

# Salt substitution could prevent almost half a million deaths from CVD in China

22 April 2020



Credit: CC0 Public Domain

A nationwide intervention to replace regular household salt with potassium-enriched salt substitutes in China could prevent nearly half a million cardiovascular deaths per year, according to a new modelling study published in the *British Medical Journal*.

The study found that overall, the [blood pressure](#) lowering effects of salt substitution could prevent around 460,000 [cardiovascular disease](#) (CVD) deaths each year, including 208,000 due to stroke and 175,000 due to heart disease.

They were also estimated to prevent some 743,000 non-fatal CVD events each year, including 365,000 strokes and 147,000 heart attacks, and decrease rates of chronic kidney disease (CKD) by around 120,000 each year, or almost seven percent of new cases.

Dr. Jason Wu, one of the study's senior authors and Program Head of Nutrition Science at The George Institute said that replacing regular salt with potassium-enriched salt substitutes combines the blood pressure lowering effects of reduced sodium and increased potassium intake.

"While potassium intake in China is low, intake of sodium is well above recommended levels, mainly coming from salt used at home, in cooking or at the table," he said.

"Salt substitution is therefore a promising strategy to reduce blood pressure and related diseases like CVD and CKD in China, where over two million deaths were attributed to elevated blood pressure in 2015. Our findings suggest that a nationwide intervention to encourage use of potassium-enriched salt substitutes could prevent nearly one in nine CVD deaths in China."

An important part of this study was to look at the potential benefits of blood pressure reduction at the same time as the possible risk to people with CKD from increased potassium intakes. Lead author, Senior Research Fellow at The George Institute and now research assistant professor at the Friedman School of Nutrition Science and Policy at Tufts University, Matti Marklund, Ph.D., said that concerns about the potential risk of increased potassium intakes in people with CKD were particularly relevant in China where most people with CKD are unaware of their condition.

"Our modelling study suggests that with this type of intervention, the benefits greatly outweigh the harms in the overall population. In fact, even among individuals with CKD, there are substantial net benefits," he said.

Among an estimated 17.2 million people with CKD, the blood pressure lowering effects of the intervention could prevent around 32,000 CVD deaths, but the increased [potassium intake](#) and higher blood potassium levels could potentially cause some 11,000 additional CVD deaths, resulting in an estimated 21,000 deaths avoided overall.

"The finding of net cardiovascular benefits in those with CKD suggests that encouraging them to avoid

potassium-enriched salt substitutes in a national intervention could result in overall harm as they would then miss the benefits of reduced blood pressure. However, alternative approaches like improving screening for CKD and closer monitoring of potassium levels in diagnosed patients should be evaluated to minimize potential risks," added Dr. Marklund.

Eating too much salt increases blood pressure, which is one of the biggest contributors to premature [death](#) from stroke or [heart disease](#). Worldwide, excess salt intake is estimated to cause about three million deaths each year.

In China, sodium intake is more than double the WHO-recommended limit, and nearly half of Chinese people aged 35-75 have high [blood](#) pressure. Almost 30 percent of fatal strokes in Chinese people aged under 70 are attributable to high sodium consumption.

In contrast to most Western countries the largest contributor of dietary sodium in China is discretionary salt (i.e., salt added in the home during cooking or at the table), contributing to about two thirds of sodium intake.

"Our study suggests that a national program to replace regular salt with lower-sodium '[salt](#) substitutes' for home cooking, could have a large impact on the burden of CVD in China." said Dr. Marklund.

**More information:** *British Medical Journal* (2020).

[DOI: 10.1136/bmj.m824](https://doi.org/10.1136/bmj.m824) ,  
[www.bmj.com/content/369/bmj.m824](https://www.bmj.com/content/369/bmj.m824)

Provided by George Institute for Global Health

APA citation: Salt substitution could prevent almost half a million deaths from CVD in China (2020, April 22) retrieved 25 October 2022 from <https://medicalxpress.com/news/2020-04-salt-substitution-million-deaths-cvd.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.*