

# Abstract

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## Fatty fish, marine omega-3 fatty acids and incidence of heart failure.

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**BACKGROUND/ OBJECTIVES:** Marine omega-3 fatty acids have beneficial effects on cardiovascular risk factors. Consumption of fatty fish and marine omega-3 has been associated with lower rates of cardiovascular diseases. We examined the association of fatty fish and marine omega-3 with heart failure (HF) in a population of middle-aged and older women.

**SUBJECTS/ METHODS:** Participants in the Swedish Mammography Cohort aged 48-83 years completed 96-item food-frequency questionnaires. Women without any history of HF, myocardial infarction or diabetes at baseline (n=36 234) were followed from 1 January 1998 until 31 December 2006 for HF hospitalization or mortality through Swedish inpatient and cause-of-death registers; 651 women experienced HF events. Cox proportional hazards models accounting for age and other confounders were used to calculate incidence rate ratios (RR) and 95% confidence intervals (CI).

**RESULTS:** Compared with women who did not eat fatty fish, RR were 0.86 (95% CI: 0.67, 1.10) for <1 serving per week, 0.80 (95% CI: 0.63, 1.01) for 1 serving per week, 0.70 (95% CI: 0.53, 0.94) for 2 servings per week and 0.91 (95% CI: 0.59, 1.40) for  $\geq 3$  servings per week (P (trend)=0.049). RR across quintiles of marine omega-3 fatty acids were 1 (reference), 0.85 (95% CI: 0.67, 1.07), 0.79 (95% CI: 0.61, 1.02), 0.83 (95% CI 0.65, 1.06) and 0.75 (95% CI: 0.58, 0.96) (P (trend)=0.04).

**CONCLUSION:** Moderate consumption of fatty fish (1-2 servings per week) and marine omega-3 fatty acids were associated with a lower rate of first HF hospitalization or death in this population.

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