

Study evaluates relationship of urinary sodium with health outcomes

May 3 2011

In a study conducted to examine the health outcomes related to salt intake, as gauged by the amount of sodium excreted in the urine, lower sodium excretion was associated with an increased risk of cardiovascular death, while higher sodium excretion did not correspond with increased risk of hypertension or cardiovascular disease complications, according to a study in the May 4 issue of *JAMA*.

"Extrapolations from observational studies and short-term intervention trials suggest that population-wide moderation of salt intake might reduce [cardiovascular events](#)," according to background information in the article. "The assumption that lower salt intake would in the long run lower blood pressure, to our knowledge, has not yet been confirmed in longitudinal population-based studies."

Katarzyna Stolarz-Skrzypek, M.D., Ph.D., of the University of Leuven, Belgium, and colleagues examined the incidence of death, illness and hypertension in relation to measures of [urinary sodium excretion](#). The study included 3,681 participants without cardiovascular disease (CVD) at the beginning of the study. Of these, 2,096 had normal blood pressure at baseline and 1,499 had blood pressure and sodium excretion measured at baseline and last follow-up (2005-2008).

The researches found that among 3,681 participants followed up for a median (midpoint) 7.9 years, cardiovascular deaths decreased across increasing tertiles (one of three groups) of 24-hour urinary sodium: from 50 deaths in the low (death rate, 4.1 percent), 24 deaths in the medium,

(death rate, 1.9 percent) and 10 deaths in the high tertile (death rate, 0.8 percent). Analysis indicated that the risk of cardiovascular mortality was significantly elevated in the low tertile with a significant inverse association between cardiovascular mortality and tertile of sodium excretion. Baseline sodium excretion predicted neither total mortality nor fatal combined with nonfatal CVD events.

Among 2,096 participants followed up for 6.5 years, increasing tertiles of 24-hour urinary sodium were not associated with incidence of hypertension. In the entire hypertension cohort, across increasing tertiles of urinary sodium, the numbers of new cases of hypertension were 187 (27.0 percent) in the low, 190 (26.6 percent) in the medium, and 175 (25.4 percent) in the high sodium excretion group.

Among 1,499 participants followed up for 6.1 years, in multivariable-adjusted analyses, a 100-mmol increase in sodium excretion was associated with 1.71 mm Hg increase in systolic blood pressure but no change in diastolic BP.

"The associations between systolic pressure and sodium excretion did not translate into less morbidity or improved survival. On the contrary, low sodium excretion predicted higher [cardiovascular mortality](#). Taken together, our current findings refute the estimates of computer models of lives saved and health care costs reduced with lower salt intake. They do also not support the current recommendations of a generalized and indiscriminate reduction of [salt intake](#) at the population level. However, they do not negate the blood pressure-lowering effects of a dietary salt reduction in hypertensive patients," the authors conclude.

More information: JAMA. 2011;305[17]1777-1785.

Provided by JAMA and Archives Journals

Citation: Study evaluates relationship of urinary sodium with health outcomes (2011, May 3)
retrieved 4 May 2024 from

<https://medicalxpress.com/news/2011-05-relationship-urinary-sodium-health-outcomes.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.