

PERCEPTION OF WOMEN REGARDING BREAST CANCER IN URBAN AND RURAL COMMUNITY OF AHMEDABAD DISTRICTKriti Agarwal¹, Nayan Gupta², Janmesh Shah³, Raj Aggarbattiwala⁴**HOW TO CITE THIS ARTICLE:**

Kriti Agarwal, Nayan Gupta, Janmesh Shah, Raj Aggarbattiwala. "Perception of Women Regarding Breast Cancer in Urban and Rural Community of Ahmedabad District". Journal of Evolution of Medical and Dental Sciences 2014; Vol. 3, Issue 29, July 21; Page: 8240-8247, DOI: 10.14260/jemds/2014/3037

ABSTRACT: Breast cancer accounts for 19-34% of all cancer cases among women in India ranking second to cervical cancer. The burden of breast cancer is increasing in both developed and developing countries; the peak occurrence of breast cancer in developed countries is above the age of 50 whereas in India it is above the age of 40. **AIMS:** Study and compare the perceptions regarding breast cancer among rural and urban women of Ahmedabad district. **METHODS:** The study is a Community based cross-sectional study conducted from May 2013 to September 2013 in Urban and Rural settings of Ahmedabad district. A pre-designed and pre-tested proforma was used to collect baseline data by house to house visits. Informed consent was also taken before the initiation of survey. Data was entered into MS Office- Excel 2007 and analysis was done in Epi info version 3.7.1. Chi square test were used to test statistical significance. **RESULTS AND CONCLUSION:** The findings of this study depicted a wide gap in knowledge about breast cancer and its risk factors among urban and rural women of Ahmedabad district. Though 87% of the urban women had heard about breast cancer, only 67% rural women were aware about it. Sadly, less than half of all women were aware of the cardinal symptoms of breast cancer.

KEYWORDS: Breast cancer, risk factors, perception, Ahmedabad.

INTRODUCTION: Breast cancer accounts for 19-34% of all cancer cases among women in India ranking second to cervical cancer.¹ The peak occurrence of breast cancer in developed countries is above the age of 50 whereas in India it is above the age of 40. In India, the number of new breast cancer cases is about 115, 000 per year and this is expected to rise to 250, 000 new cases per year by 2015.²

This study aims to address a gap in the breast cancer research that surrounds the issues of urban and rural women. There is a general lack of information in this area and this study will help to gain a greater understanding, improve the level of knowledge and address the perceptions of breast cancer, and as such, lead to improvements in health promotion and education aimed at this target group.

MATERIALS AND METHODOLOGY: The study is a Community based cross-sectional study conducted from May 2013 to September 2013 in Urban and Rural settings of Ahmedabad district. A pre-designed and pre-tested proforma was used to collect baseline data by house to house visits. Informed consent was also taken before the initiation of survey. Data was entered into MS Office-Excel 2007 and analysis was done in Epi info version 3.7.1.

Z test and Chi square test were used to test statistical significance

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RESULTS AND OBSERVATIONS:

Age (in yrs.)	Urban[N=250]	Rural[N=250]
20-24	18(7.2%)	36(14.4%)
25-29	30(12%)	26(10.4%)
30-34	57(22.8%)	55(22%)
35-39	54(21.6%)	45(18%)
40-44	25(10%)	15(6%)
45-49	34(13.6%)	37(14.8%)
>50	32(12.8%)	36(14.4%)

TABLE 1: Age wise distribution of respondents in urban and rural area

Table 1 shows that a total of 500 women in the reproductive age group were studied in Ahmedabad district. 250 women were taken from urban and rural areas each for the study.

Maximum no. of women were in the age group of 30-40 years, 111 women (44.4%) in urban areas and 100 women (40%) in rural areas.

There was no statistical significant difference in the mean age of studied women of urban (35.71+ 29.04) & rural areas (35.71+ 25.6) ($\chi^2 = 10.02$, $P > 0.05$).

SOCIAL CLASS	Urban [n=250]	Rural [n=250]
Class-I	40(16%)	15(3%)
Class-II	55(23%)	35(17%)
Class-III	70(27%)	75(31%)
Class-IV	65(26%)	75(30%)
Class-V	20(8%)	50(19%)

Table 2: Socio-Economic Status of the respondents

The study shows that in urban area, women were equally distributed in socio-economic class II-IV whereas in rural area majority of the respondents belonged to class III and class IV.

Ever heard of breast cancer	Urban [N=250]	Rural [N=250]	Total [N=500]
Yes	218(87.2%)	168(67.2%)	386(77.2%)
No	32(12.8%)	82(32.8%)	114(22.8%)

Table 3: Whether women have ever heard of breast cancer

When the women were asked about whether they have ever heard about breast cancer, 87.2% of urban women replied of having heard about it, while only 67.2% rural women had any knowledge regarding the breast cancer.

Hence, a total of 386 women out of 500 women (77.2%) including both urban and rural women were further interviewed with the questionnaire.

Sr. No.	Associated risk factors		Urban [N=218]	Rural [N=168]	Total [N=386]	P value
1.	Family history of breast cancer	Yes	190 (87.15)	133(79.16)	323(83.67)	P<0.05
		No	28(12.84)	22(13.09)	50(12.95)	
		Not sure	0	13(7.73)	13(3.36)	
2.	Previous breast cancer	Yes	198(90.82)	72(42.85)	270(69.94)	P<0.05
		No	20(9.17)	41(24.40)	61(15.80)	
		Not sure	0	54(32.14)	54(13.98)	
3.	Smoking	Yes	132(60.55)	104(61.94)	236(61.13)	P>0.05
		No	86(39.44)	64(38.09)	150(38.86)	
		Not sure	0	0	0(0.0)	
4	Alcohol	Yes	155(71.1)	57(33.92)	212(54.92)	P<0.05
		No	63(28.89)	111(66.07)	174(47.28)	
		Not sure	0	0	0(0.0)	
5	Older age	Yes	97(44.49)	59(35.11)	156(40.41)	P<0.05
		No	94(43.11)	109(64.88)	203(52.59)	
		Not sure	27(12.38)	0	27(6.99)	
6	Oral contraceptives	Yes	94(43.11)	61(36.30)	155(40.15)	P<0.05
		No	43(19.72)	88(52.38)	131(33.93)	
		Not sure	81(37.15)	19(11.30)	100(25.90)	
7	High fat diet	Yes	71(32.56)	70(41.66)	141(36.52)	P<0.05
		No	103(47.24)	23(13.69)	126(32.64)	
		Not sure	44(20.18)	75(44.64)	119(30.82)	
8	Excess weight	Yes	197(90.36)	108(64.28)	305(79.01)	P<0.05
		No	21(9.63)	53(31.54)	74(19.17)	
		Not sure	0	7(4.16)	7(1.81)	

Table 4: Perception regarding some risk factors of breast cancer

When the perceptions of urban and rural women were compared regarding the causative risk factors of breast cancer, it was revealed that 87% of urban women and almost 80% of rural women knew that family history was a positive risk factor, whereas 7.73% rural women didn't have any idea about it.

90.82% urban women knew that previous breast cancer in a women was also a risk factor while only 40.85% rural women knew about the same.

Response to smoking as a risk factor gave almost similar results in urban and rural women, 61-62% women said yes while almost 38-39% women said that smoking is not a causative risk factor for breast cancer.

In urban areas, 71.1% women said alcohol to be causative in breast cancer while 66% rural women denied the fact saying it is not a risk factor in cancer.

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Where almost 43-44% urban women said old age may or may not be a breast cancer risk factor, 12.38% women did not have any knowledge relating to it, also upto 65% rural women said old age is not a risk factor for breast cancer.

43.11% urban women knew that oral contraceptives were associated with breast cancer while 52.38% rural women said OCPs are not associated with breast cancer.

Majority of the urban women (47.24%) said that high fat diet is not associated with breast cancer whereas 41.6% rural women believed high fat diet to be a risk factor. Also 44.64% rural women didn't know about the exact relation of high fat diet with breast cancer.

Majority of the urban women (90.36%) and rural women (64.28%) had the knowledge of excess weight being associated with breast cancer.

There is statistically significant difference ($p < 0.05$) of perception between urban and rural women regarding all the above study variables except smoking where $p > 0.05$.

Sr. No.	Associated risk factors (correct response)		Urban [N=218]	Rural [N=168]	Total [N=386]	P value
1	Early onset of menses(<12 years)	Yes	108(49.54)	54(32.14)	162(41.96)	P<0.05
		No	87(39.90)	39(23.21)	126(32.64)	
		Not sure	23(10.55)	75(44.64)	98(25.38)	
2	Late menopause(>55 years)	Yes	159(72.93)	135(80.35)	294(76.16)	P>0.05
		No	17(7.79)	13(7.73)	30(7.77)	
		Not sure	42(19.26)	20(11.90)	62(16.06)	
3	Breast feeding	Yes	0(0.0)	43(25.59)	261(67.61)	P>0.05
		No	218(100)	98(58.33)	98(25.38)	
		Not sure	0(0.0)	27(16.07)	27(6.99)	
4	Delayed first pregnancy	Yes	45(20.64)	12(7.14)	57(14.76)	P<0.05
		No	147(67.43)	93(55.35)	240(62.17)	
		Not sure	26(11.92)	63(37.5)	89(23.05)	

Table 5: Perception regarding the menstruation associated risk factors of breast cancer

The above table shows the perception of urban and rural women regarding the menstruation associated risk factors in the causation of breast cancer. Almost 50% urban women believed that early onset of menses at less than 12 years of age was a positive risk factor for breast cancer whereas almost 45% rural women were not sure about its relation with the cancer causation. This was statistically significant at 95% confidence interval.

Considering late menopause at age more than 55 years as a risk factor for breast cancer, almost 73% urban women and 80% rural women said yes, it is causative factor. All the urban women (100%) said breast feeding was a protective factor in breast cancer while only 58.33% rural women supported this fact. Perception regarding late menopause and breast feeding was not statistically significant amongst urban and rural women.

Most of the urban (67.83%) and rural (55.35%) women believed that late first pregnancy was not a causative risk factor in breast cancer. This was statistically significant with $p < 0.05$ confidence level.

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Sr. No.	Breast related potential symptoms of breast cancer	Urban [N=218]	Rural [N=168]	Total [N=386]	P value	
1.	Painless breast lump	Yes	201(92.20)	88(52.38)	289(74.87)	P<0.05
		No	17(7.79)	67(39.88)	84(21.76)	
		Not sure	0(0.0)	13(7.73)	13(3.36)	
2	Bruising of breast/ulceration	Yes	35(16.05)	46(27.38)	81(20.98)	P<0.05
		No	97(44.49)	117(69.64)	214(55.44)	
		Not sure	86(39.44)	5(2.97)	91(23.57)	
3	Pain in breast region	Yes	137(62.84)	150(89.28)	287(74.35)	P<0.05
		No	81(37.15)	18(10.71)	99(25.64)	
		Not sure	0(0.0)	0(0.0)	0(0.0)	

Table 6: Potential Breast Cancer Symptoms

The above table shows that a significant ($p<0.05$) higher number of urban women (92.2%) perceived painless breast lump was an important symptom of breast cancer. On the other hand, a significant ($p<0.05$) higher number of rural women believed ulceration (27.38%) and pain in the breast region (89.28%) were important risk factors for the same.

Sr. No.	Nipple related potential symptoms of breast cancer	Urban [N=218]	Rural [N=168]	Total [N=386]	P value	
1	Nipple ulceration	Yes	127(58.25)	138(82.14)	265(68.65)	P<0.05
		No	91(41.74)	11(6.54)	102(26.42)	
		Not sure	0(0.0)	19(11.30)	19(4.92)	
2	Nipple discharge/bleeding	Yes	82(37.61)	168(100)	250(64.76)	P<0.05
		No	136(62.38)	0(0.0)	136(35.23)	
		Not sure	0(0.0)	0(0.0)	0(0.0)	
3	Inversion/retraction of nipple	Yes	176(80.73)	61(36.30)	237(61.39)	P<0.05
		No	42(19.26)	5(2.97)	47(12.17)	
		Not sure	0(0.0)	102(60.71)	102(26.42)	

Table 7: Nipple related breast cancer symptom

The table shows perception of urban and rural women for the nipple associated breast cancer potential symptoms. It was concluded that a significant ($p<0.05$) higher number of rural women (82.14%) perceived nipple ulceration while 100% rural women said nipple discharge/bleeding was a potential symptom in identifying the breast cancer. A significant ($p<0.05$) higher number of urban women perceived nipple inversion or retraction (80.73%) were important symptoms for early identification of breast cancer.

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Sr. No.	Source of information	Urban	Rural	Total [N=386]	P value
1	Media and newspapers	217 (56.21)	93(24.09)	310(80.31)	$\chi^2 = 47.98$ P<0.05
2	Elders / Friends	21(5.44)	38(9.84)	59(15.28)	
3	Hospitals	66(17.09)	28(7.25)	94(24.35)	
4	Camps and posters	32(8.29)	46(11.91)	78(20.20)	
5	Self	43(11.13)	45(11.65)	88(22.79)	

Table 8: Source of Information about Breast Cancer (multiple response given) percentages from total (386)

There was found to be a statistical significant difference ($p < 0.05$) between the urban and rural access to information. Where majority of the women (310 out of 386) accepted media and newspapers as the most common source of information, almost 56.21% urban women and 24.09% rural women were included in this group. Nearly 10% rural women came to know about the facts of breast cancer from their friends and elders. Hospitals were a source of information for 17.09% urban women. Hence, this reveals the major source of information is still the media and newspapers (80.31%) for both the urban and rural women.

DISCUSSION: It was apparent that the participants in this research had very low levels of knowledge about breast cancer and the issues surrounding the disease. They appeared to hazard guesses or offer occasional correct facts but, overall, they were very hesitant and very doubtful as to whether the information they were providing was accurate. Many of their responses to questions were 'I don't know'.^{3,4} Paul et al⁴ and Vahabi⁵ have stated that generally there is a very low level of knowledge and understanding, in some cases especially in rural women similar to that found in this study.

Though 87% of the urban women had heard about breast cancer, only 67% rural women were aware about it. Though 87% of the urban women had heard about breast cancer, only 67% rural women were aware about it. Another major risk determinant, family history of breast cancer increases the risk.⁶ In our study, 87.15% urban women and 79.16% rural women were aware of this fact and this finding is in agreement with previous research by Paul et al.⁴

It was interesting to find that some 26% rural women could co-relate breast feeding with breast cancer. This was similar to the study by Evans et al.⁷ Other factors responsible for breast cancer according to them were increased use of OCPs, late first pregnancy and early marriage.

Perception of Breast Cancer Symptoms: It was found that over 70% of the surveyed women were able to perceive painless breast lump and nipple discharge/bleeding as symptoms of breast cancer. Knowledge of symptoms was poorer among rural women. All of these conditions however, are considered to warrant hospital referral in a significant proportion of women as stated by Dixon and Mansel.⁸

The low level of knowledge found in this study is similar to reports from other Indian states,^{9, 10} as well as developing countries.¹¹ Uche¹² reported only 32% of the women having knowledge of breast lump as a warning sign for breast cancer, 58.5% being unaware of most warning signs and only 9.8% knowing methods of detecting breast cancer.

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The results are important, as according to Ramirez et al,¹ there is moderate evidence to suggest that one of the major determinants of delay behaviour among patients is the discovery of a breast symptom other than a lump. The summary message is that women would benefit from clear information about the variety of symptoms that may be indicative of a potential cancer. However, any intervention to improve knowledge of symptoms should also aim to limit anxiety and to ensure that medical facilities are not overloaded by help-seeking for benign symptoms, particularly by low risk women.

SUMMARY AND CONCLUSIONS: Despite numerous breast cancer early detection campaigns being organized locally and a lot of activities being done by the Government at national level, women in this study still displayed knowledge deficits. This study has supported research indicating the low levels of knowledge and perceptions of risk around breast cancer, and the factors that influence these perceptions.

In this study, mostly rural women identified that they have little to no knowledge of breast cancer and that their perceptions and awareness. They identified that the main things that influenced these perceptions were age, family history, staying in rural area, experience and the media. I contend that these findings further highlight the need for developing and implementing effective breast cancer education and prevention programs among the general public in Ahmedabad.

Along with this, cancer prevention program should emphasize the provision of factual information about breast cancer in the context of an exploration of inaccurate beliefs about cancer that may inhibit health behavior. Hence, there is an urgent need for an intensive breast cancer awareness campaign and availability of screening centers prioritized in rural areas.

The last few years have seen widespread use of internet social media such as Facebook and Twitter in India. There is a lot of potential to exploit these online social media as a means of disseminating information on breast cancer.

As this was a small study, there is still a need for further and more detailed research in this area.

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AUTHORS:

1. Kriti Agarwal
2. Nayan Gupta
3. Janmesh Shah
4. Raj Aggarbattiwala

PARTICULARS OF CONTRIBUTORS:

1. 4th Year Resident, Department of Community Medicine, BJ Medical College, Ahmedabad.
2. 4th Year Resident, Department of Surgery, BJ Medical College, Ahmedabad.
3. 4th Year Resident, Department of Community Medicine, Medicine, BJ Medical College, Ahmedabad.
4. 3rd Year Resident, Department of Surgery, BJ Medical College, Ahmedabad.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Nayan Gupta,
Room No. A/307,
New P. G. Hostel,
Civil Hospital Campus,
Ahmedabad- 380016,
Gujarat.
Email: drnayan84@gmail.com

Date of Submission: 06/07/2014.
Date of Peer Review: 07/07/2014.
Date of Acceptance: 10/07/2014.
Date of Publishing: 21/07/2014.