Original Research Article

Breast cancer awareness, knowledge and beliefs among Libyan women

ABSTRACT

Background: Breast cancer (BC) is the most frequent cancer of women. The high mortality in developing countries is associated with late detection, and lack of knowledge and adequate screening programmes.
Aims: To determine breast cancer awareness, knowledge and beliefs among Libyan women.
Study Design: A cross-sectional descriptive study
Place and Duration of Study: between September and October 2016 among a sample of adult women in western Libya.
Methods: 1091 woman aged between years were asked to fill a validated questionnaire to investigate their knowledge about the risk factors as well as their awareness and screening behaviours of BC.
Results: The majority of women who participated in the study were aware of BC early warning signs and symptoms. Over 90% of the women were able to list at least one symptom of breast cancer correctly. The most frequent warning sign identified was breast lump (91.0 %), followed by discharge from the nipples (80.6%). Also, 565 (52.7%) of those surveyed were aware that increasing age was associated with a higher incidence of breast cancer and 747 (68.3%) of the respondents identified positive family history as a risk factor. Moreover, 62% know how to perform self-examination (BSE), and only 59% ever performed BSE. The majority (92%) would seek medical advice if they discovered a mass in the breast whereas, about half of those (59%) would consult a male doctor.
Conclusions: Women who participated in this study were fairly informed about BC risks and warning signs; the results appear to reflect growing awareness of women regarding BC screening methods. Health education message should be presented and delivered in a culturally-sensitive manner and tailored to provide simple and clear information and avoid false beliefs and misconceptions about the disease, its screening methods and management options.

Keywords: *Breast cancer, Breast cancer self-examination, awareness, Libya.*

INTRODUCTION:

Breast cancer is the most common cancer in women both in the developed and less developed world. It is estimated that worldwide over 508 000 women died in 2011 due to breast cancer. Although breast cancer is thought to be a disease of the developed world, almost 50% of breast cancer cases and 58% of deaths occur in less developed countries [1]. Breast cancer (BC) represents 10% of all cancers diagnosed annually and the second principal cause of cancer deaths in women worldwide [2,3]. The incidence of new cases is expected to rise from 10 million in 2002 to 15 million by 2025, with 60% of those cases occurring in developing countries. Data from the Arab world has placed breast cancer at the number one position with almost half of cases occuring in women under the age of 50 [4].
In Libya, breast cancer is responsible for more than 25% of all cancer in females with age-standardised mortality rate of 10.9 per 100,000 [5]. Breast cancer survival rates vary greatly

worldwide, ranging from 80% or over in North America, Sweden, Japan and Australia to around 60% in Brazil and Slovakia and below 40% in Algeria [6].

The low survival rates in less developed countries can be explained mainly by the lack of early detection programmes, as well as by the lack of adequate diagnosis and treatment facilities, resulting in a high proportion of women presenting with late-stage disease [1].

WHO promotes breast cancer control within the context of comprehensive national cancer control programmes that are integrated to non-communicable diseases and other related problems. Comprehensive cancer control involves prevention, early detection, diagnosis, treatment, rehabilitation and palliative care. Raising general public awareness on the breast cancer problem and the mechanisms to control as well as advocating for appropriate policies and programmes are key strategies of population-based breast cancer control [1].

Screening and early detection is widely recognized as being a principal factor in reducing the mortality from breast cancer [7]. However, previous studies report that most breast cancer patients present at advanced stages of the disease which emphasise the need for increasing awareness and improved screening programmes including self-examination, clinical breast examination and mammography [8-9].

In 2011, a comparison of the clinic-pathological and epidemiological features of breast cancer in Libya to corresponding data from patients from Nigeria and Finland has reported that approximately 51% of Libyan patients were classified in stages 3 and 4 [10,11]. Also, research has shown poor levels of knowledge towards risk factors awareness and screening methods even among young and educated women [12-18].

Knowledge deficiency may lead to delayed presentation with advanced stages when little or no benefit is derived from any form of therapy. For presentation at an early stage, women must be “breast aware”; they must be capable of identifying symptoms of BC through routine practice of screening [19].

Assessment of the current level of breast cancer awareness and knowledge toward risk factors and screening methods is crucial for the development of awareness campaigns and programmes for women to decrease the burden of the disease and mortality. Therefore, the aim of this study will be to assess the current level and determinants of knowledge and beliefs regarding breast cancer, risk factors and various screening methods among Libyan women.

MATERIALS AND METHODS:

A cross-sectional descriptive study carried out between September and October 2016 among a sample of adult women in western Libya. Women participating in the study were interviewed using a pre-tested validated questionnaire. The questionnaire included 49

questions pertaining three sections: 1) socio-demographic characteristics of women participating in the study; 2) knowledge of breast cancer risk factors and warning signs; 3) Knowledge and awareness of women towards breast cancer screening methods knowledge (BSE, CBE, and mammography).

Knowledge scoring

The questionnaire consisted of 23 items that assessed students' knowledge related to breast cancer (13 questions related to BC risk factors and 10 questions related to BC warning signs 0 and 20 items that assessed students' knowledge regarding breast cancer screening methods. These questions were then scored; each correct response was scored one (1) point and each wrong or "don't know" was scored zero (0). A correct response was based on literature and current practice. The knowledge index was calculated for each participant by summing the number of correct answers. The total score of the participants' knowledge regarding breast cancer is 23 (100%). The knowledge level was categorised as "low" for scores within 0-49%, "moderate" for scores within 50-79% and "high" for scores within 80-100% [20]. These scores were then used to assess the relationship between socio-demographic factors and level of breast cancer knowledge and warning signs.

Statistical analysis:

Data was translated to English and analysed using SPSS version 17 (SPSS Inc., Chicago, IL). Descriptive statistics including means, standard deviation, frequencies, and percentages were obtained for all continuous and categorical variables as appropriate. Chi-square test was used to examine the association between the respondents' socio-demographic variables and knowledge of breast cancer.

RESULTS

The mean age of the 1091 women enrolled in the study was 33.2 (SD 9.6; age range: 18-61) years. Most participants (71.8%) were aged less than 40 years and there were 501 (45.8%) single respondents; 463 (42.2) were students; 996 (79.6%) had a university degree and 930 (93.4%) had no family history of breast cancer (Table 1).

Table 1. Socio-demographic Characteristics of the Participants

CATEGORY	NUMBER	(%)
Age group (years)		
18-25	293	26.9
26-35	384	35.2
36-45	276	25.3
46-55	121	11.1
≥56	17	1.5
Level of education		
Primary	102	9.1

Secondary	306	27.9
University	683	79.6
Marital status		
Single	503	46.3
Married	523	48.1
Divorced	46	4.1
Widowed	19	1.6
Family history of breast cancer in a first degree relative		
Yes	92	8.4
No	985	90.3
No answer	14	1.3
History of breast problem	93	8.5

Section A of Table 2 shows respondents' knowledge of risk factors for breast cancer. The women surveyed had a fair knowledge of BC risk factors; 565 (52.7%) of those surveyed were aware that increasing age was associated with a higher incidence of breast cancer and 747 (68.3%) of the respondents identified positive family history as a risk factor for breast cancer. However, only third of the participants answered correctly about the effect of early menarche (31.9%) and late menopause (37.5%).

The majority of women participated in the study were aware of BC early warning signs and symptoms with over 90% of the women able to list at least one symptom of breast cancer correctly. The most frequent warning sign identified was breast lump (91.0 %), followed by discharge from the nipples (80.6%). Only 566 person (52.4%) acknowledged that weight loss could be a warning sign of breast cancer (Table 2).

Table 2. Knowledge regarding Breast cancer risk factors and warning signs among study participants.

Item (correct answer)	Number	%
A. Risk factors:		
Old age (yes)	565	52.7
Family history of breast cancer (yes)	747	69.2
Hormone replacement therapy (yes)	687	63.7
Alcohol consumption (yes)	604	56.2
Obesity (yes)	514	47.8
High fat diet (yes)	485	45.2
Smoking (yes)	640	59.7
Having children later on in life (yes)	458	42.9
Early menarche (yes)	341	31.9
Late menopause (yes)	399	37.5
Anxiety	536	50.0
Large breast size	399	40.1
Working	267	25.0
B. Early warning signs		
Lump under armpit	851	78.9
Breast lump	988	91.0
Bleeding or discharge from the nipple	874	80.6
Changes in the nipple	826	76.5
Redness of the breast skin	806	74.9
Changes in the size of breast	830	76.6
Changes in the shape of breast	844	78.4

Pain in the breast	784	72.7
Ulceration of the breast skin	824	76.5
Weight loss	566	52.4

The results showed that 62% of female participants know how to perform SBE, and only 59% ever performed BSE. The majority of women in the study (92%) would seek medical advice if they discovered a mass in the breast whereas about half of those (59%) would consult a male doctor. Regarding screening methods, women were more familiar with BSE. Only 20% of participants were not aware of BSE, compared to 40% of women who were not aware of ultrasound as a BC screening method. In total, women who did not know any screening methods constituted only 4%. While 45% of women were familiar with the five screening methods. Figure 1 shows the distribution of the knowledge scores amongst the respondents. The median score was 15 with 782 (71.5%) of women scoring >50% and 240 (22%) had a good score of 80% or more. Age of the participants, marital status and their level of education did play a significant role in determining the knowledge attitude, while positive family history of breast cancer in a first degree relative as well as a history of breast problem were not significantly associated with BC knowledge (Table 3).

Figure 1. Distribution of breast cancer risk factors and warning signs knowledge scores.

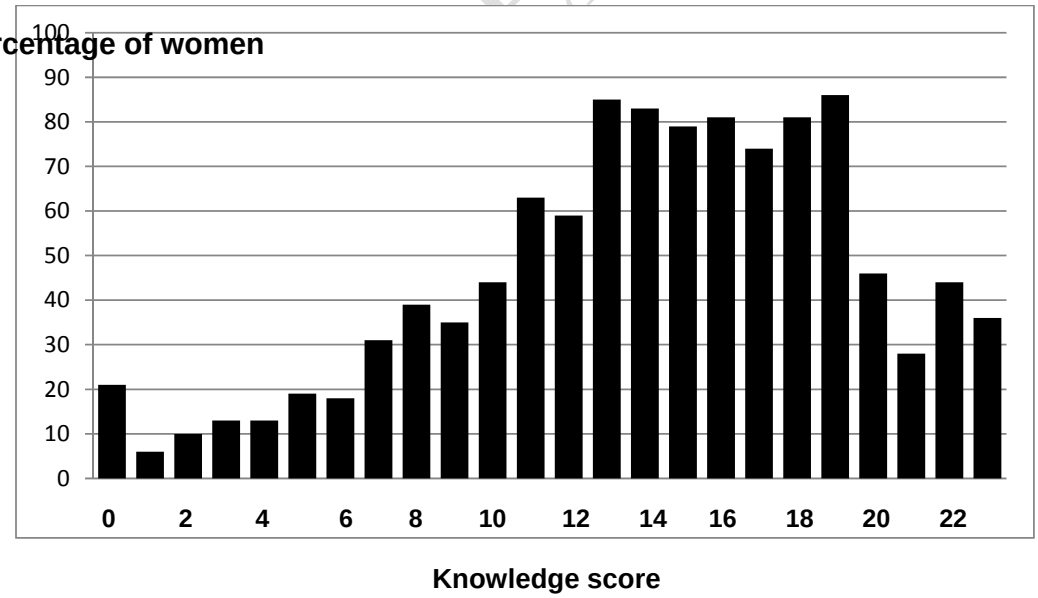

Table 3. Relationship between knowledge scores and demographic variables of the respondents

Variable	Knowledge scores			P -value
	Good N (%)	Moderate N (%)	Poor N (%)	
Age group (years)				
16-25	57 (19.5%)	167 (57.0%)	69 (23.5%)	
26-35	116 (30.2%)	152 (39.6%)	116 (30.2%)	0.004
36-45	47 (17.0%)	152 (55.1%)	77 (27.9%)	
46-55	19 (15.7%)	49 (40.5%)	40 (33.1%)	
≥56	0 (0.0%)	9 (52.9%)	7 (41.1%)	
Level of education				
Primary	11 (12.7%)	45 (44.2%)	44 (43.1%)	0.000
Secondary	50 (16.4%)	156 (50.9%)	100 (32.7%)	
University	176 (25.8%)	341 (49.9%)	166 (24.3%)	
Marital status				
Single	116 (23.1%)	258 (51.3%)	129 (25.6%)	
Married	110 (21.1%)	250 (47.8%)	163 (31.1%)	0.036
Divorced	10 (21.7%)	23 (50.0%)	13 (28.2%)	
Widowed	1 (5.3%)	11 (57.9%)	7 (36.8%)	
Positive family history of breast Cancer in a first degree relative	17 (18.5%)	47 (51.1%)	28 (28.6%)	0.27
History of breast problem	19 (20.4%)	48 (51.6%)	26 (28.0%)	0.45

Chi Square test was performed. Level of significance is at $p<0.05$.

Almost 50% of those with good knowledge score aged between 26-35 years and 75% had a university degree. Whereas only 8% of participants with good knowledge score had a positive family history of breast cancer or a previous breast problem.

DISCUSSION

Breast cancer is the most common of all female cancers in Libya [5]. In this study, the knowledge and practice among the general population in western Libya was explored. The main findings were that level of awareness of risk factors and early warning signs of BC was moderate with 71.5 % having good knowledge. In addition, the study showed that 59.2% of women participated in the study perform BSE.

The level of knowledge about breast cancer and the screening behaviour is generally poor in the Arab region compared to the developed world [6,10,17]. In the present study, respondents answered correctly that the commonest symptom of breast cancer is a breast mass. Our results are consistent with those of similar studies carried in Saudi Arabia [21-22] and Kuwait [23].

The present study showed that women demonstrated higher knowledge of breast cancer screening and risk factors and were more likely to perform BSE compared to other recent studies in neighbouring countries [24-26]. Similar to previous studies [23, 25, 27] the most familiar methods was BSE followed by CBE and mammography.

As it was expected, satisfactory knowledge scores were more common among younger participants and those with higher educational levels. However, unlike other studies in the region [24-25] and worldwide [28], the anticipated fact that women who had a breast problem

or positive family history of BC would have better knowledge scores could not be demonstrated in the present study. The study revealed that about two thirds of the participants shared a misconception that early menarche and late menopause were not risk factors for BC. This finding was supported by a previous study [29].

The young age and the relatively high educational level of the surveyed women, which may reflect selection bias, may influence the results of this study. A second limitation of the current study is the use of convenience sampling to recruit participants that may limit the generalisability of the findings. Nevertheless, convenience sampling is considered a valid data collection method and has been widely used in health education research [30]. In spite of these limitations, the study yielded significant findings that could have implications reorganise the national health education strategy.

CONCLUSIONS

Women participated in this study were fairly informed about BC risks and warning signs; the results appear to reflect growing awareness of women regarding BC screening methods. However, the health education message should be presented and delivered in a culturally-sensitive manner and tailored to provide simple and clear information and avoid false beliefs and misconceptions about the disease, its screening methods and management options.

CONSENT

All authors declare that written informed consent was obtained from the participants for publication. A copy of the written consent is available for review by the Editorial office/ of this journal.

ETHICAL CONSIDERATIONS

Permissions were obtained from the local health directorate and prior orientation of participants was carried out. The data collection tools were anonymous, and data confidentiality was maintained throughout the study.

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