

Breastfeeding and Other Reproductive Factors for Breast Cancer

By Carmi Orenstein, M.P.H. and
Barbour Warren, Ph.D.



In our work with teachers, we have encountered much interest and need to understand the risk factors for breast cancer. This is especially important, as teachers have been shown in numerous studies worldwide to be at increased risk for breast cancer. As we move toward understanding potential unique risks to teachers, we hope to help increase teachers' knowledge of what is already known and ultimately use this knowledge to reduce risk.

Established breast cancer risk factors are factors for which there is general agreement from research studies of a relationship with breast cancer risk. Several of the established risk factors involve a woman's exposure to the hormone estrogen made by her own body and her reproductive history. Risk factors that can be modified provide actual targets for breast cancer risk reduction. *Breastfeeding* decreases breast cancer risk and is a good example of an established, modifiable risk factor.

Reproductive risk factors may be acting in concert with environmental factors. For example, pregnancy can affect susceptibility to cancer-causing chemicals. Before pregnancy there are more breast cells that are vulnerable to carcinogens. This provides added importance to decreasing chemical exposures among young women. *Menarche (one's first menstrual period) at a younger age* is an established breast cancer risk factor linked to increased risk. The age of menarche has undergone a shift to younger ages. Researchers are investigating whether environmental factors, including exposure to endocrine-disrupting chemicals and obesity, may affect the age of menarche.

The Reproductive Factors Linked to Breast Cancer Risk

The breast is a reproductive organ, so it makes sense that breast cancer risk would be related to reproductive variables. A woman's own estrogen contributes to the normal development and functioning of the breast, *as well as to breast cancer risk.*

Being older when a first child is born or not giving birth are established risk factors.

Early pregnancy is protective.

- The younger a woman has her first child, the lower her risk of developing breast cancer later in life.
- A woman who has no children has approximately twice the risk of developing breast cancer as a woman who has a child before age 20. A similar risk is seen for women who have their first child after the age of 35.
- Having more than one child, especially at a younger age, decreases a woman's chances of developing breast cancer. Nonetheless, the largest part of this decrease is related to changes linked to the first pregnancy.

Early age at menarche and late age at menopause are also established risk factors.

The ages at which these two events occur create the overall time period (the reproductive period) for which women are exposed to reproductive hormones. The longer this time period, the higher the breast cancer risk.

Variations in length of the reproductive period. In different countries and between different ethnic groups the average ages of these events varies quite a bit. For menarche, there is also a clear change over time in some groups. For example, the average age of menarche in the US was just over 14 years old in 1900. But by the period of 1999-2002, it had decreased to just under 12½ for the overall population of American girls. In addition, for black and Mexican-American girls the average age was even lower, closer to 12. Improved health and nutrition are often seen as the explanation, but there are other compelling theories, such as obesity and exposure to endocrine-disrupting chemicals. Differences in age at menopause are even less studied.

Although studies have reported conflicting results about the extent of the association between both earlier age at menarche and later age at menopause with breast cancer risk, most agree:

- they are independently related to breast cancer risk
- the overall length of the reproductive period is related to breast cancer risk.



Example of findings:

Age at menarche: a delay of two years corresponds to about a 10% reduction in breast cancer risk.

Age at menopause: Each five-year age delay carries a 17% higher risk of breast cancer.

Both of these effects are considered weak but they can affect a large number of women. Thus they can have a considerable impact on breast cancer incidence.

Breastfeeding is protective.

A woman's risk for breast cancer decreases by a small amount (6%) for every 12 months she breastfeeds. This is a risk factor that can be modified by a large number of women and the effect on the population could be substantial. For example, if women in developed countries breastfed their children six months longer than they do now, 25,000 breast cancers worldwide could be prevented each year. Even greater effects would be seen with longer periods of breastfeeding.

There are many public health gains to be made – in addition to reducing the risk of breast cancer – by all new mothers increasing the length of time they breastfeed. Babies and mothers both benefit from breastfeeding. Breast milk is considered the optimal food for newborn babies and infants. Along with providing all the nutrients needed for development, it contains antibodies that protect against childhood illnesses. Surprising effects into adulthood have also been documented for breastfed individuals. These include lower blood pressure and cholesterol, less overweight and obesity, and lower rates of type 2 diabetes. Some studies have even found a link to higher intelligence for adults who were breastfed as babies. Mothers benefit too, as breastfeeding speeds up the return to pre-pregnancy weight, and decreases the risk of ovarian cancer in addition to the decreased risk of breast cancer. The presence of environmental contaminants in breast milk has not been found to carry risks that outweigh these benefits of breastfeeding.

Taking Action on Breastfeeding

Breastfeeding trends and goals in the US suggest a need for education and change. African-American women lag behind all other ethnic groups in breastfeeding. The good news is that their rates of breastfeeding have increased impressively – at a more rapid pace than increases in other groups – in the last decade and a half. Less positive news is that no group is meeting the US Centers for Disease Control's (CDC) "Healthy People 2010" breastfeeding goals. These goals include half the population of infants still being breastfed at six months and 25% by one year of age.

Work environments need to be supportive. Working mothers have been found to breastfeed less than stay-at-home mothers. With over 40% of new mothers in the US returning to work by three months after the birth, workplace norms and policies influence the ability of a new mother to breastfeed. The American Academy of Pediatrics says that "fewer infant illnesses, less absenteeism, (and) more satisfied and loyal employees" should encourage employers to "help women reach their breastfeeding goals." The CDC and other agencies and organizations have developed support materials for breastfeeding in the workplace, such as:

- *Support for Breastfeeding in the Workplace*
www.cdc.gov/breastfeeding/pdf/BF_guide_2.pdf
- *Workplace Breastfeeding Support and Checklist for Accommodations in the Workplace*
<http://www.usbreastfeeding.org/Publications.html>



We encourage you to consider the possibilities.

- Can teachers as a group increase their rates and duration of breastfeeding?
- How can your workplace environment encourage and support breastfeeding?
- Are break time and privacy available for expressing breast milk, as per New York State and other state law? (See box below.)

N.Y. Labor Law §206-c. Right of nursing mothers to express breast milk

New York is among a number of states that has legislation giving working mothers the right to use break time to express breast milk.

An employer shall provide reasonable unpaid break time or permit an employee to use paid break time or meal time each day to allow an employee to express breast milk for her nursing child for up to three years following child birth. The employer shall make

reasonable efforts to provide a room or other location, in close proximity to the work area, where an employee can express milk in privacy. No employer shall discriminate in any way against an employee who chooses to express breast milk in the work place.

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