

Concurrent Session 14: Iodine

Untangling public health messages on the eve of mandatory iodine fortification in Australia

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Background – Mandatory fortification of bread with iodised salt is proposed to address the re-emergence of iodine deficiency in Australia and New Zealand. The impacts of fortification require baseline data of iodine status and dietary salt intake.

Objective – To assess the iodine status and salt intake of healthy women in NSW; determine knowledge regarding salt in the diet; and understand attitudes towards an iodine fortification program.

Design – Cross-sectional study of 62 women aged 20 – 55 y, conveniently sampled in Wollongong, NSW. A single 24-hr urine sample was collected for urinary sodium and iodine (UIC). A self-administered questionnaire assessed consumer understanding, perceptions and attitudes related to iodine fortification and health-related knowledge about salt.

Outcomes – Median UIC = 56 µg/L (IQR = 41 - 68); 83% had some degree of suboptimal iodine status (UIC <100 µg/L) while 40% had UIC <50 µg/L (moderate deficiency). Knowledge about iodine was poor with less than half associating low iodine status with adverse pregnancy outcomes. Health education and supplementation, particularly at the medical practitioner interface, was considered the best strategy for improving low iodine levels. Mean Na excretion equated to a salt intake of 6.6 g/day; 39 % had values < 6g/day. Dietary practices to lower salt intake reflected a high awareness of salt-related health issues.

Conclusions – The iodine status of women in the Illawarra was low. These data add support to the need for a national approach to address iodine intake. The consumer data provide useful information to inform the accompanying consumer education campaign.

Iodine status of Aboriginal teenagers in the Top End

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Background – Iodine status of a population is assessed by determining the median urinary iodine concentration (MUIC). The mild iodine deficiency range is defined as a MUIC of 50-<100 ug/L. This value is derived from children of approximately 10 years of age who are assumed to have a daily urine volume of approximately one litre and so concentration/litre is approximately equal to intake. Adults have higher urinary volumes and so concentration/litre is less than total intake.

A national survey of children (mean age 9 years) conducted in the mainland states in 2004 confirmed that iodine deficiency had reappeared in New South Wales and Victoria. Tasmania had already implemented an intervention to address the problem. The Northern Territory was not included.

Objectives – We assessed MUIC in a group of Aboriginal teenagers living in the Top End of the Northern Territory who are participants in an established cohort study.

Design – The third follow-up of the Aboriginal Birth Cohort Study was conducted in 2006-7 when the participants were aged 16-20 years. A spot urine sample was collected to assess renal health and iodine excretion. Iodine analysis was done by the Westmead Hospital laboratory which had also performed these analyses for the national survey.

Outcome – The MUIC of those living in the (former) Darwin Health Region was 55 ug/L both in boys (n=183) and girls who were neither pregnant nor had a child aged <6 months (n=158). Assuming a total daily urinary volume of 1.5 litres for adults (which may not be accurate in hot, humid climates), this would be equivalent to a median intake of approximately 78 ug/day. This adjusted value would put these teenagers in the mild deficiency range.

Conclusion – This study indicates that mild iodine deficiency exists in the Indigenous populations in the Top End.