were in the age range between 20 and 76 years, with a mean age of 36.5 ± 9.9 years, similar to Libyan study conducted in Benghazi (2013) mean age was 36.4± 10.8 years and study conducted in Tripoli (2016), the mean age was 48 years. In similar studies worldwide, the females mean age was 33.4 years among Kuwaiti female teachers, 32.4 years among Pakistani females, 33.6 years among women in Abha city- Saudi Arabia, and 33.1 years among Turkish female health care professionals [79, 73, 3, 4, 25,80].

Regarding marital status, the majority of the ladies were married (76.4%), and only 100 participants (20%) were single, others widows and divorced, According to a similar study in Tripoli, 84.5% of participants were married. In Iran the study showed that 79.7% of the women were married, in Qatar 78.9% and in Turkey 78.0%. ([73, 1, 81-82]. In comparison to a previous study conducted in Benghazi 2013; only (51.9) of ladies were married [79].

In general more than half the women 261(52.2%) had a very good level of knowledge which was nearer to a study performed in Yemen by Ba'amer et al, (40%) of the participants had an intermediate level of knowledge [28]. In a study conducted among Nigerian females by (Slaudeen et al 2009), 65.4% had good scores of knowledge [83], Iranian women (Mahdi Tazhibi 2014) 32% had good scores of knowledge [84].

The present study found a statistically significant relation between the knowledge level of participants and some women socio-demographic characteristics like (age, marital status, job and family history of breast cancer); older women (aged ≥ 40 years) and married women had a very good knowledge level compared to women less than 40 years in a similar study performed among Iranian women by (Mahdi Tazhibi and Awat 2014) [84]. An explanation regarding these findings might be that married and older people are generally more concerned about their health due to being more at risk for chronic disease and higher responsibilities toward the family, respectively. Therefore, they have more capability for obtaining more and effective information from various sources about health determinants and in our study about breast cancer. These findings reinforce the continuing need for more BC education through conducting public and professional programs that are intended to raise awareness among younger, single women. Unemployed women had a better level of knowledge than employed with a high statistical significance (p value = 0.000), this could be because the knowledge source was television and that women who were working had no time to watch television.

Only (29.2%) of women had family history of breast cancer. Similar findings worldwide showed in Kuwait, in Saudi Arabia, and in Yemen with positive family history [73,3, 4, 28].Women who had no family history of breast cancer had a much better level of knowledge than women who had family history of breast cancer, unlike the findings of a study conducted among Iranian women by (Mahdi Tazhibi and Awat Feizi 2014) ,the family history was positively related to high levels of awareness [84]

The present survey revealed that more than half (n=281, 56.2%) of participants had heard about breast cancer from the television (TV), while Libyan study performed in Benghazi 2013 found (23.8%) of study group had their knowledge from TV [79]. And most of the similar studies conducted found that the TV was the participants main source of knowledge of breast cancer- with 76.0% in Kuwait, 40.5 % in Saudi Arabia, 55.9% in Iraq, and 81.6% in Yemen [3, 75,26, 28]. So, there is a need to continue programs on TV about breast cancer and screening methods

Women knowledge about breast cancer

Nearly all of participant 499(99.8%) had heard about breast cancer, and the same result was found in a study conducted in Ethiopia all participants had knowledge of the existence of breast cancer. A Yemeni and a Nigerian study showed that respectively 99.5% and 90.5% of participants knew about breast cancer [69,28, 64] .

The majority of women in the present study 401(80.2%) knew that breast cancer was a common disease. According to the Tripoli study, 77(67.3%) knew it was common, in the Nigerian study 2013 (76.3%), in Saudi Arabia 2015, (73.8%) and in Saudi Arabia 2011 ;(61.4 %) [73, 64, 75, 85]. Less than half (n=162, 37.5%) of the women knew that breast cancer is a hereditary disease, while the study in Qatar showed that 83.8% knew it is a hereditary disease. Only (n=16, 3.2%) believed it is a contagious disease, this misconception needs to be clarified on TV, the finding was less than in study conducted in Qatar; 2015 where (12.8 %) of women believed that breast cancer is a contagious disease [81].

Regarding curability from BC, our study revealed that 402(80.4%) of respondents said that BC is a treatable disease, while half (50%) of the participants of the Tripoli study believed that breast cancer is a treatable disease. This result is comparable to studies done in Pakistan 84.9%, in Yemen 87.3%, and in Saudi Arabia (88.2 %) [73,4, 28, 75].

Respondent's Knowledge about Signs and Symptoms

The study results demonstrate that (n= 215, 55.6%) of women knew about the signs and symptoms of breast cancer –this is less than the study results in Iran [1].The most commonly reported symptom is a painless lump 435 **(**87%) this was in agreement with a study in Sultanate of Oman and in Kuwait [29, 3]. Most women (n =395, 79%) realized that a change in breast size and shape were warning signs of breast cancer- this is higher than the results of similar studies in Saudi Arabia and Kuwait [3, 75].

In this study 425(85%) of the participants agreed that nipple discharge is a warning sign, 361 (72.2 %) agreed about change in shape- which is higher than the study done in Saudi Arabia [75]. The results discovered that 136 (27.2%) of women did not know that change in nipple shape is a warning sign of breast cancer, the same as in the study done in the Sultanate of Oman [29].

Respondents' Knowledge about Risk Factors of Breast Cancer

In this study only 64 (12.8%) of women consider early menarche a risk factor, similar to a Libyan study done in Benghazi [77]. In contrast with this, an Ethiopian study showed that (87.3%), women agreed that early menarche is a risk of developing breast cancer [69]. About 100 (20%) of women consider late menopause a risk factor, which was the same result as in a study done in Kuwait , higher than a study done in Saudi Arabia , and less than a study done in Ethiopia [3,75,86]. Forty one percent of participants had heard about breast self-examination (BSE), the results are similar to those of a study done in Benghazi , in Tripoli, and in Saudi Arabia [79, 73,25] .The results are much lower than those of a study in Ethiopia , and a study among Lebanese American women [69,88]. More than half of the participants (n= 291, 58.2%) had heard about (CBE) ,which is less than a study in Ethiopia , and more than in a study conducted in Qatar [81,86]. In this study only (n= 186, 37.2%) of participants had heard of mammograms, which is a less percentage than that of the study done among Lebanese American women [88].

Respondents Attitude

In this study the participant women had positive attitudes towards breast cancer, these findings may be because the participant women were highly educated, and this result was in agreement with a study conducted in Pakistan[4].Only (155) 31% of women believe that the oral contraceptive pill (OCP) is a risk factor of breast cancer, which was less than findings in similar studies in Tripoli, and in Benghazi, and was also less than in a similar study conducted in Ethiopia and in Saudi Arabia [73,79,69,75]. About (113)22.6% of women in this study believe that obesity is a risk factor of breast cancer which is less than a study in Saudi Arabia and a study in Kuwait [75,3]. About **(**368) 73.6% of women in the present study believe exercise to be a protective factor of breast cancer, while in similar Libyan studies in Benghazi findings showed that 65.15% of women also agreed to this [79]. About (76.4%) of women considered breast feeding to be a protective factor , which is more than the study done in Tripoli and less than the study in Benghazi , and the study in Kuwait [73,79,3].

Most of the women **(**87.6%) agreed that early detection of breast cancer improves the treatment. This number is similar to the result in an Ethiopian study, where (85.7%) of the participants agreed that

early detection improves survival, and is also similar to a study in Mongolia [69, 74]. About (76.8%) of women agreed that BSE is important for early detection of breast cancer, while in a survey which was done in Benghazi it reported that (74.4%) of females at Benghazi believed that BSE is very important, the 2016 Tripoli study demonstrated that (50.7 %) of women believed that BSE is important for early detection of breast cancer [79, 73], and in similar studies done in Saudi Arabia (78.5 %)**.** In Sultanate of Oman (85.35%) and in Yemen (69.2%) of women shared similar beliefs [75, 29, 28]. The problem with BSE according to 110 (33.1%) of the participants was that women did not know the technique of it. This common difficulty was shared according to the study done in Ethiopia (11.3%), in Saudi Arabia 20.8%, in Yemen 55.9%, and in Iraq 51.7% [69, 7, 28, 26].The present results found that (n=87, 26.8%) of women had no breast problem , similar to a study in Ethiopia , in Saudi Arabia, in Pakistan ,and in Turkey [69,7,4,82]. The female's awareness is low with regards to mammography. Approximately 237(47.4%) believe that a mammogram can detect early breast cancer. This result is comparable to that of the study done in Tripoli, at (50.7 %) [73].

Respondents practice

The teaching of BSE can help women to be alert to any abnormal changes, to become familiar with the feel and appearance of their breasts and seek medical evaluation if they notice changes in their breasts. In the present study, it showed that Libyan women had poor knowledge and practice in early detection procedure (BSE, CBE, Mammography). In this study the women who knew how to conduct the examination percentage (BSE) was 130 (26%), while in a study in Benghazi (2013) [79], less than one fifth of the females (16.9 %) knew BSE, this good result shows that there is more awareness about breast self-examination since 2013 in the same city.

The findings of this study indicate that only (31.2%) of the women actually practice BSE- more than the study done in Benghazi (2013) [79]**.** The increase in the percentage of women that practiced BSE in our study may be due to increased knowledge of BSE among women in this study. The finding of the present study is consistent with studies performed in Iran, Yemen and Qatar, [54, 90, 28, 81] and much lower than the studies in Ethiopia, in Iran, in Turkey, and in The United Arab Emirates ([86, 89, 91-93].

About 130 (26%) of the study sample showed the frequency for practicing BSE was monthly, this was consistent with a study in Yemen and lower than in Ethiopia's study and much lower than the findings of a study in Iraq [28,69,27]. Nearly a third 110(33.1%) of the women did not know how to conduct breast self-examination (BSE) and expressed a lack of knowledge about this screening technique, this finding was in agreement with a study conducted in Iraq that showed the main barrier to practicing was lack of knowledge [27].

The relation between BSE and some Demographical Characteristics.

This study revealed that there is a significant relation between BSE practice and level of education, hence 79(50.64) of women with university education had practiced BSE regularly (p value = 0.000) .The participants in this study might have had a better understanding of the importance of breast self-examination, which is the same findings as in that of a study in Iran, and in Nigeria which showed that well-educated women are more likely to perform BSE [94-96].And there also was a significant relation between women's occupation (job) and BSE practice, as about 98 (62.8%) of employed women had more BSE practice than non- employed women 58(37.2%) (p value = 0.000), That may be because there was more awareness about (BSE) between the employed women and their health care, and this

shows the importance of the workplace as a target for health education regarding breast cancer ,and the increase of the role of TV to introduce the idea of BSE for housewives. These finding were unlike the findings of the study conducted in Iran, which showed that there is no significant association between performing BSE and the women's occupation (job) [94].

In the current study there is a statistical significant positive relation between the participant women knowledge level and their BSE practice (p value = 0.000), the women with very good knowledge had good practice, similar to the studies performed both in United Arab Emirates and in Nigeria which showed that there is a significant positive relationship existing between knowledge and practice of BSE amongst women [5, 96].

In this study about 137(27.4%) of women practice CBE and the majority (72.3%) of them did this because they had a problem in the breast, which was less than the findings of the study done in Ethiopia and the study done in Qatar (Tam Truong Donnelly 2015)**,** and much better than that of the study done in Saudi Arabia (Ahmed Mahfouz 2013). Interestingly about 99.6% of women in Turkey had CBE [86, 81, 25, 91].

The majority 363(72.6%) of women had no CBE, which is a percentage nearer to that of the study done in Kuwait, in Ethiopia ,and more than that performed in United Arab Emirates [3, 86, 5].

Mammogram is one of the best procedures for early breast cancer detection, unfortunately the majority 336(77.1%) of participant women had no information about mammogram and most 442(88.4%) of the participant women had no mammogram examination, these findings suggest the urgent need for increasing women's awareness. This finding is similar to that of a study performed in Ethiopia, among Lebanese Armenian women, and much more than the findings of the study in United Arab Emirates [86, 88,5]. Only 58 (11.6%) practiced mammogram because they had breast problems, and not for screening, which was much better than the study done in Saudi Arabia [25] and lower than the study done in Qatar [81] and very much lower than the study in Turkey 75.8% [80]. This big difference in the last study may be because the study was among female health care professionals. About 65 (19.6%) of women do not want to take a mammogram because they are afraid to discover something bad , This number correlates to studies in Saudi Arabia [87] in Ethiopia [69] ,and in Yemen [28] , this finding may be because there is insufficient knowledge about breast cancer and the prevention programs in the community .

Conclusion

The result revealed that the Libyan women attending the selected health care institutions had a good knowledge level about the basic knowledge regarding breast cancer, its signs, symptoms and its risk factors, but had poor knowledge for BSE, CBE and mammography. They had a positive attitude but poor practice.

CONFLICTS OF INTEREST

There are no conflicts to declare.

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