

## Awareness and Attitude among Saudi Females toward Breast Cancer Screening in Al-Ahsa, KSA

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### ABSTRACT

**Background:** breast cancer is a progressive disease, there are three screening tests essential for early detection; clinical breast examination (CBE), X-ray mammography and breast self-examination (BSE). Lack of knowledge and wrong beliefs about cancer breast prevention among women affect adversely on their perception of cure from early detection of the cancer and of screening tests effectiveness. **Aim of the work:** this baseline study aimed to assess the awareness of females in Al-Ahsa about breast cancer and their practice of BSE. **Materials and Methods:** this was a cross-sectional research, a self-administered survey was used a questionnaire was distributed to 400 females aged between 20 and 70 years. The questionnaire was divided into three domains: socio-demographic characteristics, the respondent's knowledge of breast cancer and BSE and their experience of breast cancer screening and breast self-examination (BSE). Statistical analysis was performed using SPSS version 23. **Results:** the overall response rate was 93.3%. Approximately half of the respondents were highly educated (Bachelor degree) 109 (59.6 %). Of 319 female that responded only 98 (39.7%) had good awareness of breast cancer. 281 (88.1%) perceived the cause to be brought about by smoking. This was followed, in descending order, by 272 (85.3%) who felt that the old age caused breast cancer, 264 respondents (82.8%) attributed the cause to hereditary, 211 (66.1%) attributed the cause to oral contraceptive use. Most of the participants were aware about the protective effect of the breast feeding and multiparty against breast cancer, 306 (95.9%), 247 (77.4%) respectively Overall, 114 (35.7%) of the participants aware of breast cancer knew of BSE as a method for the early detection of breast cancer and only 14 (4.4%) had ever performed.

**Conclusion:** the current status of awareness of breast cancer in Al-Ahsa and their use of BSE are insufficient. Women need to be encouraged to self-monitor in order to detect abnormalities in their breasts. Appropriate educational interventions are urgently required to encourage women to engage in regular BSE.

**Keywords:** awareness, attitude, breast cancer, knowledge, screening, self-examination.

### INTRODUCTION

Breast cancer in Kingdom of Saudi Arabia was the ninth leading cause of death for females in 2010<sup>[1,2]</sup>. In 2009, It was reported that the new cases of breast cancer were 1308 cases. Almost all the new cases around 25% were registered among Saudi women <sup>[3]</sup> and thus it is expected that the occurrence of breast cancer in Kingdom of Saudi Arabia will raise throughout the coming decades because of population's growth and aging <sup>[4]</sup>. In Saudi Arabia, even though it had once assumed that the incidence of breast cancer was low, further recent researches demonstrated that it is a serious disease in Saudi community, as in other areas on the world <sup>[5,6]</sup>. Comparing with western countries, the pattern of breast cancer in the Kingdom of Saudi Arabia is very annoying. It typically appears at advanced stages and affects more the young premenopausal women <sup>[5,7,8]</sup>. Furthermore, Breast cancer is a progressive disease, small tumors are probably to be at an early stage and therefore it will have a better prognosis and more successful and effective treatment <sup>[9]</sup>. There are three screening

tests essential for early detection; clinical breast examination (CBE), X-ray mammography, and breast self-examination (BSE)<sup>[9]</sup>.

Lack of knowledge and wrong beliefs about cancer breast prevention among women affect adversely on their perception of cure from early detection of the cancer and of screening tests effectiveness <sup>[10]</sup>. Breast cancer presents most commonly as a painless breast lump and a smaller proportion with non-lump symptoms. For women to present early to hospital they need to be "breast aware"; they must be able to recognize symptoms of breast cancer through routine practice of practicable screening. At the present time, routine mammography cannot be recommended in developing countries due to financial constraints and the lack of accurate data on the burden of breast cancer in these countries. In Saudi Arabia, there were few researches who demonstrated the awareness of detection breast cancer and the practice of breast self-examination (BSE) among Saudi women <sup>[11- 14]</sup>. Several studies explored a decline in cancer mortality as a result of early

detection and improvement in its treatment<sup>[14-15]</sup>. In KSA, studies related to knowledge, attitudes and practices around breast cancer are scarce. **Milaat** in 2000, found a very low level of knowledge of breast cancer and its associated risk factors among female high-school students<sup>[13]</sup>. However, an older female population from Riyadh was found to be more knowledgeable about breast cancer. Among 864 women aged 20–50 years old and living in Riyadh, 82% knew about breast self-examination, and 61% knew about mammography. However, 41.2% had performed breast self-examination, and only 18.2% had ever had a mammogram<sup>[16]</sup>. In Al-Ahsa governorate, a population-based study found lower rates of mammography, 5.1% among 1,315 women aged 18–65 years old<sup>[17]</sup>. Another study of teachers in their thirties also showed low levels of breast-cancer-related knowledge, with only 32.4% being aware of breast self-examination<sup>[18]</sup>. In addition, although there is no organized national screening program in Saudi Arabia, there are plenty of programs or activities present such as: the public awareness of breast cancer, through lectures, in a major hospital in Riyadh<sup>[19]</sup>. The present study therefore aims to assess the level of awareness of self-reported knowledge of breast cancer in our community, attitude and preventive practices towards breast cancer.

#### **Objectives:**

1. To assess the knowledge of breast cancer screening among Saudi female in Al-Ahsa, located in the Eastern province, KSA.
2. To explore the impact of breast cancer risk factors.
3. To show up the women attitude towards breast cancer and its screening.

#### **Inclusion criteria:**

Female sex, age 21 to 90 years old, resident in Al-Ahsa region and Saudis only.

#### **Exclusion criteria:**

Males sex, females below age of 21 and above 90, Non-Saudi residents in Al-Ahsa and medical/paramedical staff.

#### **Subjects and Methods:**

A cross-sectional study was performed over one year from 02 June 2017 to 10 February 2018. This study was planned to be conducted among women at four hospitals in Al-Ahsa, located in the Eastern Province of Saudi Arabia. Three government run by Ministry of Health of Saudi Arabia (Prince Saud bin Jalawi Hospital, King Fahd Hospital, Al-Jabr Hospital and Maternity and Child Health hospital). These hospitals cater to the population of Al-Ahsa and surrounding villages.

This study was carried out among females at hospitals in Al-Ahsa, located in Eastern Province of Saudi Arabia with inclusion and exclusion criteria of the target population. The total number of female participants was 319, Data were collected by using a self-administered questionnaire. An ethical approval was obtained from the College of Medicine, King Faisal University's Research Ethics Committee.

The questionnaire was composed of three parts. The first part included questions on personal data such as : age, residency, level of education and marital status. The second part contained respondent's knowledge of breast cancer and its risk factors. The third part contained their current practice for breast cancer screening and breast self-examination (BSE). Participants who answered correctly were assigned a score of '1' where as those who answered either incorrect or I do not know were assigned a score of '0', total knowledge score and percentage were computed, total score of each participants with percentage are also calculated, where those who get score of 70% or more of the correct answers assigned of having adequate knowledge and awareness of breast cancer, and those who get less than 70% were considered as having inadequate knowledge.

#### **Statistical Analysis**

Data were entered in Microsoft Excel first then transferred to SPSS software version 23. Descriptive statistics using frequency to calculate count and percentage were computed.

#### **RESULTS**

Of 400 questionnaires distributed to all Saudi female in Al-Ahsa region, 319 were completed and returned, yielding a response rate of 93.3%.

Table 1 revealed the demographic characteristics of the females who participated. This study group was aged from 20 to 70. Most of the responders were married, 178 out of 319 (55.8 %) and 124 (38.9%) were single. Regarding educational level 109 (59.6 %) of the responders were highly educated (Bachelor degree). The proportion of participants from villages was roughly equal to that of urban participants, (47.3%), (52.7%) respectively.

Of the 319 female that responded, only 98 (39.7%) had good awareness of breast cancer as shown in Table 2 **and Figure 1**. The majority of these respondents had obtained their knowledge from either social media or health workers [Figure 2]. In comparison, 221 (69.3%) out of 319 female responders had poor awareness of breast cancer as shown in Table 2.

Table 3 indicated that of the 319 participants who were aware of breast cancer, 281 (88.1%) perceived the cause to be brought about by smoking. This was followed, in descending order, by 272 (85.3%) who felt that the old age caused breast cancer, 264 respondents (82.8%) who attributed the cause to hereditary, 211 (66.1%) attributed the cause to oral contraceptive use. Most of the participants were aware about the protective effect of breast feeding and multiparty against breast cancer, 306 (95.9%), 247 (77.4%) respectively. With regards to BSE, 114 (35.7%) of the participants aware of breast cancer knew of BSE as a method for the early detection of breast cancer and only 14 (4.4%) had ever performed BSE themselves monthly. Regards the obstacles of breast self-examination, 124 (38.9%) of the

participants didn't know how the test is done, 101 (31.7 %) they feel discomfort during the screening, 122 (38.8%) they don't have free time, 93 (29.2%) they feel embarrassed from the screening and 115 (36.1 %) they fear of positive results [Figure3]. About breast cancer screening in hospitals, 251 (78.7%) did not undergo the screening, and 44 (13.8%) were screened in the hospital if they feel pain. Regards the obstacles of breast cancer screening, 161 (50.5%) of the participants don't know how the test is done, 155 (48.6 %) they feel discomfort during the screening, 152 (47.6%) they don't have free time to be screened, 154 (48.3%) they feel embarrassed from the screening, and 129 (49.4 %) they fear of positive results [Figure3].

**Table 1: demographic characteristics of participating female in Al-Ahsa, KSA**

	Frequency	Percent
<b>▪ Age</b>		
+ 40	28	8.8
25 - 20	143	44.8
30 - 26	67	21.0
31-40	81	25.4
Total	319	100.0
<b>▪ Marital status</b>		
Widowed	4	1.3
Single	124	38.9
Married	178	55.8
Divorced	13	4.1
Total	319	100.0
<b>▪ Educational level</b>		
Elementary	7	2.2
Intermediate	16	5.0
Secondary	104	32.6
Higher education	109	59.6
Not educated	2	0.6
Total	319	100.0
<b>▪ Residency</b>		
Villages	151	47.3
urban	168	52.7

Awareness level			
		Frequency	Percent
Valid	poor awareness	221	69.3
	good awareness	98	30.7
	Total	319	100.0



Figure1: level of awareness of breast cancer among participating female in Al-Ahsa, KSA

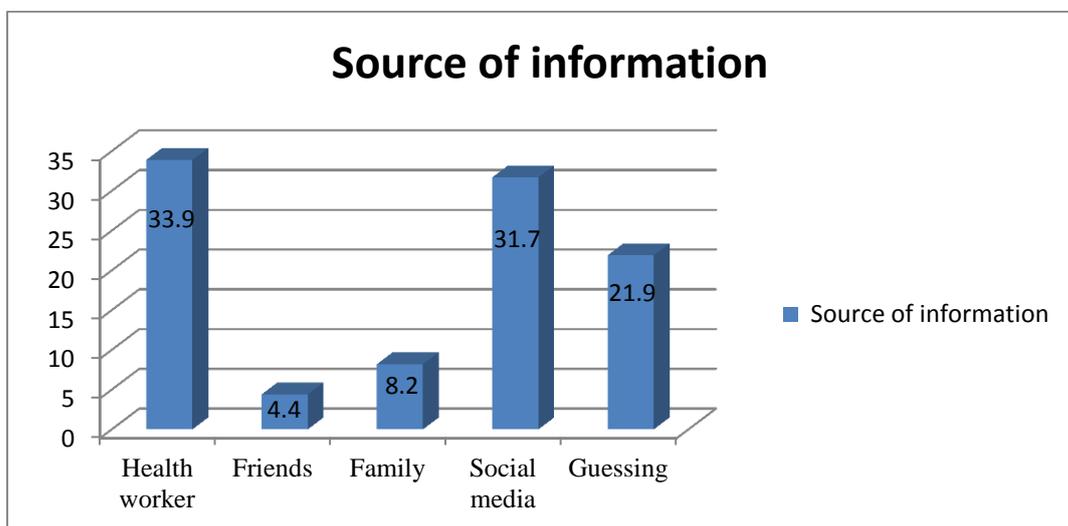
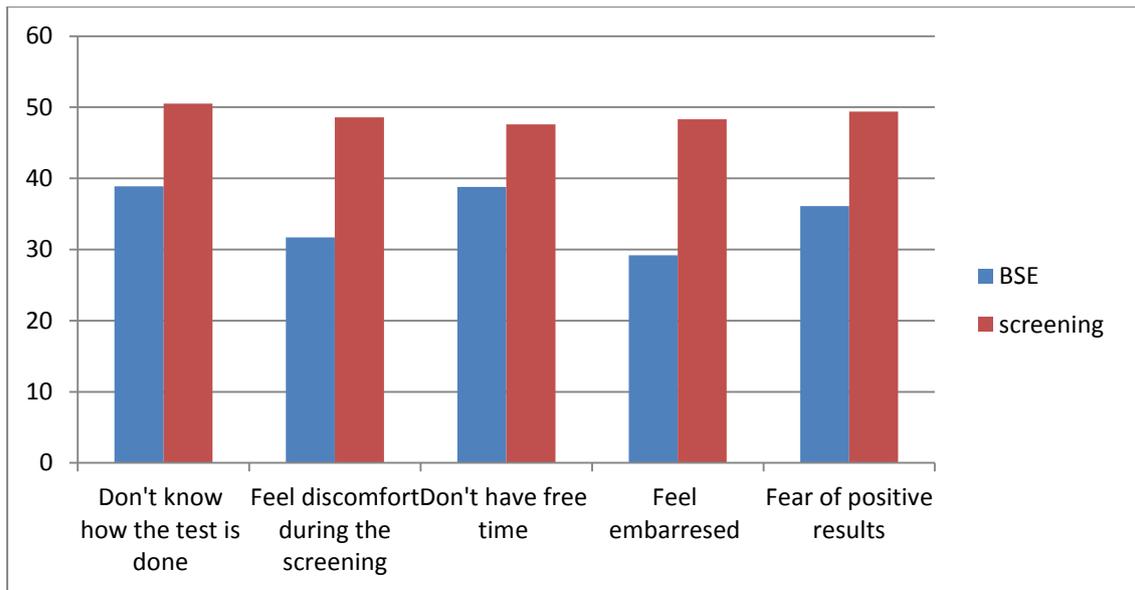


Figure2: source of breast cancer information among participating female in Al-Ahsa, KSA

Table 3: perceived risk factors for breast cancer participating female in Al-Ahsa, KSA

Risk factor	Frequency	Percentage
Smoking	281	88.1
Old age	272	85.3
Hereditary	264	82.8
Oral contraceptive use	211	66.1
Multi parity	72	22.6
Early menopause	196	61.4
Early menarche	121	37.9
Fatty food	137	42.9
Radiation exposure	109	34.2



**Figure 3 : obstacles of breast cancer self-examination and screening.**

## DISCUSSION

The evaluation of public awareness, attitudes and practice of BSE is of fundamental importance for the successful implementation of breast cancer control activities<sup>[20]</sup>. There are no known proven means to prevent breast cancer, which increases our reliance on the methods for early detection in order to improve patient outcomes. The primary goal of breast cancer awareness programs in developing countries is to promote and develop awareness about the importance of its early detection<sup>[21]</sup>. In Kingdom of Saudi Arabia, 1308 new breast cancer cases were reported in 2009, about 25% of all new cancer cases registered among Saudi women<sup>[3]</sup> and it is expected that the incidence of breast cancer will increase over the coming decades in KSA due to the population's growth and aging<sup>[4]</sup>. Studies in Saudi Arabia detected awareness of breast cancer and the practice of BSE among Saudi women were few<sup>[12-14]</sup>. The current study revealed that Saudi women had worryingly poor levels of knowledge of breast cancer 221( 69.3%) out of 319 female responders. As the current study involved highly educated university students, it was expected that they would have greater awareness and knowledge of breast cancer than the general population. However, the findings were disappointing. In the current study, of the 319 respondents who were participants, 33.9% and 31.7% obtained their information on breast cancer from health workers and social media respectively. This is in contrast to the results of a study conducted in South Eastern Nigeria by **Ibrahim and Odusanya**<sup>[20]</sup> which showed that health workers were the main source of

information about breast cancer. In this study, of the 319 participants, 281 (88.1%) perceived the cause to be brought about by smoking. This was followed, in descending order, by 272 (85.3%) who felt that the old age caused breast cancer, 264 respondents (82.8%) who attributed the cause to heredity, 211 (66.1%) attributed the cause to oral contraceptive use. On the other hand, the study of **Suleiman conclude that** of the 435 respondents who were aware of breast cancer, 99 (22.7%) perceived the cause to be brought about by a medical condition. This was followed, in descending order, by 58 (13.3%) who felt that the lack of breastfeeding caused breast cancer, 56 respondents (12.8%) who attributed the cause to heredity, 71 (16.3) to old age, 44 (10.3) to individuals marrying at a later age, 33 (7.5) to pregnancy at a later age, 18 (4.1%) to the use of brassieres, 17 (3.9%) to excessive breastfeeding and 11 (2.6%) to spirituality<sup>[22]</sup>. In the current study, most of the participants were aware about the protective effect of breast feeding and multiparty against breast cancer, 306 (95.9% ), 247 (77.4%) respectively. This is in line with the findings of **Bhadoria**<sup>[23]</sup> who found that the RR of breast cancer was found to increase 14.9 (95%) confidence interval 8.69, 25.7 times in women having mean duration of breastfeeding less than 13 months. It has been suggested that lactation might reduce breast cancer risk by temporarily draining the breasts of potential chemical carcinogens and finally, the hormone oxytocin, which causes contraction of myoepithelial cells as a response to suction, has been reported to inhibit cell proliferation and tumor growth in animal models. However, results of earlier

studies have reported a decrease in risk with higher parity <sup>[24,25]</sup>. Most of participation had little knowledge of the risk factors for breast cancer. The most widely known risk factors were smoking (88.1%), old age (85.3.0%) and hereditary (82.8), early menarche, fatty food, and radiation exposure were not known as a risk factor for breast cancer by most of participation. The current study showed that the practice of BSE was low amongst the sample tested. 114 (35.7%) of the participants aware of breast cancer knew of BSE as a method for the early detection of breast cancer, and only 14 (4.4%) had ever performed BSE themselves monthly. This is in line with the findings of **Abdel Hadi**,<sup>[26]</sup> who found that 37.3% of his study population practiced BSE. Other studies that showed low rates of BSE practice suggested that the practice was globally low among women, regardless of their age and occupation <sup>[27]</sup>. However, the rates reported in this current study were close to those described by previous Egyptian and Iranian studies, in which only 6% and 2.65% of the general study populations practiced BSE monthly, respectively <sup>[27,28]</sup>. The current study suggested several reasons why Saudi women did not undergo in breast cancer screening practices. Approximately, half of the participants 161 (50.5%) don't know how the test is done, 155 (48.6 %) feel discomfort during the screening, 152 (47.6%) didn't have free time to be screened, 154 (48.3%) feel embarrassed from the screening, and 129 (49.4 %) fear of positive results. The provision of systematic health education may help to encourage breast cancer screening and change perceptions regarding screening. It is important to raise women's awareness regarding the potentially life-saving benefits of BSE practice. In addition, the accessibility of screening practices should be expanded with government support.

#### LIMITATIONS OF THE STUDY

Since the sample of this study too small, the results of the study cannot be generalized to the larger population in Al-Ahsa. The women who chose to participate may have different attitudes or knowledge than those who did not volunteer.

#### CONCLUSION

In contrast to western nations, most patients in developing countries, including Kingdom of Saudi Arabia, present with an advanced stage of cancer, when little or no benefit can be derived from therapy. The findings of this study are in keeping with previous research in which breast cancer awareness has been found to be low among women in the developing countries. Breast cancer awareness

among Saudi women was less than 40% and knowledge was limited in its range and accuracy. The findings of this study suggested number of avenues for future research and could be used to contribute to the development of preventative and screening programs for breast cancer across the population. This study emphasizes the need to raise breast cancer awareness and to teach individuals about the importance of practices for early detection techniques, such as BSE, which will enable breast cancer to be detected at an earlier stage. Interventions should be developed with the aim of providing information and services for all age groups, educational levels, cultures and social strata. In order to improve women's awareness and knowledge of breast cancer, it is important to initiate interventions that seek to provide health education, and to encourage preventive healthcare behaviors. The data presented here indicated important myths factors about breast cancer among Saudi females who are residents in Al-Ahsa that can provide insight and background for exploring the strategies for promoting awareness among women in all regions of Saudi Arabia.

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