

Landmark study shows simple salt swap could prevent millions of deaths each year

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Replacing table salt with a reduced-sodium, added-potassium 'salt substitute' significantly reduces rates of stroke, heart attack and death, according to the results of one of the largest dietary intervention studies

ever conducted.

Presented at a 'hotline session' at the European Society of Cardiology Congress in Paris on August 29, and simultaneously published in the *New England Journal of Medicine*, the results also showed that there were no harmful effects from the [salt](#) substitute.

High levels of sodium intake and low levels of potassium intake are widespread, and both are linked to [high blood pressure](#) and greater risks of stroke, [heart disease](#) and premature [death](#). Using a salt substitute—where part of the sodium chloride is replaced with potassium chloride—addresses both problems at once. Salt substitutes are known to lower blood pressure but their effects on heart disease, stroke, and death were unclear, until now.

Lead investigator, Professor Bruce Neal of The George Institute for Global Health, said that the scale of the benefit seen in the study could prevent millions of early deaths if salt substitutes were widely adopted.

"Almost everyone in the world eats more salt than they should. Switching to a salt substitute is something that everyone could do if salt substitutes were on the supermarket shelves," he said.

"Better still, while salt substitutes are a bit more expensive than regular salt, they're still very low-cost—just a few dollars a year to make the switch."

"As well as showing clear benefits for important health outcomes, our study also allays concerns about possible risks. We saw no indication of any harm from the added potassium in the salt substitute. Certainly, patients with serious kidney disease should not use salt substitutes, but they need to keep away from regular salt as well," added Professor Neal.

The Salt Substitute and Stroke Study enrolled 21,000 adults with either a history of stroke or poorly controlled blood pressure from 600 villages in rural areas of five provinces in China—Hebei, Liaoning, Ningxia, Shanxi and Shaanxi between April 2014 and January 2015.

Participants in intervention villages were provided enough salt substitute to cover all household cooking and food preservation requirements—about 20g per person per day—free-of-charge. Those in the other villages continued using regular salt.

During an average follow up of almost five years, more than 3,000 people had a stroke. For those using the salt substitute, researchers found that [stroke](#) risk was reduced by 14 percent, total cardiovascular events (strokes and heart attacks combined) by 13 percent and [premature death](#) by 12 percent.

Professor Neal said that because salt substitutes are relatively cheap (about US\$1.62 per kilo versus US\$1.08 per kilo for regular salt in China) they are likely to be very cost effective too.

"Last year, a modeling study done for China suggested that about 400,000 premature deaths might be prevented each year by national uptake of salt substitute. Our results now confirm this. If salt was switched for salt substitute worldwide, there would be several million premature deaths prevented every year," he said.

"This is quite simply the single most worthwhile piece of research I've ever been involved with. Switching [table salt](#) to salt substitute is a highly feasible and low-cost opportunity to have a massive global health benefit."

As a result of the study, George Institute researchers are calling for the following actions:

- Salt manufacturers and retailers worldwide should switch to producing and marketing salt substitute at scale
- Governments worldwide should design policies to promote salt substitute and discourage regular salt use
- Consumers worldwide should cook, season and preserve foods with [salt substitute](#) not regular salt

More information: Bruce Neal et al, Effect of Salt Substitution on Cardiovascular Events and Death, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMoa2105675](https://doi.org/10.1056/NEJMoa2105675)

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