

Influence of Known Breast Cancer Risk Factors on Breast Cancer Incidence Patterns in California

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Background: The San Francisco Bay Area reports some of the highest breast cancer incidence in the world. Within this region, breast cancer incidence is consistently high in Marin County. Average annual age-adjusted incidence 1998-2002 for invasive breast cancer incidence for Non-Hispanic White women in Marin County was 174/100,000 (2000 U.S. population standard). One possible explanation for the high breast cancer incidence in Marin County is that known breast cancer risk factors are more prevalent in Marin County than in areas of lower incidence.

Objective: To estimate the proportion of breast cancer cases that could be avoided if known breast cancer risk factors were eliminated in California counties.

Methods: Using data from the 2001 California Health Interview Survey (CHIS) and a reference set of relative risk (RR) estimates, this study calculated prevalence and population attributable fraction estimates for the State of California and 41 CHIS strata (representing Marin County and other California counties) for six known breast cancer risk factors.

Results: Population attributable fractions for the combination of the six known breast cancer risk factors were highest for those counties with higher breast cancer incidence. About 50% of Marin County's breast cancer cases would be avoided if these six breast cancer risk factors were eliminated. Later age at first birth (≥ 30 years) accounts for about 30% of breast cancer cases in Marin County. The influence of later childbearing/nulliparity is notably greater among younger White women than among older White women.

Conclusions:

While some of the known breast cancer risk factors considered in these analyses are not readily modifiable, others are (e.g., postmenopausal body mass index, alcohol consumption, and hormone use). Given the large and increasing impact of later childbearing on breast cancer incidence, formally exploring the modifiability of this well-established breast cancer risk factor is recommended.