

Dairy Consumption and Risk of Cancer: An 11 Year Prospective Cohort Study of the China Kadoorie Biobank

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Objectives: Consumption of dairy products has been associated with possible higher or lower risks of some types of cancer. However, results are often inconsistent and evidence from China, particularly for prospective data, is very limited. We therefore investigated the associations between intake of dairy products and incidence of 17 common cancers in Chinese adults.

Methods: The prospective China Kadoorie Biobank study recruited slightly over 0.5 million adults, aged 30–79 years, from ten diverse regions (five urban and five rural) in China during 2004–2008. Information on the consumption frequency of major food groups, including total dairy products, was collected at baseline and periodic resurveys, using a validated interviewer-administered laptop-based questionnaire.

Over a mean follow-up of 10.8 years, 29,177 incident malignant cancer cases were recorded among the 510,146 study participants, who did not have a prior history of cancer at baseline. Cox regression analyses were performed to estimate hazard ratios (HRs) for incident cancers associated with dairy intake. Analyses were stratified by age-at-risk, sex and region, and adjusted for cancer family history, education, income, alcohol intake, smoking status, physical activity, fresh fruit intake and BMI. Analyses for liver cancer was additionally adjusted for status of hepatitis B surface antigen.

Results: Overall at baseline, 68.5% of participants reported never or rare dairy consumption and 20.4% reported weekly dairy consumption (≥ 1 day/week), with milk accounting largely for the total dairy consumption. The multivariable-adjusted HRs per 50 g/day increase in usual dairy consumption were 1.07 (95% CI 1.04–1.10), 1.12 (1.02–1.22), 1.19 (1.01–1.41) and 1.17 (1.07–1.29) for total cancer, liver cancer, lymphoma and female breast cancer, respectively. These associations were similar across subgroups defined by baseline sociodemographic and lifestyle characteristics (e.g., sex and smoking status) and across the ten survey regions. No significant associations were observed between dairy intake and risk of the other 14 common cancer sites.

Conclusions: In this large study of Chinese adults, higher consumption of dairy products was associated with higher risks of liver cancer, lymphoma and female breast cancer.

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