

Study of Risk Factors for Breast Cancer in A Hundred Breast Cancer Patients

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ABSTRACT:

BACKGROUND:

Breastfeeding has been found to provide a measure of protection against uterine, cervical and ovarian cancers as well as breast cancer. It's long been known that breast cancer is common in situations where women have few children and breast feed for short periods. Various physiopathological mechanisms are involved in the protective effect of breast feeding; anovulation, and cellular differentiation of the mammary cells.

OBJECTIVE:

To assess the impact of breast feeding on breast cancer incidence.

METHODS:

One hundred married Women with breast cancer were evaluated to find out the impact of breast feeding on breast cancer incidence in these women. Data on risk factors were collected by self-administered questionnaires. The questionnaire included data like woman's age of having breast cancer, woman's age at menopause, woman's age of first full term pregnancy, number of pregnancies, lactation period, the age at menarche, woman's social habit like smoking, type of contraception, and family history of breast cancer, the data were collected and analyzed.

RESULTS:

We studied 100 married women with breast cancer. Their age groups were distributed between 22 years and 55 years when they had been discovered to have breast cancer, most of women were house wives (81%). Only three of them were smokers. Seventy nine women had menarche between age of 13-15 years, and only 4 of them had menarche at 16-17 years. Thirteen women had one full term pregnancy, other 48 women had 2-4 full term pregnancies and only 38 women had more than 5 full term babies. According to lactation periods we found that 21 women had never lactating their babies, 49 women lactated their children for 7-12 months and only 18 women lactated their children for 19-24 months. Regarding the age of women at first full term baby birth, there were 4 women had their first full term baby at age of 14-17 years, 58 women at age of 18-22 years, 37 women at age of 23-33 years and only one woman at age of 35 year.

CONCLUSION:

There was significant increasing risk of breast cancer with reducing periods of lactation (p value <0.001), with decreasing age at menarche (p value <0.001), early age of marriage (p value <0.001), and early age of having first full term baby (p value <0.001). We can conclude that lactation for more than 24 months can provide important benefits for the women's health, such as reduced risk of breast cancer. There was no evidence of a statistically significant difference in breast cancer risk between subjects who had ever smoked and those who had not. There was a statistically insignificant relationship between a positive Family history of breast cancer, and increasing risk of breast cancer, (p value >0.05).

KEYWORDS: cancer, breast feeding, risk factor, breast cancer.

INTRODUCTION:

Breast-feeding may modestly reduce the risk of developing breast cancer. Many studies, reported that women who breast-fed had a decreased risk of developing breast cancer (ranging from 10%-64%) compared to women who never breast-fed^(1,2,3,4,5).

The others reported that breast-feeding had no influence on the risk of developing breast cancer^(6,7,8). In addition, other reproductive factors, such as number of children and a woman's age at first birth, are very closely related to breast-feeding and may also influence breast cancer risk. Other issues being studied include whether the age at which a woman first breast-feeds is important, and the effects of breast-feeding in women with a family

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history of breast cancer. Finally, it is also possible that breast-feeding has different effects on the risk of developing premenopausal breast cancer compared to postmenopausal breast cancer^(1,2,3,4,5). Compared with parous women who never breast fed, women who had breastfed for 25 months or more had a lower relative risk. If women who do not breastfed or who breastfed for less than 3 months were to do so for 4 to 12 months, breast cancer among parous premenopausal women could be reduced by 11%, if all women with children lactated for 24 months or longer, the incidence might be reduced by nearly 25%^(1,2,3,4,9). Women who were breastfed as infants, even if only for a short time, showed an approximate 25% lower risk of developing premenopausal or postmenopausal breast cancer, compared to women who were bottle-fed as an infant⁽¹⁰⁾. Lactation provides a hypo estrogenic effect with less stimulation of the endometrial lining. This event may offer a protective effect from endometrial cancer⁽¹¹⁾. There was no evidence of a statistically significant difference in breast cancer risk between subjects who had ever smoked and those who had not^(12,13,14). Women with first birth after 30 years had increased risk of breast cancer in comparison with those whose first birth before age 21 years^(7,9,15,16).

PATIENTS AND METHODS:

The study was carried on from 2004 to 2006, in Nuclear Medicine Hospital in Baghdad.

One hundred married women with breast cancer were evaluated, after having mastectomy of one breast to find out the impact of breast feeding on breast cancer incidence in these women. Data on risk factors were collected by self-administered questionnaires, it was containing data about woman's age of having breast cancer, age of menarche and menopause, age of having first full term pregnancy, number of pregnancies, lactation periods, woman's social habit like smoking, type of contraception, family history of breast cancer and family history of other cancers. The data were collected and analyzed by using chi square test to find out the significant risk factor in breast cancer patients.

RESULTS:

This study included 100 married women with breast cancer. Their age groups were distributed between 22 years and 55 years when they had been found to have breast cancer, the most common age group of incidence was 36-46 years, it account for 50 (50%) of women, followed by the age group of 25-35 years which account for 27 (27%)

of women, (as shown in table 1). More than 81 women of these patients were house wives (table 2). Only three of the women were smokers, There was no evidence of a statistically significant difference in breast cancer risk between subjects who had ever smoked and those who had not, (p value >0.05).

Regarding age at menarche, 17 women had menarche between 10-12 years, another 79 women had menarche between 13-15 years and only 4 of them had menarche at age 16-17 years.

There was a statistically significant relationship between age at menarche and breast cancer (p value <0.001), (table 3). In regards to number of full term pregnancies, 13 women had one full term pregnancies, 48 women had 2-4 full term pregnancies, 15 women had 5 full term pregnancies, 10 women had 6 full term pregnancies, and only 13 women had more than 6 pregnancies. There was a significant increasing risk of breast cancer with reducing number of parity (p value <0.001), (table 4). There were 21 women who had no lactation at all, another 49 women had lactation periods less than 12 months and only 18 women had lactation periods between 19-24 months. There was a significant increasing risk of breast cancer with reducing periods of lactation in patients with breast cancer, (p value <0.001), (table 5). We found that 14 women used contraceptive pills for more than 2 years, and another 3 women used intrauterine loop for less than 2 years plus contraceptive pills for more than 2 years, and 8 women used contraceptive pills for less than 2 years, another 7 women used only intrauterine loop for less than 2 years.

There was a statistically insignificant relationship between the prolonged use of contraceptive pills for more than 2 years, and increasing risk of breast cancer, (p value >0.05). (Table 6) Seventy five women had their marriage at age of 12-22 years, another 24 women were married at age of 23-33 years, and only one woman married at age of 35 years. There was a statistically significant relationship between early age of marriage in women with breast cancer and increasing risk of breast cancer, (p value <0.001), (as shown in table 7). Regarding the age of women at first full term baby birth, four women had their first full term baby at age of 14-17 years, 58 women at age of 18-22 years, 37 women at age of 23-33 years and only one woman had her first full term baby at age of 35 years, (as shown in table 8).

RISK FACTORS FOR BREAST CANCER

There was significant increasing risk of breast cancer with reducing age of women when they gave birth to their first full term baby, (p value <0.000). There was a negative Family history of breast cancer in 79 women.

There was a statistically insignificant relationship between a positive Family history of breast cancer and increasing risk of breast cancer, (p value >0.05), (as shown in table 9).

Table1: Age groups of women with breast cancer at discovery of breast cancer

Age group	Number of women
22 -24 years	4
25-35 years	27
36-46 years	50
47-55 years	19
>56 years	0
Total	100

Table2: Occupation of patients

Women job	Number of women
House wife	81
Clerk	10
Retired	6
Assistant professor	2
Doctor	1
Total	100

Table 3: Age at menarche in patients with breast cancer

Age of menarche	Number of women
10-12 years	17
13-15 years	79
16-17 years	4
Total	100

Table 4: Number of parity in patients with breast cancer

Number of Parity	Number of women
0	1
1	13
2	9
3	16
4	23
5	15
6	10
7	7
8	2
9	0
10and more	4
total	100

Table 5: Periods of lactation in patients with breast cancer

Lactation period	Number of women
No lactation	21
Less than 6 months	1
7-12 months	49
13-18 months	9
19-24 months	18
More than 24 months	2
Total	100

Table 6: Types of contraception used in patients with breast cancer

Types of contraception	Number of women
No contraception	68
Intrauterine loop	7
Intrauterine loop plus contraceptive pills	3
Contraceptive pills for less than 2 years	8
Contraceptive pills for more than 2 years	14
Total	100

Table 7: Age at marriage in women with breast cancer in years

age of women	Number of women
12-22 years	75
23-33 years	24
34-44 years	1
Total	100

Table 8: Age of women at first full term baby birth

age of women	Number of women
14-17 years	4
18-22 years	58
23-33 years	37
34-44 years	1
Total	100

Table 9: Family history of breast cancer in patients with breast cancer

Family history of breast cancer	Number of women
Positive Family history of breast cancer	21
Negative Family history of breast cancer	79
Total	100

DISCUSSION:

There was significant increasing risk of breast cancer with reducing periods of lactation in patients with breast cancer (less than 24 months of lactation), our results were consistent with many studies ^(1,2,3,4,5,17,18,19,20) ,but in contrast to others ^(6,7,8) . The results of these studies may vary because of differences in the pattern of breast-feeding among women in different cultures, such as when solid foods are added?, how often a child is fed?, and the reasons for stopping breast-feeding. Another reason may be that some studies used information on the average length of time of breast-feeding per child, while others asked for the total length of time of breast-feeding in all children. There was a statistically significant relationship between early age of marriage in women with breast cancer and increasing risk of breast cancer. This was because most of these women did not lactate their babies or they lactate them for periods less than 24 months. There was a statistically insignificant relationship between prolonged use of contraceptive pills for more than 2 years, and increasing risk of breast cancer(p value >0.05), this was consistent with other studies ^(15,21) . There was significant increasing risk of breast cancer with reducing age of women when they gave birth to the first full term baby.

This might be because most of these women did not lactate their babies or lactate them for periods less than 24 months. These results are in contrast to other studies ^(7,9,15,16) .

We found that there was low risk for breast cancer with increasing age of menarche. This was consistent with other studies ^(15,16,17) . There was no evidence of a statistically significant difference in breast cancer risk between subjects who had ever smoked and those who had not. This was consistent with other studies ^(12,13,14) . There was a statistically insignificant relationship between a positive family history of breast cancer, and increasing risk of breast cancer, (p value >0.05) .

CONCLUSION:

There was a significant increasing risk of breast cancer with reducing periods of lactation (p value <0.001), with decreasing age of menarche (p value<0.001) , early age of marriage(p value <0.001), and early age of having first full term baby (p value<0.001) . We can conclude that lactation for more than 24 months can provides important benefits for the women's health, such as reduced risk of breast cancer. There was no evidence of a statistically significant difference in breast cancer risk between subjects who had ever smoked and those who had not (p value>0.05).

There was a statistically insignificant relationship between a positive Family history of breast cancer, and increasing risk of breast cancer, (p value >0.05). There was a statistically insignificant relationship between prolonged use of contraception pills for more than 2 years, and increasing risk of breast cancer (p value >0.05).

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