

Differences between Breast Cancer Screening in Rural and Urban Women

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ABS TRACT

BACKGROUND

Breast cancer ranks as the number one cancer among Indian females. According to estimates, at least 17,97,900 women in India may have breast cancer by 2020. As the incidence of breast cancer is rising, there is a current need to educate the women on preventive measures of breast cancer.

METHODS

A descriptive, cross sectional study was carried out to compare the awareness on breast cancer and its screening among women residing in rural and urban field practice areas of Department of Community Medicine, Govt Medical College, Telangana during the month of October 2018. Hundred women each from rural and urban areas (making a total of 200), aged 20-70 yrs. were selected by simple random sampling & were interviewed using a standard questionnaire after taking informed consent. Data entry was done in MS excel and analysed in SPSS software. Chi square test was used to find the association between awareness of breast cancer with different socio-demographic characteristics.

RESULTS

About 26% of rural and 76% of urban women were aware of breast cancer. 15 rural and 34 urban women had knowledge regarding clinical breast examination. Regarding mammography, 54 urban women in comparison to 16 rural women were aware. Significant difference in awareness levels was observed between urban literate women and rural literate women.

CONCLUSIONS

Awareness levels about breast cancer and its screening methods was found to be less among women from both rural and urban areas. Educational interventions and screening programs in the community by health care providers would help in early detection and improve survival.

KEYWORDS

Breast Cancer, Rural, Urban,

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BACKGROUND

Breast cancer is the most common female cancer worldwide representing nearly a quarter (23%) of all cancers in women.¹ It is not only a disease of the rich but low and middle-income countries are also affected. In fact, more than half (58%) of women who die from breast cancer live in poor countries, where the chances of survival can be as low as 20%.² India is experiencing a rapid health transition with a rising burden of Non-Communicable Diseases (NCD) surpassing the burden of Communicable diseases.³ Every year, 1 million new cancer patients are diagnosed in India. By 2035, 1.2 million Indians will die of cancer every year.⁴ It is the most common cancer of urban Indian women and the second most common in rural women.⁵ The average age of developing breast cancer has shifted over the last few decades and younger women are being affected. Epidemiological studies at regional and global levels suggest that this cancer occurs at a younger premenopausal age in Indian and Asian women compared to western women who get it more than a decade or more later. Studies suggest that the disease peaks at 40-50 years in Indian women.⁶

With limited access to early diagnosis and treatment, women in countries like India are likely to be diagnosed only at a late stage of breast cancer.⁷ The knowledge and awareness about breast cancer allows one to screen them for the disease, Currently there is not enough knowledge on the causes of breast cancer; therefore, early detection of the disease is critical and remains the cornerstone of breast cancer control. When breast cancer is detected early there is a good chance that breast cancer can be cured and improve the outcomes and survival.⁸ Late diagnosis is a major factor for high mortality and is attributed to lack of awareness and non-existent breast cancer screening programs in India.⁹ October is the Breast Cancer Awareness Month where health campaigns are organized all across the world to increase breast cancer awareness. The 'Pink Ribbon' campaign was started in 1991. Since then an endless work is being done by different societies, organizations and nations to promote the breast cancer awareness and to reach out to all the communities both rural and urban. NPCDCS was launched in 2010 with focus on strengthening infrastructure, human resource development, health promotion, early diagnosis, management and referral, although screening for common cancers (oral, breast and cervical cancers) did not pick up to expected levels.¹⁰

According to the report by Jennifer L et al, within India, there are substantial differences in the incidence rates of breast cancer in rural and urban areas. With high incidence of more than 9% in urban as compared to rural.¹¹ The cause of this strong rural urban difference in breast cancer incidence is not known although it is likely to be due to transition from rural to urban lifestyle and their awareness about the disease and screening. In order to better gauge and interpret the difference in breast cancer incidence by residential status the present study was undertaken.¹²

The present study was conducted with the objective of comparing the awareness levels on breast cancer and its

screening methods among women residing in rural and urban areas of Visakhapatnam.

METHODS

A Community based cross-sectional study was conducted to compare the breast cancer screening awareness among women residing in rural and urban field practice areas of Department of Community Medicine, Andhra Medical College of Visakhapatnam city, Andhra Pradesh, India in the month of October 2018. The study population were women aged 20-70 yrs. Study tool used was a standard questionnaire¹³ for breast cancer screening awareness which was modified to add questions on socio-demographic characteristics & Knowledge on Breast cancer. Modified questionnaire was validated, and the Cronbach's alpha was calculated as 0.8.

Sample size was calculated considering the proportion of women having awareness on breast cancer screening method (p) as 63%¹⁴ and absolute precision as 10% the sample size was calculated to be 93 which was rounded off to 100. Hundred women each from rural and urban areas making a total of 200 were interviewed by conducting house to house survey using a standard questionnaire after obtaining consent for participation. Women aged between 20-70 yrs. of age who were willing to participate in the study and who were resident of the study area were included in the study. Women who were not residents of the study area were excluded.

Statistical Analysis

Data entry was done in MS excel and analysed in SPSS software. Chi square test was used to find the association between awareness of breast cancer with different socio-demographic profile and other variables. A p-value of less than 0.05 was considered statistically significant.

RES ULTS

Hundred women each from rural and urban areas making a total of 200 were interviewed. Table 1 shows that 46% women in urban areas and 36% in rural area of the women were in the age group of 20-30 years. Majority were married (82% in rural and 78% in urban areas). Less than half of the women in rural areas were either illiterates or educated upto primary level (23% & 22%) whereas about 70% of the urban women were educated either up to high school or intermediate or graduation. Most of the urban women (39%) were from upper and upper middle class, 28% from middle class and 33% were from lower and lower middle class.

Table 2 shows that 26% of the rural women and 76% of urban women have heard about breast cancer. For most of them media was main source of information (50% in rural, 65.7% in urban) followed by friends and relatives (34.6% rural & 19.7% urban). Hospital staff were the source of information for only 11.6% of rural and 9.2% of urban women.

SE Characteristics	Rural (%)	Urban (%)
Age (yrs.)		
20 -30	36	46
31 -40	25	34
41 -50	18	12
51 -60	11	6
61 -70	10	2
Marital Status		
Married	82	78
Unmarried	5	8
Widowed	13	14
Education		
Illiterate/ no formal education	23	9
Primary education	22	11
Secondary education	5	8
High school	19	12
Intermediate	22	25
Graduation	9	35
Social Class		
Class -I	4	28
Class-II	22	21
Class-III	25	24
Class -IV	28	15
Class-V	21	12

Table 1. Distribution of Study Population According to Sociodemographic Characteristics

Awareness About Breast Cancer	Rural No. (%)	Urban No. (%)
Heard of Breast Cancer	26(26%)	76(76%)
Source of information	n=26	n=76
Media (TV, Radio, Internet)	13(50%)	50(65.7%)
Books	1(3.8%)	4(5.26%)
Friends	9(34.6%)	15(19.7%)
Hospitals	3(11.6%)	7(9.2%)

Table 2. Breast Cancer Awareness and Source of Information among Study Participants

Awareness on Breast Cancer Screening	Rural No. (%)	Urban No. (%)	p value
Breast Self-Examination (BSE)			
Heard of BSE(n=100)	26(26%)	76(76%)	0.000
Useful tool for early detection	18(69.2%)	39(51.3%)	0.001
At what age BSE should be started	10(38.4%)	32(42.1%)	0.000
How often BSE should be done?	8(30.7%)	22(28.9%)	0.000
Best time to do BSE	6(23.07%)	28(36.8%)	0.000
BSE should be done by	14(53.8%)	52(68.4%)	0.000
What will you do if there is abnormality observed during BSE?	18(69.2%)	75(98.6%)	0.000
Benefits of BSE	6(23.07%)	62(81.5%)	0.000
Practicing correct method	6(23.07%)	42(55.2%)	0.000
Clinical Breast Examination(CBE) (n=100)			
Heard of CBE	15(15%)	34(34%)	0.003
CBE is a tool for detection of breast cancer	10(66.6%)	26(76.4%)	0.005
CBE should be done by	10(66.6%)	26(76.4%)	0.005
Mammography (n=100)			
Heard of Mammography	16(16%)	54(54%)	0.000
Mammography is an imp. tool detection of breast cancer	14(87.5%)	32(59.2%)	0.004
At what age Mammography should be started	7(43.75%)	20(37.0%)	0.01
How often it should be done?	8(50%)	12(22.2%)	0.47
Have you ever undergone Mammography?	6(37.5%)	8(14.81%)	0.72

Table 3. Awareness on Breast Cancer Screening Methods (BSE, CBE, Mammography) among Study Participants

Breast Cancer Awareness			
Characteristics	Rural (100)	Urban(100)	
Age (yrs.)			
20 -30	11	28	P= 0.974 Not significant
31 -40	7	19	
41 -50	3	11	
51 -60	3	10	
61 -70	2	8	
Total	26	76	
Marital status			
Married	19	37	P=0.096 Not significant
Unmarried	5	26	
Widowed	2	13	

Table 4. Association between Breast Cancer Awareness with Age and Marital Status of Study Population

Education	Rural			χ^2 value =8.447	Urban		
	Aware	Not aware	Total		Aware	Not aware	Total
Illiterate	5	18	23	p value =0.004	3	6	9
Literates	21	56	77		73	18	91
	26		100		76		100

Table 5. Association between Awareness of Breast Cancer with Literacy Status of Study Population in Rural and Urban Areas
df =1 χ^2 = 8.447 p value =0.004

Socio-Economic Status	Rural		Urban	
	Aware	Not aware	Aware	Not aware
Class -I (upper class)	3	1	22	6
Class-II (upper middle)	18	4	20	1
Class-III (lower middle)	2	23	21	3
Class -IV (upper lower)	2	26	11	4
Class-V (lower)	1	20	2	10
	26	74	76	24

Table 6. Association between Socio-Economic Status and Awareness on Breast Cancer in Both Rural and Urban Areas
 χ^2 = 16.184 p value =0.003 df =4

Regarding knowledge about the screening methods, Table 3 shows that 76% of the urban and 26% of the rural women have heard of breast self-examination. Out of those who are aware of breast self-examination, 39(51.3%) of the urban women 18(69.2%) rural women acknowledged that BSE is an important tool for the early detection of breast cancer. Around 32(42.1%) urban and 10 (38.4%) rural women responded correctly about the appropriate age to initiate BSE. Similarly 22(28.9%) urban women and 8(30.7%) rural women responded correctly that BSE should be a monthly routine. Regarding the right time for self-examination 28(36.8%) urban women and 6 (23.07%) rural women could rightly answer that the best time for BSE is 3-5 days after start of Menstrual cycle. Urban women had significantly better knowledge with regard to BSE when compared with rural women. The difference was statistically significant p value <0.05.

Table 3 shows that 15 of the rural and 34 of the urban women had knowledge about Clinical Breast Examination. About 26 (76.4%) urban women and 10 (66.6%) acknowledged CBE as an important tool for the early detection of breast cancer. Similar proportion of women agreed that CBE should be done by a doctor. Regarding knowledge about Mammography (Table 3) 54 of the urban women have heard of Mammography in comparison to only 16 rural women. More of urban women 32(59.2%) as compared to 14 (87.5%) rural women acknowledged that Mammography is an important tool for the early detection of breast cancer. This shows that the urban women had significantly better knowledge with regard to CBE and Mammography when compared with rural women. Only few women both from rural and urban areas had knowledge about the age at which Mammography should be started or how often it should be done.

Knowledge on Breast Cancer was compared with the socio demographic variables such as age and marital status of the study subjects as depicted in Table 4. No significant difference was found in the awareness levels regarding breast cancer in different age groups both in rural and urban women. Similarly, Table 4 shows no significant difference between knowledge and marital status. Knowledge of Breast Cancer was compared with the educational and

socioeconomic status of the study subjects. Table 5 shows that 73 out of 91 literate women in urban areas and 21 out of 77 among rural literate women were aware of Breast Cancer. Even among educated, women from urban areas have better knowledge than rural women. The difference was statistically significant. Table 6 shows that there is significant association in the awareness levels among urban women and rural women with respect to their socio-economic status. Women from higher SE status are better aware about breast cancer.

DISCUSSION

National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was launched in 2010 with Health promotion and awareness generation as one of the strategy. In this study, the level of awareness regarding breast cancer and its screening methods among rural and urban women was evaluated. Majority of the women have poor knowledge regarding breast cancer & its screening methods and also do not actively practice the screening methods. It is observed that more of the urban women had heard about breast cancer as compared to rural women. Similar findings were reported by other studies Kriti Agarwal et al,¹⁵ Sami Abdo Radman Al-Dubai et al,¹⁶ Somandatta.⁹ It was more among the literate women. Increased literacy among women provides an advantage in understanding of various health issues and also its early detection. This study revealed a significant association between educational status of women and breast cancer awareness both in urban and rural areas. Urban literate women had better knowledge as compared to rural literate women. Similar findings were reported by O Abimbola Oluwatosin et al in Nigeria.¹⁷

Technology based access to information is within the reach of many people. In the present study, regarding the source of information about breast cancer, 65% of urban women and 50% of rural women said media as the most common source of information. Which reflects that media especially electronic media has become an important means to reach people (through television/ social networking sites) and can be used still more for campaigning on health issues in rural areas. Our health care delivery system aims at providing health education to all people as part of the preventive component focusing on various health issues including cancers. Health care providers at grass root level form a link to provide information on various health issues, risk factors and screening methods to help detect the cases early and reduce morbidity and mortality. In this study very less proportion of study participants said hospital staff as a source of information. Study by Somandatta et al⁹ among urban women revealed similar findings. This shows that there is need to emphasize on IEC and responsibilities of peripheral health staff. Other studies^{15,16,17,18,19} also reported that media was one important source whether print media/ electronic followed by hospitals & health professionals.

Knowledge on screening methods was poor among rural women as compared to urban reflecting the fact that most of the campaigns on breast cancer awareness and screening are targeted towards urban literate than the rural or uneducated urban women. In this study, although two thirds of urban women were aware of BSE, awareness about other more important screening methods such as CBE and mammography were less than 50%, which is similar to the findings of Dahiya N et al.²⁰ Nirojini P S et al¹⁸ however reported high level of awareness about mammography. Health care providers need to disseminate the information on various screening methods and their availability so that women can utilize such services. In the present study no significant association was found between the breast cancer awareness with that of age and marital status both among rural and urban women which is in contrast to the findings of Tripathi N et al.²¹ However breast cancer awareness was significantly associated with literacy and socio-economic status, both among rural and urban women. Also a significant difference in awareness levels was observed between urban literate women and rural literate women. These findings are similar to that of Tripathi N et al.²¹

CONCLUSIONS

Awareness on breast cancer and its screening methods is still less among women especially in rural community. It increases with higher education and urban living. There is an urgent need for an intensive breast cancer awareness campaign. Availability of screening centers should be prioritized especially in rural areas which would help rural women in early detection and improve survival.

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