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## ABSTRACT

**Background:** Few studies have investigated the association of dietary carbohydrate and fiber intake with breast cancer risk in women in China, where carbohydrate intake is traditionally high.

**Objective:** The objective was to prospectively evaluate the association of dietary carbohydrates, glycemic index, glycemic load, and dietary fiber with breast cancer risk and to determine whether the effect of these dietary intakes is modified by age and selected insulin- or estrogen-related risk factors.

**Design:** A total of 74,942 women aged 40–70 y were recruited into the Shanghai Women's Health Study, a population-based cohort study. Dietary intake was assessed by in-person interviews. A Cox proportional hazards regression model was used to evaluate associations.

**Results:** During an average of 7.35 y of follow-up, 616 incident breast cancer cases were documented. A higher carbohydrate intake was associated with a higher risk of premenopausal breast cancer ( $P$  for trend = 0.002). Compared with the lowest quintile, the hazard ratios (and 95% CIs) were 1.47 (1.00, 2.32) and 2.01 (1.26, 3.19) for the fourth and fifth quintiles, respectively. A similar pattern was found for glycemic load. The association between carbohydrate intake and breast cancer was significantly modified by age; the increased breast cancer risk associated with carbohydrate intake was restricted to women who were younger than 50 y. No significant association of breast cancer risk with glycemic index or dietary fiber intake was found.

**Conclusion:** Our data suggest that a high carbohydrate intake and a diet with a high glycemic

load may be associated with breast cancer risk in premenopausal women or women <50 y.

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