

# Abstract

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## A Prospective Study of Zinc Intake and Risk of Type 2 Diabetes in Women.

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**OBJECTIVE:** The aim of this study is to investigate the intake of zinc in relation to risk of type 2 diabetes in U.S. women.

**RESEARCH DESIGN AND METHODS:** Dietary intakes of zinc and other nutrients were assessed and updated using of a validated food frequency questionnaire from 1980 to 2002 among 82,297 women who were aged 33-60 years at baseline in 1980 and followed up to 2004 in the Nurses' Health Study.

**RESULTS:** During the 24 years of follow-up, 6,030 incident cases of type 2 diabetes were ascertained. After adjustment of lifestyle and dietary risk factors, the relative risks of type 2 diabetes (95% CI) comparing the highest with the lowest quintiles were 0.90 (0.82, 0.99, P(trend) = 0.04) for total zinc intake and 0.92 (0.84, 1.00, P(trend) = 0.009) for dietary zinc intake from food sources, respectively. We further found an inverse association for dietary zinc to heme iron ratio. After multivariate adjustment of covariates, the relative risks (95% CI) across quintiles of this ratio were 1.0 (reference), 0.93 (0.86, 1.01), 0.86 (0.79, 0.94), 0.82 (0.75, 0.90), and 0.72 (0.66, 0.80; P(trend) < 0.0001), respectively.

**CONCLUSIONS:** Higher zinc intake may be associated with a slightly lower risk of type 2 diabetes in women. More studies are warranted to confirm this association and to explore potential mechanisms.

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