

**Iodine Deficiency Disorders (IDD) in the New Zealand population:
another example of an outmoded IDD control programme**

SA Skeaff, CD Thomson, RS Gibson

Department of Human Nutrition, University of Otago, Dunedin, New Zealand

Background – New Zealand (NZ) has low soil iodine requiring the introduction of iodised table salt in 1939 to combat IDD. However, public health recommendations to use less salt combined with a decline in the use of iodophors by the dairy industry suggests that iodine intakes may no longer be adequate.

Objective – To determine the iodine status of groups in NZ that are particularly susceptible to suboptimal iodine intakes: (i) pregnant women (ii) infants and toddlers, and (iii) schoolchildren.

Design – Pregnant women living in Dunedin were recruited by poster and advert and asked to provide a 24-hour urine sample at 12, 24 and 36 weeks. A casual urine sample was obtained from a cross-sectional sample of infants and toddlers aged 6-24 months living in Invercargill, Dunedin and Christchurch. A casual urine sample was obtained from randomly selected Dunedin and Wellington schoolchildren aged 8-10 years and thyroid volume measured by ultrasonography. A median urinary iodine concentration $>100\mu\text{g/L}$ indicates adequate iodine status.

Results – The median urinary iodine concentration (MUIC) of the pregnant women ($n=50$) at 12, 24, and 36 weeks gestation was 44, 51, and 42 $\mu\text{g/L}$, respectively. The MUIC of infants ($n=51$) who were currently formula fed (99 $\mu\text{g/L}$) was significantly higher ($P=0.000$) than infants ($n=43$) who were currently breast fed (44 $\mu\text{g/L}$). The MUIC of toddlers was 59 $\mu\text{g/L}$ ($n=119$). The MUIC of the schoolchildren ($n=300$) was 67 $\mu\text{g/L}$ with 11% of the children having an enlarged thyroid gland.

Conclusions –These results illustrate that mild to moderate IDD has re-emerged in New Zealand. Reliance on iodised table salt as the sole means of fortification is clearly ineffective.