



Socio-Demographic and Clinical Profile of Breast Cancer Patients in A Tertiary Care Hospital of Central India

KEYWORDS

Cancer, stage, quadrant, AJCC.

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ABSTRACT

Background: Cancer and other non-communicable diseases are replacing communicable diseases as most common cause of disability, morbidity and premature mortality. Breast cancer is the most frequent cancer among women. Aim & objectives: To study socio-demographic and clinical profile of breast cancer patients. Methodology: Hospital base descriptive study in a tertiary care hospital during May 2013 to June 2014. Study participants were histopathologically confirmed 110 female patients of breast cancer. Results: Mean age of patients was 48.67±11.99 years. Majority, 73(66.36%) were from urban area. Most of them, 73(66.36%) were Hindu. About 34(30.91%) women had studied upto higher secondary school and 24(21.82%) were illiterate. Most of women 83(75.45%) were from lower SES. Majority, 46(42.99%) presented with stage III disease. left breast was involved in 67(60.91%) patients. Most common site of involvement was upper-outer quadrant 71(64.55%). Conclusion: Majority of cases reported in advanced stage of disease.

Introduction

Cancer and other non-communicable diseases are replacing communicable diseases as the most common cause of disability, morbidity and premature mortality, thus showing an epidemiological transition in low and middle income group countries including India. Cancer constitutes the second leading cause of death, next to coronary artery disease, in the developed countries and fourth cause in the developing countries.¹

Breast cancer is by far the most frequent cancer among women with an estimated 1.7 million new cancer cases diagnosed in 2012 and ranks second overall (11.9% among all cancers). Since the 2008 estimates, breast cancer incidence has increased by more than 20%, while mortality has increased by 14%. Breast cancer is now most common cancer occurring in females both in developed and developing regions. Also the most common cause of cancer death among women (522000 deaths in 2012) and the most frequently diagnosed cancer among women in 140 of 184 countries worldwide. It now represents one in four of all cancers in women.²

This study reviewed the breast cancer patients at a tertiary care hospital with respect to their socio-demographic and clinical characteristics.

Aim & objectives:

To study socio-demographic profile of breast cancer patients.

To study the clinical profile of breast cancer patients.

Material and Methods:

Hospital base descriptive study carried out in a tertiary care hospital and medical college in central India during May 2013 to June 2014. Study participants were histopathologically confirmed newly diagnosed 110 female patients of breast cancer. Socio-demographic characteristics like age, place of residence, marital status, education,

occupation and socioeconomic status etc. were enquired. Also detailed clinical examination was done including general examination, systemic examination and local breast examination to know the stage of the cancer. Scrutinization of all available records was done to get relevant information. Staging of cancer was done by AJCC (American Joint Committee on Cancer).³

Data analysis was done by percentages using Microsoft office excel 2013.

Results

Total 110 study subjects were included in the study. The response rate was 100%. The salient observations of the study are given in following tables.

Table 1: Socio-demographic profile of study subjects

Sr. No.	Character	Number	%	
1	Age	25-35	15	13.64
		36-45	43	39.09
		46-55	25	22.73
		56-65	15	13.63
		>65	12	10.91
2	Residence	Urban	73	66.36
		Rural	37	33.64
3	Religion	Hindu	73	66.36
		Muslim	18	16.36
		Buddha	19	17.28
4	Education	Illiterate	24	21.82
		Primary	24	21.82
		Secondary	20	18.18
		Higher secondary	34	30.91
		Graduate or above	8	7.27

5	Socioeconomic status*	Upper	27	24.55
		Lower	83	75.45
6	Dietary habits	Vegetarian	20	18.18
		Mixed	90	81.82
7	Nutritional status (Body mass index) [#]	< 18.5	21	19.09
		18.5-22.99	46	41.82
		> 23	43	39.09
8	Marital status	Unmarried	4	3.64
		Married	88	80.00
		Widowed	17	15.45
		Separated	1	0.91

Table 1 shows socio-demographic profile of study subjects. Majority of study subjects were from the age group of 36 to 45 years with the mean age of 48.67±11.99 years. 73(66.36%) subjects belonged to urban area and 37(33.64%) belonged to rural area. Out of total, 73(66.36%) were Hindu followed by Buddha, 19(17.28%) and Muslim religion 18(16.36%). Also 34(30.91%) women had studied upto higher secondary school, followed by 24(21.82%) studied upto primary school, 20(18.18%) upto secondary school, 8(7.27%) women had studied upto graduate or above level and 24(21.82%) were illiterate. Majority, 83(75.45%) were from lower socioeconomic class and only 27(24.55%) were from upper socioeconomic class. Only 20(18.18%) subjects were vegetarian whereas 90(81.82%) were consuming mixed diet. About 46(41.82%) women had BMI in normal range (18.5-22.99) with mean BMI of 21.89±3.31. However 43(39.09%) women were overweight or obese (BMI >23) and 21(19.09%) were underweight (BMI <18.5). Married women were 88(80.00%), 17(15.45%) were widowed and 4(3.64%) were unmarried. Only 1(0.91%) woman was separated.

Table 2: Distribution of study subjects according to stage of cancer

Stage of cancer at presentation	Cases (n = 107)*	
	No.	%
Stage I	4	3.74
Stage IIa	10	9.35
Stage IIb	30	28.04
Stage IIIa	17	15.89
Stage IIIb	29	27.10
Stage IV	17	15.89
Total	107	100

* In three cases staging couldn't be done as primary tumor couldn't be assessed.

Table 2 shows distribution of cases according to clinical stage of cancer at the time of presentation. In 3 patients staging could not be done as primary tumor could not be assessed. Among remaining 107 women, 4(3.74%) women presented in stage I, 40(37.39%) presented with stage II disease i.e. 10(9.35%) in stage IIa and 30(28.04%) in stage IIb, 46(42.99%) presented with stage III disease

i.e. 17(15.89%) in stage IIIa and 29(27.10%) in stage IIIb. Whereas 17(15.89%) patients were of stage IV disease.

When side involvement was studied, it was observed that, left breast was involved in 67(60.91%) patients, right breast was involved in 42(38.18%) patients and only 1(0.91%) patient had bilateral involvement.

Figure 1: Distribution of study subjects according to quadrant Involved

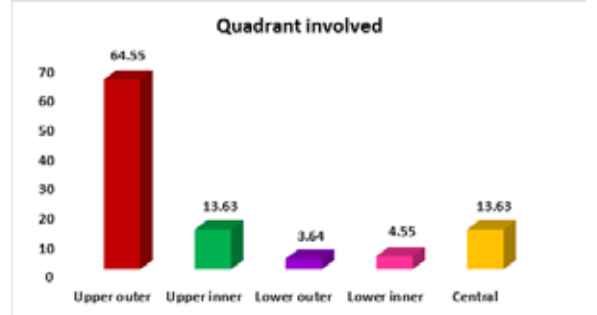


Figure 1 shows distribution of study subjects according to the breast quadrant involved. Upper outer quadrant was involved in 71(64.55%) patients followed by upper inner and central quadrant involvement in 15(13.63%) patients each. Lower inner quadrant was affected in 5(4.55%) patients and lower outer quadrant was involved in 4(3.64%) patients.

The most common histopathological type of breast cancer detected was Invasive ductal carcinoma in 107(97.27%) patients followed by lobular carcinoma in 3(2.73%) patients.

Discussion

In present study, age ranged between 25 to 80 years. Maximum study subjects (39.09%) were between 36-45 years followed by (22.73%) 46-55 years with mean age of 48.67±11.99 years. The age incidence was comparable with that in various other studies. **Meshram II et al (2009)⁴** found maximum number of cases (23.81%) in the age group of 45-49 years followed by 40-44 years (14.29%), with mean age 48.4±11.28 years. **Sandhu DS et al (2010)⁵** found 65.8% cases in 31-50 years of age with mean age 47.39±10.90 years. **Bhadoria AS et al (2013)⁶** found 62.5% patients between 30-50 years with mean age 45±10.29 years. **Balasubramaniam SM et al (2013)⁷** found 35.5% patients in 41-50 years with mean age 49.1±10.85 years.

In our study, 73(66.36%) cases belonged to urban area. Similarly **Bhadoria et al (2013)⁶** found majority of patients (61.9%) from urban area.

Majority, 66.36% were Hindu by religion followed by Buddha and Muslim religion. This was in accordance with **Meshram II et al (2009),⁴ Agrawal K et al (2012)⁸ and Kamath R et al (2013)⁹** where majority of the patients were Hindu by religion.

We considered those who cannot read and write as illiterate. It was found that 24(21.82%) patients were illiterate. 34(30.91%) cases had studied upto higher secondary school and only 8(7.27%) women were graduate or above. Our findings were similar to those of **Montazeri A et al (2008),¹⁰ Meshram II et al (2009)⁴ and Sepandi M et al (2014).¹¹**

Most of study subjects 83(75.45%) were from lower socioeconomic class. Our findings opposed to those by **Bal-subramaniam SM et al (2013)**⁷ who got more women belonging to upper and middle socioeconomic class. This may be because present study was a hospital based study carried out in government hospital, where most of the patients coming for treatment were from lower socioeconomic status.

About 90(81.18%) were taking mixed diet. **Rao DN et al (1994)**¹³ and **Harrison AP et al (2010)**¹⁴ also noted similar findings. Majority, 41.82% had normal BMI (18.5 – 22.99). However 19.09% had low BMI (<18.5) indicating underweight. Similar findings were observed by **Meshram II et al (2009)**⁴ and **Sepandi M et al (2014)**¹¹.

About 80.00% were married. This was consistent with **Montazeri A et al (2008)**¹⁰ and **Meshram II et al (2009)**⁴.

Out of total 110 subjects, in 3 cases staging could not be done as primary tumor could not be assessed. Among remaining 107 cases, majority, 46(42.99%) presented with stage III disease followed by stage II and stage IV disease whereas only 4(3.74%) cases reported in stage I. Similarly, **Raina V et al (2005)**¹⁵ noted that, the most commonly observed stage of presentation was stage IIIB in 35.2% cases, followed in decreasing order by stages IIIA, stage IIB, stage IV and stage I. **Meshram II et al (2009)**⁴ and **Harrison AP et al (2010)**¹⁴ also found that most of the cases were detected in stage III and stage IV.

In our study, left breast was affected in 67(60.91%) cases, right breast was affected in 42(38.18%) cases and in remaining 1(0.91%) cancer was bilateral. **Meshram II et al (2009)**⁴ also found that 50.48% of cases had breast cancer on left side and 49.52% of cases had it on right side.

Upper outer quadrant was involved in 71(64.55%), followed by upper inner quadrant in 15(13.64%), central quadrant in 15(13.64%), lower inner quadrant in 5(4.55%) and lower outer quadrant in 4(3.64%) cases. This is in consistency with **Sandhu DS et al (2010)**⁵ who found that in 47.75%, upper outer quadrant was involved.

The most common histopathological type of breast carcinoma observed was Invasive ductal carcinoma, in 107(92.27%) cases followed by lobular carcinoma in 3(2.73%) cases. **Meshram II et al (2009)**⁴ and **Sandhu DS et al (2010)**⁵ also got similar findings.

CONCLUSIONS

Majority of cases reported in stage II and III. Also there were significant number of patients presenting with metastasis i.e. stage IV. This may be due to lack of knowledge about the disease presentation.

Recommendations

Most of the patients reported in advanced stage, hence there is need for health education and telling importance of self-breast examination for the early detection of tumor.

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