



## A Hospital Based Cross-sectional Study of Risk Factors for Breast Cancer

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### Abstract

**Introduction:** There are lots of established risk factors for developing breast cancer and many of which are out of the patient's control like genetics, race, sex, age, family history and menstrual history. This study evaluates different risk factors which were found in breast cancer patients diagnosed or treated in Shija Hospitals & Research Institute.

**Materials and Methods:** This cross-sectional study was conducted in Shija Hospitals & Research Institute from 1<sup>st</sup> November, 2013 to 31<sup>st</sup> October, 2015. After obtaining an informed consent, data were collected using a structured questionnaire.

**Results:** Total 200 women were included in the study. Breast cancer was diagnosed in 16 (8%) patients. In our study, breast cancer was significantly associated with age, positive family history and breast feeding. Breast cancer had no significant association with early menarche, late menopause, marital status, age at first child birth and duration of combined oral contraceptive pill consumption.

**Conclusion:** Though some of the risk factors are out of patient's control, there are various modifiable risk factors associated with development of breast cancer. Breast cancer education should be introduced in the public sector. A good knowledge about risk factors, regular self breast examination and screening tests can help in early detection of breast cancer.

**Keywords-** Breast, Cancer, Risk.

### Introduction

In India, breast cancer is the most common cancer among women in many regions and has overtaken cervix cancer, which was the most frequent cancer a decade ago<sup>[1]</sup>. In 2012, estimated incidence of breast cancer among Indian women was 1,44,937 (Commonest type of cancer) with highest mortality (21.5%) among all types of cancer in women<sup>[2]</sup>. There are lots of established risk factors for developing breast cancer and many of which are out of the patient's control like genetics, race, sex, age,

family history and menstrual history. This study evaluates different risk factors which were found in breast cancer patients diagnosed or treated in Shija Hospitals & Research Institute.

### Materials and Methods

This cross-sectional study was conducted in Shija Hospitals & Research Institute from 1<sup>st</sup> November, 2013 to 31<sup>st</sup> October, 2015. Approval for the study was taken from the Institutional Ethical Committee and Scientific Committee. All the female patients

who visited Shija Hospitals & Research Institute during study period with any problem of the breast were included in the study. After obtaining an informed consent, data were collected using a structured questionnaire. Fisher’s exact probability test was used to compare risk factors between breast cancer and non breast cancer groups. P value of <0.05 was taken as significant.

The study evaluated following risk factors<sup>[3,4]</sup> –

1. Age
2. Early menarche
3. Late menopause
4. Marital status
5. Age at first child birth
6. Breast feeding
7. Consumption of combined oral contraceptive pills for more than 5 years
8. Family history of breast cancer

**Results**

Total 200 women were included in the study. Mean age of study population was 30.81 years. Breast cancer was diagnosed in 16 (8%) patients.

**Table 1:** Relation of age group with breast cancer

Age (Years)	Breast cancer		Total
	Present	Absent	
>30	11	76	87
≤ 30	5	108	113
Total	16	184	200

Age group more than 30 years was significantly (P value 0.038) associated with breast cancer.

**Table 2:** Relation of early menarche with breast cancer.

Menarche status	Breast cancer		Total
	Present	Absent	
Early	0	18	18
Not early	16	166	182
Total	16	184	200

There was no significant (P value 0.370) association between early menarche (menarche before 11years) and breast cancer.

**Table 3:** Relation of late menopause with breast cancer.

Menopause status	Breast cancer		Total
	Present	Absent	
Late	1	0	1
Not late	2	19	21
Total	3	19	22

There was no significant (P value 0.136) association between late menopause (menopause after 55 years) and breast cancer.

**Table 4:** Relation of marital status with breast cancer.

Marital status	Breast cancer		Total
	Present	Absent	
Married	12	128	140
Unmarried	4	56	60
Total	16	184	200

There was no significant (P value 0.781) association between marital status and breast cancer.

**Table 5:** Relation of age at first child birth with breast cancer.

Age at first child birth (Years)	Breast cancer		Total
	Present	Absent	
>24	5	76	81
≤ 24	0	27	27
Total	5	103	108

There was no significant (P value 0.328) association between age at first child birth and breast cancer.

**Table 6:** Relation of breast feeding with breast cancer.

Breast feeding	Breast cancer		Total
	Present	Absent	
Not done	3	15	18
Done	1	89	90
Total	4	104	108

Women who didn’t breast feed had significant (P value 0.014) association with breast cancer.

**Table 7:** Relation of duration of OCP consumption with breast cancer.

Duration of OCP consumption	Breast cancer		Total
	Present	Absent	
>5 years	1	19	20
<5 years	5	40	45
Total	6	59	65

Duration of combined OCP consumption had no significant (P value 0.657) association with breast cancer.

**Table 8:** Relation of positive family history with breast cancer.

Family history of breast cancer	Breast cancer		Total
	Present	Absent	
Present	4	4	8
Absent	12	180	192
Total	16	184	200

Positive family history was significantly (P value 0.001) associated with breast cancer.

## Discussion

Early Breast Cancer (EBC) constitutes only 30% of the breast cancer cases seen at different cancer centres in India compared to 60-70% of the breast cancer cases in the developed world<sup>[5]</sup>.

The risk of getting breast cancer increases with age. In our study, age group more than 30 years was significantly associated with breast cancer.

In 5% of breast cancer cases, there is a strong inherited familial risk<sup>[6]</sup>. In our study also, positive family history was significantly associated with breast cancer.

Lower age of first childbirth, compared to the average age of 24, having more children (about 7% lowered risk per child), and breastfeeding (4.3% per breastfeeding year, with an average relative risk around 0.7) have all been correlated to lowered breast cancer risk in large studies<sup>[7]</sup>. Augustine P et al. (2014, Kerala) found advancing age, age at first child birth, null parity, family history have significant association with breast cancer<sup>[8]</sup>.

In our study, women who didn't breast feed had significant association with breast cancer, but there

was no significant association of age at first child birth with breast cancer.

It is important to recognize benign lesions, both to distinguish them from in situ and invasive breast cancer and to assess a patient's risk of developing breast cancer, so that the most appropriate treatment modality for each case can be established<sup>[9]</sup>. Early diagnosis helps in alleviating unnecessary anxiety about breast cancer<sup>[10]</sup>.

## Limitation of Study

In our study, number of breast cancer cases was less and we did not consider genetic factors.

## Conclusion

In our study, breast cancer was significantly associated with age, positive family history and breast feeding. Breast cancer had no significant association with early menarche, late menopause, marital status, age at first child birth and duration of combined oral contraceptive pill consumption. Though some of the risk factors are out of patient's control, there are various modifiable risk factors associated with development of breast cancer. Breast cancer education should be introduced in the public sector. A good knowledge about risk factors, regular self breast examination and screening tests can help in early detection of breast cancer.

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