# **Original Research Article**

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# Age distribution pattern of female breast cancer patients in Bangladeshdeveloping early and presenting late

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# **ABSTRACT**

**Background:** Carcinoma of the breast is the most common malignancy in females. At present carcinoma breast is the leading cancer in Bangladesh and is competing cancer cervix in incidence. Epidemiological studies at regional and global levels suggest the occurrence of carcinoma breast at a younger, premenopausal age in Indian and Asian women as compared with western women. Knowledge of this factor emphasizes the need to modify the timing of modalities of detection of early carcinoma and its management. According to literature, majority of carcinoma breast cases in the western countries present in Stages I and II of the disease whereas in Bangladesh majority cases present in Stage III of the disease. The objective of this study is to observe age of occurrence of breast cancer and stage of cancer in SSMC and MH.

**Methods:** A cross sectional observational study was conducted in 34 patients of histopathologically confirmed breast cancer.

**Results:** Mean age of subjects was 46.24±7.4 years. Age distribution showed peaks at 41-50 years with 18 patients. This study shows that 82.35% of the total patients were having advanced carcinoma breast (Stage III, IV) and 77% of these patients were below 50 years of age.

**Conclusions:** Breast cancer is increasingly occurring in younger age groups in Bangladesh when compared with western countries and a more aggressive nature of the disease strikes in their reproductive period suggesting the need for change in modalities of early cancer detection and adjusting preventive and therapeutic efforts. This small study may provocate thought for larger scale population study to evaluate the scenario in Bangladesh.

**Keywords:** Breast, Carcinoma, Late presentation, Younger ages

#### INTRODUCTION

Carcinoma of the breast is the commonest malignancy of females worldwide. It is the most frequent cancer and cause of cancer deaths in females in developed and developing countries. Breast cancer accounts for 23% of all newly occurring cancers in women worldwide and represents 13.7% of all cancer deaths. Breast cancer remains a leading dreadful cancer of women in

Bangladesh as well. It has become a hidden burden which accounts 69% death of women. In Bangladesh the rate of breast cancer occurrence is estimated to be 22.5 per 100000 females of all ages. In case of Bangladeshi women, aged between 15-44 years, breast cancer has the highest prevalence 19.3 per 100000 compared to any other type of cancer. In Bangladesh, the average age of developing breast cancer over the last few decades showed younger women are being affected.

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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.<sup>3</sup> Studies suggest that the disease peaks at 40-50 years in Indian women.1 The stage of disease at the time of reporting is worse in younger patients. Literature shows that in India majority of new cases are advanced stage- locally advanced or higher stage at the time of diagnosis.4 According to various studies majority of carcinoma breast cases in the west report in Stages I and II of disease, whereas in India 45.7% report in advanced stages.3,5 Asian countries may experience a potential breast cancer epidemic over the next decades as women adopt western lifestyles, marrying, and bearing children later in life, decreasing parity, shorter duration of breast feeding and change in dietary habits. Knowledge of all these factors means author need to modify the modalities of detection of early carcinoma and its management so that the outcome of the disease is not compromised.

#### **METHODS**

A cross sectional observational study was conducted covering a period of 1 year from 2012 to 2013 in the Department of Surgery, Sir Salimullah Medical College and Mitford Hospital. After obtaining approval from the Institutional Ethical Committee, the cases of all female breast cancer during the period were included. Inclusion criteria were all histopathologically confirmed female breast cancer cases above the age of 12 years. Sampling method was consecutive. After making an appropriate clinical diagnosis, one or more of the special investigations ultrasonography, FNAC, mammography and or core needle biopsy carried out for the confirmation of diagnosis.

A total of 34 patients were included in the study and their data regarding age, stage of disease, medical history, past history and family history were collected on a predesigned proforma. Data were collected from both outpatient department and inpatient department. Data were prospectively collected using detailed proforma. All the relevant collected data was compiled on a master chart first then organized by scientific calculator and standard appropriate statistical formula. Percentages were calculated to find out proportion of findings. The results are presented in Tables.

#### Inclusion criteria

- Aged >12 years
- Female patients with histopathologically proven breast cancer.

# Exclusion criteria

 Non co-operative or unwilling to be enrolled in the study.

#### **RESULTS**

A total of 34 patients were treated for breast cancer in the 1-year period. Mean age of patients was 46.24±7.45 years. Age distribution showed peaks at 41-50 years. Number of patients below 50 years of age was 20. Out of 20 patients 18 (54.94%) were between 40 and 50 years of age (Table 1). Number of patients in age groups 21-30, 31-40, 41-50, 51-60, >60 were 0, 2, 18, 8 and 6, respectively. Minimum age was 32 years and the maximum were 80 years and median age was 49 years (Table 2).

Table 1: Distribution of breast cancer by age (n=34).

	Number of lesions	t (%) n=34
12-20 years		
21-30 years		
31-40 years	2	(5.8)
41-50 years	18	(52.94)
51-60 years	08	(23.53)
>60 years	06	(17.65)
Total	34	34(100)
Mean±SD		46.24±7.45

Table 2: Minimum and maximum age.

Patient data	Age of patients
Minimum age	32
Maximum age	80
Mean age	46.24

Of the total 34 patients 28 presented with advanced stage (Stages III and IV) of breast cancer This study shows that 82.35% of the total patients were having advanced carcinoma breast (Stage III, IV) at the time of reporting and 77.7% of these patients were below 50 years of age (Table 3).

Table 3: Stage of breast cancer at presentation (n=34).

	Number	Percentage (%)
Stage I		
Stage II	06	17.65
Stage III	20	58.82
Stage IV	08	23.53

#### **DISCUSSION**

Age is one of the most important risk factors for breast cancer. It is a common observation that risk of breast cancer increases with age. Median age of 49 in the patients with breast cancer is much lower than median age seen in American population at 62 years. The mean age of women with breast cancer in present study is 46.24 years, which is younger than seen in research on breast cancer elsewhere in developing countries. And a decade earlier than western women 8.9 Other Bangladeshi studies

have shown lower mean age that is closer to that in this study. A cross-sectional study involving 250 patients in NICRH, found the mean age of the study group was 44.7 years, standard deviation (SD) was 9.82 (range: 21-67).<sup>10</sup> Another expressive cross-sectional study was conducted in NICRH. Among 322 female patients, majority (71%) of the patients was in the age between 34 to 53 years and they were coming from rural areas.<sup>11</sup> A study in India shows that there are two peaks in the age at diagnosis of breast cancer at 41-50 years and 51-60 years. 12 The latter peak is common with peak in western countries, but the peak at 41-50 years shows that the disease occurs at a vounger age in Indian patients as compared to the west. Data of Delhi, India from 2001 to 2003 under national cancer registry program of ICMR recorded 529, 544, and 601 cases of breast cancer in age groups 40-44, 45-49, and 50-54 years respectively out of a total of 3777 breast cancer cases recorded. 13 Therefore, 44.6% cases were <54 years of age. In other Asian countries, the age at diagnosis of breast cancer is substantially lower than in high-income countries, with a median of 53.9 years in Japan, 51 years in Korea, 48-50 years in China, and 48.3 years in Thailand.<sup>8</sup> For Asian-Arab countries, the median age at breast cancer diagnosis is even below 50 years, with 48 years in Oman, 45 years in Saudi Arabia, and 44 years in Jordan. In Saudi Arabia, 26.4% of the breast cancers are diagnosed before the age of 40 years, compared to 6.5% in the USA.8

Well-established risk factors for breast carcinoma include age, ethnicity, family history of breast or ovarian cancer, age of menarche, age at menopause, age of first full term pregnancy. Despite same risk factors the western population themselves do not have onset at younger ages, implying that there may be some genetic impact of Asian population to develop breast cancer earlier or there might be a role of environmental factors yet to be explored.<sup>14</sup> Therefore westernization may be responsible for increasing incidence of breast cancer, but may not be the reason for its occurrence in younger age groups. 13 Breast cancers is a hormone dependent malignancy and the hormonal factors might be affecting Asian women differently who get menarche and menopause earlier in an average shorter life span compared with western women. However, all above factors only explain the increasing incidence of carcinoma breast but does not explain development of carcinoma in younger age. Ethnic, social factors, genetics, environmental influence and shorter life span may play a role toward development of this disease in younger women in Bangladesh.

Staging of the disease is essential on three accounts: (1) For estimating prognosis, (2) for planning treatment, (3) for interpretation and comparison of outcome. In this study, 82.35% patients presented in Stages III and IV of disease which is similar to another study showing locally advanced breast cancer patients (T3 and T4) were 52.6%, axillary lymph node involvement was present in 80% of cases, 61.6% patient received neoadjuvant chemotherapy. 14 Of these advanced cases of present study

77.7% patients were below 50 years of age confirming that the disease is more aggressive in younger patients. This study highlights the fact that in the population this malignancy is very aggressive and younger the age of getting this malignancy more aggressive is the disease. Delayed reporting with advanced carcinoma may be due to lack of awareness program, economic factors, social taboo, religious factors and paucity of health and medical facilities. As discussed, Bangladeshi population displays a peak in breast cancer incidence between 40 and 49 years of age. Consequently, screening programs that have been shown to be successful in Western countries probably cannot be implemented in a similar way in the country because the efficacy of mammographic screening might be questionable in populations with a different epidemiology of breast cancer regarding age, risk factors, and ethnicity. Therefore, it is important to implement screening programs for breast cancer detection earlier and adopt method of screening program considering age.

Limitation of this study is being a very small study done in a tertiary level Hospital in Dhaka over a very brief period which may not be representative of whole country though gives an evidence regarding the pattern.

#### **CONCLUSION**

Occurrence of breast cancer has undergone an age shift. It is now presenting at younger ages in Bangladeshi population with more advanced stage of cancer at presentation. A national cancer registry and large-scale population study may give a robust picture about the age of presentation and the stage at diagnosis of breast cancer in Bangladesh. This important epidemiological issue will influence screening programs for breast cancer detection at early stage and alert women regarding various risk factors. The timing and modalities of detection of the breast cancer and its management has to be modified as the patients present at younger ages thereby preventing compromise of the outcome of the disease.

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