

Breast cancer

Knowledge, attitudes and practices of breast self examination among women in Qassim region of Saudi Arabia

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ABSTRACT

Objectives: To determine the knowledge, attitudes and practices of women in Qassim region regarding breast self examination (BSE), and also to explore their level of knowledge regarding breast cancer.

Methods: We conducted a cross-sectional survey during the period from May to June 2005, among Saudi female patients attending the Primary Health Care Centers of Qassim region. A total of 300 females, 20-70 years of age, were interviewed in 10 randomly selected primary health care centers.

Results: The mean age of the participants was 36.2 ± 10.2 years, and 70.7% of them were literate. Regarding the knowledge of risk factors, 76% of the respondents had 3 or more correct answers out of the total 7 questions.

Twenty-six percent of the respondents did not know the presenting symptom of breast cancer. Whereas, 69.7% of the participants had never heard of BSE. The participants had a positive attitude towards learning BSE. Of the total respondents, 18.7% reported that they practice BSE, majority (57%) of whom had started performing it within the previous year. However, 74% of the respondents did not have access to breast health information.

Conclusion: This study concludes that the level of awareness of the females of Qassim region regarding breast cancer and BSE is not adequate and a health education program for this subject should be introduced in the region.

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The rising incidence of breast cancer and the increasing mortality from this disease are major health concerns, all over the world. A primary reason for the escalating mortality is lack of awareness, a lack of early detection programs and late diagnosis of the disease.^{1,2} Many of the breast cancer cases, in developing countries, are reported at advanced stage,

resulting in poor prognosis of these patients. Early diagnosis of cancer influences the rates of patient improvement and increases life quality and survival.³ Although, breast cancer is the most common of all female cancers in the Kingdom of Saudi Arabia (KSA),⁴⁻⁷ different studies conducted in the Kingdom have shown that the knowledge of females regarding

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breast cancer and its screening is low.⁸⁻¹⁰ It is mentioned in the medical literature that since the most common symptom of breast cancer is a painless lump, women should be using breast self examination (BSE) for early detection. In many studies, it was reported that women who carefully examined their breasts could find little masses of breast cancer, and their prognosis became better.

According to the national cancer registry of KSA 1998 report, the highest incidence of breast cancer was noticed in Riyadh, Eastern regions, Makkah and Qassim regions. Only 21% of the cases were localized when diagnosed.¹¹ These statistics reflect the dire need of research regarding different aspects of this disease and also stresses the need of public awareness about this subject. The purpose of this study was to determine the knowledge, attitudes and practices of women in Qassim region regarding BSE, and also to explore their level of knowledge about breast cancer focusing on risk factors, clinical presentation and screening methods.

Methods. The study was conducted as a cross-sectional survey among Saudi female patients attending primary health care centers of Qassim region. The inclusion criteria for the study were Saudi females in the age range of 20-70 years. Females already suffering from breast cancer were excluded from the study. A total of 300 females were interviewed for this study.

Out of the total 142 primary health care centers in Qassim region, 10 centers were randomly selected by computer generated random numbers. The lady doctors working in these primary health care centers were selected as interviewers for this study. In each primary health care center, 30 adult female patients were interviewed by the trained interviewers (primary health care lady doctors). Three computer generated random numbers were assigned for each health care center by principal investigator, for interviewing 3 patients daily. These numbers were matched with the numbers, allotted to the patients according to their order of attendance. If the assigned number patient did not fit into the inclusion criteria or refused to participate then the next patient was interviewed.

The semi-structured questionnaire included questions to determine the respondents' demographic characteristics such as age, marital status, education and occupation, and questions addressing the following main issues: 1. Knowledge regarding breast cancer. 2. Knowledge, attitudes and practices of breast self examination. 3. Suggestions for health education regarding breast cancer and BSE.

A training workshop was held for the orientation and training of primary health care lady doctors, involved in the research project. The questionnaire was also pretested during the same workshop.

Individual consent of the participating patient was obtained after disclosure statement regarding the purpose of the research. Data collection was carried out during the period from May to June 2005. Coding and scoring of variables was carried out, whenever required. Knowledge of breast cancer risk factors was scored. One point was given for each correct answer for the risk factor question. A maximum of 7 points could be obtained on the knowledge score.

The data was entered and analyzed in Epi Info 2002 statistical software. Proportion of positive responses and their 95% confidence intervals were calculated. Chi-square test was used, where appropriate.

Results. Table 1 demonstrates the demographic characteristics of the total sample of this survey. The mean age of study participants was 36.2 ± 10.2 years, with more than half (63%) less than 40 years of age. Most of the study participants (70.7%) had received education, while 29.3% were illiterate. The median number of children was 5, ranging from a minimum of having no children to a maximum of 16.

Regarding knowledge of participants about breast cancer 287 (95.7%) respondents had heard of breast cancer, and 107 (35.7%) knew of someone suffering from breast cancer.

The respondents were asked regarding 7 important risk factors of breast cancer. The risk factors were family history of breast cancer, age above 40 years,

Table 1 - Demographic characteristics of study participants (N=300).

Variables	Categories	Number (%)
Age group (years)	20-29	96 (32)
	30-39	93 (31)
	40-49	72 (24)
	50-59	28 (9.3)
	60-69	11 (3.7)
Marital status	Married	249 (83)
	Single	27 (9)
	Divorced	10 (3.3)
	Widowed	14 (4.7)
Educational status	Illiterate	88 (29.3)
	<High School	98 (32.7)
	High School	54 (18)
	Graduate degree	54 (18)
	Post graduate degree	6 (2)
Occupation	Housewife	225 (75)
	Teacher	40 (13.4)
	Student	22 (7.3)
	Others	13 (4.3)

obesity, smoking, breast feeding, excess fat in diet and oral contraceptives. The responses were recorded as 'yes', 'no' or 'don't know'. Of the total respondents, 228 (76%) had 3 or more correct answers. The level of knowledge was best regarding breast feeding, for which 239 (80%) respondents knew that it is not a risk factor for breast cancer. The lowest level of knowledge of risk factor was regarding obesity, being recognized by only 107 (36%) respondents, as a risk factor. The proportion of respondents having the knowledge of positive family history as a risk factor was 42%, oral contraceptives 56% and smoking 73%. No statistical association was found between age and number of correct answers. There was significant statistical association ($p < 0.05$) between level of education and number of correct answers.

An open ended question was asked inquiring the presenting symptom of breast cancer. **Table 2** elaborates the responses of this question. Of the respondents, 79 (26.3%) had no idea of the presenting symptom of the breast cancer.

The source of knowledge of breast cancer in majority (63%) of the respondents was television. Next in frequency were print media (48%) followed by health care providers (42%). The rest were relatives, colleagues and friends.

Majority of study participants [209 (69.7%)] had never heard of BSE.

Out of the total 91 (30.3%) responders who had heard of BSE, 41 (45%) knew the correct timing (7-10 days after menstruation) for performing breast self examination. Twenty-six (29%) participants knew correctly that BSE should be carried out once a month. (**Table 3**).

Being aware of BSE had significant statistical associations with literacy, employment status, history of breast disease in the respondent and having

knowledge of someone suffering from breast cancer (**Table 4**).

The attitude of the participants towards BSE was assessed on 5-point Likert's scale. A total of 226 (75.3%) respondents strongly agreed to the fact that early detection of breast cancer increases the survival of the patient. Only 154 (51%) respondents strongly agreed that women above the age of 20 years should practice BSE regularly and 235 (78%) respondents strongly agreed that women should be educated at appropriate occasions about BSE (**Table 5**).

In this survey, 56 (18.7%) respondents reported that they practice BSE. Whereas 32 (57%) of those practicing BSE, had started performing it within the previous 1 year. Twenty-two (39%) respondents reported that they practice BSE monthly, while 15 (27%) said that they practice it occasionally.

Table 3 - Knowledge of the respondents regarding breast self examination (N=91).

Variables	Responses	Number (%)
Knowledge about appropriate time for BSE	Correct response (7-10 days after menstruation)	41 (45.1)
	Incorrect response	47 (51.6)
	Do not know	3 (3.3)
Knowledge about frequency of BSE	Correct response (once a month)	26 (28.6)
	Incorrect response	50 (54.9)
	Do not know	15 (16.5)
Received practical demonstration of BSE	Yes	52 (57.1)
	No	39 (42.9)
BSE - breast self examination		

Table 4 - Association between breast self examination awareness and relevant variables (N=300).

Variables	Heard of BSE	Never heard of BSE	p-value
Literate	72	140	0.034
Illiterate	19	69	
Employed and students	37	38	0.00003
Housewives	54	171	
History of breast disease	31	31	0.0001
No history of breast disease	60	178	
Know someone suffering from breast cancer	24	65	0.012
Do not know someone suffering from breast cancer	49	144	

Table 2 - Knowledge of respondents regarding the presenting symptoms of breast cancer (N=300).

Presenting symptoms	Number (%)	95% Confidence Intervals
Do not know	79 (26.3)	21.4 - 31.7
Breast lump	69 (23)	18.4 - 28.2
Breast lump with late symptoms	63 (21)	16.5 - 26.1
Breast pain	54 (18)	13.8 - 22.8
Change in the shape of breast	13 (4.3)	2.3 - 7.3
Generalized symptoms	13 (4.3)	2.3 - 7.3
Nipple discharge	5 (1.7)	0.5 - 3.8
Breast ulcers	4 (1.4)	0.4 - 3.4
Total	300 (100)	

Table 5 - Attitudes of the respondents toward breast self examination (N=300).

Variables	Responses	Number (%)	95% Confidence Interval
Early detection of breast cancer increases survival	Strongly agree	226 (75.3)	70.1 - 80.1
	Agree somewhat	33 (11)	7.7 - 15.1
	Neither agree nor disagree	32 (10.7)	3.2 - 10.7
	Disagree somewhat	6 (2)	0.7 - 4.3
	Strongly disagree	3 (1)	0.2 - 2.9
Females (>20 years) should practice BSE regularly	Strongly agree	154 (51.3)	45.5 - 57.1
	Agree somewhat	74 (24.7)	19.9 - 29.9
	Neither agree nor disagree	47 (15.7)	11.7 - 20.3
	Disagree somewhat	13 (4.3)	2.3 - 7.3
	Strongly disagree	12 (4)	2.1 - 6.9
Females must be educated about BSE	Strongly agree	235 (78.3)	73.2 - 82.9
	Agree somewhat	44 (14.7)	10.9 - 19.2
	Neither agree nor disagree	18 (6)	3.6 - 9.3
	Disagree somewhat	1 (0.3)	0.0 - 1.8
	Strongly disagree	2 (0.7)	1 - 2.4

There was a significant statistical association between knowing breast cancer patient and practicing of BSE ($p < 0.05$).

In response to the question regarding accessibility of breast health information, 223(74%) respondents answered that they do not have access to breast health information. Majority (82%) of the respondents preferred doctors as the source of breast health information and education. Next amongst the educational preference was television (44%) followed by newspapers (19%).

Discussion. Breast cancer is the most common of all female cancers in Kingdom of Saudi Arabia.⁵⁻⁷ In this survey, the knowledge of risk factors for breast cancer was good as 76% of the participants were able to answer 3 or more (out of 7) questions correctly.

The analysis of the knowledge of individual risk factors reveals that 42% respondents in this study, recognized family history as a risk factor of breast cancer. This proportion is low when compared with the studies carried out in the United Kingdom (UK) (90%), Tehran (63%) and Singapore (78.7%) were aware of the fact that a positive family history is a risk factor for breast cancer. In our study, the knowledge for oral contraceptives as a risk factor was 56% as compared to 35% in UK study¹² and 21.6% in Singapore study.¹⁴ Similarly, the knowledge regarding smoking as a risk factor (73%) is much higher than Nigeria (30.3%) and Singapore (24.6%).

In our study, the proportion of respondents (23%) mentioning breast lump as the presenting symptom, is low when compared with other similar studies.

In UK¹² (85%) and Tehran¹³ (57%) respondents mentioned breast lump as the presenting symptom, while in Nigeria, 53% school teachers surveyed, knew that a breast lump is the presenting symptom of the breast cancer.¹⁵ The figure in this survey is also lower than reported in a study carried out in Jeddah in which, presentation of breast cancer as a breast mass was answered correctly by 39.7% of the students.⁸ The majority of participants, in our study, mentioned late stage symptoms as the presenting symptom of the disease. This reflects their lack of knowledge regarding early symptoms of the disease, which is very important from the point of view of better prognosis. Such finding has also been documented in a previous Saudi study.¹⁶

The source of knowledge of breast cancer for majority of the participants was mass media. This finding reflects lack of participation of health care workers in health education of patients.

In our study 30% of the participants had heard of BSE. This rate is low in comparison to similar studies in Europe and the United States of America,¹⁷⁻²⁰ but is higher when compared with similar studies carried out in Riyadh¹⁰ and Alexandria,²¹ where 12% and 10.4% of the participants reported of being aware of BSE respectively. However, a higher figure of 39.6% has been reported in another study carried out in Jeddah, KSA amongst secondary school students.⁸

In this study, only a small proportion of those who had heard of BSE, were aware of the correct timing, correct frequency and practical steps of BSE. These findings strongly suggest the need of education for demonstrating correct procedure of BSE. The

participants had a positive attitude towards breast cancer screening and BSE education. This finding is in comparison with the study carried out in Jeddah where 82.4% had a positive attitude towards learning BSE.⁸

In our study, 19% of the respondents reported that they practice BSE. This figure is lower than the rate of BSE practice of 37%,²² 44%,²³ 31%,²⁴ 52%²⁵ and 34.7%²⁶ reported in different studies from Europe and Hong Kong. A high rate of practice was also reported by a study done in Saudi Arabia in which 66% of the nursing students reported to perform BSE.²⁷ However, the nursing students, being related to medical profession, may have a higher level of awareness and are different from the study subjects of this survey. The proportion of BSE performers in our study is greater when compared to the similar studies carried out in Egypt (2.65%)²¹ and Iran (6% and 6%).^{13,28}

In this survey, majority of participants (57%) had started practicing BSE within the previous year. This reflects that the community has gained awareness on this subject in the recent past. Only 39% of those practicing BSE were doing so on regular monthly basis. This finding again insists on the issue of proper health education on this subject.

This study concludes that the level of awareness of the females of Qassim region regarding breast cancer and BSE is not adequate. The women in this region have a positive attitude towards learning this subject. On the basis of the findings of this study, it is strongly recommended that there should be a well designed health education program for awareness of breast cancer and BSE for the females of Qassim region.

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