

Relation of Breast Cancer with Parity and Breastfeeding

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ABSTRACT

Objective: The purpose of this study was to evaluate the relationship of breast cancer with parity and breastfeeding in local settings since no such studies have been carried out previously. The results of such study can provide data for comparison from other parts of country and international research. **Study Design:** Observational study. **Place and Duration:** Department of Surgery Allied Hospital Faisalabad between October 2013 and October 2014. **Methods:** A sample of 500 breast cancer patients diagnosed clinically and histopathologically was included in the study after informed consent. Patients were interviewed using a questionnaire. We observed the variables of age, parity, menstrual history

and months of breastfeeding for each child. Analysis was done using SPSS version 12. 0. **Results:** In present study, 500 patients of breast cancer were included with age ranging from 28 years to 80 years. Most common age group was 40 to 50 years. 91.8% females with breast cancer were multiparous and all 91.8 % females gave history of breastfeeding their children. 48% of the females breastfed for more than 5 years, 40% of them for 1to5 years and 3.8 % of them for less than 1 year. Only 8.2% females who were either unmarried or had no issues did not breastfeed at all. **Conclusion:** In our local settings, multiparity and breastfeeding do not alter the risk of breast cancer and thus other risk factors must be studied. **Key words:** Breast cancer, breastfeeding, parity

INTRODUCTION

Breast cancer is the most common malignancy in women worldwide¹ with one million new cases each year and among females it is the second leading cause of death.² Approximately one in every nine Pakistani women is likely to suffer from breast cancer.³ It's incidence in Pakistan is 2.5 times higher than that in neighboring countries like Iran and India.⁴ The etiology of breast cancer is still poorly understood and known risk factors for breast cancer explain only a small proportion of cases. These include socioeconomic status (education and income), obesity, smoking, stress, migration, marital status, age at menarche, number of pregnancies, age at first pregnancy, breastfeeding, abortion, infertility and menopausal status.⁵

In general population reproductive factors including parity and breastfeeding have been shown to protect against the development of breast cancer.^{6,7,8} Breast feeding n multiparity is hypothesized to reduce the risk of breast cancer through hormonal changes, excretion of estrogens and carcinogens from the breast ducts, breast tissue differentiation and reduction in the number of ovulatory cycles in a lifetime. But results from some recent studies did not demonstrate such relation.^{9,10,11,12} It is presumed that multiparity at short intervals and breastfeeding results in failure of progenitor cells to undergo natural differentiation that ultimately results in increased pool of cells with survival capability and potential risk of carcinogenesis.⁵

The purpose of this study was to evaluate the relation of breast cancer with parity and breastfeeding in local settings since no such studies have been made previously. The results of such study can provide data for epidemiological interest and help compare the local data from other parts of country and international research.

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MATERIALS AND METHODS

This was an observational study done from October 2013 to October 2014 in the Department of Surgery, Allied Hospital Faisalabad. Allied Hospital is a tertiary care hospital which covers the population of about 20 million people.

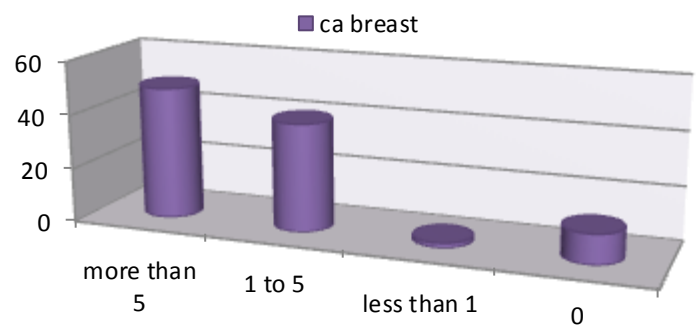
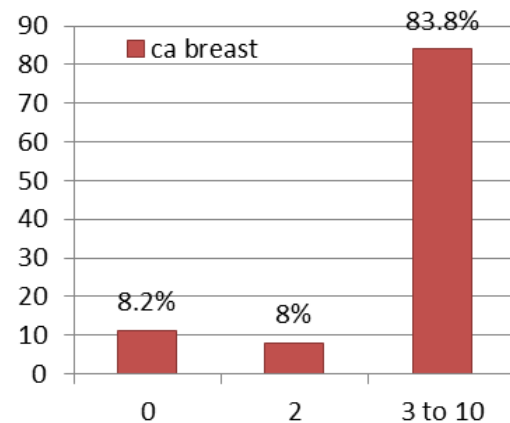
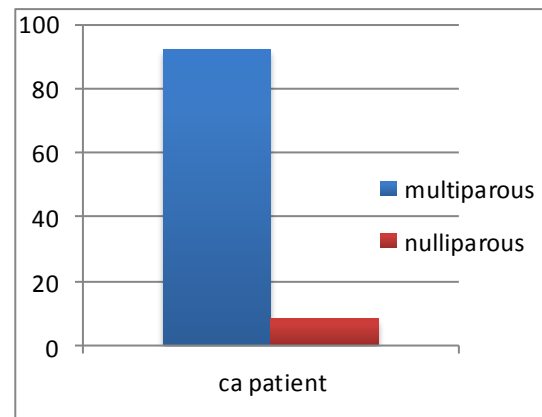
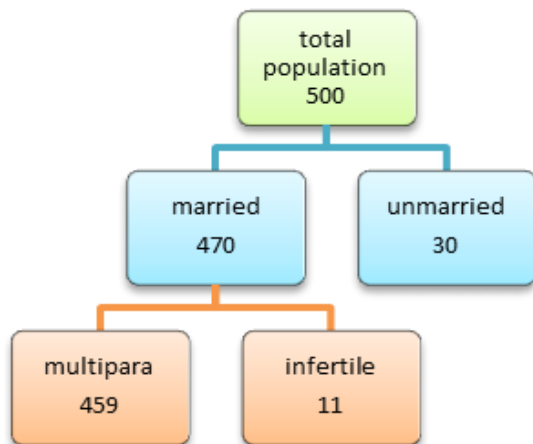
All those patients who presented in the outpatient department with breast cancer in the above mentioned duration were included in the study.

Those patients who refused to undergo assessment and treatment in the unit or who left against medical advice after a provisional diagnosis was made were excluded.

All patients were counseled about their condition and informed consent was taken from all patients for their management and inclusion in the study. Patients were interviewed using a questionnaire and variables including age, parity, menstrual history and duration of breastfeeding were evaluated. Analysis of these variables was done using SPSS version 12.0 to note predictive effect of breastfeeding and parity on risk of Ca breast.

RESULTS

In this study, 500 patients of breast cancer were included with age ranging from 28 years to 80 years. Out of total sample 270 (54%) females were of age group 40-50 yrs. Out of the total sample, 470 patients were married and 30 were unmarried. Infertility was reported in 11 patients. 459 females were multipara with 1 to 10 live births with average of 5 issues. 91.8% females were multiparous, 8.2% had no issues, 8% had 2 issues and 83.8% had 3-10 issues.



All parous women gave history of breastfeeding their children with total duration ranging from 1 to 16 years. Majority of the sample i.e., 240 out of 500 had been breastfeeding for more than 5 years. 200 females gave history of breastfeeding for 1 to

5 years. 19 females breastfed for less than one year. Only 41 females who were nullipara did not breastfeed at all. 91.8% females breastfed their children. 48% breastfed for more than 5 years, 40% for 1 to 5 years, 3.8% for less than 1 year and 8.2% females who were nulliparous did not breastfeed at all. Average duration of breastfeeding was found to be 6.3 years for all parous females with breast cancer.

DISCUSSION

This study was conducted to see the relation of breastfeeding and parity to breast cancer in the local settings and it demonstrates that breastfeeding and multiparity does not confer any protective effect against breast cancer.

According to Babita et al and Mina Hussainzadeh the risk of Ca breast was more in nulliparous women as compared to women having 1 or 2 children. Risk was more in women with 1 or 2 children when compared with females having 3- 4 children.^{5,8} Many other studies gave similar results.^{6,7} These studies also supported the fact that breastfeeding has statistically significant role in reduction of breast cancer risk.^{5,6,7,8} Breast feeding and multiparity is hypothesized to reduce the risk of breast cancer through hormonal changes, excretion of estrogens and carcinogens from the breast ducts, breast tissue differentiation and reduction in the number of ovulatory cycles in a lifetime. Joanne Kotsopoulos et al in a vast study of 2636 subjects also reported that ever having breastfed and the total duration of breastfeeding confer substantial reduction in breast cancer risk. Breastfeeding for one or more years conferred a significant 32% reduction in risk in BRCA1 mutation carriers.⁶

Contrary to above studies, Fatima N et al, Standel Holtis et al, But S et Al demonstrate that there is no significant decrease in the risk of breast cancer in relation to breastfeeding and multiparity.^{9,10,11,12}

Results of present study also favor this second school of thought. It is presumed that multiparity at short intervals and breastfeeding results in failure of progenitor cells to undergo natural differentiation that results in increased pool of cells with survival capability and potential risk of carcinogenesis.⁵ Level of circulating prolactin increases during pregnancy because of production

from non-pituitary sources like breast, endometrium and T cells. In vitro studies have also shown that prolactin enhances the response of breast tissue to estrogen by over expression of estrogen receptors and inhibits apoptosis of breast cancer cell lines.^{13,14} Salma Butt et al in 2014 in a study in Malmo (Sweden) claimed that there was no strong relation between breastfeeding and breast cancer and found a trend towards more grade 3 tumors with increasing duration of breastfeeding.¹² Stendell Hollis in a vast study on 69,358 females, demonstrated that there was no significant decrease in the risk of breast cancer in women who breastfed for more than 24 months during their lifetime.¹⁰ Nousheen Fatima et al in a 10 year study in KIRAN Karachi gave results similar to our study and demonstrated a paradigm shift in breast cancer risk factors as it was found more prevalent in multiparous women with history of prolonged breastfeeding.⁹ We have also noted this paradigm shift in risk factors for breast cancer as 91.8% of our women with breast cancer are multiparous with mean of 5 issues and all multiparous females breastfed their children for 1 to 16 years with a mean of 6.3 years.

CONCLUSION

In our local settings, multiparity and breastfeeding do not seem to reduce the risk of breast cancer. Majority of our patients with breast cancer were multiparous and had breastfed their children for more than 2 years. We consider that there should be a case control study to prove or disprove such relation. Multiparity and breastfeeding should be reviewed as protective factors and we emphasize the need of a multicentric broader scale study in our area to establish the role of multiparity and breast feeding in ca breast and also to evaluate other risk factors for ca breast in our setting.

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