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## Original Research

### ASSESSMENT OF RISK FACTORS OF BREAST CANCER AMONG KNOWN POPULATION: A CROSS-SECTIONAL STUDY

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#### ABSTRACT

**Background:** Breast cancer (BC) is the most frequent malignancy among women worldwide. The burden of disease caused by breast cancer gradually becomes larger. Hence; we planned the present study to assess of risk factors of breast cancer among known population: A cross-sectional study **Materials & methods:** A total of 260 breast cancer patients were included in the present study. Complete demographic and clinical details of all the patients were recorded. A pre-formed Performa was made and was filled by all the patients. Detailed medical and past family history of all the patients was obtained. **Results:** Overweight and advancing age was found to be risk factor for the development of breast cancer in the present study. Palpable nodule was found to be present in 212 patients. Bilateral breast cancer was detected in 25 patients. **Conclusion:** Breast cancer is a commonly prevalent disease affecting a significant proportion of Indian and world's population.

**Key words:** Breast, Cancer, Risk

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## INTRODUCTION

Breast cancer (BC) is the most frequent malignancy among women worldwide, with an estimated 14 million new cases and 8 million mortalities in 2012, which is projected to rise by at least 70% by 2030. Especially it is a disease of postmenopausal and elderly age group, approximately 5.6% of breast cancer patients are  $\leq 40$  years.<sup>1-3</sup> They are characterized by less hormone sensitivity, higher human epidermal growth factor receptor 2 expressions, and aggressive clinical behavior with poor outcomes as compared to the elderly group. The burden of disease caused by breast cancer gradually becomes larger. However, the etiology of breast cancer is far from fully understood.<sup>4-6</sup> Great differences were found in tumor behavior, clinical manifestation, treatment response, and prognosis among different breast cancer types. Targeted therapy has become encouraging in breast cancer treatment, when estrogen receptor (ER) status was demonstrated to be an important treatment and prognostic factor in the last 10 years.<sup>7,8</sup> Hence; we planned the present study to assess of risk factors of breast cancer among known population: A cross-sectional study

## MATERIALS & METHODS

The present study was conducted in the department of social and preventive medicine of the medical institute and it included assessment of risk factors of breast cancer among known population. A total of 260 breast cancer patients were included in the present study. Inclusion criteria for the present study included:

- Patients with negative history of any other systemic illness,
- Patients with negative history of diabetes and hypertension,
- Patients with any known drug allergy

Complete demographic and clinical details of all the patients were recorded. A pre-formed Performa was made and was filled by all the patients. Detailed medical and past family history of all the patients was obtained. All the results were compiled in the Microsoft excel sheet and was analysed by SPSS software. Chi-square test was used for assessment of level of significance.

**RESULTS**

In the present study, a total of 260 patients were analysed. Mean age of the patients of the present study was 50.2 years. 102 patients were less than 45 years of age while 158 patients were more than 45 years of age. Out of 260 patients, 186 were overweight while the remaining 74 were normal-weight. 110 patients were married, while 65 patients were single and 85 patients were divorced. In the present study, positive family history of breast cancer was present in 98 patients while in the remaining 152 patients, family history was negative. In the 30 patients, menopause was present at the time of detection of breast cancer. Overweight and advancing age was found to be risk factor for the development of breast cancer in the present study. Palpable nodule was found to be present in 212 patients. Bilateral breast cancer was detected in 25 patients.

Table 1: Age-wise distribution of patients with breast cancer

Age group (years)	Number of patients	Percentage of patients
Less than 45	102	39.23
Equal to or more than 45	158	60.77
<b>Total</b>	<b>260</b>	<b>100</b>

Table 2: Risk factors for development of breast cancer

Risk factors	Number of subjects	p-value	
<b>Overweight</b>	Yes	186	0.02*
	No	74	
<b>Marital status</b>	Married	110	0.04*
	Single	65	
	Divorce	85	
<b>Age group (years)</b>	Less than 45	102	0.01*
	Equal to or more than 45	158	
<b>Family history</b>	Yes	98	0.02*
	No	152	
<b>Menopause at time of diagnosis</b>	Yes	30	0.00*
	No	230	

\*: Significant

Table 3: Clinical manifestation of breast cancer in the present patient population

Risk factors	Number of subjects	p-value	
<b>Palpable nodule</b>	Yes	212	0.02*
	No	48	
<b>Multicentric cancer</b>	Yes	41	0.01*
	No	219	
<b>Bilateral breast cancer</b>	Yes	25	0.00*
	No	235	

\*: Significant

**DISCUSSION**

A malignant tumour is a group of cancer cells that can grow into surrounding tissues or spread to different areas of the body. The disease occurs almost entirely in women, but men can get it too. The breast is the second commonest site in women which can be affected by cancer. Breast neoplasms affect mainly women in perimenopause. The main risk factors are related to hormonal and reproductive features, age, gender, and family history. They are not common in young women, constituting 5 to 7% of all case.<sup>6-8</sup> In the present study, a total of 260 patients were analysed. Mean age of the patients of the present study was 50.2 years. 102 patients were less than 45 years of age while 158 patients were more than 45 years of age. Out of 260 patients, 186 were overweight while the remaining 74 were normal-weight. Balekouzou A et al investigated the epidemiological and histopathological characteristics of breast cancer in Bangui. A questionnaire was designed to collect information and data was analysed using descriptive and inferential statistical methods. Less than 14% of the study population had a level of academic degree and 85.6% lived in cities. The breast cancer prevalence was 15.27%. The age-standardized incidence and death by world population (ASW) were 11.19/100,000 and 9.97/100,000 respectively. 50–54 years were most affected. The findings of their study showed that breast cancer is common and mostly affected women.<sup>9</sup>

In the present study, 110 patients were married, while 65 patients were single and 85 patients were divorced. In the present study, positive family history of breast cancer was present in 98 patients while in the remaining 152 patients, family history was negative. M Y et al assessed incidence of breast cancer in west of Iran (Ilam province). During a cross-sectional study, all documented records of patients who were referred to the health centre of Ilam province in a period of 8 years (2002-2009) were investigated and 82 files which were related to breast cancer were identified. Due to diagnosis of the disease in its advanced stages, and also involvement of low age groups and young population in the country, screening programs such as self-examination, examination by doctors and mammography should be started in the lower age groups, in ages which are lower than 30 years.<sup>10</sup>

In the present study, in the 30 patients, menopause was present at the time of detection of breast cancer. Overweight and advancing age was found to be risk factor for the development of breast

cancer in the present study. Palpable nodule was found to be present in 212 patients. Bilateral breast cancer was detected in 25 patients. Williams LJ et al investigated the feasibility of comparing routine data on selected conditions including breast cancer across participating European countries. In total, 24 576 invasive breast cancer cases were identified from cancer registries from over 13 million women. Age-adjusted incidence ranged from 151.1 (95%CI 147.2-155.0) in Hungary to 234.7 (95%CI 227.4-242.0)/100 000 in Scotland. One-year survival ranged from 94.1% (95%CI 93.5-94.7%) in Scotland to 97.1% (95%CI 96.2-98.1%) in Italy. Scotland had the highest proportions of poor prognostic factors in terms of tumour size, nodal status and metastases. Significant variations in data completeness for prognostic factors prevented adjustment for case mix.<sup>11</sup>

## CONCLUSION

Under the light of above mentioned results, the authors conclude that breast cancer is a commonly prevalent disease affecting a significant proportion of Indian and world's population. Due to delayed detection because of non-specific symptoms, screening programs such as self-examination, examination by doctor and mammography are strongly advocated so that prognosis could be improved.

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