**Proportion of Breast Cancer Cases Attributed to Earlier Age at Menarche**

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**Background:** Earlier age at menarche is an established breast cancer risk factor. The age of onset of pubertal development has changed over time and varies geographically. Assuming that early age at menarche is causally related to increased breast cancer risk, delaying age at menarche is one possible strategy for reducing breast cancer risk.

**Objective:** To estimate the proportion of breast cancer cases that could be avoided if age at menarche were delayed using both theoretical and empirical data examples.

**Methods:** Using data from published sources, this study calculated population attributable fraction estimates for age at menarche and breast cancer for female populations in diverse geographic locations and various points in time. This study also considered the impact of changing breast cancer risk factor distributions on the population attributable fraction for age at menarche and breast cancer using theoretical data examples.

**Results and Conclusions**: In United States populations, the proportion of breast cancer cases attributed to early age at menarche is small compared to that attributed to later age at first full-term pregnancy. Social and behavioral strategies for delaying age at menarche, however, tend to be more socially acceptable than those for reducing age at first full-term pregnancy. While the association between early age at menarche and breast cancer risk is modest, shifting age at menarche to older ages could reduce a large number of breast cancer cases on a population level.