

ORIGINAL RESEARCH COMMUNICATION

Dietary fiber and whole-grain consumption in relation to colorectal cancer in the NIH-AARP Diet and Health Study^{1,2,3,4,5}

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Background: Whether the intake of dietary fiber can protect against colorectal cancer is a long-standing question of considerable public health import, but the epidemiologic evidence has been inconsistent.

Objective: The objective was to investigate the relation between dietary fiber and whole-grain food intakes and invasive colorectal cancer in the prospective National Institutes of Health–AARP Diet and Health Study.

Design: The analytic cohort consisted of 291 988 men and 197 623 women aged 50–71 y. Diet was assessed with a self-administered food-frequency questionnaire at baseline in 1995–1996; 2974 incident colorectal cancer cases were identified during 5 y of follow-up. The Cox proportional hazards model was used to estimate the relative risks (RRs) and 95% CIs.

Results: Total dietary fiber intake was not associated with colorectal cancer. The multivariate RR for the highest compared with the lowest intake quintile (RR₀₅₋₀₁) was 0.99 (95% CI: 0.85, 1.15; *P* for trend = 0.96). In analyses of fiber from different food sources, only fiber from grains was associated with a lower risk of colorectal cancer (multivariate RR₀₅₋₀₁: 0.86; 95% CI: 0.76, 0.98; *P* for trend = 0.01). Whole-grain intake was inversely associated with colorectal cancer risk: the multivariate RR₀₅₋₀₁ was 0.79 (95% CI: 0.70, 0.89) for the whole cohort (*P* for trend < 0.001). The association with whole grain was stronger for rectal than for colon cancer.

Conclusions: In this large prospective cohort study, total dietary fiber intake was not associated with colorectal cancer risk, whereas whole-grain consumption was associated with a modest reduced risk.

Key Words: Dietary fiber • whole grain • colorectal cancer • fiber sources • cohort study

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