

Breast Cancer Awareness and Determinants of Delayed Presentation Among Women in Santhal Pargana, Jharkhand: A Tertiary Care-Based Study

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Abstract:

Background: Breast cancer is the second most common and feared cancer globally. In India, most cases are diagnosed at advanced stages, primarily due to a lack of screening, awareness, and education. This study aims to assess breast cancer awareness and the barriers preventing women in the Santhal Pargana region (Jharkhand) from seeking timely medical attention.

Material and Methods: A hospital-based cross-sectional study was conducted, enrolling 200 women after obtaining informed consent. Data were collected using a questionnaire administered in the local language.

Result: The majority of the participants were between the ages of 25 and 34 years, with 35% being illiterate. A concerning 89.5%, 93%, and 94% of participants were unaware of breast self-examination, clinical breast examination, and mammography, respectively. Furthermore, many women reported challenges in accessing healthcare, which led to delays in seeking treatment.

Conclusion: This study highlights a significant lack of education and awareness about breast cancer among women in Santhal Pargana, with over 50% unaware of breast cancer or breast self-examination. Addressing these barriers through targeted awareness programs and screening initiatives is essential to improve early detection and reduce the disease burden in this region.

Keywords: Breast Cancer, Breast Self-Examination, Mammography, Knowledge, Practice.

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Introduction

Breast cancer (BC) is a global health problem and is the second most common cancer in the world (after Lung Cancer) [1] and leading type worldwide in terms of the number of new cases. In 2020, over 2.3 million new cases of breast cancer were reported globally, along with 685,000 associated deaths. The incidence of breast cancer is anticipated to increase by more than 40%, reaching an estimated 3 million cases annually, largely due to demographic changes such as population growth and aging by 2040. Concurrently, breast cancer mortality is projected to rise by more than 50%, potentially reaching 1 million deaths per year by 2040. [2]. It was also reported, in India, Jharkhand, a state with a substantial tribal population and the incidence rate of breast cancer being 20.91 per 100,000 women [3]. In Indian breast cancer occurs in younger pre-menopausal (40-50 years of age) women, a decade younger in comparison to western women. 15–18% Cancers in the young tend to be more aggressive with poor prognosis. It has also been reported that in

developing countries such as India, only about 30% of breast cancer cases are detected at an early stage, whereas in developed countries, early detection occurs in approximately 60–70% of cases [4]. The late-stage diagnosis is alarming and becoming quite frequent, it can be due to a lack of awareness and non-existent BC screening programmes in India. Early detection and treatment of BC increase the chance of survival of patients. For this, woman can be screened with various modalities like breast self-examination (BSE), clinical breast examination (CBE), and mammography. There are very few literatures citing knowledge and awareness of early detection measures of breast Cancer such as BSE [5,6] According to the Breast Health Global Initiative (BHGI), breast disease management can be easier and diagnosed earlier if females have knowledge and awareness of BSE [7,8]. This study was done to assess breast cancer awareness and barriers among women belonging from a

predominant tribal area of Santhal Pargana, Jharkhand.

Aims & Objectives

- 1) To assess level of awareness of Breast cancer among female patients coming in OPD.
- 2) To understand the barriers regarding their presentation for care.

Methodology

Study design: Descriptive, cross-sectional, hospital-based study.

Study site and Study Population: This index study was conducted in women of Santhal Pargana, visiting Surgery OPD, in tertiary medical institution.

Inclusion Criteria

- 1) All females aged above 18 years.
- 2) Giving written consent for the study

Exclusion Criteria

- 1) Biopsy proven breast malignancy
- 2) Critically ill patients necessitating urgent management.

Sample Size: Sample size was calculated to be 200. Assuming that 17% [9] of the subject in the population have the breast cancer awareness, a population size of 600 and an expected response rate of 80% the study would require a sample size of 200, for estimating the expected proportion with 5% absolute precision and 95% confidence. (calculated by using online statistical calculator. <http://statulator.com/SampleSize/ss1P.html>)

Data Collection: All selected patients were included in the study after obtaining informed consent and explaining the objectives and procedures. Each participant completed a questionnaire (Annexure 1) on breast cancer awareness, which contained items adapted from previously published studies by Champion et al. [10]. Permission was obtained for the use of validated questions from copyright holder. In addition, a questionnaire assessing barriers to seeking medical services was administered. The responses of all participants were systematically analyzed and summarized at the conclusion of the study.

Statistical Analysis: Data was entered in excel-sheet and was compared and analyse using descriptive statistics to summarize the finding of study. Data analysis was done on SPSS version 16. Association of the breast cancer awareness was compared by using chi square test. A p-value of < 0.05 was considered significant wherever comparisons were made.

Observations and Results

A total of 200 participants enrolled in the study. In the present study, the majority of participants, 131 (65.5%), were below the age of 45, with a mean age of 39.64 ± 13.36 years (Table 1). Most participants were married, with 186 (93%) reporting marital status, and the majority were housewives, 165 (82.5%). Regarding educational status, 34.5% of participants had completed senior secondary education (SSCE), followed by 31.5% with no formal education, 20.5% with junior secondary school (JSS) education, 7.5% with primary school education, and 6% with tertiary education (graduates). It was also observed that the practice of BSE was uncommon among married women, with 96.8% not engaging in the practice. This finding was statistically significant ($P = 0.001$). Furthermore, participants with lower educational qualifications demonstrated a lack of awareness about BSE, which was also statistically significant ($P = 0.005$). Additionally, among the various occupational groups, housewives were notably less aware of BSE, a finding that was statistically significant ($P = 0.001$) (Table 1). In the present study, majority of the participants (89.5%) never heard of BSE, only 10.5% of participant are heard about BSE, out of 20 only 12 participants know about how to do BSE. The Participants get information about BSE by their teachers, doctors, nurses, friends and daughter. (Table2). It was also seen in the study, among all the participants who had responded, the married women (176 out of 200) were not aware (94.62%) of clinical breast examination which was also found to be statistically significant, P- Value is 0.0004. It was also seen that out of 200, 158 women were housewives and they were not aware about CBE (Table-3). The women who participated in the survey, majority of married women (186 out of 200) were no aware not known about Mammography (177 out of 186), which was found to be statistically significant ($P=0.01$). The people whose education qualification was low were not aware of mammography, which was also found to be statistically significant ($P=0.04$). Among the occupational status of the participants, majority (157 out of 165) housewives were not aware of the mammography, which was also found to be statistically significant, P- Value is 0.008 (Table-4). In the study it was also found that out of 200 participants, majority participants 53.5% had various barrier in seeking medical advice regarding breast cancer. Those barriers were embarrassment followed by deny discussing with male doctor followed by fear, transport difficulty, fear, busy to go to doctor, traditional local treatment. Some participants were more than one barrier. (Figure-1).

Table 1: Association between characteristics of Participants and practice of BSE

variable	Freq.	Yes (%)	No (%)	Chi square	P value
Age					
15- 24	23	3(13.04)	20(86.96)	7.157	0.12
25- 34	60	0(0)	60(100)		
35-44	48	2(4.17)	46(95.83)		
45-54	40	2(5)	38(95)		
>=55	29	2(6.9)	27(93.1)		
Marital status					
single	10	3(30)	7(70)	16.02	0.001
married	186	6(3.33)	180(96.77)		
divorced	1	0(0)	1(100)		
widowed	3	0(0)	3(100)		
Highest educational level					
No formal education	63	0(0)	63(100)	14.86	0.005
Primary school completed	15	0(0)	15(100)		
JSS completed	41	0(0)	41(100)		
SSCE completed	69	7(10.14)	62(89.96)		
Tertiary school completed	12	2(16.66)	10(83.33)		
Occupation					
housewife	165	4(2.42)	161(97.57)	15.92	0.001
student	11	3(27.27)	8(72.72)		
Working women	24	2(8.33)	22(91.66)		
relative diagnosed with breast cancer?					
yes	9	1(11.11)	8(88.88)	0.95	0.32
no	191	8(4.19)	183(95.81)		

Table 2: Knowledge of breast self-examination among participants

Variables	Frequency(n)	Percentage (%)
1.Ever heard of breast self-examination (BSE)? (n=200)		
yes	21	10.5
no	179	89.5
2.Is BSE a useful tool for early detection of breast cancer? (n=200)		
yes	21	10.5
no	179	89.5
3.have you been taught how to do BSE? (n=200)		
yes	12	6
no	188	94
4.If yes who taught you? (n=12)		
teacher	4	33.33
doctor	3	25
nurse	2	16.66
friends	1	8.33
daughter	2	16.66
5. At what age BSE be started? (n=12)		
From puberty	3	25
From 20 years	2	16.66
After menopause	1	8.33
No idea	6	50
6. how often should BSE be done? (n=12)		
daily	1	8.33
weekly	1	8.33
monthly	3	25
No idea	7	58.33
7.what is the best time to do BSE? (n=12)		
During menstrual flow	1	8.33
A week after period	3	25

No idea	8	66.66
8. BSE should be done by-(n=12)		
doctor	1	8.33
The individual	10	83.33
No idea	1	8.3
9.BSE is done by-*(n=12)		
inspecting the breast in the mirror	8	66.66
feeling the breast with the hand	8	66.66
feeling the armpit with the hand	5	41.6
No idea	2	16.66

Table 3: Association between characteristics of Participants and awareness about CBE

Variable	frequency	Yes (%)	No (%)	Chi square	P value
Age					
15-24	23	3(13.04)	20(86.96)	1.9	0.75
25-34	60	4(6.66)	56(93.33)		
35-44	48	2(4.16)	46(95.83)		
45-54	40	3(7.5)	37(92.5)		
>=55	29	2(6.89)	27(93.10)		
Marital status					
single	10	4(40)	6(60)	17.78	0.0004
married	186	10(5.37)	176(94.62)		
divorced	1	0(0)	1(100)		
widowed	3	0(0)	3(100)		
Highest educational level					
No formal education	63	4(6.34)	59(93.65)	7.432	0.114
Primary school completed	15	0(0)	15(100)		
JSS completed	41	2(4.87)	39(95.12)		
SSCE completed	69	5(7.24)	64(92.75)		
Tertiary school completed	12	3(25)	09(75)		
Occupation					
housewife	165	7(4.24)	158(95.75)	11.79	0.008
student	11	2(18.18)	9(81.81)		
Working women	24	5(20.83)	19(79.17)		
Any relative diagnosed with breast cancer?					
yes	9	0(0)	9(100)	0.7	0.39
no	191	14(7.32)	177(92.67)		

Table 4: Association between characteristics of Participants and awareness about mammography

variable	frequency	Yes (%)	No (%)	Chi-square	P value
Age					
15-24	23	3(13.04)	20(86.96)	7.05	0.13
25-34	60	2(3.33)	58(96.66)		
35-44	48	2(4.16)	46(95.83)		
45-54	40	1(2.5)	39(97.5)		
>=55	29	4(13.79)	25(86.20)		
Marital status					
single	10	3(3)	7(70)	10.91	0.01
married	186	9(4.83)	177(95.16)		
divorced	1	0(0)	1(100)		
widowed	3	0(0)	3(100)		
Highest educational level					
No formal education	63	4(6.34)	59(93.65)	9.95	0.04
Primary school completed	15	0(0)	15(100)		
JSS completed	41	3(7.31)	38(92.68)		
SSCE completed	69	2(2.89)	67(97.10)		

Tertiary school completed	12	3(25)	9(75)		
Occupation					
housewife	165	8(4.85)	157(95.15)	11.79	0.008
student	11	2(18.18)	9(81.81)		
Working women	24	2(8.33)	22(91.67)		
Do you have a relative diagnosed with breast cancer?					
yes	9	1(11.11)	8(88.88)	0.70	0.39
no	191	11(5.75)	180(94.24)		

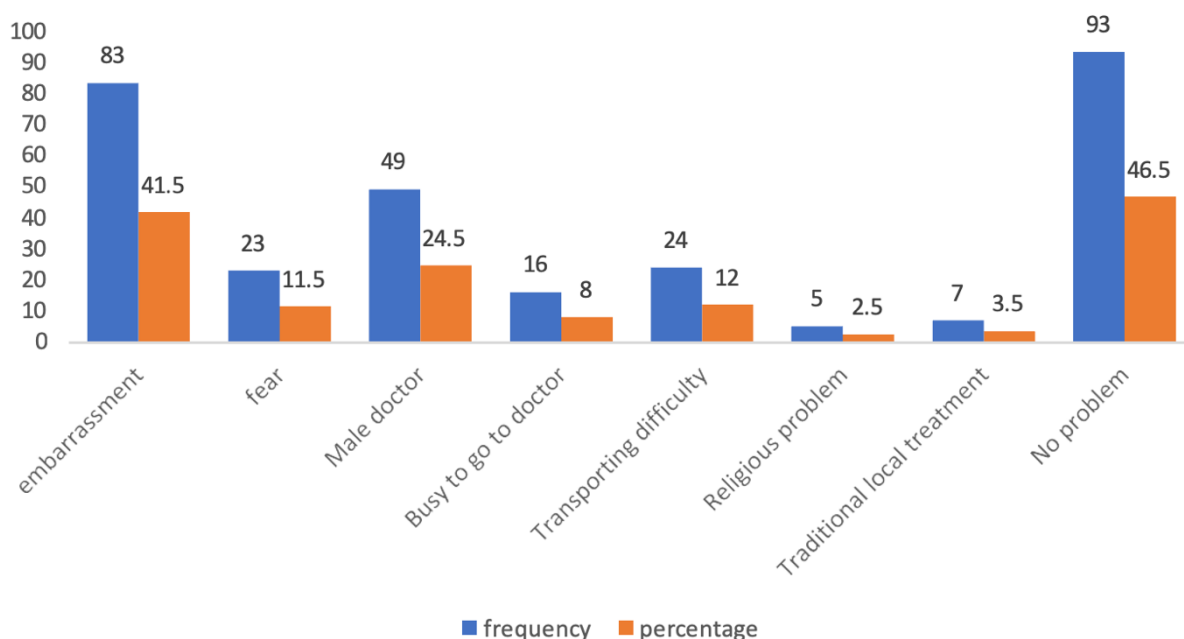


Figure 1: Barriers seeking medical advice.

Discussion

Carcinoma of breast is one of most destructive and dreaded of all breast diseases affecting women. It is the second most prevalent cancer and a leading cause of mortality among women worldwide [11]. The risk of developing breast cancer significantly increases in middle-aged and elderly women compared to younger women. In India, breast cancer accounts for 19-34% of all cancer cases among women [12]. However, in developing countries like India, early detection remains a challenge, with only 30% of cases identified at an early stage, compared to 60-70% in developed nations. In India, most breast cancer patients are diagnosed at a locally advanced or metastatic stage, contributing to the stigma surrounding the disease. Women in India often seek medical care only in the advanced stages, when mortality rates are higher, largely due to a lack of knowledge and awareness. Several factors contribute to the delayed presentation of breast cancer, including widespread myths, ignorance, poor health-seeking behaviours, and social shyness, all of which foster an unrealistic fear of the disease [13].

In developing countries like India, fostering adequate knowledge and a positive attitude within communities is crucial for the early detection and effective screening of breast cancer. Screening methods such as breast self-examination (BSE), clinical breast examination (CBE), and mammography are essential in reducing breast cancer-related mortality. The American Cancer Society (ACS) recommends CBE and mammography for the early detection of breast cancer and suggests that women begin practicing BSE in their early twenties [14]. Early detection significantly improves survival rates, potentially reaching up to 95%, as outlined by the Breast Health Global Initiative Guidelines [15]. While the ACS no longer recommends BSE due to its limited impact on survival rates, BSE remains a valuable alternative in rural areas where access to CBE and mammography is restricted [16]. Studies, such as a cohort study conducted in Finland and a case-control study in Canada, support the potential benefits of BSE in reducing mortality across various age groups [17, 18]. Additionally, a KAP (Knowledge, Attitude, Practice) study on breast cancer, conducted by Sinha KV et al. at a tertiary care hospital in Rohtas, Bihar, enrolled 400 women and found that 82.75% lacked

knowledge about breast cancer, with almost all participants believing that CBE by doctors was the sole method for detection [8]. Similar findings were observed in our study, which showed that the majority of participants were in the 25-34 age group (30%), with most being housewives (82.5%), followed by working women (11.5%), students (5.5%), and nurses (0.5%). In our study, the majority of women were illiterate (35%), followed by those educated up to the SSCE level (31%), junior secondary school (JSS) level (20.5%), primary school level (7.5%), and the least educated up to the graduate level (6%). The study also revealed that a significant number of participants were unaware of breast cancer (53.5%), had not heard of BSE (89.5%), were unfamiliar with CBE (93%), and lacked awareness of mammography (94%). Moreover, the study highlighted several barriers that rural women in Santhal Pargana face, which delay their presentation to healthcare providers. The most common barriers included embarrassment (35%), discomfort with male doctors (24.5%), and logistical issues such as a busy schedule, transportation difficulties, religious constraints, and reliance on traditional local treatments. Promoting positive healthcare behaviours is essential in increasing health awareness, removing barriers to healthcare access, and improving health-seeking behaviours within this population.

Conclusion: This study demonstrated that there is extremely very low grade of knowledge and awareness among women in Santhal Pargana regarding Breast cancer and its screening. Also, it was shown that more than 50% of study population having Barrier (male doctor>embarrassment>fear>religious problem>traditional local treatment) seeking medical advice. This is because of lack of proper knowledge among rural population regarding breast cancer. Overall, We should implement major policy changes to increase awareness and reduce barriers to seeking medical advice by organizing health awareness campaigns about breast cancer. These initiatives will have a positive impact on reducing the disease burden among women in Santhal Pargana.

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