

## BREAST CANCER AWARENESS AND ATTITUDE AMONG ADULT FEMALES, EASTERN PROVINCE, SAUDI ARABIA

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### Abstract

**Background:** Breast cancer (BC) is the most common type of malignancy in women around the world. In Saudi Arabia, a total of 6,922 female BC cases were recorded in the Saudi Cancer Registry during the period from 2001-2008. Eastern province has the highest prevalence rate in Saudi Arabia at 26.6 per 100,000 women, followed by Riyadh 20.5 then other regions. **Materials and Methods:** Cross sectional study, was carried out on random, adult females 18 years old or more in eastern province, Saudi Arabia. They were approached to participate in a questionnaire about BC. The questionnaire (either paper or online), consent forms were taken. Data were analyzed by demographic criteria, including age, gender, marital status, and level of education, to determine if there are any difference between them. Statistical analysis: Data were analyzed using Statistical Package for Social Sciences version 23 (SPSSv23). **Results:** In total, 555 participants completed the survey. Most of them believed that screening should begin before the onset of the symptoms (63%). less than one third of participants believed in early menarche, late menopause, and nulliparous. Their answers were varied according to their education levels. Even though, there were some misconceptions with high educated people. **Conclusion:** Although higher education and older individuals tended to answer questions correctly more than others, there is a need to improve the knowledge about the BC and its screening guidelines to encourage them to go through these tests. A national education program in Saudi Arabia is recommended to improve BC knowledge.

### Introduction

Breast cancer (BC) is the most common type of malignancy in women around the world, Information on the incidence and mortality of BC is essential for planning health measures, According to GLOBOCAN, it is the most common cancer in women, for 25.1% of all cancers<sup>(1)</sup>. In the Western world, BC is the most frequent cancer type in females<sup>1</sup>, in Saudi Arabia, a total of 6,922 female BC cases were recorded in the Saudi Cancer Registry during the period from 2001 to 2008<sup>(2)</sup>. The highest overall percentages (38.6% and 31.2%) of female BC cases were documented in women who were 30–44 and 45–59 years of age, respectively. Eastern province has the highest prevalence rate in Saudi Arabia at 26.6 per 100,000 women, followed by Riyadh 20.5 and Makkah at 19.4, then other regions<sup>(3)</sup>. Our knowledge and understanding of the molecular events relating to BC biology and pathogenesis has greatly increased over the last 10 years<sup>(4)</sup>. The development of BC involves several types of genes that need to be inactivated or activated in order to promote malignancy. The sequential steps in gene alterations with respect to tumor progression are not clear and are far less well understood than what is currently the best example of tumor progression that is, colo-

rectal carcinoma, and breast cancer is sometimes associated with predisposing mutations in the germ line but is essentially a somatic cell genetic disease<sup>(4)</sup>.

The incidence and mortality rates for BC differs according to ethnicity, despite huge improvements in BC treatment and overall survival rates, there still remains some interesting differences according to racial background, and by race. In general, it is safe to say that the incidence of BC has increased over the years, while the mortality rates have decreased<sup>(5)</sup>. In general, BC incidence in developed countries is higher, while relative mortality is greatest in less developed countries. This is probably due to better screening programs and increase awareness about the importance of Self Breast Examination (BSE) and improves targeted therapy<sup>(6)</sup>. Some studies speculated that certain racial groups are genetically more or less predisposed to BC development. However, other medical experts point to socio-economic factors to explain the difference in BC incidence and mortality rates<sup>(5)</sup>. Geographic differences for BC incidence were explained by environmental exposures and dietary habits<sup>(7)</sup>. This information was provided by some researches of migrants

moving from low-risk areas to high-risk areas<sup>(8)</sup>. A higher risk of BC was found in consuming a low fiber diet and rich in fat and meat<sup>(9)</sup>, excess body weight and physical inactivity<sup>(10)</sup>. Other causes include genetic predisposition<sup>(11)</sup>. Education of women is suggested in all countries for early detection and treatment. Plans for the control and prevention of this cancer must be a high priority for health policy makers; also, it is necessary to increase awareness of risk factors and early detection in less developed countries. Since the incidence of BC in Saudi Arabia is high, the aim of this work was to determine the level of knowledge and attitude of BC and its risk factors among people who are living in Eastern Province, Kingdom of Saudi Arabia.

**Materials and Methods**

**Study design and study population**

A quantitative, cross sectional study, was carried out on random selected, adult females 18 years old or more living in eastern province, Saudi Arabia. They were approached to

participate in a questionnaire about BC. The questionnaire (either paper or online), consent forms were taken from them, and the questionnaire were developed in the Arabic language. The permission was taken from the College of Medicine, King Faisal University, in Saudi Arabia. This study was done in the period from May to August 2018.

**Statistical analysis**

Data were analyzed using Statistical Package for Social Sciences version 23 [SPSS v23]. Descriptive statistics: frequencies, percentage, means and standard deviation.

**Results**

A total of 555 individuals were chosen from 578 were participated in the study. The consent was taken from them. The including criteria for the current study were all adult females, their age was above 18 years old and those living in Eastern province of Saudi Arabia. Individuals who did not fulfill the criteria were excluded from the study.

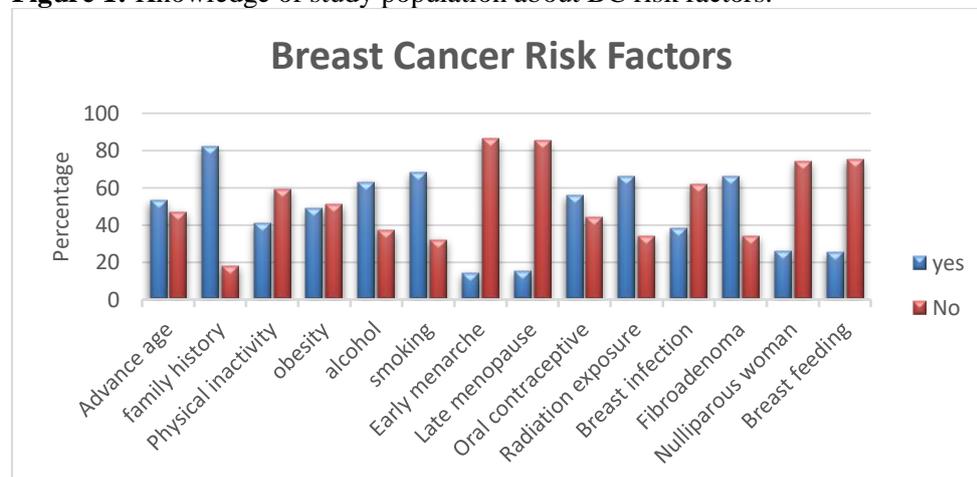
**Table 1:** Detection of Socio- demographic information of the study population.

Age	33.5 ± 10.4 (18-70)*	
Married status	Married	407(73.3%)
	Single	148(26.7%)
Level of education	Primary and intermittent school	41(7.4%)
	Secondary school	131(23.6%)
	University and above	383(69%)
Work or study in a health field	Yes	101(18.2%)
	No	454(81.8%)
Positive family history	Yes	187(33.7%)
	No	368(66.3%)

\*Mean ± stander deviation (Range)

Socio-demographic information is summarized in **Table 1**. This study is for females only because BC is more common in females than males. Mean age was 33.5 with standard deviation of 10.4. Age was ranged from 18 to 70 years. 73% of participants were married, while 69% had university degree or above. About 18% of the participants were studying or working in a health field, and 34% had positive family history of BC.

**Figure 1:** Knowledge of study population about BC risk factors.



**Figure 1. It reflects** participant's level of knowledge about BC risk factors. The result reveals a good level of knowledge since more than half of participant provided the right answers. About two third of respondents identified family history, cigarette smoking, obesity, alcohol, fibroadenoma and radiation exposure as risk factors for BC. Half of the participated considered advance age, physical inactivity, breast infection and oral contraceptive as a risk factor for BC. Moreover, less than one third was early menarche, late menopause, and nulliparous. About 75% agreed that breast feeding is not a risk factor for it.

**Table 2 Behavior of respondents regarding breast cancer prevention**

	Yes	No
In the last year have you change your dietary habits for fear of getting breast cancer	178(32.1%)	377(67,9%)
In the last year have you change your physical activity for fear of getting breast cancer	146(26.3%)	409(73,7%)
did you do breast screening before	226(40.7%)	329(59.3%)
Breast self-examination plays an important role in detecting breast cancer	541(97.5%)	14(2.5%)

**Table 2** summarizes the behavior among participants regarding BC prevention. Most of the participants do not change their behavior about BC. Almost 68% of the respondents did not think to change their dietary habits for fear of BC. While 26% were thinking to change their physical activity. Less than half of them did breast screening despite more than 97% think Breast self-examination is important to detect breast masses.

**Figure 2 Knowledge about BC warning signs**

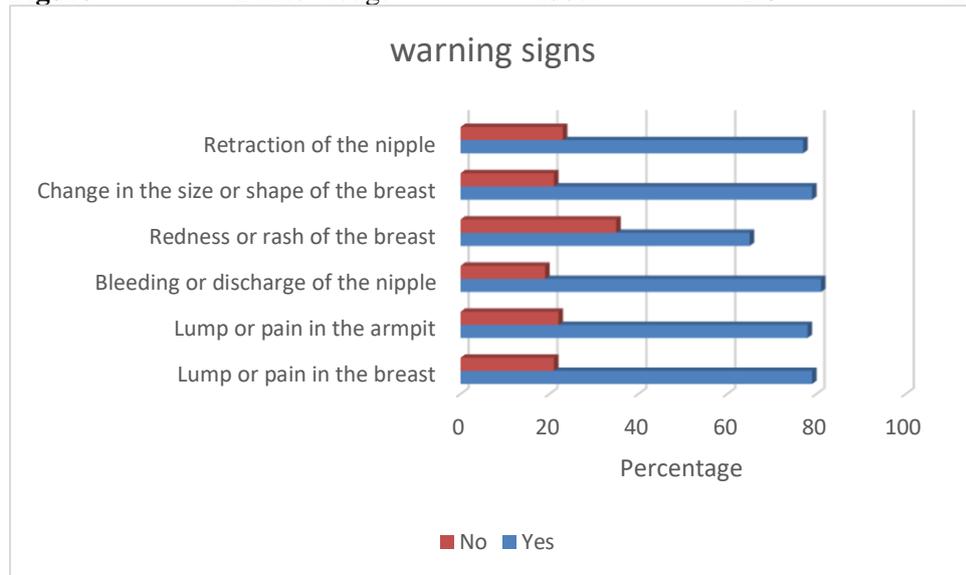


Figure 2 reflects the knowledge about warning signs of BC. The participants showed a good knowledge since the percentage of the right answers closed to 80% in all of them except redness or rash of the breast about 65%.

**Table 3 ideal time for screening**

In average risk woman screening should start by age	40 years	538 (96.9%)
	50 years	13 (2.3%)
	55 years	4 (0.7%)
Screening should be continuing until	As long as in good health	470 (84.7%)
	65 years	35 (6.3%)
	75 years	50 (9.0%)
Recommendation is to screen woman	With symptoms	205 (36.9%)
	Without symptoms	350 (63.1%)
Standard test for screening	MRI	72 (13.0%)
	Mammography	351 (63.2%)
	Digital mammography	132 (23.8%)

Table 3 reflects the participant's knowledge about the proper time for screening in different categories. In average risk only 2% who agree to start screening at age 50years. About 85% of participants agreed to continue screening as long as in a good health. About 63% agreed with start screening without symptoms, and about 63% of participants choose Mammography is the standard test for screening.

### Discussion

With increasing incidence rate of BC, and there are many national attempts to increase the BC awareness through huge campaigns in different Saudi cities, it is important to assess the current knowledge about it. Therefore, we attempted in this study to determine the level of knowledge of BC, including, screening guidelines, risk factors and warning signs, in relation to age, gender, marital status and level of education. This study shows similar results in agreement with previous findings. BSE is an easy procedure and cost-effective way to detect BC in an early stage<sup>(12)</sup>. This study focused on adult females who were living in eastern province, in Saudi Arabia. It concentrated on their awareness and attitude toward BC. It could be crucial to educators, health workers who are responsible for preventable campaigns.

Even though BSE is a simple, easy, and cost-free procedure, the practice of BSE varies in different countries; in England, a study reported that only 54% of the study population practiced BSE. Furthermore, in India, it varied from 0 to 52%<sup>(13)</sup> and in Nigeria, the practice ranged from 19% to 43.2%<sup>(14)</sup>. There are many reasons like lack of time, lack of self-confidence in their ability to perform BSE correctly, fear of discovering a lump<sup>(15)</sup>. In this study, lack of education and awareness about BC were among the commonest reason for not practicing BSE, which is an important screening method for early detection of BC.

Encourage people to perform the screening test elastically for people who have a high risk in

order to diagnose BC at an early stage especially those who have positive family history. From our findings, about 40% of the participants did not received any screening test before which show a poor response which may indicate that the current practice of BC screening in the Eastern Province, Saudi Arabia needs more encouragement through the raise of awareness about the importance of these screening tools and its guidelines to detect the disease at an early stage for better prognosis. In order to decrease the incidence of the disease in Saudi Arabia, there is a need to make more effort by doing campaigns in malls, colleges, hospitals where women can be easily reached, and through mass media i.e. television, the internet, radio, etc.

### Conclusion

We have collected these data from adult females who were living in eastern province, Saudi Arabia varying in the levels of knowledge, attitude and screening of BC, the more educated people, those who are aware of family history of BC, its detection and prevention.

The goal of the current study was to assess the level of knowledge about BC, and there is a need to increase the level of awareness of BC to establish a link between the public, educational institutions, and health centers to intensify and increase the awareness on BC. Therefore, a clear identification and well advanced tools as well as sophisticated measures for early diagnosis of BC, are urgently needed for precise detection, and establishing distinguished screening tests guidelines of BC should be familiar and known by all educational levels of population living in different civilized areas for the prevention and early detection of the BC disease and in order detect the disease at its early stages and improve clinical diagnosis and remedy .

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