

Title: Please Do NOT include a period at the end of your title.

Achievement of universal salt iodization ensures optimum iodine nutrition of school-age children but not pregnant women in Serbia

Abstract: Your abstract must use 10pt Arial font and must not be longer than this box. Please DO NOT change the dimensions of this box.

Background: Historically, goitre and cretinism were significant public nutrition problems in former Yugoslavia and salt iodization was introduced already in the early 1950s, initially at a low level of 10mg KI/kg. Present legislation mandates that all salt for human consumption in Serbia should be iodized at 12-18 mg iodine per kg. At the end 1990s, studies by the Public Health Institute of Serbia showed median urinary iodine (UI) of 158µg/L among school-age children. At that time, 73% of the households used iodized salt (IS). **Aim:** A national survey in 2007 aimed to (a) re-confirm the adequacy of IS use in the population; and (b) explore the iodine status among school-age children and pregnant women in relation to their IS use in the household. **Methods:** A standard 30x30 design: 30 clusters (schools) selected in proportion to enrolment size from the national list of primary schools, and 30 pupils randomly selected from all grades in each school. In addition, the field team visited the prenatal clinic located nearest to each school for enrolling a convenience sample of ±12 pregnant women. Urine samples and a household salt sample were obtained for iodine analysis from each participant. The lab participates with success in the EQUIP urinary iodine exchange program. **Results:** All the 1,297 household salt samples were iodized and the median iodine content was 14mg/kg; Salt iodized at 12-18 mg/kg was used in 76% (95% CI: 67-72%) of the households and 32% (95% CI: 30-35) of the household salt samples were ≥15mg iodine/kg. In 994 school-age children, the median UI was 195µg/L; 9% (95% CI: 8-12) had UI <100µg/L. The median UI was 158µg/L in 347 pregnant women; 45% (95% CI: 40-51) of the women had UI <150µg/L. In Serbia, pregnant women are commonly advised to use a dietary supplement. Among the 34% of women reporting to use a supplement, the median UI was 195µg/L, significantly ($p<0.001$) higher than the median UI of 146µg/L among women not using a supplement. No statistical relations were found between the iodine levels in household salt and the iodine status in either school-age children or pregnant women. **Conclusions:** The salt supplies for human use in Serbia are fully iodized. While the iodine nutrition status of school children rests comfortably within the recommended range, pregnant women who are **not** using a dietary supplement have marginal iodine status. A modest upward adjustment of the mandated salt iodine level would ensure optimum iodine nutrition among all pregnant women in Serbia. To improve oversight, the Ministry of Health has re-established a National IDD Commission which is expected to advise on future policy steps.

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