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Fish, omega-3 polyunsaturated fatty acids, and mortality from cardiovascular diseases in a nationwide community-based cohort of Japanese men and women the JACC (Japan Collaborative Cohort Study for Evaluation of Cancer Risk) Study.

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Abstract

OBJECTIVES: The objective of our study was to test the hypothesis that fish or omega-3 polyunsaturated fatty acids (PUFA) intakes would be inversely associated with risks of mortality from ischemic heart disease, cardiac arrest, heart failure, stroke, and total cardiovascular disease.

BACKGROUND: Data on associations of dietary intake of fish and of omega-3 PUFA with risk of cardiovascular disease among Asian societies have been limited.

METHODS: We conducted a prospective study consisting of 57,972 Japanese men and women. Dietary intakes of fish and omega-3 PUFA were determined by food frequency questionnaire, and participants were followed up for 12.7 years. Hazard ratios and 95% confidence intervals were calculated according to quintiles of fish or omega-3 PUFA intake.

RESULTS: We observed generally inverse associations of fish and omega-3 PUFA intakes with risks of mortality from heart failure (multivariable hazard ratio [95% confidence interval] for highest versus lowest quintiles = 0.76 [0.53 to 1.09] for fish and 0.58 [0.36 to 0.93] for omega-3 PUFA). Associations with ischemic heart disease or myocardial infarction were relatively weak and not statistically significant after adjustment for potential risk factors. Neither fish nor omega-3 PUFA dietary intake was associated with mortality from total stroke, its subtypes, or cardiac arrest. For mortality from total cardiovascular disease, intakes of fish and omega-3 PUFA were associated with 18% to 19% lower risk.

CONCLUSIONS: We found an inverse association between fish and omega-3 PUFA dietary intakes and cardiovascular mortality, especially for heart failure, suggesting a protective effect of fish intake on cardiovascular diseases.

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