

# A cross-sectional study on awareness regarding breast cancer and its screening techniques in field practice area of GMERS Medical College, Dharpur, Patan, North Gujarat, India

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## ABSTRACT

**Background:** Breast cancer is one of the most dangerous and lately diagnosed cancers which precipitate high number of morbidity and mortality. Breast cancer is now the most common cancer in most cities in India. To prevent its occurrence, women should be aware of early signs of it. Early detection can be done by different screening techniques such as self-breast examination, clinical examination, and mammogram. **Objectives:** The objectives of this study were as follows: (a) To assess the awareness regarding breast cancer and their screening techniques among women and (b) to find out the associated factors of breast cancer and their awareness among women. **Materials and Methods:** The study was carried out among 100 women selected by purposive sampling residing in the field practice area of Gujarat Medical Education and Research Society Medical College, Dharpur, Patan, during January 2019–March 2019 after approval of the institutional ethics committee. Self-tested semi-structured questionnaire was used after performing a pilot study. **Results:** Very few female had personal and family history of breast cancer. Awareness regarding breast cancer was found higher in educated as compared to illiterate. Working women had more knowledge regarding the issue than housewife. Awareness regarding how often breast self-examination (BSE) should be performed and what to look for while doing BSE was awareness regarding BSE as a screening tool was found only in half of the study participants. **Conclusions:** The study participants who had personal and family history of breast cancer were well aware of the clinical signs of breast cancer and its screening techniques. Literate and working women were having more knowledge regarding breast cancer. Overall awareness regarding the disease and its screening techniques was low in the study population.


**KEY WORDS:** Breast Cancer; Screening Techniques; Self-breast Examination; Mammogram

## INTRODUCTION

Breast cancer is the most frequent cancer in women globally and represents the second leading cause of cancer death among women. India is going through epidemiologic

transition.<sup>[1]</sup> Breast cancer is now the most common cancer in most cities in India and the second most common in the rural areas.<sup>[2]</sup> It is reported that the incidence of breast cancer is rising rapidly as a result of changes in reproductive risk factors, dietary habits, and increasing life expectancy, acting in concert with genetic factors. Breast cancer is one of the most important diseases for women to know about not only because it is a common or serious disease but also because it is a major concern of many women who do not have the disease.<sup>[1]</sup>

Evidence suggests that older women in the developed countries are more likely to delay their presentation with

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breast cancer,<sup>[3]</sup> whereas other data indicate that factors related to women's knowledge and beliefs about breast cancer and its management may contribute significantly to medical help-seeking behaviors.<sup>[4-6]</sup> Risk factors of breast cancer include non-modifiable risk factors such as gender and aging; genetic risk factors such as BRCA1 and BRCA2, STK11, CDH1, PTEN, CHEK2, TP53, ATM, family and personal history of breast cancer, menstrual periods, previous chest radiation, and diethylstilbestrol exposure; and modifiable risk factors such as number of children, birth control measures (oral contraceptive pills, depot medroxyprogesterone acetate, and hormone therapy after menopause), breastfeeding, marital status, smoking, alcohol, obesity, and physical activity.<sup>[7-8]</sup>

Screening for cancer is examination of people for early stages in the development of cancer even though they have no symptoms. Early diagnosis and treatment can prevent and cure breast cancer which reduces chances of morbidity and mortality. Some screening techniques such as breast self-examination (BSE), clinical breast examination, mammogram, ultrasonography, biopsy, and magnetic resonance imaging can diagnose the disease the earliest.<sup>[9]</sup> Awareness among women is the key for early detection of breast cancer in finding the disease before it gets deteriorated.

This study was conducted to assess awareness among women regarding breast cancer, associated factors, and methods of early detection.

## AIMS AND OBJECTIVES

The objectives of this study were as follows:

(a) To assess the awareness regarding breast cancer and their screening techniques among women and (b) to find out the associated factors of breast cancer and their awareness among women.

## MATERIALS AND METHODS

This cross-sectional study was carried out among 100 women selected by purposive sampling residing in the field practice area of Gujarat Medical Education and Research Society Medical College, Dharpur, Patan, during January–March 2019. Our study was registered and presented in the Institutional Ethical Committee and permission was given to conduct the study. All the 100 women were consented and participated. It was decided to base the study on analysis of result of self-administered questionnaires anonymously. Questionnaires had questions related to awareness regarding factors associated with etiological and prevention of breast cancer. Before starting the study, pilot study was done to test the questionnaire among 10 women. After that, necessary changes were done in questionnaire. Women were asked questions by interviewer as per questions in predesigned

and structured questionnaire after obtaining their informed consent.

## Statistical Analysis

Responses of questionnaires were analyzed with Epi Info 7.0 and MS Excel. Frequencies and percentages were calculated and Chi-square test was applied to find out significance.  $P < 0.05$  was considered as statistically significant.

## RESULTS

The research population included 100 women. The mean age of women was  $39.64 \pm 6.71$  years. Of 100 women, only 6 women (6%) were unmarried and 94 women were married. Among whole study population, approximately two-third (68%) of women were housewives, whereas remaining 32 women (32%) were working in different fields. In addition, 19 study participants were illiterate, 23 women have got primary education, and remaining 58 women studied secondary school and more. Nearly one-fourth (26%) of women were living in joint family and 74 women belong to nuclear family.

Answers of awareness regarding breast cancer are displayed in Table 1. Among 100 study participants, only 10% had a history of breast cancer and 15% had a family history of breast cancer. Of 10 women having a history of breast cancer, eight women had a family history of it ( $\chi^2 = 31.37$ ,  $P < 0.05$ ).

**Table 1:** Awareness regarding breast cancer ( $n=100$ )

Questions	Yes (%)	No (%)	Do not know (%)
Is there any history of breast cancer?	10	90	0
Is there any family history of breast cancer?	15	63	22
Do you know the high-risk cases of breast cancer?	55	45	0
If there is no family history, then do you think you are protected?	8	51	41
Do you know the signs that indicate breast cancer?	59	41	0
Have you ever heard of breast self-examination?	53	47	0
Do you know how often and when should you do the breast self-examination?	31	69	0
Do you know what exactly are you looking for when you do breast self-examination?	37	50	13
Do you know what a mammogram is?	56	44	0

Approximately half (55%) of females were aware of high-risk cases of breast cancer. Very few women (8%) were having knowledge that if there is no family history, they are protected from breast cancer. Nearly three-fourth of female, 76% of women were aware of the signs which indicate breast cancer such as lump in breast (46%), lump in axilla (8%), pain in breast (19%), and skin and shape changes in breast (3%). Awareness regarding BSE as a screening tool was found only in half (53%) of the study participants. Approximately one-third of women (31% and 37%, respectively) were aware of how often BSE should be performed and what to look for while doing BSE. Awareness regarding deferent questions related to blood cancer with literacy status and their occupation is shown in Table 2 and Table 3. It showed higher the literacy status more the knowledge of breast cancer. Working women had more awareness regarding breast cancer as compared to housewife.

All 10 women who had a history of breast cancer and 15 who had a family history of breast cancer were well aware of signs of breast cancer and mammogram. However, only half of those women were aware of the significance of BSE. Only 27% of women underwent mammogram. Nearly three-fourth (75%) of the study participant said that mammogram

is affordable for them. Only 25% of women answered man can also have breast cancer.

## DISCUSSION

In our study, very few female had personal and family history of breast cancer (10% and 15%, respectively). Majority of them (94%) were married. Awareness regarding breast cancer was found higher in educated as compared to illiterate. Working women had more knowledge regarding the issue than housewife. About 76% of women were aware of the signs which indicate breast cancer. Awareness regarding how often BSE should be performed and what to look for while doing BSE was 31% and 37%, respectively. All 10 women who had a history of breast cancer and 15 who had a family history of breast cancer were well aware of signs of breast cancer and mammogram. Awareness regarding BSE as a screening tool was found only in half (53%) of the study participants.

In our study, the mean age of women was  $39.64 \pm 6.71$  years; 81% of women were married. In comparison, the study was done by Montazeri *et al.* revealed that the mean age of the study participants was  $43.4 \pm 14.4$  years; most of women were married (85%).<sup>[10]</sup> In the study was

**Table 2:** Comparison of literacy status and awareness regarding breast cancer

Questions	Awareness	Education			$\Sigma^2$	P value
		Illiterate (%)	Primary (%)	Secondary and more (%)		
Do you know the high-risk cases of breast cancer?	Aware	4 (4)	10 (10)	41 (41)	15.84	0.001
	Unaware	15 (15)	13 (13)	17 (17)		
If there is no family history, then do you think you are protected?	Aware	2 (2)	2 (2)	4 (4)	0.27	0.87
	Unaware	17 (17)	21 (21)	54 (54)		
Do you know the signs that indicate breast cancer?	Aware	8 (8)	18 (18)	50 (50)	15.34	0.001
	Unaware	11 (11)	5 (5)	8 (8)		
Have you ever heard of breast self-examination?	Aware	5 (5)	13 (13)	35 (35)	6.8	0.03
	Unaware	14 (14)	10 (10)	23 (23)		
Do you know what a mammogram is?	Aware	6 (6)	12 (12)	38 (38)	6.86	0.03
	Unaware	13 (13)	11 (11)	20 (20)		

**Table 3:** Comparison of occupation and awareness regarding breast cancer

Questions	Awareness	Occupation		$\Sigma^2$	P value*
		Housewife (%)	Working (%)		
Do you know the high-risk cases of breast cancer?	Aware	32 (32)	23 (23)	5.41	0.02
	Unaware	36 (36)	20 (20)		
If there is no family history, then do you think you are protected?	Aware	2 (2)	6 (6)	5.39	0.02
	Unaware	66 (66)	26 (26)		
Do you know the signs that indicate breast cancer?	Aware	46 (46)	30 (30)	6.7	0.01
	Unaware	22 (22)	2 (2)		
Have you ever heard of breast self-examination?	Aware	28 (28)	25 (25)	11.92	0.001
	Unaware	40 (40)	7 (7)		
Do you know what a mammogram is?	Aware	28 (28)	28 (28)	17.11	0.001
	Unaware	40 (40)	4 (4)		

\*P value < 0.005

done by Gupta *et al.* showed that 94% of women did not have personal history and 90% of women had no family history of breast problems. In our study, almost same result was observed. About 90% of women had no personal and 85% of women had no positive family history.<sup>[11]</sup> Our study observation reflected that 19% of women were illiterate, same findings were observed in a study done by Rao *et al.* Same study showed that 63.5% of women were housewives. In comparison, our study showed that the same percentage (68%) of women was housewife.<sup>[12]</sup> Overall awareness regarding self-breast examination (SBE) was found to be 33% in a study done by Gupta. Our study showed that higher percentage (53%) of women were aware of SBE.<sup>[13]</sup> Working women had good knowledge regarding all aspects of breast cancer and measure to be taken to prevent it. The study showing such relevance of occupation and awareness regarding breast cancer was not done before. Literate women had good knowledge regarding breast cancer and their diagnostic techniques as compared to illiterate women in our study. Same relation was found in a study done by Montazeri *et al.*<sup>[10]</sup> In our study, approximately 53% and 56% of women were aware of BSE and mammography, respectively. About screening of breast cancer awareness was also very less in a study done by Montazeri *et al.* Only 21% and 9% have, respectively, heard about BSE and mammography.<sup>[10]</sup> In another study done in the UK, the awareness regarding SBE was found to be nearly 70% which is quite higher than two studies.<sup>[14]</sup>

### Strength and Limitation

Strength of the study was that it was community-based study and performed by self-tested semi-structured questionnaire. Limitation was the time constraint and low sample size. For getting further elaborative details regarding awareness regarding breast cancer, descriptive study can be done.

### Recommendations

Awareness regarding breast cancer should be increased by Information, Education, and Communication and Behavioral Change Communication activities. In general population, there are still some misconceptions and taboos regarding such sensitive issue which has high mortality and morbidity. Those can be overcome by proper health education. Paramedical and field staff should be taught about SBE to increase the span of our reach in terms of awareness regarding breast cancers which will help us to diagnose the disease the earliest.

### CONCLUSIONS

Only few study participants had personal and family history of breast cancer but who had such history was well aware of the clinical signs and screening techniques. Awareness regarding breast cancer was higher among literate and

working women as compared to illiterate and housewife. Awareness regarding signs of breast cancer was on higher side in our study population. Only half women were aware of screening techniques of breast cancers such as SBE and mammogram.

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