

Adolescent Risk Factors and the Development of Breast Cancer in Marin County

The ARFS study was groundbreaking in many ways. It was one of the first to focus on adolescence as a “window of susceptibility”—a stage in normal development when exposures to potential carcinogens might affect breast cancer risk in later life. And it was the first to reveal population risk factors and exposures linked to breast cancer development in Marin County.

The first findings, which resulted in our first publication, appeared in *Breast Cancer Research* in April 2003.

We reported that women in Marin who had developed breast cancer were more likely to have:

- been premenopausal
- never taken birth control pills
- a lower highest lifetime body mass index
- had four or more mammograms
- started drinking after the age of 21
- two or more glasses of alcohol per day, on average
- the highest quartile of pack-years of cigarette smoking
- been raised in an organized religion
- lived as adolescents in high socioeconomic families.

The study also found that women with and without breast cancer were equally likely to have a first-degree relative with breast cancer, a history of benign breast biopsy, or previous radiation exposures, or to have used hormone replacement therapy.

Interestingly, the two groups also did not differ significantly in terms of their age at menarche, number of births, or years spent living in Marin. (*Breast Cancer Research* 5(2003)R88).



Members of the ARFS research team. Left to right: Flavia Belli; Margaret Wrensch, PhD; Georgie Farren, MD; Mary Gould; Roni Peskin-Mentzer; and Marion Lee.

ARFS and the data it provided have informed future risk reduction and breast cancer research efforts. We used the findings to develop our Adolescent Breast Cancer Prevention, Risk Reduction, and Education Program, which created an internationally recognized peer education tool kit. In addition, researchers at the University of California, San Francisco, Stanford University in Palo Alto, and the University of Michigan conducted further analyses of the ARFS data. ARFS also laid the foundation for the funding and community participation necessary to conduct additional research studies, such as the Marin Women’s Study. It also led to the establishment of the Bay Area Breast Cancer and the Environment Research Center.

WHAT WE MEAN WHEN WE TALK ABOUT THE ENVIRONMENT

At Zero Breast Cancer, our definition of “the environment” is broad. It includes lifestyle choices, foods and nutrients, and prescription drugs, as well as exposures to both natural and synthetic chemicals, toxins, and contaminants. We believe the best hope for the future health of our children and ourselves lies in primary prevention: identifying and eliminating breast cancer risk factors and exposures to carcinogenic toxins that are found in our air, water, soil, and food supply, and are now evident in our bodies and breast milk.