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Anatomy

Sociodemographic Scenario of Female Patients with Breast Cancer: Bangladesh Perspective

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Abstract **Original Research Article**

***Background*:** Breast cancer is the leading malignancy among women worldwide, and in Bangladesh, it presents a significant public health concern. The sociodemographic factors such as age, marital status, contraceptive use, and reproductive history have a profound impact on breast cancer incidence, diagnosis, and outcomes. This study examines these characteristics among Bangladeshi female breast cancer patients to provide insights into the unique epidemiological trends in this region. ***Objective*:** To analyze the sociodemographic characteristics of Bangladeshi female breast cancer patients and compare the findings with other global and regional studies. ***Methods*:** A cross-sectional descriptive study was conducted with 50 female breast cancer patients diagnosed with invasive ductal carcinoma. The patients were selected from the National Institute of Cancer Research & Hospital in Dhaka, and their sociodemographic data were collected using semi-structured questionnaires. Data on age, marital status, contraceptive use, and reproductive history were analyzed and compared with findings from other studies. ***Results*:** Among the 50 patients, the majority (64%) were aged 31-50 years, while 28% were between 51-70 years. Only 8% of the patients were aged 18-30, and there were no patients in the 71-90 age group. The majority of the patients (96%) were married, while only 4% were single. History of contraceptive use was reported by 68% of the patients. The study revealed a pattern of early menarche, high parity, and extended breastfeeding, aligning with other LMICs' trends but differing from patterns seen in high-income countries. ***Conclusion*:** The sociodemographic profile of breast cancer patients in Bangladesh mirrors patterns seen in other low- and middle-income countries, with younger women comprising the majority of cases. Factors such as early marriage, contraceptive use, and reproductive history play a significant role in the risk of developing breast cancer. These findings highlight the need for tailored public health interventions that address cultural and socioeconomic barriers to early diagnosis and treatment in Bangladesh.

Keywords: Breast cancer, Sociodemographic characteristics, Contraceptive use.

INTRODUCTION

Breast cancer is the most common malignancy among women worldwide and poses a significant public health burden, particularly in developing countries like Bangladesh. The incidence and outcomes of breast cancer are influenced by several factors, including sociodemographic characteristics such as age, marital status, education, socioeconomic status, and occupation. In Bangladesh, where healthcare access and awareness are limited, understanding the sociodemographic profile of female breast cancer patients is crucial to developing targeted interventions for early detection and treatment [1-3].

Age is one of the most significant risk factors for breast cancer, with increasing incidence as women age. In Bangladesh, the majority of female breast cancer patients are between the ages of 31 and 50, with this group representing the highest frequency of cases. This is consistent with global patterns where breast cancer is more prevalent among women in their middle age, although younger women are also affected. Early detection in younger populations remains a challenge due to lower awareness and fewer routine screenings [4-7].

Marital status is another important factor that influences breast cancer diagnosis and treatment. In Bangladesh, most female breast cancer patients are

married, reflecting broader social norms where marriage is common at a young age. Married women are more likely to seek medical attention due to family support, while unmarried women might delay diagnosis due to social stigma or lack of familial encouragement [8]. Understanding these dynamics helps in framing breast cancer awareness campaigns more effectively.

Educational background also plays a vital role in breast cancer awareness and treatment-seeking behavior. Women with higher educational attainment are more likely to recognize symptoms early, access healthcare facilities, and undergo regular screenings. In contrast, lower levels of education are often associated with delayed diagnosis and poor treatment outcomes [9]. This educational gap reflects broader inequalities in health literacy and access to healthcare services in Bangladesh.

Socioeconomic status further influences the ability of patients to access timely and effective treatment. In Bangladesh, where many breast cancer patients come from low- or middle-income families, the cost of treatment can be prohibitive. Access to specialized care is often limited to urban areas, and many women from rural or economically disadvantaged backgrounds face difficulties in seeking timely diagnosis and appropriate treatment, leading to worse outcomes.

In conclusion, understanding the sociodemographic characteristics of female breast cancer patients in Bangladesh is key to developing strategies for better breast cancer management. Addressing disparities in education, socioeconomic status, and healthcare access can significantly improve early detection and treatment outcomes.

OBJECTIVE

To analyze the sociodemographic characteristics of Bangladeshi female breast cancer patients and compare the findings with other global and regional studies.

METHOD

Study Design: Cross sectional descriptive study.

Place and Period of the Study: The research was carried out in the Genetic research laboratory, Department of Anatomy, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka. The period of research was span from March 01, 2018 to February 28, 2019.

Study Participants

A total of 50 breast cancer patients with invasive ductal cell carcinoma type were selected from OPD and in-patients Departments of National Institute of Cancer Research & Hospital, Mohakhali, Dhaka. All patients were diagnosed by oncologist and histopathologist. A selection checklist was designed by the researcher to check the inclusion criteria in selecting patients. Informed consent was obtained from each patient.

Detailed history of the patients and families were undergone using a semi-structured data collection sheets.

Inclusion Criteria

Selection of patients was mainly based on the following criteria-

- Bangladeshi Bangali.
- Sex: Female.
- Age >18yrs.
- Diagnosed breast cancer patients of ductal cell carcinoma variety.

Exclusion Criteria

- History of ovarian cancer, pancreatic cancer.
- History of chemotherapy and radiotherapy.

Sample Size

Samples of formalin-fixed paraffin-embedded breast cancer tissue of 50 adult Bangladeshi Bangali female breast cancer patients of invasive ductal cell carcinoma variety were collected from the Department of Histopathology of the National Institute of Cancer Research and Hospital, Mohakhali, Dhaka.

Sampling Technique: Patients were selected using convenient sampling technique.

Procedure of History Taking and Data Collection

After taking IRB, patients were selected using 'Selection Checklist'. A semi-structured data collection sheet was constructed with the selected variables. After getting consent from the patients, data were collected by the present researcher herself and filled up the data collection sheet.

Age of the patients noted by the verbal quarry and checking the available documents such as admission records and physician's prescriptions. All selected patients were more than 18 years. Patients were asked for detailed information on family history of cancer, socio-demographic history, and reproductive history. Additional information was collected on a detailed investigation. The detailed quarry was done to know about the onset of cancer, consanguinity of marriage, menstruation history, obstetric history and contraceptive history. Lactation situation was noted carefully and detailed with a total number of child breastfeed and the duration of breastfeeding for each child was noted.

Personal history was collected involves targeted questions about personal health, also includes the type of cancer, approximate age at diagnosis. It is useful to obtain information about the type(s) of treatment, any

germline genetic testing, and any environmental exposures that may have caused cancer.

Hospital records and investigation files were carefully examined for investigation findings. The notes were taken for filling of semi-structured data collection sheets from mammography, FNAC and biopsy reports whether available.

RESULTS

Among the 50 adult Bangladeshi Bangali female breast cancer patients, all of them were more than 18 years aged. The age limit is divided into four groups. 4 out of 50 patients belong to 18-30 age groups, 32 patients belong to 31-50 age group which comprises highest frequency (64%) in the study population. 14 patients belong to 51-70 age group (28%). The frequency of age group 71-90 is 0%.

Table-1: Number of patients in different age limit

Age Group (Years)	Number of Patients	Percentage (%)
18-30	4	8%
31-50	32	64%
51-70	14	28%
71-90	0	0%

History of use of contraceptives was present in 34 patients (n=50) representing 68% of study population. 16 patients had no history of use of contraception.

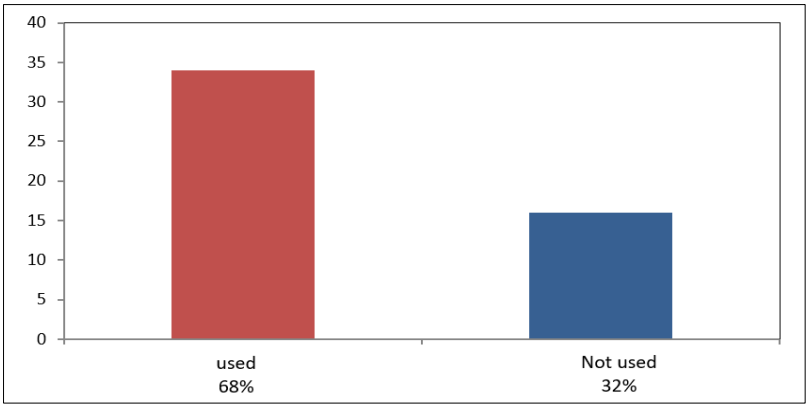

Fig-2: The frequency of patients using oral contraceptives (n=50)

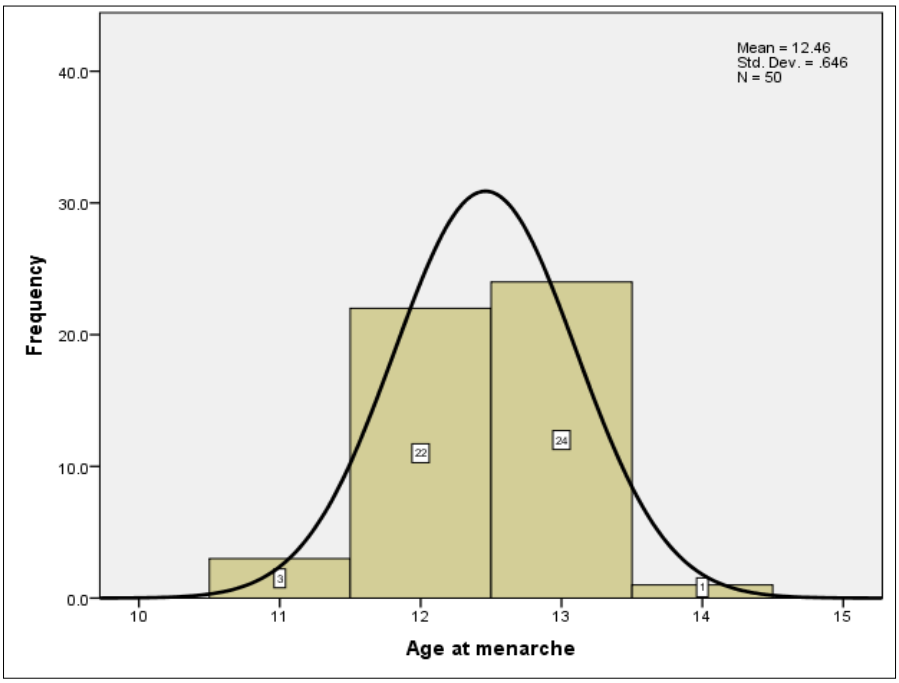

Fig-3: Frequency graphs of the age at menarche of 50 breast cancer patients

The majority of the patients were married (96%). A small proportion of the patients were single (4%).

Table-2: Marital Status of the study group

Marital Status	Number of Patients	Percentage (%)
Married	48	96%
Single	2	4%

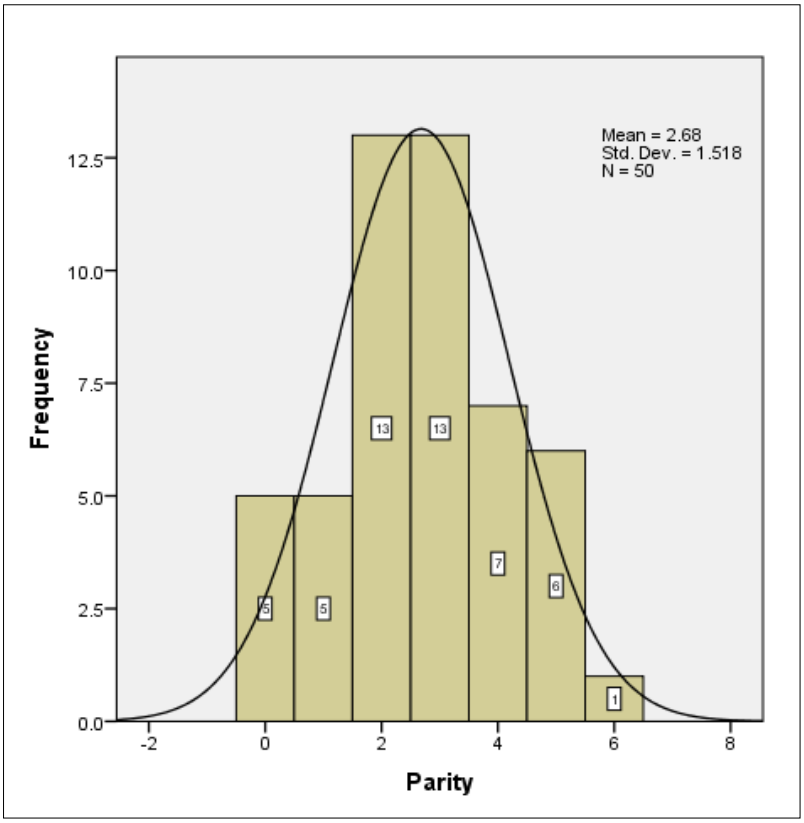

Fig-4: Frequency graphs of the parity of 50 breast cancer patients

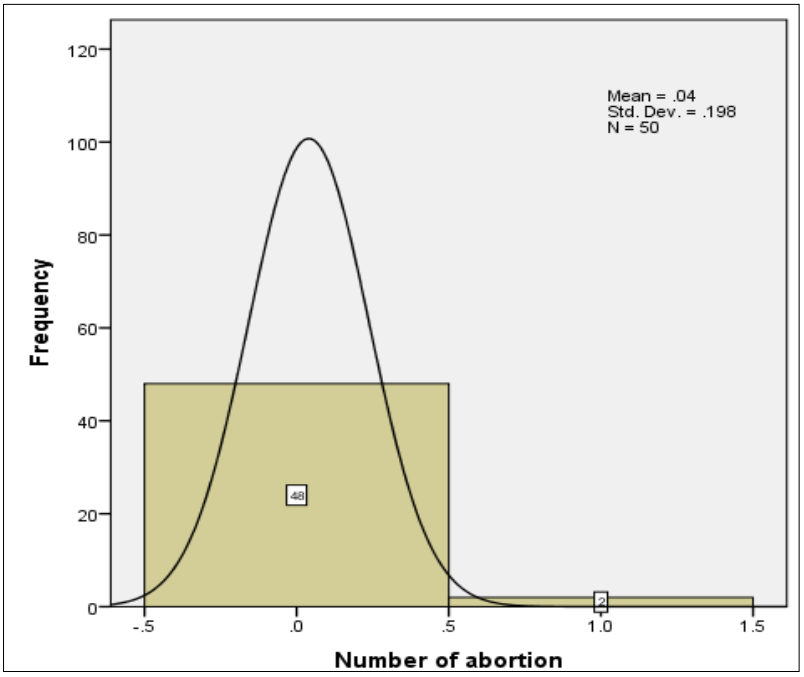

Fig-5: Frequency graphs of number of abortion of 50 breast cancer patients

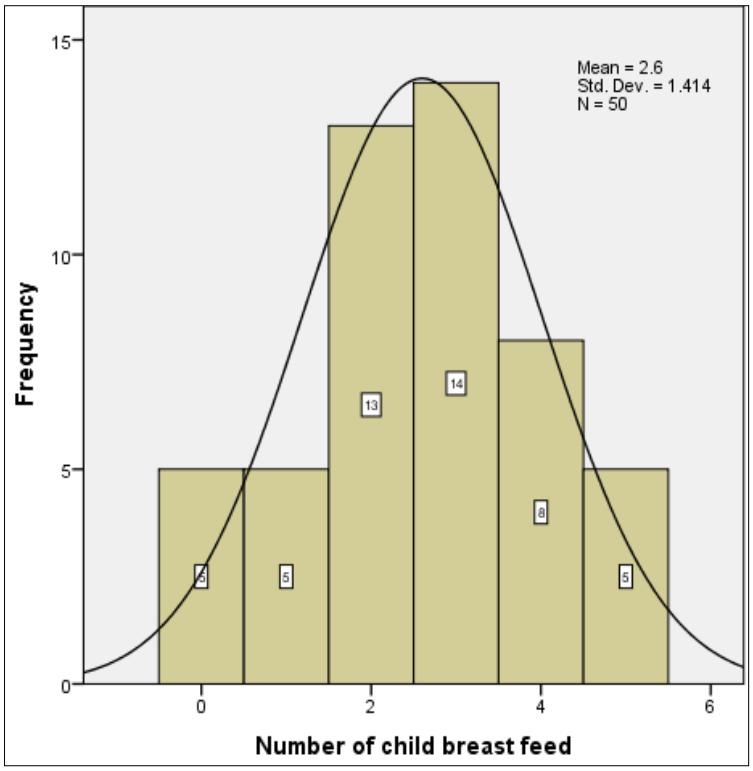

Fig-6: Frequency graphs of number of child breastfeed of 50 breast cancer Patients

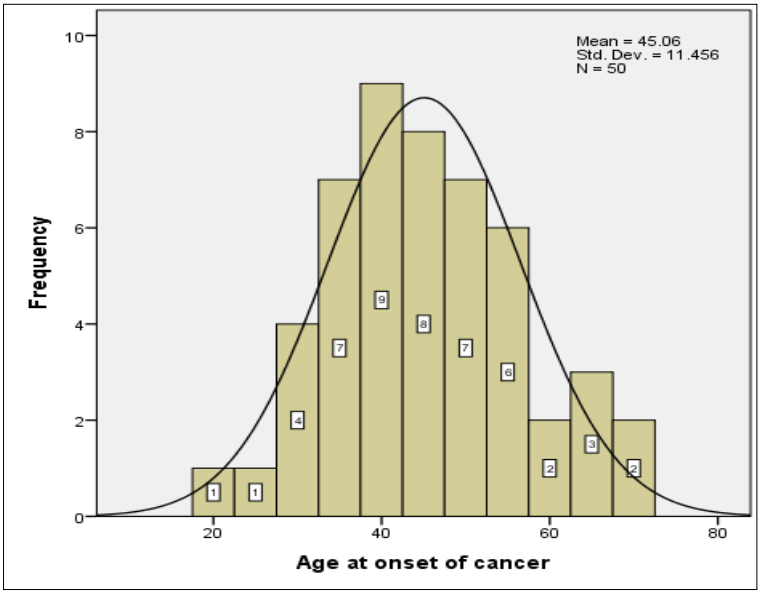

Fig-7: Frequency graphs of age at onset of cancer of 50 breast cancer patients

DISCUSSION

The sociodemographic characteristics of the 50 adult Bangladeshi Bengali female breast cancer patients in this study reveal several similarities and differences when compared to other studies conducted both in Bangladesh and internationally. Age distribution, marital status, contraceptive use, and reproductive factors such as parity and breastfeeding habits provide valuable insights into the potential risk factors and trends among breast cancer patients in Bangladesh [9].

The age distribution of the patients in this study shows that the highest frequency of breast cancer cases (64%) occurred in women aged 31-50 years, with a smaller percentage (28%) in the 51-70 age group. This pattern aligns with several studies from other low- and middle-income countries (LMICs), [10, 11] where breast cancer is more frequently diagnosed in women in their 30s and 40s compared to high-income countries, where the majority of cases occur in women over 50. For example, a study from India similarly found a high incidence of breast cancer among women aged 30-50

years. However, in Western countries, [12] where screening programs are more robust and awareness is higher, breast cancer is more commonly diagnosed in older women, typically after menopause. The lack of cases in the 71-90 age group in this study suggests underreporting or late-stage detection in older women, which might reflect limited healthcare access or cultural barriers in Bangladesh.

The high percentage of married women (96%) in this study contrasts with findings from studies conducted in more liberal or developed societies, where a larger proportion of patients may be single or divorced. [13] In many LMICs like Bangladesh, marriage is nearly universal for women, and the high rate of married breast cancer patients is consistent with societal norms. Other studies conducted in similar cultural contexts, such as in South Asia or the Middle East, also report a high proportion of married breast cancer patients. The social and emotional support provided by marriage might encourage more women to seek medical attention, but it could also suggest that single women are less likely to access healthcare, possibly due to social stigma or economic limitations [9, 11].

The use of oral contraceptives (68% of the patients) is an interesting finding that aligns with research suggesting that contraceptive use is a potential risk factor for breast cancer. In other studies, particularly in Western countries, long-term use of hormonal contraceptives has been associated with a modest increase in breast cancer risk, although the risk tends to decline after discontinuation [13]. However, contraceptive use among breast cancer patients in Bangladesh may also reflect broader trends in reproductive health and family planning. In LMICs like Bangladesh, where population control has been a public health priority, the widespread use of contraceptives is encouraged, and this could partially explain the high usage rates seen among breast cancer patients in this study.

Reproductive factors such as age at menarche, parity, and breastfeeding also play significant roles in breast cancer risk, and this study's findings are consistent with known risk factors. Early menarche and higher parity have been associated with increased breast cancer risk, and breastfeeding is known to offer some protective benefits. International studies, particularly from Western countries, highlight the protective role of extended breastfeeding in reducing breast cancer risk. In contrast, in LMICs like Bangladesh, where breastfeeding is more common and often prolonged, the protective benefits may be offset by other risk factors such as late-stage diagnosis or limited access to healthcare facilities [14, 15].

This study did not find any cases of breast cancer among women aged 71-90, which is unusual given that breast cancer incidence generally increases with age. This discrepancy could reflect underdiagnosis in older women due to cultural or logistical barriers. In Bangladesh, older women may have less access to medical care, and there may be a cultural tendency to prioritize younger family members for healthcare. This pattern has also been observed in other LMICs, where older women are less likely to be screened or treated for breast cancer compared to younger women.

CONCLUSION

In conclusion, the sociodemographic profile of female breast cancer patients in this study shares several similarities with other studies conducted in LMICs, particularly in terms of age distribution, marital status, and contraceptive use. However, differences such as the lack of older patients and the cultural context surrounding reproductive health reflect the unique challenges faced by women in Bangladesh. Understanding these sociodemographic factors is critical for developing targeted interventions and public health strategies to improve breast cancer outcomes in the country.

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