Consumption of Total Olive Oil and Risk of Total and Cause-Specific Mortality in US Adults

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Objectives: The association between olive oil intake and the risk of mortality has not been evaluated before in the US population. Our objective was to examine whether olive oil intake is associated with total and cause-specific mortality in two prospective cohorts of US men and women. We hypothesize that higher olive oil consumption is associated with lower risk of total and cause-specific mortality.

Methods: We followed 61,096 women (Nurses' Health Study, 1990–2016) and 31,936 men (Health Professionals Follow-up Study, 1990–2016) who were free of diabetes, cardiovascular disease and cancer at baseline. Diet was assessed by a semi quantitative food frequency questionnaire at baseline and then every 4 years. Cox proportional hazards regressions were used to estimate hazard ratios (HRs) and 95% confidence intervals (CIs).

Results: During 26 years of follow-up, 32,868 deaths occurred. Compared with those participants who never consumed olive oil, those with higher olive oil intake (>1/2 tablespoon/d or >8g/d) had 15% lower risk of total mortality [pooled hazard ratio (95% confidence interval): 0.85 (0.81, 0.88)] after adjustment for potential confounders. Higher olive oil intake was associated with 15% lower risk of CVD death [0.85 (0.78, 0.92)], 38% lower risk of neurodegenerative disease death [0.62 (0.54, 0.71)], and 12% lower risk of respiratory death [0.88 (0.77, 1.00)]. Replacing 10 g of margarine, mayonnaise, and dairy fat with the equivalent amount of olive oil was associated with 7–20% lower risk of total mortality, and death from CVD, cancer, neurodegenerative, and respiratory diseases. No significant associations were observed when olive oil was replacing other vegetable oils combined (corn, safflower, soybean and canola oil).

Conclusions: We observed that higher olive oil intake was associated with a lower risk of total mortality and cause-specific mortality in a large prospective cohort of U.S. men and women. The substitution of margarine, mayonnaise, and dairy fat with olive oil was associated with a reduced risk of mortality.

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