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*Original Research Article*

# Socio-Demographic and Clinical Profile of Women with Breast Cancer: A Cross Sectional Study from Western Maharashtra, India

Mohite RV[1], Mohite VR[2]

[1]Assistant professor, Dept of Community Medicine, [2]Professor & Principal,
Krishna Institute of Medical Sciences Karad, Maharashtra.

Corresponding Author: Mohite RV

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## ABSTRACT

**Background:** Breast cancer is reflected as an important public health problem for adult women residing in developing countries.
**Objectives:** To study the epidemiology and clinical presentation of breast cancer among the women from rural area of western Maharashtra.
**Material and Methods:** A hospital based cross-sectional study was carried out among newly diagnosed cases of breast cancer from rural area of western Maharashtra during 1st January 2010 to 31st December 2011. Sample size included total 86 newly diagnosed cases of breast cancer during study period. The data was collected by employing pre-tested, structured questionnaire consisted of socio-demographic, economic, sign and symptoms and stage at diagnosis of breast cancer. Descriptive statistics was worked for presentation of data.
**Results:** Maximum, 79.06% breast cancer cases were in age group 40 to 60 years with mean age 51.46 years. Max. 68.60% cases were from rural area with high proportion, 63.95% belonged to lower economic class and shown illiteracy among 11.62% cases. Max, 80.23% cases were presented with lump in breast and 71.35 % cases were diagnosed in late stage of breast cancer and most of the cases were of invasive types.
**Conclusion:** Rural residence, ignorance, poor economic condition, inadequate health care services could be responsible for late diagnosis and late treatment for the women with breast cancer.

***Key words:*** Breast cancer, Epidemiology, Clinical profile.

## INTRODUCTION

Worldwide, breast cancer alone accounts for 16% of all female cancers with 14% mortality, of which about half of the cases and 60% deaths are estimated to occur in economically developing countries. [1-3] In present scenario, breast cancer is reflected as an important public health problem for adult women residing in developing countries and showing prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year. [4]

Currently India reports roughly one lakh new cases per year and overall rate is now estimated as 80 new cases per one lakh population per annum, according to National Cancer Registeries and regional cancer centers. Breast cancer is the commonest

cancer amongst women in Delhi, Mumbai, Ahmedabad, Kolkata and Trivandrum. [5-8] A study conducted by the international association of cancer research based in Lyon, France, projected that there would be 2.5 lakh cases in India by 2015, with a 3% increase case load per year, indicating undoubtedly breast cancer will become an epidemic in India in next two decades. [9]

The accumulated evidence suggests that breast cancers are preventable and highly suitable for secondary prevention. But in rural areas and small towns, there is still lack of awareness of breast cancer as well as health care services. Women are still very apprehensive about seeking medical checkup like Self breast examination, clinical breast examination, FNAC and treatment facilities due to cultural, traditional beliefs as well as non availability of female doctors. The aim of present study was to know the epidemiology and clinical presentation of breast cancer among the women from rural area of western Maharashtra.

## MATERIALS AND METHODS

The present study was conducted in the rural area of Western Maharashtra, India. The area is known by sugar belt of Maharashtra with sound economic development. The literacy rate is 84.20% of which female literacy was 76.29% according to census 2011. A hospital based cross-sectional study was carried out among newly diagnosed cases of breast cancer. Present study was conducted at tertiary care hospital located in rural area of western Maharashtra which provides the diagnostic as well as the therapeutic cancer services and referral services to many private and public health care institutions from neighboring regions. All newly diagnosed cases of breast cancer i.e. within study period, irrespective of age and stage of breast cancer. The Study was conducted over a period of 1st January 2010 to 31st December 2011. The sample size included total 86 newly diagnosed cases of breast cancer during study period.

***Inclusion Criteria:*** Newly diagnosed cases of breast cancer in a tertiary care hospital during study period and willing to participate in study with irrespective of stage of diagnosis of cancer.

The information for the present study was collected by employing self administered pre-tested questionnaire. A structured questionnaire was developed by the researcher utilizing information from previously published studies and newly modified after discussion with cancer surgeon and epidemiologist. The questionnaire consisted of Socio-demographic and economic characteristics of the women and stage at diagnosis of breast cancer according to American Cancer Society (ACS). [10] According to ACS, for treatment point of view breast cancer is differentiated as follows;

Stage I: These cancers are still relatively small ( < 2 cm) and either have not spread to the lymph nodes.

Stage II: These cancers are larger (> 2 cm but < 5 cm) and/or have spread to a few nearby lymph nodes.

Stage III: The tumor must be large (> 5 cm) or growing into nearby tissues (the skin over the breast or the muscle underneath), or the cancer has spread to many nearby lymph nodes.

Stage IV: The cancer have spread beyond the breast and lymph nodes to other parts of the body (metastasis).

Women with breast cancer diagnosed in stage I or II labelled as early detected and if diagnosed in stage III or IV labeled as late detected. According to modified BJ Prasad socio-economic classification, class I & II considered as upper class and Class III, IV & V as lower class. The validity and reliability of the study tools was assessed by conducting a pilot study and ambugassions

during pilot study were overcome by experts in Oncology, General Surgeons and Epidemiologists before commencement of the study.

The data was collected by the researcher utilizing a pre-tested structured questionnaire. The information was collected by personal interview method from study subjects in tertiary care hospital after the confirmation of breast cancer and during the treatment period after discussions with the treating surgeon. Before the interview started, researcher introduced herself to study subjects and explained the aim of present study and obtained an informed consent from each eligible study subjects. The questionnaire was formulated in English language which was translated in local language i.e. in Marathi for ease of understanding and positive response from the subject.

The information related to the Socio-demographic, economic, sign and symptoms and stage at diagnosis of breast cancer was collected from all study subjects. The data so collected was entered into Microsoft Excel 2007 and analysed by using SPSS 17 statistical software. Descriptive statistics i.e. the mean, standard deviation, percentages and frequencies were calculated.

***Ethical Consideration:*** Institutional ethical clearance was obtained before starting of the study. An informed consent was obtained from each study subject.

## RESULTS

Table 1 depicts, maximum 79.06% cases were in age group 40 to 60 years with mean age 51.46 (SD 7.16) yrs and age ranges from 38 to 67 yrs respectively. Illiteracy was seen in 11.62% cases, secondary education completed by 30.23% cases. Maximum, 51.90% cases were housewives, 68.60% residing in rural area and 63.95% cases belonged to lower economic class.

**Table 1: Socio-Demographic distribution of breast cancer cases**

| Socio-Demographics | Frequency ( % ) |
|---|---|
| Age (yrs): | |
| ≤ 30 | 0(0.00) |
| 30-40 | 9(10.46) |
| 40-50 | 26(30.23) |
| 50-60 | 42(48.83) |
| ≥ 60 | 9(10.46) |
| Education: | |
| Illiterate | 10(11.62) |
| Primary | 23(26.74) |
| Secondary | 26(30.23) |
| Higher-secondary | 19(22.09) |
| Degree/diploma | 8(9.30) |
| Occupation: | |
| Housewives | 44(51.90) |
| Daily wage | 13(15.11) |
| Self employed | 5(5.81) |
| Civil servent | 7(8.13) |
| Private sector | 17(19.76) |
| Economic status: | |
| Upper class | 31(36.04) |
| Lower class | 55(63.95) |
| Residence: | |
| Rural | 59(68.60) |
| Urban | 27(31.39) |

**Table 2: Stage at diagnosis and type of breast cancer**

| Breast Cancer Stage | Frequency ( % ) |
|---|---|
| Stage I | 1( 1..16) |
| Stage II | 15(17.44) |
| Stage III | 47(54.61) |
| Stage IV | 23(26.74) |
| Type of breast cancer | |
| Carcinoma in situ | 0(0.00) |
| Invasive carcinoma | 86(100.00) |

Out of 86 newly diagnosed breast cancer cases, maximum, 71.35% cases were diagnosed in late stage (stage III& IV) of disease and most of cases were of tissue invasive/ infiltrative types (Table 2).

**Table 3: Clinical presentation of breast cancer cases**

| Sign and symptoms | Frequency ( % ) |
|---|---|
| Lump in breast | 69(80.23) |
| Dimpling of breast | 9(10.46) |
| Discharge through breast( other than milk) | 5(5.81) |
| Nipple retraction | 3(3.48) |

Maximum 80.23% cases were presented with lump in the breast and percentage of dimpling of breast, unusual discharge through breast and nipple retraction was 10.46%, 5.81% and 3.48% respectively (Table 3).

## DISCUSSION

The present study was conducted in rural area of western Maharashtra among newly diagnosed 86 cases of breast cancer in tertiary care hospital in year 2010 and 2011. The study revealed the lowest age at diagnosis of breast cancer was 38 years and maximum cases were 40-60 years of age. Similar observations were reported by suresh p [11] from north India, Kokiwar P [12] from south India and Acharya SC [13] from Nepal. The study depicts, maximum, 68.60% breast cancer cases were from rural area and also has lower economic class, 63.95%, and similar findings were reported by Hiremath [14] from north Karnataka, India and Kokiwar P [12] from south India.

Among total 86 breast cancer cases, max 71.35% cases were diagnosed in late stage of disease and maximum cases were of invasive/infiltrative type. Similar findings have also been reported by Hiremath [14] from north Karnataka, Burson AM [15] from Tanzania and Kokiwar P [12] from south India. The rate of detection of breast cancer in carcinoma in situ has been very low in developing countries whereas it was more than 20% in western world, mainly due to availability of modern diagnostic facilities, high women literacy rate, high awareness among the women and high economic status. [16]

In present study, 80.23% of breast cancer cases attended the hospital with clinical sign and symptom of lump/ mass in the breast where as percentages of nipple retraction, discharge through breast and dimpling of breast was ranging from 3.48 to10.46%.This late presentation of disease may be due to low level of awareness about breast cancer in rural community, fear of cancer or poverty. Acharya SC [13] from Nepal also reported that 98.2% cases were presented with lump in breast whereas nipple retraction was shown in 7 % cases. Lump in the breast was the commonest finding observed by Sandhu DS [17] from north India and Kokiwar P [12] from south India. The overall late presentation of breast cancer cases in India could be due to low level of awareness of breast cancer in community, less priority by public health sector, low level of education, poverty and lack of diagnostic and therapeutic.

## CONCLUSION

Rural residence, poverty, ignorance, traditional practices, low women literacy and lack of health care services can affect stage at diagnosis and treatment of breast cancer. The increasing burden of breast cancer in Indian women warrants rigorous epidemiological actions in the form of arranging screening programme in rural area for early detection of breast cancer and prompt treatment to reduce the mortality due to breast cancer.

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***Conflicting of Interest:*** None declared
***Authors' contribution:***
RVM- Contributed to concept and study design, analysis of data and drafted the manuscript. VRM- Data collection and literature search, editing and review of manuscript.

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