



[Am J Med.](#) 2006 Mar;119(3):275.e7-14.

Sodium intake and mortality in the NHANES II follow-up study.

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Comment in:

[Am J Med.](#) 2007 Jan;120(1):e5; author reply e7.

[Forsch Komplementmed.](#) 2007 Jun;14(3):184-5.

Abstract

PURPOSE: US Dietary Guidelines recommend a daily sodium intake <2300 mg, but evidence linking sodium intake to mortality outcomes is scant and inconsistent. To assess the association of sodium intake with cardiovascular disease (CVD) and all-cause mortality and the potential impact of dietary sodium intake <2300 mg, we examined data from the Second National Health and Nutrition Examination Survey (NHANES II).

METHODS: Observational cohort study linking sodium, estimated by single 24-hour dietary recall and adjusted for calorie intake, in a community sample (n = 7154) representing 78.9 million non-institutionalized US adults (ages 30-74). Hazard ratios (HR) for CVD and all-cause mortality were calculated from multivariable adjusted Cox models accounting for the sampling design.

RESULTS: Over mean 13.7 (range: 0.5-16.8) years follow-up, there were 1343 deaths (541 CVD). Sodium (adjusted for calories) and sodium/calorie ratio as continuous variables had independent inverse associations with CVD mortality (P = .03 and P = .008, respectively). Adjusted HR of CVD mortality for sodium <2300 mg was 1.37 (95% confidence interval [CI]: 1.03-1.81, P = .033), and 1.28 (95% CI: 1.10-1.50, P = .003) for all-cause mortality. Alternate sodium thresholds from 1900-2700 mg gave similar results. Results were consistent in the majority of subgroups examined, but no such associations were observed for those <55 years old, non-whites, or the obese.

CONCLUSION: The inverse association of sodium to CVD mortality seen here raises questions regarding the likelihood of a survival advantage accompanying a lower sodium diet. These findings highlight the need for further study of the relation of dietary sodium to mortality outcomes.

PMID: 16490476 [PubMed - indexed for MEDLINE]