

Postdiagnosis Multivitamin and Individual Vitamin Supplement Use and Mortality Among Patients With Colorectal Cancer in the NIH–AARP Diet and Health Study

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Objectives: We aimed to evaluate the association of postdiagnostic multivitamin and individual vitamin supplement use with total and cancer-specific mortality among colorectal cancer (CRC) survivors.

Methods: In the National Institutes of Health (NIH)–AARP Diet and Health Study, we estimated the associations between vitamin use and total mortality and cancer-specific mortality risk among 2,136 CRC survivors. Use of multivitamin and individual vitamins (vitamin A, vitamin C, vitamin E, beta-carotene, and calcium) were assessed by a food-frequency questionnaire at baseline in 1995–1996 and follow-up questionnaire in 2004–2005. Participants reported frequency of use as never, < 1 time per week, 1–3 times per week, 4–6 times per week, or every day and categories were assigned a corresponding value (never = 0, < 1 time per week = 0.5, 1–3 times per week = 2, 4–6 times per week = 5, and every day = 7). Based on the sum of these values, participants were assigned to one of the following

groups: never use (0 times/week), casual use (>0 to 6 times/week), consistent use (7 times/week), or heavy use (>7 times/week). Vital status was ascertained annually by linkage to the Social Security Administration Death Master File and the National Death Index Plus through December 31, 2019. Hazard ratios (HRs) and 95% CIs were estimated using Cox proportional hazards models with age as the underlying time metric and adjusting for potential confounders.

Results: Postdiagnosis multivitamin use was not associated with all-cause mortality or CRC-specific mortality, but consistent, as compared with never, postdiagnosis vitamin A use was associated with a 12% lower risk of total mortality (HR: 0.88, 95% CI: 0.78–1.00). Consistent, as compared with never, postdiagnosis vitamin C and calcium use were also associated with lower risk of total mortality (HR: 0.86, 95% CI: 0.75–0.99 and HR: 0.84 95% CI: 0.73–0.97, respectively). Use of vitamin E or beta-carotene supplements were not associated with total mortality or CRC-specific mortality.

Conclusions: In the NIH–AARP cohort, consistent use of vitamin A, vitamin C, and calcium but not multivitamins was associated with lower total mortality and CRC-specific mortality among CRC cancer survivors.

Funding Sources: This work was supported by the NCI Intramural Research Program.