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Dietary salt reduction and heart disease

A scientific paper from the New England Journal of Medicine [1]—hot off the presses. The US authors estimate the benefits achievable in the US by lowering population salt intake. Is it worth it? You decide ...

What the paper says:

In the United States, the average salt intake is estimated to be 10.4g per day for men and 7.3 g per day for women [3]. This is far above the US recommended daily intake of not more than 5.8g of salt (the salt equivalent of the target of 2300mg of sodium). For almost 70% of US adults (persons over 40 years of age, blacks and persons with hypertension) the recommended daily intake is even lower at 3.7g of salt per day. Around 75 to 80% of salt in the US diet comes from processed foods (it is likely to be similar in Australia)—so lowering population salt intake needs to include a processed food strategy. But without worrying about how it is done—what is the impact of lowering the population salt intake by 3g a day?

The benefits are substantial—the annual number of new cases of coronary heart disease lowered by 60,000 to 120,000, stroke by 32,000 to 66,000 and the annual deaths from any cause by 44,000 to 92,000. This is similar in magnitude or greater than the impact due to stopping smoking for half of all smokers, weight loss of 5% for all obese adults, the use of statin drugs to treat all people at low or intermediate risk for CHD or the drug treatment of people with hypertension.

Health care cost savings are estimated to be between \$US10 and \$US24 billion—annually!

Even lowering average salt intake by 1g a day and taking 10 years to do it was found to result in cost savings.

Is Australia different?

The paper expresses health benefit as the number of cases of coronary heart disease, stroke and deaths avoided per year and is based on US health data. The number for Australia would be much fewer because the population is smaller—but the proportion would be similar, because rate of disease is comparable. The benefit from salt lowering was assumed to be linear—everyone would have the same risk reduction benefit regardless of their starting salt intake.

In Australia we do not know what our population salt intake is. One of the frustrations for public health nutritionists is the lack of routine, high quality dietary intake measurement of the Australian population. Without dietary monitoring, it is difficult to assess the impact of dietary change programs or

Dietary salt reduction and CHD (cont)

determine the trends in population diet. Most people believe that Australians consume, on average, more salt than is recommended. Many people believe that the Australian intake is comparable to the US and UK intakes in amount, and source (i.e. about 80% from processed foods in the US and 75% in the UK). Many important players in the food industry are putting in a substantial effort to lower the salt content of processed food—but how will we be able to assess the success of this properly without good continuing measurement of population salt intake?

In Australia the NHMRC (National Health & Medical Research Council) recommends limiting total daily salt intake to 4 grams—sodium 70 mmol in 24-hour urine collections in order to “prevent chronic disease”, and the Heart Foundation prescribes a maximum of 3.8 grams (65 mmol).

Why a population strategy?

Salt skippers will be familiar with individual strategies to lower salt or sodium consumption—it is (after all) what we do. Individual strategies work by an individual taking action—but the action an individual takes can be made easier or more difficult. One argument against population health strategies is that many people have to take some action for the benefit of a few. But for adults who reach the age of 50 years, the lifetime risk that hypertension will develop is 90% [4]—I’d like those odds for a lottery! And a billion dollar savings in health care costs sounds like a savings of my tax dollars—I don’t expect it back, but maybe I will benefit from what else it could be spent on.

A population strategy could be a requirement to take action (such as the requirement to wear seatbelts when travelling in a motorcar, or a requirement to manufacture food with a sodium content of less than 120mg/100g), but other population strategies are gentler and work to make individual action easier—the traffic light food label is an

example of this, as would be a wider access to low salt food (by making a wider selection available everywhere).

The more people who are aware of the benefit and want a lower total salt intake, the more pragmatic (politically and in practice) it is to implement population strategies to lower population salt intake.

Is population salt lowering possible?

The answer must be ‘yes’. In the UK, a population-wide reduction in dietary salt of 10% was achieved in 4 years [5]. There has been a substantial decrease in the prevalence of tobacco use in Australia through population strategies supporting individual actions.

References

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3. US Department of Agriculture, Agricultural Research Service. 2008. Nutrient intakes from food: mean amounts consumed per individual, one day, 2005-2006.
4. Vasan RS, Beiser A, Seshadri S, et al. Residual lifetime risk for developing hypertension in middle-aged women and men: the Framingham Heart Study. *JAMA* 2002;287:1003-10.
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Don’t Forget AWASH

The Australian Division of World Action on Salt and Health promoted *Salt Awareness Week* in the first week in February.

www.AWASH.org.au

The AWASH website is always worth looking at—informative and changing frequently.

Visit regularly!

A Taxing Suggestion

Compulsory traffic light food labels have been discussed in Salt Skip News as a measure to reduce intake of salt, fat, saturated fat and sugar in foods. This approach potentially gives individuals more information on which to base their food purchase decision. But food marketers know that food price is an important driver of the purchase decision—why not influence food choice in the public interest by raising the price of unhealthy elements in food? Why not put a heavy tax on the added salt in food and let market forces drive a decrease in population salt intake? This is a very radical suggestion—it moves much further down the road of ‘making’ people rather than letting them choose their dietary behaviour. This type of suggestion has been called ‘social engineering’, ‘paternalistic’, ‘nannying’, ‘interventionist’ and ‘sin taxing’—derogatory name-calling, but not so bad. Let’s examine the proposition—drawing information from a recent paper on the subject of taxes for sugar-sweetened beverages. The case for reduced consumption of dietary salt is compelling on health grounds. But an economic case can also be built for government intervention based on ‘market failure’. Market failure is when socially undesirable results occur if market forces alone are allowed to operate. Why does this happen with salt intake? There are at least underlying three reasons:

- people don’t fully appreciate the negative health impact of excess salt, or the high salt content of foods, or what their intake should be;
- added salt is an acquired taste—short-term gratification from saltier food may outweigh the longer term health consequences even if the consumer has some knowledge of longer term negative effects;
- finally there are financial ‘externalities’—consumers don’t pay the full costs of their consumption.

All of these reasons result in the population irrationally consuming excess salt with an extremely negative and socially undesirable outcome when they would be much better off and a lot healthier eating only low salt food.

A tax on salt in food has been called ‘regressive’ because it does not increase as an individual’s income increases (i.e. it hits poorer people harder)—but the most tax would be paid by those with the greatest salt intake (unrelated to income) and the biggest benefit would be gained (both in paying less tax and in health outcome) by those who consume the least salt. In general, people will support a tax or law that is for the purpose of promoting health (tobacco and alcohol taxes are two examples). Support is even stronger if the revenue from the tax is earmarked for further promotion of health.

Reference

Brownell KD, Farley T, Willett WC, Popkin BM, Chaloupka FJ, Thompson JW, Ludwig DS. The public health and economic benefits of taxing sugar-sweetened beverages. *New England J Med* 2009;361:1599-605.

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We are on the Web at
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Salt Skip News will
continue to be distributed
in hard copy in The BP
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New Editor

Guest editor Dr Malcolm Riley, Melbourne

Many thanks are extended to Jennifer Keogh of Adelaide who edited Salt Skip News over 2009. Jennifer has started a new role as Research and Clinical Coordinator for the Australian Institute of Weight Control, and will be part of our editorial committee. The editor's baton has been passed to me and I welcome input and feedback from readers regarding the preferred content for their Salt Skip News.

Introduction

I am an accredited practising dietitian and epidemiologist working for Dairy Australia* in Melbourne. I trained as a dietitian in Sydney in the early '80s—10% or so of Australian dietitians are male—and my first job was at the Royal Hobart Hospital.

I co-authored the scientific background for the salt guideline ('Choose foods low in salt') during the 2003 dietary guidelines review, and my best initiative was insisting that Trevor Beard be my co-author. The Australian dietary guidelines are currently under review, and there is every reason to think that salt (or sodium) lowering will again be a focus. Moving from recommendation to change in population dietary behaviour is the great challenge and AWASH (Australian division of World Action on Salt and Health) and others are doing great work in this area. I dream of the day when it's harder to find 'sodium added' foods in my supermarket than 'no sodium added' – perhaps a frustration for many of us.

I had the very welcome experience of my local GP strongly and effectively encouraging me to follow a low sodium diet recently—he was well-informed, didn't underestimate the difficulty and noted the successes and benefits that other patients had if they managed a low sodium intake. General practitioners can be great advocates for healthy diet—and salt skippers great advocates for the fact that it can be done!

***Disclaimer**

Dairy Australia provides services to the Australian dairy industry, and my job is to provide technical expertise in nutrition science, and manage the dairy industry interaction with policy and regulation as it relates to health and nutrition.

While editing Salt Skip News I am not working for Dairy Australia, and statements in the newsletter do not necessarily represent those of the dairy industry.

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