

Association of fiber and colorectal cancer risk differs depending on dietary assessment method

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High dietary fiber intake was associated with a lower risk of colorectal cancer when researchers used data from food diaries but not when they used data obtained from food frequency questionnaires, according to a study published online April 20 in the *Journal of the National Cancer Institute*.

Previous studies have examined the issue of dietary fiber and risk of colorectal [cancer](#), but the results have been inconsistent, particularly in studies that used food-frequency questionnaires (FFQs).

In this study, Christina Dahm Ph.D., and Kay-Tee Khaw, MBBChir., of the University of Cambridge in the UK, and colleagues used data obtained from both food diaries and food frequency questionnaires to estimate fiber intake. Their prospective, case-control study was nested within seven UK cohort studies and included 579 patients who developed colorectal cancer more than 1 year after they began keeping the food diaries. These case patients' fiber intake was compared with that of 1,996 control subjects who did not develop colorectal cancer. Case and control subjects were matched for sex, age, and date of diary completion.

The researchers found that participants who had higher intakes of fiber, ascertained by food diaries, were less likely to develop colorectal cancer than those with lower intakes. For individuals who consumed an average

of 24 grams per day of dietary fiber, the odds of developing colorectal cancer were 30% lower than for those who consumed an average 10 grams per day. The difference was statistically significant and consistent even after the researchers took into account other risk factors for colorectal cancer, such as age, [physical activity](#), and intakes of alcohol and red meats.

However, when the researchers performed the same analysis using data obtained from the food frequency questionnaires, they found no statistically significant association between fiber intake and the risk of colorectal cancer.

"These findings strengthen existing evidence that supports recommendations to increase dietary fiber intake in populations to reduce colorectal cancer incidence," the authors write. They suggest that "the fact that we found no association using...the FFQ may explain the lack of convincing evidence relating [fiber intake](#) to a substantial reduction in colorectal cancer risk in some previous studies that relied on FFQs."

In an accompanying editorial, Ross Prentice, Ph.D., of the Division of Public Health Sciences, Fred Hutchinson Cancer Research Center, Seattle, notes that accurate measurement of dietary components remains a major challenge in studies of diet and cancer risk. He calls for the development of biological markers to measure intake more accurately. "The explicit use of biomarkers to correct nutritional epidemiology associations for systematic and random measurement error in dietary assessment seems a logical next step in the nutritional epidemiology research agenda," he writes.

Provided by Journal of the National Cancer Institute

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