

# Monitoring the adequacy of salt iodization in Switzerland: a national study of school children and pregnant women

Sonja Y Hess<sup>1</sup>, Michael B Zimmermann<sup>1,2</sup>, Toni Torresani<sup>3</sup>, Hans Bürgi<sup>2</sup>, Richard F Hurrell<sup>1</sup>

<sup>1</sup>Laboratory for Human Nutrition, Food Science Institute, Swiss Federal Institute of Technology Zürich; <sup>2</sup>Fluoride-Iodine Committee, Swiss Academy of Medical Science; <sup>3</sup>Children's Hospital, Zürich, Switzerland

Hess SY, Zimmermann MB, Bürgi H, Torresani T, Hurrell RF. Monitoring the adequacy of salt iodization in Switzerland: a national study of school children and pregnant women. *Eur J Clin Nutr* 55: 162-166, 2001.

Several countries with long-standing salt iodization programs, including Switzerland, have recently reported declining and/or low urinary iodine (UI) levels in their populations. In Switzerland, in response to studies indicating low UI levels in children and pregnant women, the salt iodide level was increased in 1998 from 15 to 20 mg/kg. Our objective was to evaluate iodine nutrition in a national sample of Swiss school children and pregnant women 8-16 months after the increase in the salt iodide level.

A 3-stage probability proportionate to size cluster sampling method was used to obtain a representative national sample of 600 children aged 6-12 y and 600 pregnant women. We then measured UI in both groups, thyrotropin (TSH) in pregnant women and thyroid volume by ultrasound to determine goiter prevalence in school children.

The median UI (range) of the children and pregnant women was 115 µg/L (5-413) and 138 µg/L (5-1881), respectively. The median blood TSH concentration (range) of pregnant women was 0.6 mU/L (0.2-2.1). Based on the current WHO/ICCIDD normative data for thyroid volume, none of the children were goitrous, using either age/sex-specific or BSA/sex-specific cutoffs.

The iodine status of the Swiss population is once again adequate, illustrating the value of periodic monitoring and prudent adjustments to the iodide level in salt. This approach could serve as a model for countries struggling to maintain dietary iodine intake in the face of shifting dietary habits and changes in the food supply.