

The Relationship of Breast Cancer with Age in Bangladeshi Female Breast Cancer Patients

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Abstract

Context: Breast cancer is a multi-factorial disease and consistently ranks as one of the top killer cancers in women. The increasing incidence of breast cancer prevailing in Bangladeshi women, especially at a younger age, and their survival rate justifies research on breast cancer epidemiology. Age is the established risk factor for breast cancer. Therefore, the objective of this study was to determine the relationship of breast cancer with age.

Materials & Methods: A cross-sectional study was done on 100 adult Bengali Bangladeshi female patients with ductal cell carcinoma of breast of 25 to 70 years of age group. The study was carried out in the Department of Anatomy, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, from March 2017 to February 2018. Semi-structured data collection sheet was used to collect the age of the patients and the age of onset of cancer.

Results: The mean age of the patients was 45.55 years, and the onset of cancer was predominantly below 50 years of age.

Conclusion: This study findings may contribute significantly to current knowledge of risk factors for breast cancer and help to identify women who need benefit most from screening or other preventive measures.

Key words: Breast cancer, age of onset of breast cancer, risk factors

Introduction

Breast cancer is the most frequently occurring cancer in women and the second most frequent in overall after lung cancer.¹ The prevalence of breast cancer in South Asia is increasing due to increased life expectancy, population growth, adoption of western lifestyles such as high-fat diet, reduced activity, reduced parity, delayed childbearing, decreased breastfeeding.² About 20,88,849 new breast cancer cases detected in South Asia in 2018

and approximately 626 679 (6.6%) breast cancer patients died.³ In Bangladesh, breast cancer is the leading cancer in women with a prevalence of 32.8% for the last five years.⁴

A variety of risk factors for breast cancer have been well-established by epidemiological studies carried out all over the world. These studies include non-modifiable risk factors such as age, sex, race, ethnicity, gene, and modifiable factors like exposure to diet, physical inactivity, exogenous hormones, breastfeeding and female reproductive factors such as female sex hormones.⁵ But on the other hand some modifiable health behaviors in Asian populations thus include the maintenance of a traditional dietary pattern (high in rice, fresh vegetables, and soy) thought to be protective.⁶

The risk factors for breast cancer are known to be different from country to country. Therefore, it is important to understand the risk factors for a specific population, to improve early diagnosis and clinical management of breast cancer. But limited research

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has been carried out on socio-demographic patterns and the modifier of the risk of breast cancer among Bangladeshi population. Also, there is no comprehensive nationwide data about the risk factors of breast cancer. However, due to lack of systematic population-based cancer registration most information has come from small clinical and pathological case series. Epidemiological patterns help to determine the risk factors for developing breast cancer, and help to identify women who need benefit most from screening or other preventive measures. Therefore, it is important to establish the epidemiological pattern in Bangladeshi female breast cancer patients.

Breast cancer incidence rates in the developed countries continue to rise after menopause and about two-thirds of the cases are diagnosed at the age of 50 years and above. But in developing countries, the highest incidence of breast cancer is women aged between 15-49 years.⁶ Around 6.6% of all breast cancer women are diagnosed below 40 years, 2.4% women less than 35, and 0.65% women are less than 30 years of age.⁴ Many studies suggested that female breast cancer is associated with earlier ages at onset among Asian than Western populations, with a median of 53.9 years in Japan, 51 years in Korea, 48–50 years in China and 48.3 years in Thailand. For Asian-Arab countries, the median age at breast cancer diagnosis is below 50 years.⁷

The previous study of epidemiological factors on Bangladeshi population showed that higher education, personal income, history of induced abortion, history of breastfeeding, OCP users, smokers, personal history of breast disease, family history of breast cancer and family history of other cancer were risk factors for breast cancer. Furthermore, having menarche at an early age, giving birth to an early age, early menopause, longer duration of breastfeeding, parity of two and more and regular physical activity were shown to be protective factors.⁵ However, not all of these

factors are similarly relevant in Asian populations. So considering above all; the present study was planned to focus on the relationship of breast cancer with age in Bengali Bangladeshi female breast cancer patients.

Materials and Methods

The cross-sectional descriptive study was carried out in the Department of Anatomy, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka from March 2017 to February 2018. 100 breast cancer female patients were selected by using convenience sampling technique. All patients were diagnosed with ductal cell carcinoma of breast attending in OPD and in-patients Departments of Surgery and Department of Oncology of BSMMU and Radiotherapy Department of Dhaka Medical College and Hospital, Dhaka. The diagnosis was confirmed by pathological reports. A written checklist was designed by the researcher to check the inclusion criteria in selecting patients. Detailed history of the patients was taken through interview sessions using a semi-structured data collection sheets by the researcher herself. Age of the patients was limited to 25 to 70 years and noted by the verbal query and rechecked by hospital records. Age considered in grouped <30, 31-40, 41-50, 51-60, 61-70 years and age at onset of cancer were classified as <50 and \geq 50 years of age.

Ethical clearance

The present study was approved by the Institutional Review Board (IRB) of BSMMU.

Results

The age of the 100 adult Bengali Bangladeshi female breast cancer patients ranged from 25 to 70 years and the mean age was 45.55 years. The age group 41 to 50 years represents highest (29%) in the study population, frequency of below 30 years age was 12% and frequency was low (6%) above 60 years of age (Fig. 1). Most of the patients (71%) had the onset of breast cancer before 50 years of age (Fig. 2).

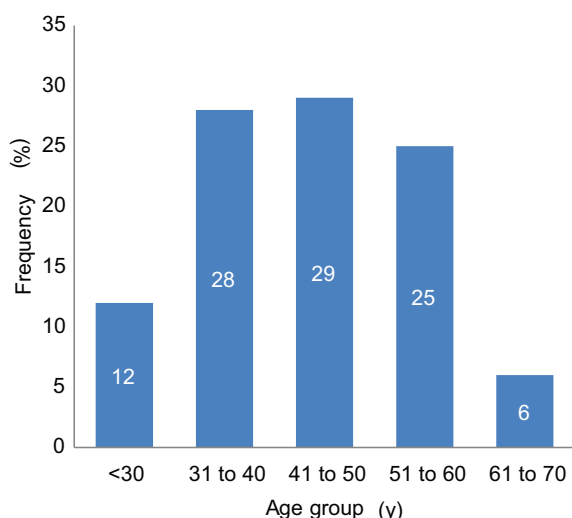


Fig-1: The frequency of age group of adult breast cancer patients (n= 100).

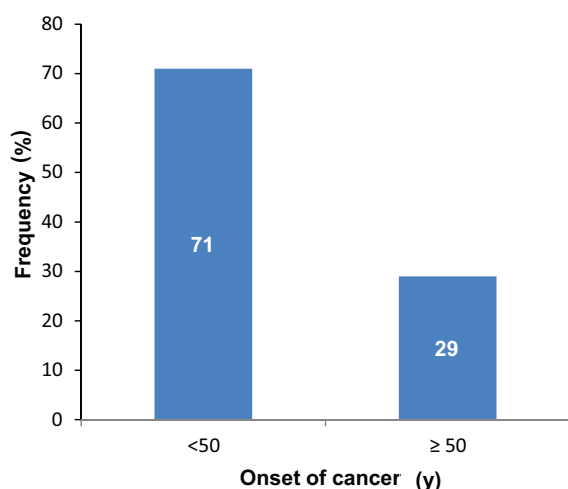


Fig-2: The frequency of onset of cancer in adult Bangladeshi female breast cancer patients (n= 100).

Discussion

Many studies suggested that age is an independent causative factor. A broad range of ages from twenty-five to seventy was selected because breast cancer is less common in below 25 years⁸ and 47% of women were diagnosed below 50 years in South-East Asia.⁹ in the present study The mean age of the patients was 45.55 (±11.22) and the age group 41 to 50 years represented the highest group (29%) of the patients. Similar type of study done on the Bangladeshi female breast cancer patients found

mean age at diagnosis was 44.66 years.¹⁰ A study done by Hall et al¹¹ showed that the mean age at the time of diagnosis was 50±11.9 years among European women, 45.2 (±10.9) years for women of African descent and 47.1 (±12.5) years for Asian women.¹¹ Mean age in different study was 48.4 years on Eastern Indian¹², 45.83 years on Central African women¹³, 45 years on Polish women.¹⁴ Therefore, we can say that the predominant mean age found is consistent with some previous studies.

Greater parts of the patients were within 41 to 50 years (29%) and 31 to 40 years (28%) of age group. The frequency of breast cancer incidence was 25% in age from 51 to 60 but the rate falls (6%) in more than 60 years of age. This is consistent with the studies on Ashkenazi Jewish women by Abeliovich et al¹⁵, showing the age group 40 to 50 years constituted the greater part of the study population (61%).¹⁵ A study on Nepali women found predominant age group of the patients was 40 to 49 years.¹⁶ A similar study by Balekouzou et al¹³ found that age group 45-54 years (29.3%) and 35 to 44 years (28.2%) were more in the study population. But this result does not accord with Fernandes et al¹⁷, where the majority (17.5%) of breast cancer cases was 36 to 40 years of age.

There is an established fact that Asian breast cancer patients are, on average, younger than their European counterparts.¹⁸ In the present study, the majority (71%) had the onset of cancer <50 years, which is similar to the study by Abeliovich et al¹⁵, where the majority were diagnosed before 50 years. The incidence rate of breast cancer shows a sharp rise in premenopausal in Asia and plateaus after age 50 years.¹⁹ A study done on different ethnicities shows that the Asian women were more likely to be diagnosed at a younger age (54.8 years) than African American women (56.2 years) and whites (59.8 years).²⁰ Breast cancer in young women is more likely to be of a more aggressive subtype, such as triple negative or Her2-positive breast cancer, and is more likely to present at an advanced stage.¹⁹

Conclusion

This study reflects some extent of the epidemiological risk factors of breast cancer. These

findings need to be confirmed by more studies on a large scale with a larger sample size and by using a control group for comparison with the patients. By combining and summarizing the results of various other studies conducted in future with this study can be effective in improving the current knowledge of environmental risk factors for breast cancer and designing targeted breast cancer screening programs among Bangladeshi women.

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Conflict of interests

There were no potential conflicts of interest with respect to the research.

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