

SALT INTAKE FROM PROCESSED FOOD AND DISCRETIONARY USE IN AUSTRALIA

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Introduction

- Food Standards Australia New Zealand (FSANZ) recently estimated Australians' salt (NaCl) intakes as part of the proposal for mandatory iodine fortification¹.
- This poster compares Australian salt intake with that in the UK.
- Salt (NaCl) and 'sodium (Na)' are not synonymous descriptors but are sometimes used, incorrectly, as if they were.

Background: UK Studies

- In 1983, Sanchez-Castillo et al² gave 83 British subjects lithium-tagged salt to use at home and measured 24-hour urinary excretion of sodium, chloride and lithium. From this, total 'salt' intake was estimated to be 10.6 g in men and 7.4 g in women.
- This was subsequently described as 10% coming from natural sodium, 15% from discretionary use and 75% being that added during processing³.
- In 2005, the UK Food Safety Authority⁴ reported that in England the 'salt' intake was 10.2 g for men and 7.7 g for women (9.0 g/day for the whole study sample). This estimate was derived from a survey collecting 24-hour urine samples which were analysed for sodium content. Mean sodium excretion (153 mmol/day) was then converted to a predicted 'salt' intake of 9.0 g/day.

Australian Estimates

Salt (NaCl) from processed foods:

- Estimating an increase in iodine intake under various fortification scenarios with iodised salt required estimates of salt (NaCl) intake from different foods to be calculated.
- Food composition tables commonly report sodium, not salt (NaCl), levels.
- Many foods (e.g. milk) contain no salt (NaCl) but do contain other naturally occurring sodium.
- Using the most recent data available, including results from FSANZ's food composition analysis programs up until 2005 and uptake of permissions for sodium-containing additives, a salt (NaCl) composition database was derived. For example, the sodium estimated to be derived from sodium bicarbonate in biscuits was subtracted from the total analysed sodium content before NaCl content was calculated.
- These salt (NaCl) composition values were applied to food intakes from the Australian 1995 National Nutrition Survey (NNS).

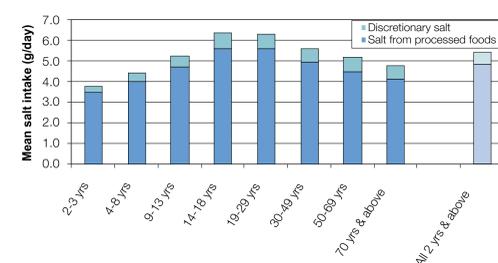
Discretionary salt

- The NNS did not quantify salt (NaCl) intakes. However, it did identify those respondents who add salt to food during cooking and after it is cooked.
- Results indicate that 62% of Australians aged 2 years and above are discretionary salt users.
- Other published sources indicate that 18% of salt (NaCl) intake is discretionary^{5,6}. A nominal intake of NaCl from discretionary use was calculated for each user (see Table 1).

Results (Table 1):

- NaCl intakes from processed foods were estimated to range between 3.5 and 5.6 g per day.
- NaCl intakes from processed foods were highest in persons aged 14-29 years and lowest in those aged 2-3 years.
- When NaCl from processing and discretionary use (Figure 1) were summed, the NaCl intake of the population ranged from 3.8-6.4 g per day. This contributes approximately 1,500-2,500 mg sodium to total sodium intake.
- The proportion of people using discretionary salt generally increased with age.
- Total sodium was not calculated as the project focus was on iodine fortification via iodised salt.

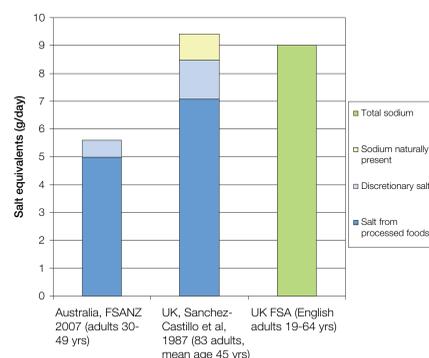
Figure 1. Estimated mean salt intake of the population (1995 NNS consumption data combined with updated composition data)



Comparison with other reports

Figure 2 illustrates the non-comparability of the Australian¹ and British²⁻⁴ data

Figure 2. Sodium intake from three sources, expressed as salt equivalents.



- The British studies estimate sodium from all sources.
- The FSANZ results exclude sodium from natural sources and non-NaCl sodium-containing ingredients.
- FSANZ estimates that mean Australian adult intakes of NaCl from processed foods are approximately 2 g lower than that reported by Sanchez-Castillo et al.
 - This is consistent with the salt reduction program of the National Heart Foundation and industry over the last few decades.
- If the intakes of natural sodium described by Sanchez-Castillo et al can be applied to Australia, then total sodium intakes would be approximately 400 mg higher in adults (or 1 g 'salt' equivalent). Hence average total sodium intake in Australian adults, including natural sodium, may be in the vicinity of 2,500-3,000 mg/day.
- The British estimates are based on urinary excretion studies. In contrast, the FSANZ estimates are derived from National Nutrition Survey food consumption data.

Conclusions

- This analysis has applied recent composition data to food consumption data collected in 1995. Data from the 2007 Australian Children's Nutrition & Physical Activity Survey will allow an assessment of whether changes in food composition have led to a change in NaCl intake and therefore sodium intake, or whether changes in food consumption have counteracted the changes in composition.
- Owing to the different ways authors use the word 'salt', readers need to be careful when comparing results in different studies.

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Table 1: Predicted intakes of salt in Australia, estimated using food intakes from the 1995 National Nutrition Survey combined with updated food composition data

Age group	Proportion consuming discretionary salt (%)*	Estimated mean discretionary NaCl intake (users only) (g/day)	Estimated mean NaCl intakes from processed foods (g/day)	Estimated total mean intake of NaCl (g/day)	Estimated mean intake of sodium from salt (mg/day)
2-3 yrs	36	0.8	3.5	3.8	1,500
4-8 yrs	48	0.9	4.0	4.5	1,750
9-13 yrs	55	1.0	4.7	5.3	2,100
14-18 yrs	63	1.2	5.6	6.4	2,500
19-29 yrs	59	1.2	5.6	6.3	2,500
30-49 yrs	60	1.1	5.0	5.6	2,200
50-69 yrs	70	1.0	4.5	5.2	2,050
70 yrs & above	75	0.9	4.2	4.8	1,900
2 yrs & above	62	1.0	4.8	5.5	2,150

*grouped as often or usually vs never or rarely