

## Breast Cancer Awareness among Females of Reproductive Age Group in Rural Area: A Cross-Sectional Study

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### Abstract:

**Background:** Breast cancer is a significant global health issue, affecting millions of people around the world. In developing countries like India it accounts for a significant proportion of all cancer cases in country. Lower awareness about breast cancer in rural women reduces their chance of detecting breast cancer symptoms.

**Aim and Objective:** To know awareness regarding breast cancer among female of reproductive age group of field practice area of RHTC. Material and Method : A cross-sectional study was conducted among women of reproductive age group, included total of 380 participants were included in the study, by simple random sampling. After getting informed consent and following inclusion and exclusion criteria.

**Results:** In the study population it was observed 40.8% of the population were aware about breast cancer. Near about  $\frac{3}{4}$ <sup>th</sup> of the study population (76%) were unaware about screening methods for breast cancer. Majority of the study participants (64.1%) were unaware about any risk factors of breast cancer, Near about one third of study participants (74.7%) were unaware about health care services available for breast cancer.

**Conclusion:** The level of awareness of breast cancer among women of reproductive age of rural area is extremely low. Due to the high illiteracy rate and poor socio economic status among the study population of rural area affecting the awareness about breast cancer.

**Keywords:** Breast cancer, Reproductive age group, lump in breast, Nipple retraction etc.

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### Introduction

Breast cancer is a significant global health issue, affecting millions of people around the world. According to the World Health Organization (WHO), around 2.3 million new cases of breast cancer were diagnosed globally in 2020. Incidence of breast cancer varies across different regions of the world. Developed countries generally have higher incidence rates compared to developing

countries. However, breast cancer rates are rising in many developing nations due to changing lifestyles and increase life expectancy. In developing countries like India it accounts for a significant proportion of all cancer cases in country. According to the Indian Council of Medical Research (ICMR), Breast cancer accounts for approximately 25% of the all female cancer

cases in India. Incidence of breast cancer in India has been increasing over the years. It accounts for 19% to 34% of all cancer cases among Indian women.[1] In India, it is the most common cancer and its incidence in rural areas is twice that in urban.[2] This rise can be attributed to various factors, including changing lifestyles, delayed childbearing, urbanization, adoption of western dietary patterns, hormonal factors and increased life expectancy. There are regional variations in breast cancer incidence within India. Urban areas and developed states tend to have higher incidence rates compared to rural areas and less developed states. However, with changing lifestyles and access to healthcare, the incidence rates in rural areas are also increasing.

The risk of breast cancer increases with age. The majority of breast cancer cases occur in women over the age of 50. However, it can affect women of all age group including younger women. This variation in age distribution necessitates screening and awareness programs targeted at different age groups. Among the reproductive age group, typically defined as women aged 15 to 49 years, is a relatively less common occurrence compared to the older age groups. However it is still important to understand the epidemiology in this population. It has long been known that women whose mother or sisters had breast cancer have a higher risk of developing in the disease themselves. Recently, it has been discovered that breast cancer can develop when a woman inherits a breast cancer susceptibility gene from one of her parents. The gene account for about 10 percent to all breast cancer cases and in families that have this gene, the risk of breast cancer can be very high. However, it is important to realize that 85-90 percent of breast cancers are not hereditary. The female hormones estrogen and progesterone are involved in breast cancer formation. It is known that women who start to menstruate at an early age, or who

have a late menopause have a higher risk of breast cancer than women who do not. It is also known that women who take hormone replacement therapy after menopause have an increased risk of breast cancer [3,4]. Studies show that out of three available screening methods (mammography, clinical breast examination, and breast self-examination), only mammography for women 50-69 years of age has been effective at reducing mortality, and has done so by an estimated 23% [5].

The risk of breast cancer could be reduced especially the modifiable risk factors, through controlling weight, alcohol consumption, regular physical activity, and proper diet.[6] The poor awareness, wrong beliefs and availing health care at a late stage in the disease of breast cancer among this age group, where made treatment is most ineffective, negative perception of the curability of a cancer detected early [7, 8]. Promotion of women's awareness about breast cancer and its symptoms can encourage them to perform better and timelier breast self-exams, but lower awareness about breast cancer in rural women reduces their chance of detecting breast cancer symptoms, causing the breast cancer to be detected at an advanced stage [9]. Breast cancer is the most common female cancer worldwide including India, where advanced stages at diagnosis, and rising incidence and mortality rates, make it essential to understand cancer awareness in women. Thus present study has undertaken to know awareness regarding breast cancer among female of reproductive age group of field practice area of Rural Health Training Centre of the Medical Institute to understand the present status and provide a baseline for future research work and strategies to reduce the incidence of breast cancer.

#### **Objectives of the study –**

To find out awareness level regarding –

- Risk factors of breast cancer
- Symptoms of breast cancer

- Treatment modalities available for breast cancer
- Preventable nature of breast cancer
- Available health care services related to breast cancer in nearby area.

among females of reproductive age group residing under field practice area of RHTC of tertiary care hospital.

### Material and Method

A cross-sectional study was conducted among women of reproductive age group residing in the field practicing area, Rural Health Training Centre of a private Medical Institute of south India region for period of six months. A total of 380 participants were included in the study, by simple random sampling. After getting informed consent and following inclusion and exclusion criteria. data was collected using a pretested and pre validated questionnaire by interview method.

### Inclusion Criteria-

1. Reproductive age group (15 to 49 Years)
2. Residents of rural field practice area of RHTC of Medical Institute

3. Women who were willing and who gave consent to participate in the study

### Sample Size

Sample size was calculated based on the prevalence of awareness among women in rural area conducted in a region of South India.[10} which was 45%. Considering this proportion sample size was calculated, at 5% level of significance and 80% power of the study was 380.

### Statistical Analysis

Collected data were entered in the Microsoft excel for further statistical analysis. Quantitative data were expressed in the form of mean and standard deviation while categorical variables were expressed in the form of frequency and proportion. Statistical analysis were performed with the help of statistical software Epi-info 7 software.

### Results and Observation

In the present study we have included total 380 participants from field practice area of Rural Health Training Centre. The demographic profile of the study population is given bellow.

**Table 1: Demographic profile of study population**

Parameter	Frequency	Percentage
<b>Age</b>		
< 20 years	42	11.1
21-30 years	184	48.4
31- 40 Years	89	23.42
> 40Years	65	17.1
<b>Marital Status</b>		
Married	328	86.3
Unmarried	26	6.8
Widowed	10	2.6
Divorced	16	4.2
<b>Education</b>		
Illiterate	61	16
Primary level	37	9.7
Secondary level	19	5
Intermediate	167	43.9
Graduate	73	19.2
Post Graduate and higher	23	6.1
<b>Occupation</b>		

Housewife	316	83.2
Job, Agriculture or other	64	16.8
<b>Socio Economic Status(Modified BG Prasad SES Scale)</b>		
I- Upper class	12	3.2
II- Upper middle class	32	8.4
III- Middle class	73	19.2
IV- Lower middle class	176	46.3
V- Lower class	87	22.9

The present study observed that majority of the population were lying in the age group of 21-30 years and followed by 31-40 years , more than 40 years and less than 20 years respectively.

Nearly 90% of the study population found to be married. In the study area the present study observed that 16% of the population was illiterate and 9.7% and 5% were

educated upto primary and secondary school level respectively. Total 6.8% of study participants were unmarried and 83.2% of the study population were housewives.

Near about half of the study participants were belonging to lower middle class according to Modified BG Prasad SES classification.

**Table 2: Awareness about breast cancer**

Parameter	Frequency	Percentage
<b>Do you know anything about Breast Cancer?</b>		
Yes	155	40.8
No	225	59.2
<b>Do you know any symptoms of breast cancer?</b>		
Lump in breast	38	10
Discharge from Nipple	23	6.1
Change in shape, size of breast	15	3.9
Breast pain	57	15
Nipple retraction	26	6.8
Redness and engorgement	34	8.9
Don't Know	225	59.2
<b>Do you about screening methods for breast cancer ?</b>		
Mammography	37	9.7
Biopsy	68	17.8
Breast self-examination	54	14.2
No	289	76
<b>Is breast cancer Preventable?</b>		
Yes	63	16.6
No	317	83.4
<b>Is breast cancer treatable ?</b>		
Yes	133	35
No	247	65
<b>Do you know any treatment for breast cancer?</b>		
Chemotherapy (Medical)	24	6.3
Radiation Therapy	16	4.2
Surgical Therapy or removal of Breast	62	16.3
Hormonal Therapy	08	2.1

<b>Do you know about the risk factors of breast cancer?</b>		
Old age	88	23.1
Family history	63	16.5
Early menarche and late menopause	18	4.7
Late first pregnancy	15	3.9
Nulliparous female	33	8.6
Drinking alcohol	09	2.3
High fat diet	46	12.1
Prolonged use of OC pills	94	24.7
Obesity	103	27.1
Don't know about any risk factor	246	64.7
<b>Do you know about health care services available for breast cancer near to your place?</b>		
Yes	96	25.26
No	284	74.74

In the study population it was observed 40.8% of the population were aware about breast cancer, among them majority of 15% were aware about symptoms of breast cancer which was breast pain, followed by 10% about lump in breast, 8.9% Redness and engorgement, Nipple retraction 6.8%, Discharge from Nipple 6.1% and only 3.9% of the women were aware about change in shape and size of breast. About 9.7% of study population were aware about screening methods like mammography, 17.8% were aware about biopsy and 14.2% knew about breast self-examination. Near about  $\frac{3}{4}$  <sup>th</sup> of the study population (76%) were unaware about screening methods for breast cancer. Around 16.3% of the study population think that if breast cancer occurs it can be treated only surgically, but 6.3%, 4.2% and 2.1% of the participants were aware about other treatment like chemotherapy, radiation therapy and hormonal therapy. Majority of the study participants (64.1%) were unaware about any risk factors of breast cancer while awareness about risk factors was like obesity (27.1%), prolonged use of oc pills before first pregnancy (24.7%), old age (23%), family history (16.5%), high fat die (12.1%), nulliparous female (8.6%) Less than 5% of study participants were aware about risk factors like early menarche, late menopause, late first

pregnancy, drinking alcohol. Near about one third of study participants (74.7%) were unaware about health care services available for breast cancer near to their place as shown in Table no. 2

### Discussion

NFHS-4 data provide sufficient opportunity to study about screening of common cancers especially breast cancer among women aged 30-49 years. In our study this particular age group was selected for the current analysis as the World Health Organization (WHO) has recommended that all the women in this age group should be screened at least once for breast cancer. Majority, of the women were not aware about the breast cancer. Presumably, it is ideal for women to examine and feel their breasts for its shape, size and consistency. Any deviation from the normal should lead to a suspicion of breast related disorders or cancer. The best period for knowing is after the completion of menstrual period or during reproductive age. The present study supports the study done in field practice area which states awareness of breast cancer.

In the present study more than three-fourth of women were currently married and only 13.6% were widows or divorcee or unmarried. It was slightly more than other studies.[11, 12]The result from this study

also showed that there was a clear link between education of women and awareness of breast cancer. In our study we observed that around 40.8% of the study participants were aware about breast cancer, and most of these women had their education level graduate, post graduate and higher. Study conducted by Gomes showed 55.90% respondents heard about breast cancer [13] but in their study they have not explain about awareness about breast cancer. Similarly, in another study, 71.8% of the women have found to know about breast cancer.[14] However, the scenario was observed completely different in a community-based study, conducted in Mumbai, India where nearly half of the participants did not hear about this type of cancer.[15] The difference could be due to the difference in target participants and study location. Funga ML et al[16] observed that 64.3% of study participants were aware of breast cancer, our study finding were lower than these studies, this is most likely due to sample size, study setting, socio-cultural characteristics of respondents. In addition, participants received health education during multiple visits to the health facility to immunize their child. One more study from India conducted by Pydipalli M et al. [10] Out of 60, 38 women had some knowledge regarding cancers and less than half were aware of breast cancer (45%) which is consistent with our study. The low awareness of breast cancer among women calls for the need to promote the awareness of breast cancer, especially in vulnerable and at-risk populations. In the present study those who were aware about breast cancer, knows about signs and symptoms of breast cancer. Majority of the aware women knows that breast pain is the sign of breast cancer followed by lump in breast, Redness and engorgement, Nipple retraction, Discharge from Nipple and Itching and about change in shape and size of breast. According to the study conducted by Mehajabin et al[17] observed in their study that participants were aware and identified

a number of symptoms where pain in the breast had taken as the most known symptom which was supported to present study. On the other hand, in the same study a low percentage of women considered pulling, inversion of the nipple, lump under the armpit, discoloration of the breast, and change in shape as the symptom of breast cancer. The literature stated that the majority of the participants were not aware of changes in breast shape, nipple inversion, change in colour of the nipple, etc. as dangerous symptoms.[18] Nonetheless, a study in North India assessed that two-fourths of the population identified a change in shape, and less than half was detected nipple discharge.[19]. The study conducted by Brijesh Sathian et al[20] observed that, participants were aware of breast cancer warning signs of breast cancer, also they were aware of other breast cancer warning signs such as bleeding or discharge from the nipple, dimpling of the breast skin, changes in the size of breast or nipple and pulling in the nipple.

The present study reveals that among the study population only 16.6% of the women were aware about breast cancer is preventable and 35 % of the women were aware about it is treatable which is low compared to other studies. Present study shows that about 9.7% of study population were aware about screening methods like mammography, 17.8% were aware about biopsy and 14.2% were knowing about breast self-examination (BSE) and near about ¾ th of of the study population (76%) were unaware about screening methods for breast cancer. Study done by Punia et al.[21] observed that 8.7% of women were practising BSE without any knowledge about proper breast self which was supported finding of the present study. In present study also awareness about breast self-examination was very less. Funga ML et al[16] observed that, majority (64.6%) of participants stated that breast cancer was preventable, and they

reported regular screening (53.6%) as a common breast cancer preventive method and 59.1% believed that breast cancer was treatable, these findings of the study were more than our study. According to the study conducted by Afaya et al.[22] found that, increasing age of women was associated with the awareness of breast cancer which supports our study.

So overall we have conducted study to know about awareness about breast cancer among reproductive age group of rural area, also we have found very low awareness about breast cancer, in support of our study by Afaya et al. also found women who resided in rural areas were less likely to be aware of breast cancer. According to the review study conducted by A Gupta on breast carcinoma awareness among Indian women observed that awareness levels on the strongest risk factors related to age at menarche and age at menopause varied from 1% to 21% while 13–58% reported family history as a risk factor for breast cancer. Age at birth of first child were considered to be risk factors by 8–83% of the women. Obesity and overweight were considered to be risk factors by 11–51%. The study results are near about similar to present study but slight variation is due to inclusion of only South Indian participants in present study unlike all the regions of India in that study. In present study around 64.7% study participants were unaware about any single risk factor of breast cancer which may be due to the ignorance towards the disease. Breast cancer can be prevented by avoiding the risk factors but less awareness may increase the incidence of the disease.

The present study has some limitation that, in this study factors like education level and occupation of husbands which may also have impact on awareness of breast cancer.

### Conclusion

From overall observation and discussion with other studies the current study concludes that, the level of awareness of

breast cancer among women of reproductive age of rural area is extremely low. It also concludes that due to the high illiteracy rate and poor socio economic status among the study population of rural area affecting the awareness about breast cancer. Conducting awareness programmes engaging multiple stakeholders of society and health system regarding risk factors, regarding health care services for breast cancer available near the place of people is of utmost importance to adopt appropriate practices for prevention of breast cancer and to improve their health care seeking behaviour.

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