

Association of dietary omega-3 fatty acids with prevalence of metabolic syndrome: The National Heart, Lung, and Blood Institute Family Heart Study.

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Source

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Abstract

BACKGROUND & AIMS:

Metabolic syndrome (MetS), characterized by abdominal obesity, atherogenic dyslipidemia, elevated blood pressure, and insulin resistance is a major public health concern in the United States. Omega-3 fatty acids have been relatively well studied in relation to many individual cardiovascular risk factors; however, their effects on MetS are not well established.

METHODS:

We conducted a cross-sectional study consisting of 4941 participants from the National Heart, Lung, and Blood Institute (NHLBI) Family Heart Study to assess the relation of dietary omega-3 fatty acids with the prevalence of MetS. Omega-3 intake was assessed using a food frequency questionnaire and we used generalized estimating equations to estimate adjusted odds ratios for prevalent MetS.

RESULTS:

Our study population had a mean age (SD) of 52.1 (13.9) years and 45.9% were men. The mean (SD) of dietary omega-3 fatty acids was 0.25 g/day (0.27). From the lowest to the highest quintile of dietary omega-3 fatty acids, multivariable adjusted ORs (95% CI) for MetS were 1.00 (ref), 0.90 (0.72-1.13), 1.03 (0.82-1.28), 0.94 (0.74-1.18), and 0.99 (0.77-1.25), respectively. In a secondary analysis, neither fish consumption nor dietary alpha-linolenic acid was associated with MetS.

CONCLUSIONS:

Our findings do not support an association between dietary omega-3 fatty acids and MetS in a large US population.

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