

AWARENESS, KNOWLEDGE, ATTITUDE AND PRACTICES OF BREAST CANCER SCREENING MEASURES AMONG URBAN AND RURAL WOMEN IN ANDHRA PRADESH: A CROSS-SECTIONAL STUDY.

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Abstract - Breast cancer accounted for over a quarter of all malignancies in women worldwide in 2012. Despite the fact that breast cancer is India's most common malignancy, there is no organized national breast cancer screening programmed. Given India's cultural and ethnic diversity, local research on the burden of breast cancer is critical for developing successful context-specific tactics for an early detection breast cancer programmer. This research looked at rural women in AP India's breast cancer knowledge, attitudes, and behaviors. Materials and Procedures: In 2022, community-based cross-sectional research was carried out in Chittoor district, AP state, AP India. Stratified cluster sampling was used to pick 1000 women aged 15 to 50 years (609 rural, 391 urban) as representative of each of the district's eight development blocks. Women were interviewed by trained social workers who gathered demographic and socioeconomic data. Respondents' knowledge of breast cancer and its symptoms, risks, screening techniques, diagnosis, and treatment, as well as their attitudes about breast cancer and self-reported breast cancer screening behaviors, were also examined. To compare the levels of knowledge, attitude, and practice (the outcome variables) between urban and rural respondents, Chi-square and t-tests were used. The connection between socio-demographic characteristics and the outcome variables was investigated using multivariable linear regression. Results: While two-thirds of rural and urban women were aware of breast cancer, only 7% of rural and urban women had heard of breast self-examination. Both rural and urban women had equal levels of knowledge of breast cancer, its symptoms, risk factors, diagnostic options, and therapy.

The opinions of urban women regarding breast cancer screening methods were more favorable than those of their rural counterparts. Knowing more about breast cancer symptoms, risk factors, diagnosis, and treatment was linked to being older, having more education, and working in an office or company. Conclusions: Breast cancer, its symptoms,

and risk factors are poorly understood by women in rural AP India. Breast self-examination is seldom done, despite a strong desire to learn. Breast self-examination may be encouraged by having a positive attitude about screening.

Keywords: Breast cancer - screening - rural - KAP – India.

I. Introduction

Globally, cancer is a serious public health issue, with an estimated 14.1 million new cases in 2012. (International Agency for Research on Cancer, 2012). Lung, female breast, colon, rectum and prostate cancers, and stomach cancers account for about half of all diagnosed cases worldwide (International Agency for Research on Cancer, 2012). While lung cancer is the most frequent cancer in males (17 percent of new cases), breast cancer is by far the most common disease in women (25 percent of new cases) (International Agency for Research on Cancer, 2012). Nearly one million new cancer cases were anticipated in India in 2012. (International Agency for Research on Cancer, 2012). Breast cancer is becoming more common in women, with 145,000 new cases anticipated in 2012. It has surpassed cervical cancer (123,000 cases estimated in 2012) as the most common disease in women in the country (International Agency for Research on Cancer, 2012). In 11 of the country's 13 population-based cancer registries (excluding those among Barshi and Mizoram), breast cancer is now the predominant malignancy in women, according to the India National Cancer Registry Programme (NCRP) (National Centre for Disease Informatics and Research, 2013). From 1982 to 2010, age-adjusted incidence rates (AAR) in cancer registries in Bangalore, Bhopal, Chennai, Delhi, and Mumbai increased statistically significantly. The annual percentage change (APC) in Bangalore increased from 2.4 percent in 1982 to 999 percent in 2013 (Informatics and Research). The AAR increased significantly in the population of 35 to 44 year olds in Bangalore, Chennai, and Mumbai registries, whereas it increased significantly in the population of 45 to 54 year olds in Delhi (National Centre for Disease Informatics and Research, 2013).

Despite epidemiological evidence of an increase in breast cancer incidence, largely from urban registries, the National Cancer Control Programme (NCCP) has failed to implement an organised screening programme. Breast cancer awareness programmes are diverse, with a concentration in metropolitan regions but a deficiency in distant and rural locations. One of the causes for this apathy might be the lack of reliable data on the disease burden of breast cancer in rural regions. Cervical cancer is still more common than breast cancer in the NCRP's sole rural cancer registry in Barshi (National Centre for Disease Informatics and Research, 2013).

Under the National Cancer Registry Programme, a network of registries financed by the Indian Council of Medical Research, a population-based cancer registry was created in Wardha district, Maharashtra, in 2010. This registry collects cancer cases from the district's rural and urban populations. The average yearly incidence of breast cancer cases documented in this registry was 17.9 per 100,000 women between 2010 and 2012, compared to 7.9 per 100,000 women for cervical malignancies. Rural Wardha (15.1/100,000 women) had a lower

breast cancer rate than urban Wardha (23.6/100,000 women). This clearly demonstrates that the incidence of breast cancer in India is changing, especially in rural regions.

According to data from four major cancer centres in India, the majority of women with breast cancer seek medical help for the first time when their disease is advanced (Saxena et al. 2005; Agarwal & Ramakant, 2008). Delays in obtaining medical counsel are caused by illiteracy, misinformation, myths and superstitions, as well as financial restraints. In India, there is currently no organised breast cancer screening programme (Agarwal & Ramakant, 2008). Mammography is provided as a diagnostic option for women who can afford it, however it is only available at major diagnostic centres. Experts from the Breast Health Global Initiative advocated in 2010 that nations with low and low-middle resources prioritise the prevention of locally progressed tumours using resource-appropriate interventions (Anderson et al., 2011). In these situations, screening mammography programmes may not be viable, thus alternate tactics for this population may include public awareness campaigns, breast self-examination, and clinical breast assessment (Anderson et al., 2011).

Women who seek treatment for breast cancer in the early stages have a greater likelihood of survival (Hwang et al., 2013; American Cancer Society, 2014). Women must be aware of the illness signs and easy preventative techniques such as breast self-examination in order to be detected early. As a result, understanding women's attitudes around breast cancer is critical for developing successful breast cancer early detection measures. There is also a need for targeted investigations in specified geographical areas, since political, cultural, socioeconomic, and health-care access differ greatly across states. The goal of this research was to look at the knowledge, attitudes, and practises (KAP) of a rural community in AP india about breast cancer.

II. Materials and Methods

A Study setting

Chittoor district, in the southern section of Andhra Pradesh state in India, was the site of this research.

Primary health centers in the villages and rural hospitals in the blocks offer government health care. The inhabitants are additionally served by a district referral hospital and two medical colleges. Health treatments are also provided by private allopathic, ayurvedic, and homoeopathic practitioners.

Active case reports from various hospitals and pathology labs in the area, as well as from neighboring districts, are used to track cancer cases. Mortality data is also gathered from local government offices and hospitals' death registries.

B Study design

The survey was supposed to be cross-sectional. In 2022, a community-based study was done among women aged 15 to 50 in the Chittoor area, both urban and rural.

c Sample size calculations

A 5% error of margin, 95 percent confidence intervals, and an estimated 50% of women with low understanding of breast cancer screening were used to calculate sample size. The sample size collected was estimated to be 384 women. To account for the cluster design (n=960), a design effect of 2.5 was employed. Finally, the research comprised 1000 girls (61 percent of whom were from rural regions).

D Sampling

A representative sample for the survey was chosen using stratified cluster sampling. An effort was made to enroll 125 to 127 women from each of the district's development blocks (Figure 1). Every fifth ward in each town was selected. The first and final home in each road of the chosen ward were chosen as eligible female responders.

609 women were chosen from rural development blocks. In each development block, five communities were chosen at random. Every chosen hamlet includes eligible responders from the first and final dwelling in each row of houses. The size of the urban and rural populations of specific blocks was taken into account at each level. If any eligible women declined to participate, or if no women lived in the chosen home, the next house in the lane or row was chosen. Only one eligible lady per household was included in the poll.

E Survey instrument

The authors developed a questionnaire based on previous studies (Ferro et al., 1992; Odusanya & Tayo, 2001). The questionnaire was broken down into six parts with a total of 49 questions. The first portion of the interview gathered demographic and socioeconomic data, such as age, employment, education, marital status, and family income. The rest of the survey focused on the participants' knowledge of breast cancer, its symptoms, and risk factors, as well as screening, diagnosis, and treatment options. The poll also asked about respondents' self-reported breast cancer screening habits. Respondents were also asked whether they wanted additional information about breast cancer and in what format they wanted it. The last section of the questionnaire used a five-point Likert scale (Likert, 1932) with 11 questions that included a mix of positive and negative phrases to investigate respondents' views regarding breast cancer.

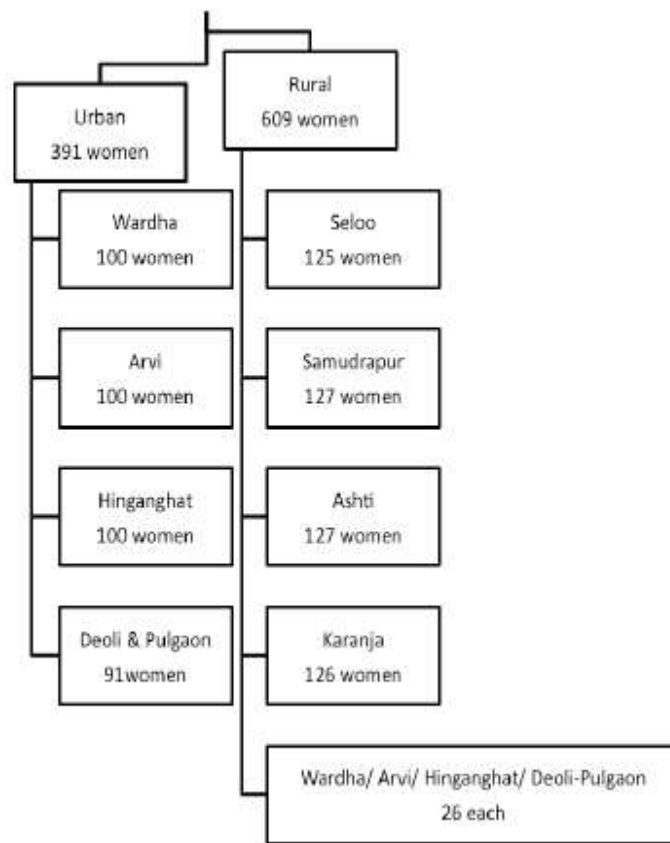


Figure 1. Representation of Survey instrument

The questionnaire was translated into local languages, Telegu and Tamil, by two native English speakers. To verify for any errors in the translation, a backward translation into English was performed. After receiving informed agreement from 20 female relatives of patients, the questionnaires were piloted.

The relatives came from the same geographical locations where the research was conducted. In the final form, certain questions were changed and written differently. The survey's goals were explained to trained social workers who were in charge of conducting interviews in respondents' homes. After talking with them, a few additional adjustments were made to the questionnaire.

F *Data collection*

Two social workers visited the chosen villages and cities every morning and interviewed the research participants jointly. The research was explained to the chosen female responders in full, and informed permission was acquired. In the event that a participant was under the age of 18, informed permission was sought from the legal guardian who was present at the time.

G Data analysis

EPI Info 6.04 software was used to code, input, and sanitise data from all of the surveys (EPI Info 6). Stata 13.1 (Statacorp LP, Texas) was used to analyse them. For descriptive data, frequencies and proportions were computed, and comparisons between rural and urban women were done for each variable.

Table 1. Knowledge, Attitude and Practices about Breast Cancer in Women in Wardha District

Parameter	Rural women Number (%)	Urban women Number (%)	Test (p -value)*
Awareness about breast cancer	384 (63.0)	268 (68.5)	3.16 (0.08)
Awareness about breast self-examination	32 (5.3)	27 (6.9)	2.37 (0.50)
Knowledge of breast cancer symptoms and risk factors			
Score 0	233 (38.2)	132 (33.7)	2.09 (0.35)
Score 1 to 3	264 (43.3)	183 (46.8)	-
Score 4 to 7	112 (18.3)	76 (19.4)	-
Mean	1.73	1.93	-1.65(0.09)
Knowledge about breast cancer diagnosis and treatment			
Score 0	2 (0.3)	1 (0.2)	1.36 (0.50)
Score 1 to 3	309 (50.7)	184 (47.0)	-
Score 4 to 7	298 (48.9)	206 (52.6)	-

Mean	3.43	3.6	-1.71(0.08)
Attitude towards breast cancer, treatment and screening			
Score -22 to -1	27 (4.4)	15 (3.8)	0.21(0.89)
Score 0	11 (1.8)	7 (1.7)	-
Score +1 to +22	571 (93.7)	369 (94.3)	-
Mean	6.2	6.76	-2.63(0.01)

The following three dependent variables were created by scoring the replies of participants on the second and fourth sections of the questionnaire:

Breast cancer symptoms and risk factors are well-known: There were seven questions in all. When a responder says yes to any question, they get a score of one. No or don't know responses received a score of zero. This variable might have a maximum value of 7 and a minimum score of 0. There were a total of seven questions on breast cancer diagnosis and therapy. When a responder says yes to any question, they get a score of one. No or don't know responses received a score of zero. This variable might have a maximum value of 7 and a minimum score of 0.

Breast cancer attitudes and practises: Participants were asked 11 questions on their attitudes about breast cancer and their behaviours in respect to breast cancer awareness and screening. The five-point Likert scale responses [11] were scored as follows: Positive attitude, i.e. strongly agree (+2); agree (+1); neutral, i.e. neither agree nor disagree (0); negative attitude, i.e. strongly disagree (-1); neutral, i.e. neither agree nor disagree (0); negative attitude, i.e. strongly disagree (-2). This variable might have a maximum value of 22 and a minimum score of -22.

Favorable scores showed positive attitudes, whereas negative scores suggested negative attitudes.

For all three dependent variables, Cronbach alpha was calculated to be less than 0.70. The questions "Have you heard about breast cancer?" and "Have you heard about breast self-examination?" were analysed independently as breast cancer awareness and breast self-examination, respectively. To compare rural and urban knowledge, attitudes, and behaviours, the Chi-square test for proportions and the t-test for means were used. The link between

major socio-demographic characteristics and the outcome variables was investigated using bivariate analysis. The multivariable linear regression analysis took into account all variables.

Table 2. Bivariate Linear Regression analysis between Socio-demographic Factors and Outcome Variables, Chittoor District (regression coefficients with 95% Confidence Intervals in Parenthesis)

	Knowledge about breast cancer symptoms and risk factors	Knowledge about breast cancer diagnosis and treatment	Attitudes and practices about breast cancer
Residence Urban	0.19 (-0.03 - 0.43)	0.16 (-0.02 - 0.34)	0.56 (0.14 - 0.98)
Age (in years)	Ref	Ref	Ref
15-18	0.41 (0.00 - 0.81)	0.47 (0.15 - 0.78)	0.30 (-0.41 - 1.02)
19-29	0.50 (0.09 - 0.92)	0.50 (0.18 - 0.83)	0.11 (-0.62 - 0.85)
30-39	0.14 (-0.32 - 0.61)	0.12 (-0.24 - 0.49)	-0.61 (-1.45 - 0.22)
40-49			
Religion	Ref	Ref	Ref
Hindu			
Muslim	-0.40 (-0.95 - 0.14)	-0.13 (-0.56 - 0.28)	-0.02 (-1.00 - 0.95)
Buddhist	0.11 (-0.19 - 0.43)	0.19 (-0.04 - 0.44)	0.15 (-0.40 - 0.71)
Others	1.38 (-0.24 - 3.02)	1.74 (0.46 - 3.02)	2.00 (-0.91 - 4.93)
Occupation	Ref	Ref	Ref
Manual worker/farmer			
Office worker / Business	2.24 (1.62 - 2.85)	1.37 (0.89 - 1.86)	3.39 (2.29 - 4.50)
Housewife	0.52 (0.20 - 0.85)	0.39 (0.13 - 0.65)	0.58 (0.00 - 1.16)
Retired and others	0.62 (0.24 - 1.01)	0.53 (0.23 - 0.84)	1.44 (0.75 - 2.13)
Unemployed / Student	0.83 (-0.03 - 1.70)	0.49 (-0.19 - 1.17)	1.42 (-0.12 - 2.96)
Education	Ref	Ref	Ref
Illiterate/no formal education			
Primary school	0.84 (0.20 - 1.48)	0.70 (0.20 - 1.20)	0.45 (-0.70 - 1.60)
Middle school	1.07 (0.52 - 1.63)	0.82 (0.38 - 1.25)	1.29 (0.28 - 2.29)
College	2.04 (1.48 - 2.60)	1.62 (1.18 - 2.05)	2.66 (1.64 - 3.67)
Marital Status	Ref	Ref	Ref
Never married			
Married	0.03 (-0.22 - 0.30)	-0.06 (-0.27 - 0.14)	-0.93 (-1.40 - -0.46)
Widowed / divorced	0.15 (-0.79 - 1.09)	-0.29 (-1.03 - 0.44)	-0.17 (-1.84 - 1.49)
Income (in rupees)	Ref	Ref	Ref
< 5000 per month			
5,000-10,000 per month	1.11 (0.72 - 1.50)	1.10 (0.80 - 1.40)	1.39 (0.68 - 2.09)
>10,000 per month	1.23 (0.26 - 2.20)	0.25 (-0.49 - 0.01)	1.15 (-0.59 - 2.89)
Age at first marriage (in years)	Ref	Ref	Ref
15 to 19			
20 to 24	0.15 (-0.12 - 0.43)	0.16 (-0.04 - 0.38)	0.46 (0.02 - 0.96)
25 to 33	1.26 (0.75 - 1.76)	1.04 (0.65 - 1.44)	2.00 (1.10 - 2.89)
Age at first pregnancy (in years)	Ref	Ref	Ref
15 to 19			
20 to 24	0.04 (-0.29 - 0.39)	0.01 (-0.25 - 0.28)	0.38 (-0.23 - 0.99)
25 to 33	0.67 (0.21 - 1.13)	0.48 (-0.11 - 0.84)	1.50 (0.68 - 2.32)
Not applicable	0.09 (-0.26 - 0.45)	0.14 (-0.13 - 0.43)	1.34 (0.70 - 1.98)

The Institutional Ethics Committee approved this study's ethics. 609 rural and 391 urban women completed the survey. More over four out of ten participants (44.6%), were between the ages of 19 and 29 years. Rural respondents were on average 28.6 years old, whereas urban respondents were on average 29.5 years old. Hindus (78.5%) and Buddhists (16.3%) were the two most prevalent groups of responders. Housewives comprised 52.6 percent of the participants. A whopping 73% of those polled were happily married. More than half of rural respondents (62.9 percent) and nearly half of urban respondents (44.7 percent) had at least completed high school. More than eight out of ten (89.2 percent) of the respondents said that their monthly income was less than 5000 rupees. In rural areas, just 1% of women and 2% of women in urban areas reported an annual income of more than 50,000 rupees per month.

Almost 40% of rural women were married before the age of 19, compared to 33% of urban women who married between the ages of 20 and 24. In both urban and rural areas, 14% of women under the age of 19 became pregnant for the first time. Most of the respondents (63.3 percent) have given birth to at least two children.

People's views and behaviours around breast cancer

Among Wardha district women, knowledge, attitudes, and behaviours about breast cancer are shown in Table 1. Sixty-three percent of those living in rural areas and sixty-eight percent in cities had heard about breast cancer. Women in rural and urban Wardha have only heard about breast self-examination from less than 7% of the women in the region.

Table 3. Multivariate Linear Regression Analysis between Socio-demographic Factors and Outcome Variables, Chittoor District (Regression Coefficients with 95% Confidence Intervals in Parenthesis)

	Knowledge about breast cancer symptoms and risk factors	Knowledge about breast cancer diagnosis and treatment	Attitudes and practices about breast cancer
Residence (urban)	-0.01 (-0.24 -0.21)	-0.01 (-0.19 -0.16)	0.33 (-0.08 -0.75)
Age (in years)			
15-18	Ref	Ref	Ref
19-29	0.40 (-0.03 -0.84)	0.64 (0.29 -0.98)	-1.04 (-0.23 -1.86)
30-39	0.53 (0.01 -1.06)	0.80 (0.39 -1.2)	-1.35 (-0.48 -2.39)
40-49	0.49 (-0.09 -1.08)	0.67 (0.21 -1.11)	-1.01 (-0.02 -2.15)
Religion			
Hindu	Ref	Ref	Ref
Muslim	-0.19 (-0.71 -0.32)	-0.02 (-0.38 -0.42)	-0.18 (-0.78 -1.12)
Buddhist	-0.02 (-0.32 -0.26)	-0.11 (-0.12 -0.34)	-0.05 (-0.58 -0.49)
Others	1.54 (-0.00 -3.09)	-1.87 (-0.66 -3.08)	-2.54 (-0.17 -5.48)
Occupation			
Manual worker/farmer	Ref	Ref	Ref
Office worker / Business	1.53 (0.90 -2.17)	0.65 (0.16 -1.14)	1.99 (0.83 -3.14)
Housewife	0.18 (-0.14 -0.51)	0.97 (-0.15 -0.35)	-0.05 (-0.64 -0.53)
Retired and others	0.68 (0.21 -1.14)	0.51 (0.15 -0.87)	0.56 (-0.26 -1.40)
Unemployed / Student	0.47 (-0.36 -1.31)	0.24 (-0.40 -0.90)	0.85 (-0.67 -2.38)
Education			
Illiterate/no formal education	Ref	Ref	Ref
Primary school	0.71 (0.08 -1.34)	0.65 (0.16 -1.4)	0.41 (-0.73 -1.56)
Middle school	1.16 (0.59 -1.73)	0.85 (0.40 -1.3)	1.31 (0.30 -2.33)
College	1.99 (1.39 -2.59)	1.48 (1.02 -1.9)	2.25 (1.20 -3.31)
Marital Status			
Never married	Ref	Ref	Ref
Married	-1.03 (-2.09 -0.02)	-0.41 (-1.10 -0.56)	-0.72 (-2.65 -1.21)
Widowed / divorced	-0.93 (-2.28 -0.42)	-0.60 (-1.51 -0.59)	-0.30 (-2.50 -2.44)
Income (in rupees)			
< 5000 per month	Ref	Ref	Ref
5,000-10,000 per month	0.49 (0.09 -0.89)	0.65 (0.34 -0.96)	0.56 (-0.16 -1.28)
>10,000 per month	0.48 (-0.45 -1.41)	-0.29 (-1.02 -0.43)	0.01 (-1.68 -1.72)
Age at first marriage (in years)			
15 to 19	Ref	Ref	Ref
20 to 24	-0.12 (-0.43 -0.17)	-0.07 (-0.28 -0.13)	0.13 (-0.47 -0.50)
25 to 33	0.23 (-0.39 -0.86)	0.33 (-0.06 -0.72)	0.73 (-0.19 -1.66)
Not applicable	-1.34 (-2.47 -0.22)	-0.10 (-0.42 -0.22)	-0.49 (-2.44 -1.46)
Age at first pregnancy (in years)			
15 to 19	Ref	Ref	Ref
20 to 24	-0.20 (-0.57 -0.17)	-0.20 (-0.54 -0.03)	-0.03 (-0.71 -0.64)
25 to 40	-0.06 (-0.61 -0.48)	-0.18 (-0.67 -0.19)	-0.57 (-0.48 -1.5)
Not applicable	-0.34 (-0.92 -0.22)	-0.32 (-0.88 -0.00)	-0.23 (-0.96 -1.10)

Women in rural and urban areas had similar levels of knowledge about breast cancer symptoms, risk factors, diagnostic methods, and treatment options. Both groups had mean scores of 1,73 and 1,93 out of 7, respectively, on questions concerning awareness of breast cancer symptoms and risk factors. Questions concerning breast cancer diagnosis and treatment had somewhat higher mean scores (3.43 to 3.6), but there were no significant differences between urban and rural women. Only 2.1 percent of those who answered questions on symptoms and risk factors achieved the maximum possible score of 7 on those questions.

However, urban and rural women's opinions regarding breast cancer treatment and screening were substantially different (6.7 vs. 6.2, p0.05), with urban women showing more favorable attitudes. Only 0.5% of those who took the survey were able to get a perfect 7 on the questions they were asked about breast cancer diagnosis and treatment.

Only 4.5% of women had ever performed a breast self-examination, with a statistically significant difference between the 3.45% of rural women and the 6.144% of metropolitan women. Mammography was unknown to the ladies in the research group.

H *Regression analysis*

Sociodemographic characteristics and outcome variables are shown in bivariate regression analysis in Table 2. Except for those in the 40-49 year old age range, there was a strong correlation between rising age of respondents and growing knowledge about breast cancer symptoms, risk factors, diagnosis, and therapy. This study found a strong association between job status and awareness of breast cancer, with all categories (except unemployed/students) being more knowledgeable than manual workers/farmers. Women's understanding of breast cancer has grown as they've been more educated. First-time mothers between the ages of 25 and 40 had much more information of breast cancer than women who were married for the first time at ages 25 to 33 and who had their first child at ages 25 to 40. Breast cancer symptoms and risk factors were better understood by women in higher income groups, but only women in the middle-income range had considerable understanding of breast cancer diagnosis and treatment. Knowledge of breast cancer was not connected with a person's place of residence, religion, or marital status.

This can be seen in Table 2, which shows that those women who reside in urban regions and have a college degree are more likely to be supportive of breast cancer screening methods. Women in the middle-income bracket also had a positive outlook on breast cancer awareness. As women's ages at marriage and first pregnancies rise, so do their views concerning breast cancer. However, there was no correlation between good views about breast cancer screening among students and jobless women and women between the ages of 40 and 49. Religion did not seem to have a significant impact on women's views on breast cancer screening.

According to the multivariate linear regression analysis (Table 3), education and job status (professionals and retirees) were shown to be substantially connected with awareness of breast cancer symptoms, risk factors, diagnosis, and therapy. A favourable correlation was found between the number of women between the ages of 30 and 39 and their awareness of breast cancer symptoms and risk factors, as well as their income level (Rs. 5000-10,000 per month). The older a woman gets, the more she knows about breast cancer diagnosis and treatment.

I *Attitudes towards breast cancer screening practices*

When they felt a lump in their breasts, the majority of urban (95.4 percent) and rural (96.4 percent) women were prepared to see a doctor right away. They were eager to learn how to do a breast self-examination at home and to join in screening programmes for breast cancer.

III. Discussion

According to our poll, nearly one-third of respondents in Chittoor district's rural and urban regions had never heard of breast cancer. The poor ratings on understanding of breast cancer symptoms and risk factors demonstrate this significant amount of ignorance. Several more studies from India (Yadav & Jaroli, 2010; Doshi et al., 2012; Ramalingam et al., 2012;

Sharma et al., 2013) and other developing countries (Odusanya & Tayo, 2001; Akel et al., 2011; Nafissi et al., 2012; Aydogan et al., 2015; Noreen et al., 2015;

In this research, there were no significant differences in breast cancer knowledge between rural and urban women. Breast cancer awareness, on the other hand, varied according to education, occupation, and economic standing. In their research of 300 women in Andhra Pradesh, India, Sharma et al discovered that women with greater levels of education had much more information about breast cancer (Sharma et al., 2013). Women from poor socioeconomic backgrounds have a greater death risk owing to late detection (Das & Pathak, 2012). According to our findings, formal education seems to be a significant factor of breast cancer knowledge. There was also a substantial increase in degree of knowledge about breast cancer among college professors in various states in India following awareness programmes at 6 months, which was maintained at 1 year (Shankar et al., 2015). As a result, measures must be done to raise awareness about the disease's symptoms via health education programmed run by women-friendly organizations. Furthermore, only four out of 1000 women in our survey were aware of the need of breast self-examination, with only four performing it. Similar findings were found in a study of 300 women in Andhra Pradesh, India, where just 4.6 per cent of the women were aware of the practice the of breast self-examination (Uche, 1999). Breast self-examination is a low-cost procedure that women may undertake on themselves. The logic for using self-examination as a screening tool is that when people suspect breast cancer, they are more likely to tell their doctors right away. Breast self-examination has been shown to have a good correlation with early detection \sof breast cancer (Uche, 1999). (Uche, 1999). According to studies, the majority of early breast cancers are self-discovered by women who undertake frequent breast self-examination (Odusanya, 2001). Health attitudes about breast cancer risk and the perceived advantages of screening have a substantial influence on screening behaviors (Shiryazdi et al., 2014). Women must be "breast-aware" in order to participate in screening.

In India, most people seek medical help after their condition has progressed to an advanced stage. Longer intervals between diagnosis and treatment for breast cancer have been linked to larger tumours, advanced disease stages, and poor long-term survival.

Okobia and colleagues (2006). Over 70% of Indian women are identified at an advanced stage, when there is little or no benefit from any treatment (Dinshaw et al, 1999). We need to understand the key determinants of early health seeking behaviour in order to develop effective strategies for early detection of breast cancer. Early detection of the disease and treatment initiation in the early stages of cancer are influenced by education and associated factors such as socioeconomic status and employment.

Both women from rural and urban locations demonstrated \spositive views regarding breast cancer screening practices \sand treatment. More than 93% of women expressed an interest in participating in future breast cancer screening programmes. This is crucial to know because, if properly taught, most women would engage in cancer screening activities, resulting in early detection of cases and a reduction in disease burden.

The study's strength comes from the fact that it questioned a significant number of rural and urban women in the same region. There are several drawbacks to this research as well. Given the social and cultural context, some of the women in our research may have been hesitant to discuss breast cancer with a stranger. Response bias, for example, might have impacted our findings (Lavrakas, 2008). We attempted to reduce prejudice by carefully training female local data collectors. A well-designed qualitative research might reveal more about how health professionals can raise awareness and increase women's engagement in screening programmes.

Finally, our study revealed that rural women in AP India had a poor understanding of breast cancer, its symptoms, and risk factors. Breast self-examination is seldom done, despite a strong desire to learn. The recent huge increase in the frequency of breast cancer should have spurred the government to take particular steps to raise awareness and educate women about the need of seeking early medical assistance if they develop breast symptoms. Given that most women have a positive attitude toward breast cancer screening, there is an opportunity for health care professionals to promote self-examination. Instead of the costly and resource-intensive mammography treatments suggested in high-income nations, this simple, low-cost technology would be more acceptable to diagnosis people early. To limit the growing incidence of breast cancer among Indian women, improved policy recommendations for spreading breast cancer awareness are required.

IV. Conclusion

According to our study, rural women in AP India have a poor understanding of breast cancer symptoms and risk factors. Breast self-examination is rarely done, but there is a high level of interest in learning how to do it. It is time for the government to take action to raise awareness and educate women about the need of seeking medical attention if they notice any changes in their breasts. Women's favorable attitude toward breast cancer screening provides an opportunity for health care practitioners to encourage self-examination. Instead of the resource-intensive and costly mammography methods suggested in high-income nations, this simple and affordable technology would be more acceptable for early diagnosis of patients with breast cancers. In order to stem the tide of breast cancer in India, new standards for public education about the illness must be developed.

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