



The Libyan International Medical University
Faculty of Basic Medical Science



Breastfeeding reduce the risk of breast cancer

Amira Moussa Nasr Aloud 2054

Supervised by: Dr.Essam danna

Assisted by: Dr.Lujien shakmak

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Abstract

Background: Breast cancer is the most common gynecological tumor in females and the most widely diagnosed cancer in the world . breastfeeding has different benefits for babies, it supports the antibodies of their immune system, the benefits include the mothers as well, Breastfeeding maybe help mothers to avoid the risk of several illnesses, one of them is the breast cancer. Evidence shows that Breastfeeding inversely with breast cancer that's why mothers who breastfeed have less chance to get breast cancer. **Material and Method:** Case-Control research in women between the ages of 30 and 64 in selected health care facilities in the western province of Brazil analyzed a total of 100 recent breast cancer cases and 203 controls (age and parity-matched). Detailed information was collected using a structured questionnaire on breastfeeding, menstrual, reproductive factors, passive smoking, and other confounders. **Results:** Compared with women breastfeeding for a total of 0-11 months in their lifetimes, the risk of breast cancer reduced by 66.3% in breastfeeding women for 12-23 months, women breastfeeding for 24-35 months reduced by 87.4% and women breastfeeding 36-47 months by 94%. **Discussion:** women who breastfed 0–11 months of life had been Compared to others, the risk reduction was 66 percent, 87 percent, and 94 percent, respectively, for women who breastfed 12, 24, and 36 completed months . **Conclusion:** The Research shows that mothers who breastfeed have a lower risk of breast cancer compared to none, and the percentage of reduction in risk of breast cancer related to the duration of each child's breastfeeding.

Introduction

Breast cancer is the most common gynecological tumor in females, in addition to it is the second most common cancer after skin cancer and most widely diagnosed cancer in the world among women ⁽¹⁾. Approximately 22% of newly diagnosed cases of cancer in women are breast cancer each year, and 17–36% of all breast cancer cases women under the age of 40 on top of that, Breast cancer is the main cause of cancer mortality in women aged 35–64⁽²⁾.

The rapid rise in breast cancer incidence is a new social challenge due to multiple risk factors⁽²⁾, including the age of a woman and family history, specifically having a first-degree relative with breast cancer⁽¹⁾.

Breastfeeding has benefits that provide the baby's required nutrient balance, as well as breast milk which is easier to digest than commercial formula, and it supports antibodies immune system of the baby⁽³⁾. the benefits of breastfeeding are not confined specifically on the baby , it extends to the mother as well. Breast-feeding may even be helpful to avoid the risk of several illnesses, including rheumatoid arthritis, ovarian and breast cancer⁽¹⁾.

A large amount of research and investment is used to find a cancer cure, but the factors that avoid the disease are less taken into consideration. There is definitely not a perfect method of cancer prevention, as research shows that many factors, including breastfeeding, affect our cancer risk⁽⁴⁾. Breastfeeding potentially life-saving reason that reduces risk of breast cancer because breast cancer common in women who did not breastfeed⁽⁵⁾.

Aim of study

The benefits of breast milk on mother and how the breastfeeding reduces the risk of breast cancer , in addition to the biological basis for insert relationship between breastfeeding and breast cancer, moreover how the number of children breasted and cumulative duration of breastfeeding affect the benefits of breastfeeding.

Materials and Methods

Since January to December 2007 case-control research was carried out in selected Sri Lankan health facilities, Three tertiary care hospitals were reported the cases: the Maharagama Cancer Institute, Sri Lanka's National Hospital, and the Colombo North Teaching Hospital.

A women recently were diagnosed with invasive breast cancer was determined as a case of breast cancer, the samples were limited to women between 30 and 64 years old, and the exclusion included those with more than three years of delay, between diagnosis and surgical admission, secondary breast deposits where primary malignancy was elsewhere, and patients who were critically ill but all of the women who fit the above requirements were listed in the study as cases until the appropriate samples size was reached.

The control group was chosen from Well Women's clinics in five western healthcare Officers, namely Pitakotte, Nugegoda, Wattala, Ragama, and Ja-Ela.

The age group and parity that was matched the controls to the cases, as these two variables were well-recognized risk factors, therefore, complicated the suspected correlation between breast cancer and breastfeeding.

Two controls selected from Well Women Clinics comparable to the index case because the case-to-control ratio was 1:2, the sample size was estimated was about 300, consisting of 100 cases and 203 controls, few cases had more than 2 controls that were carried out per case, and those women who had symptoms of breast cancer and visible signs were excepted from controls.

The data was obtained using a pre-tested, standardized questionnaire by interviewing qualified questioners. The questions had were aimed at gathering information about breastfeeding and another possible risk of breast cancer, otherwise, The history of lactation had was collected separately for each live birth, including details of breastfeeding duration breastfeeding amenorrhea period, first lactation age, and the latest lactation.

The cumulative breastfeeding period of the infant had been determined by summing up the number of months per year for breastfeeding.

Three different forms expressed the principal exposure variable duration of breastfeeding :

Firstly the breastfeeding duration 24 months or more, (the group of reference, less than 24 months).

Secondly the lifetime duration of breastfeeding per child for 12 months or more, (reference group less than 12 months).

Lastly the breastfeeding duration 12-month categories 12–23, 24–35, 36–47, and 48 months (reference group 0–11 months)⁽⁶⁾.

Results

The breastfeeding was significantly related to a decreased risk of breast cancer for mothers, on the other hand, the percentage of reducing the risk of breast cancer depends on the duration of breastfeeding " There was a proportional relationship between increase the percent of dropping the risk of breast cancer and increase in the duration of breastfeeding "

The protective effect against breast cancer was found to be greater for a longer period of breastfeeding .

Mothers that breastfed for 0–11 months were compared to, mothers who breastfed for 12–23 months had been compared to 0–11 months of breastfeeding including those who had not breastfed had 66.3 % less risk of breast cancer.

The percentage reduction in risks was improved as breastfeeding was further extended that was, 87.4% the risk of breast cancer reduced among breastfeeding women for 24–35 months and 94% in women who breastfed for 36–47 months.

Nevertheless, the percentage drop in those who had breastfed for 48 months or longer were compared to the group that had breastfed for 12–23 months 65.2 % less risk of breast cancer these comparing percentage , these proportional relationships between breastfeeding and the reduced risk of breast cancer shown in **figure 1.** ⁽⁶⁾.

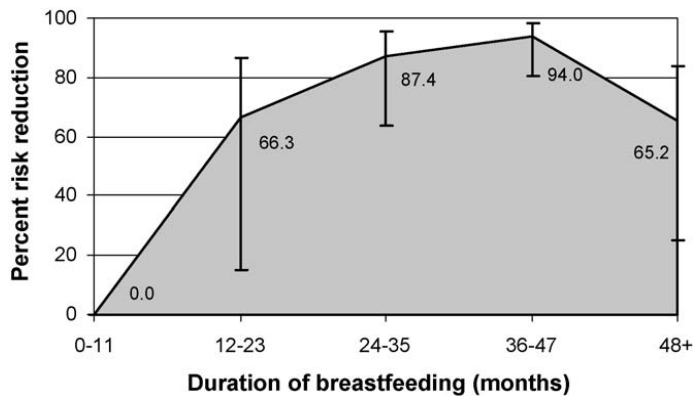


Figure.1. A percentage of breast cancer risk reduction associated with increased lifetime duration of breastfeeding "response relationship" (100 cases: 203 controls)⁽⁶⁾.

Discussion

In the current study, there was found a significant inverse relationship between breastfeeding duration and the risk of breast cancer and a dose-response relation between decreasing breast cancer probability ratios and increasing breastfeeding duration. The significant risk reduction was found both with lifetime duration of breastfeeding and the average duration of breastfeeding per child. Women who breastfed 0–11 months of life had been compared to others, the risk reduction was 66 percent, 87 percent, and 94 percent, respectively, for women who breastfed 12, 24, and 36 completed months⁽⁶⁾.

The breastfeeding offers breast cancer protection. In the long term, the protection offered by breastfeeding is higher for premenopausal women, but also persists for postmenopausal women, even after 50 years of first lactation⁽²⁾.

Maybe all women know that breast milk will make a healthy start for the baby, but this is not the only benefit of breast milk, it has important benefits for mothers, as well as Alpha-lactalbumin is a very significant component in breast milk. (HAMLET) (a human milk complex composed of alpha-lactalbumin and oleic acid) causes tumor and bacterial cell death, another point (HAMLET) induces tumor cell apoptosis,

whereas cells that are normal resistance to its effect , more over (HAMLET) has unusual biological properties, as it selectively purges malignant cells by means of the process of apoptosis, but does not damage normal cells. This indicates that (HAMLET) bypasses the numerous apoptosis blocks used by many tumor cells and triggers certain mechanisms of cell death pathways that remain functional in tumor cells⁽¹⁾.

From a biological point of view, the reasons that why breastfeeding seems to avoid breast cancer have various explanations :

First of all, the mechanism is promoting the differentiation of mammary cells In parous women, the proportion of differentiated terminal ductal lobular tissues is higher than in nulliparous women, and the risk of malignancy is lower due to the higher risk of malignant transformation of undifferentiated breast tissues than differentiated breast tissues⁽⁷⁾. Breastfeeding triggers a continuation of the cell differentiation process and prolongs the time during which the tissue is in a mature state⁽⁷⁾. and other significant changes are the reduction and removal of estrogen through mammary fluid and the carcinogenic agents excretion throughout breast tissue during breastfeeding ⁽²⁾, besides too, Breastfeeding can also reduce ovulation, the less ovulated result in less menstrual cycles for women (added to the 9 missed periods during pregnancy) leading to lower levels of estrogen⁽⁸⁾, Reduce lifelong exposure to estrogen according to the estrogen hypothesis Higher exposure to estrogen raises the risk of breast cancer⁽⁷⁾.

furthermore, While breastfeeding, potent shedding of breast tissue shedding happens during breastfeeding, which can help remove cells with possible DNA damage, thus reducing the breast cancer chances⁽⁹⁾, also the massive apoptosis of epithelial at the end of lactation, by removing cells with potential DNA damage, may reduce the risk⁽¹⁰⁾.

This suggests that the longer a woman breastfeeds/lactates, her breast contains less and less of the cells that have the potential to turn into cancer cells, potentially explaining the reduced breast cancer risk associated with prolonged breastfeeding, This indicates that the longer a woman breastfeeds, the less and less of the cells that can become cancer cells in her breast, possibly explaining the reduced risk of breast cancer associated with extended breastfeeding⁽⁴⁾ .

Conclusion

In conclusion mothers should be encouraged to breastfeed their babies because the complex components of human milk secretion not only make it an ideal source of food for babies, but it also has clinical evidence has shown that women who breastfed their babies have a lower risk of breast cancer .

Research shows that the secret is probably more related to the duration of each child's breastfeeding and the lifespan of lactation, Additional protection may be given by breastfeeding for longer than the normal six months. Nonetheless, there have also been smaller protective effects for women who have even been breastfeeding for very short periods of time .

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