

Projected Effect of Dietary Salt Reductions on Future Cardiovascular Disease

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FROM ABSTRACT:

Background

The U.S. diet is high in salt, with the majority coming from processed foods.

Reducing dietary salt is a potentially important target for the improvement of public health.

Methods

We used the Coronary Heart Disease (CHD) Policy Model to quantify the benefits of potentially achievable, population-wide reductions in dietary salt of up to 3 g per day (1200 mg of sodium per day).

Results

Reducing dietary salt by 3 g per day is projected to reduce the annual number of new cases of CHD by 60,000 to 120,000, stroke by 32,000 to 66,000, and myocardial infarction by 54,000 to 99,000 and to reduce the annual number of deaths from any cause by 44,000 to 92,000.

All segments of the population would benefit, with blacks benefiting proportionately more, women benefiting particularly from stroke reduction, older adults from reductions in CHD events, and younger adults from lower mortality rates.

The cardiovascular benefits of reduced salt intake are on par with the benefits of population-wide reductions in tobacco use, obesity, and cholesterol levels.

A regulatory intervention designed to achieve a reduction in salt intake of 3 g per day would save 194,000 to 392,000 quality-adjusted life-years and \$10 billion to \$24 billion in health care costs annually. Such an intervention would be cost-saving even if only a modest reduction of 1 g per day were achieved gradually between 2010 and 2019 and would be more cost-effective than using medications to lower blood pressure in all persons with hypertension.

Conclusions

Modest reductions in dietary salt could substantially reduce cardiovascular events and medical costs and should be a public health target.

THESE AUTHORS ALSO NOTE:

"The U.S. diet is high in salt."

"The Departments of Agriculture and Health and Human Services recommend daily intake of less than 5.8 g of salt (2300 mg of sodium), with a lower target of 3.7 g of salt per day for most adults (persons over 40 years of age, blacks, and persons with hypertension)."

Despite these guidelines the average man in the US consumes about 10.4 g of salt per day and the average woman 7.3 g per day.

"Reducing dietary salt lowers blood pressure and the risk of cardiovascular disease."

"75 to 80% of the salt in the US diet comes from processed foods, not from salt added during food preparation or consumption."

RESULTS:

A population-wide reduction in dietary salt of 3 g per day (1200 mg of sodium per day) is projected to reduce the annual number of new cases of:

CHD	by 60,000 to 120,000
Stroke	by 32,000 to 66,000
Myocardial infarction	by 54,000 to 99,000
Annual number of deaths from any cause	by 44,000 to 92,000

A more modest reduction of 1 g of salt per day is projected to result in large declines in annual rates of cardiovascular events and deaths, with new cases of CHD declining by 20,000 to 40,000, new and recurrent cases of myocardial infarction by 18,000 to 35,000, new cases of stroke by 11,000 to 23,000, and deaths from any cause by 15,000 to 32,000.

"All adult age groups, both sexes, and blacks and nonblacks would be expected to benefit from reductions in salt intake."

"The anticipated relative benefits among blacks would be greater than those among nonblacks across all age groups and both sexes."

"The projected reductions in stroke would be greater among women than among men, with rates decreasing by 9 to 15% among black women and by 5 to 9% among nonblack women."

"All age groups would be expected to benefit, with middle-aged and older populations projected to have larger relative reductions in the incidence of CHD and in rates of new and recurrent myocardial infarction and stroke."

"A population-wide reduction of salt intake of 3 g per day is expected to result in the same reduction in death rates as the use of medical treatment to control hypertension in all persons with the condition."

"A national effort to decrease salt consumption by 3 g per day would result in an estimated annual gain of 194,000 to 392,000 QALYs and estimated savings of \$10 billion to \$24 billion in health care costs."

DISCUSSION

"Despite evidence linking salt intake to hypertension and cardiovascular disease, dietary salt intake in the U.S. is on the rise."

"Our postulated dietary reduction of 3 g of salt per day, which is within the range targeted by other developed countries, is projected to benefit the entire US population and yield substantial reductions in morbidity, mortality, and health care costs."

"The magnitude of the health benefit suggests that salt should be a regulatory target of the Food and Drug Administration, which currently designates salt as a food additive that is 'generally regarded as safe'."

The benefits of salt reduction may be even greater than we have projected "by lowering salt intake even earlier, during childhood and adolescence."

"Modest reductions in dietary salt would yield substantial health benefits across the US population of adults by lowering rates of cardiovascular events and death and reducing medical costs."

KEY POINTS FROM DAN MURPHY

- 1) "The Departments of Agriculture and Health and Human Services recommend daily intake of less than 5.8 g of salt (2300 mg of sodium), with a lower target of 3.7 g of salt per day for most adults (persons over 40 years of age, blacks, and persons with hypertension)."
- 2) Despite these guidelines the average man in the US consumes about 10.4 g of salt per day and the average woman 7.3 g per day.
- 3) The US diet is high in salt, and most of this salt comes from processed foods. "75 to 80% of the salt in the US diet comes from processed foods, not from salt added during food preparation or consumption."
- 4) "Despite evidence linking salt intake to hypertension and cardiovascular disease, dietary salt intake in the U.S. is on the rise."

5) Reducing dietary salt by 3 g per day (1200 mg of sodium per day) is projected to reduce the annual number of new cases of:

CHD	by 60,000 to 120,000
Stroke	by 32,000 to 66,000
Myocardial infarction	by 54,000 to 99,000
Annual number of deaths from any cause	by 44,000 to 92,000

6) In reducing dietary salt by 3 g per day, "all segments of the population would benefit, with blacks benefiting proportionately more, women benefiting particularly from stroke reduction, older adults from reductions in CHD events, and younger adults from lower mortality rates."

7) Reducing salt intake by 3 g per day would save 194,000 to 392,000 quality-adjusted life-years and \$10 billion to \$24 billion in health care costs annually.

8) "Reducing dietary salt lowers blood pressure and the risk of cardiovascular disease."

9) "All adult age groups, both sexes, and blacks and nonblacks would be expected to benefit from reductions in salt intake."

10) "Our postulated dietary reduction of 3 g of salt per day, which is within the range targeted by other developed countries, is projected to benefit the entire US population and yield substantial reductions in morbidity, mortality, and health care costs."

11) "The magnitude of the health benefit suggests that salt should be a regulatory target of the Food and Drug Administration, which currently designates salt as a food additive that is 'generally regarded as safe'."

12) The benefits of salt reduction may be even greater than we have projected "by lowering salt intake even earlier, during childhood and adolescence."

13) "Modest reductions in dietary salt would yield substantial health benefits across the US population of adults by lowering rates of cardiovascular events and death and reducing medical costs."