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Short Communication

Consumer awareness and self-reported behaviours related to salt consumption in Australia

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Australians are eating far more salt than is good for health. In May 2007, the Australian Division of World Action on Salt and Health (AWASH) launched a campaign to reduce population salt intake. A consumer survey was commissioned to quantify baseline aspects of awareness and behaviour related to salt and health amongst Australians. A total of 1084 individuals aged 14 years or over were surveyed by ACA Research using an established consumer panel. Participants were selected to include people of each sex, within different age bands, from major metropolitan and other areas of all Australian states and territories. Participants were invited via email to complete a brief questionnaire online. Two-thirds knew that salt was bad for health but only 14% knew the recommended maximum daily intake. Seventy percent correctly identified that most dietary salt comes from processed foods but only a quarter regularly checked food labels for salt content. Even fewer reported their food purchases were influenced by the salt level indicated (21%). The survey showed a moderate understanding of how salt affects health but there was little evidence of action to reduce salt intake. Consumer education will be one part of the effort necessary to reduce salt intake in Australia and will require government investment in a targeted campaign to achieve improvements in knowledge and behaviours.

Key Words: salt, sodium, consumer, behaviour, public health

INTRODUCTION

The fact that diets high in salt lead to high blood pressure,^{1,4} and that elevated blood pressure levels are an important determinant of cardiovascular disease, is well documented.⁵ There is also very clear evidence that salt reduction lowers blood pressure. Strategies to reduce population salt intake are multi-faceted and in every case include consumer education.⁶

Whilst it is generally believed that Australian consumers understand that too much salt is bad for their health, national data about awareness and behaviours related to salt are largely absent or else restricted to selected populations.⁷ Australian surveys examining the use of food labels have shown that salt falls low on the list of health priorities and is further confused by the use of sodium instead of salt.⁷⁻⁹

The Australian Division of World Action on Salt and Health (AWASH) was established in December 2005. In May 2007, it launched its strategy to reduce population salt intakes to 6 grams a day over five years. The main components of the AWASH campaign are 1) to reduce the salt content of processed and catered foods; 2) to increase consumer awareness and influence behaviour in relation to salt; and 3) to support clear labelling of foods that makes the salt content immediately apparent. Each of these has been an element of the national salt reduction strategies that have demonstrated a population-wide impact on salt intake. Encouraging consumers to choose

lower salt products has a direct impact on an individual's salt intake but also creates an incentive for the food industry to manufacture foods with a lower salt content.¹⁰

To inform the development of the AWASH strategy, a consumer survey was commissioned to quantify awareness and reported behaviours related to salt and health amongst Australian consumers.

MATERIALS AND METHODS

A survey was done under contract in March of 2007 by a commercial survey organisation, 'ACA Research', using an established consumer panel held by Pureprofile.

Participants and recruitment

Individuals aged 14 years or over were identified by ACA Research from the Pureprofile consumer panel. Participants were sought from all states and territories of Australia with the aim of recruiting a similar number of respondents of each sex in four age bands (14-20, 21-40, 41-60, and >60 years).

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Data collection

The questionnaire contained 23 questions covering socio-demographic characteristics, knowledge about salt, behaviours relating to salt and use of food labels with regard to making food choices. Information that could identify participants in the survey was not collected and ACA Research provided final data with no personal identifiers.

Statistical analyses

Proportions of respondents reporting each characteristic were calculated for each year by age and sex strata, and weighted to the Australian population in 2006 as reported by the Australian Bureau of Statistics. Logistic regression models were used to explore associations between responses and age, sex, level of education and income. The analyses were done using the SAS System for Windows, Version 9.1 and *p*-values below 0.05 were considered unlikely to have arisen by chance.

RESULTS

There were 1084 individuals aged 14 - 85 years that completed the survey. The survey sample in was highly comparable to the overall Australian population in terms of age, sex, educational attainment and income (Table 1).

Two thirds of survey participants were aware of the adverse effects of salt on health. Salt was the third leading dietary concern after saturated fat and sugars and ahead of artificial flavours, artificial colours and energy content (Table 2). The adverse effects of salt on blood pressure were understood by most and three quarters were aware of the adverse effects of salt on heart attack and stroke. However, less than half knew that excess salt consumption caused kidney disease.

More than half thought that they were probably eating either less than or the same amount of salt as recommended, although less than a fifth knew that the recommended maximum salt intake was 6g/day and less than half understood the relationship between salt and sodium. Three quarters knew that most salt in the Australian diet comes from processed foods and, on average, participants were able to correctly classify 10 common foods as high, medium or low in salt content two thirds of the time.

About one half of participants reported regularly checking food content labels but only one quarter specifically for salt content (Table 2). Likewise, while one third reported that food labels influenced their purchasing, only one fifth reported that the salt content shown on labels was the reason that they made purchasing decisions. One-third of the survey participants reported often trying to buy 'low salt' or 'no added salt' foods but one fifth also reported often adding salt during cooking or at the table. More than a half of participants thought that they were primarily responsible for reducing their salt consumption, one third that it was primarily the role of industry and less than one in ten that it was the duty of the government.

Women were more concerned about the salt they eat ($p=0.04$), were more likely to check food labels ($p=0.002$) and more likely to buy low salt foods ($p=0.007$) but were less likely to understand the relationship between salt and sodium ($p=0.001$) and were no more likely to withhold salt during cooking or at the table. Older people were more concerned about the adverse effects of salt

Table 1. Characteristics of survey participants in 2008 compared to characteristics of the Australian population in 2006

	Proportion (%)	
	Sample 2007	Australia 2006†
Sex		
Male	48	49
Female	52	51
Education‡		
Secondary or below	46	48
Tertiary	45	47
Postgraduate or above	9	6
Age group, yrs		
14-20	18	12
21-40	38	35
41-60	26	34
61-85	18	19
Region§		
Major cities	61	64
Other areas	39	36
Annual household income¶		
\$30,000 or less	23	22
\$30,000-\$49,999	17	12
\$50,000-\$69,999	15	19
\$70,000-\$99,999	19	15
\$100,000-\$149,999	12	14
\$150,000 or over	4	6
Unknown	11	12

†Data for Australian population are from Australian Bureau of Statistics 2006 Census

‡Data for Australian population include people aged 15-64 only

§Data for Australian population include people at all ages

¶Income data for Australian population are available in slightly different brackets defined as \$33,799 or less; \$33,800 to \$51,999; \$52,000 to \$72,799; \$72,800 to \$103,999; \$104,000 to \$155,999; \$156,000 or over; unknown.

($p<0.0001$), had better knowledge of the harmful effect of salt on health ($p=0.001$) and were more likely to check food labels ($p<0.0001$). Finally, higher levels of education were associated with a better knowledge of the relationship between salt and sodium ($p<0.0001$) but had no clear effect on the likelihood of using food labels to try and select healthier foods or to take any actions to reduce salt intake. There was no clear effect of level of household income on the main findings in regard to knowledge and behaviours related to salt and health.

DISCUSSION

Our results suggest that consumer awareness about salt in Australia is rather low and show that while there is reasonable knowledge of the adverse effects of salt on health, only a small number of consumers regularly take action to reduce their salt intake. These findings are in line with other Australian research that showed half of all consum-

Table 2. Knowledge and behaviours related to salt amongst Australians aged 14 – 85 years†

	Proportion (%)
Knowledge about effects of salt on health	
Improves health	8
No effect on health	13
Worsens health	67
No idea about health effects	12
Believe that salt may adversely affect	
High blood pressure	87
Stroke	77
Heart attacks	75
Kidney disease	44
Knowledge of recommended maximum daily intake of salt (6g)	
Knew 6 grams	14
Believed recommended maximum lower	28
Believed recommended maximum higher	6
No idea of recommended maximum	52
Belief about personal salt consumption	
More than the maximum recommended	23
About the maximum recommended	31
Less than the maximum recommended	25
Don't know	22
Food content labels	
Often check labels	51
Often check labels specifically for salt content	26
Information on food labels often affects purchasing decisions	39
Salt content indicated on label often affects purchasing decisions	21
Often try to buy 'low salt' foods	33
Often try to buy 'no added salt' foods	30
Often add salt during cooking	21
Often add salt at the table	21

† Proportions estimated by weighting age specific estimates from survey to Australian population in 2006

ers have trouble identifying low salt options and were unable to accurately use labelled sodium information.⁷ It is unlikely that there will have been substantive changes in consumer behaviour and awareness related to salt since the conduct of this survey because there has been no social marketing campaign designed to achieve such change.

The inadequacy of current food labelling schemes in Australia is highlighted by the observation that only a quarter of respondents checked the label for sodium content and less than a half understood the relationship between salt and sodium (the way salt content is reported on food labels in Australia).¹¹⁻¹⁶ There is a clear need for a labelling system that makes the salt content of foods immediately apparent. A scheme that includes colour-coded interpretation of levels of key nutrients on front-of-pack appears most likely to help consumers identify at a glance those foods low in salt and with healthier levels of other nutrients.¹⁷

A key strength of this research was the large number of participants included and the broadly representative nature of the survey group in terms of the age, sex, educational attainment and income of the Australian population as a whole. While there was some evidence of variability in the responses to the questionnaire when stratified by consumer characteristics, the overall results of the survey are likely to be generalisable to the Australian population.

Furthermore, the results are broadly comparable to those obtained in a recent survey done in the United Kingdom and this again provides reassurance that the main findings are unlikely to be seriously biased.¹⁸

Conclusions and implications

This research has identified some important gaps in knowledge about the adverse effects that salt has on health amongst Australians, yet also provides significant hope for the future with salt identified as an important health issue by many. Consumers are increasingly interested in the health aspects of their diets and need to be provided with an environment that is supportive of their dietary goals. This survey will be repeated in subsequent years but it is unlikely that a significant change in consumer awareness and behaviour will be achieved without government action in the interim. Salt reduction should be a health priority for Australia as it is one of the few interventions that is both plausible and has the potential to avert a large disease burden at low cost.¹⁹

AUTHOR DISCLOSURES

None declared.

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澳洲消費者對食鹽攝取的認知及消費行為

澳洲人的食鹽攝取已趨對健康有危害的高量。2007年5月，食鹽與健康的世界行動澳洲分會(AWASH)發起降低食鹽攝取量的活動。先執行始點的消費者調查，以評量澳洲人對食鹽和健康的認知與行為。從已建立好的消費者固定樣本抽出14歲或以上的1084位民眾，由ACA Research進行調查。受試者從澳大利亞各州及領地的主要城市及其他地區的各年齡層的男女性中分別選出。以電子郵件邀請受試者填寫簡要的網路問卷。有三分之二受試者知道食鹽對健康有害，但只有14%的人確知建議的每日最高攝取量。有70%受試者確定飲食中的鹽主要來自加工食品，但只有四分之一的人經常查看食品標示的鹽含量。只有21%的受試者在購買食物時，會受到鹽含量標示的影響。這份調查顯示澳洲人對食鹽和健康關係的認知為中等程度，但有助降低食鹽攝取量的行動跡象很少。為了降低澳洲人食鹽攝取量，消費者教育將是一個必要的努力，並且需要政府投資目標性活動，以改進相關的知識和行為。

關鍵字：食鹽、鈉、消費者、行為、公共衛生