Current status of iodine intake in Croatia--the results of 2009 survey.


Source

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Abstract

In 1996, due to persistence of mild to moderate iodine deficiency, new law on obligatory salt iodination with 25 mg of potassium iodide (KI) per kg of salt was implemented in Croatia. Along with a new law, a new program for monitoring of iodine prophylaxis was implemented. Investigations of goiter and iodine intake performed in 2002, demonstrated sufficient iodine intake in Croatia with overall median of urinary iodine concentration (UIC) for schoolchildren in Croatia of 140 microg/L. In 2002, thyroid volumes (TV) measured by ultrasound in schoolchildren from all four geographic regions of Croatia were for the first time within the normal range according to ICCIDD reference values. Nowadays, Croatia is internationally recognized as iodine sufficient country. The aim of the present study was to assess current status of iodine intake in Croatia. The investigation was carried out in 2009. A total of 386 schoolchildren aged 7-10 years from all four major geographic regions of Croatia, 103 euthyroid pregnant women and 36 women of child-bearing age from Zagreb, the capital, were included in the survey. Urinary iodine concentration (UIC) was measured in all participants. Thyroid volumes were measured by ultrasound in schoolchildren from the capital of Zagreb (N = 101) and the village of Rude (N = 56). In the time period 2002-2009, the content of KI was analyzed in 384 salt samples from Croatian salt plants and samples of imported salt. An overall median UIC for schoolchildren in Croatia was 248 microg/L. Median UIC in pregnant women was 159 microg/L, with 50% of samples below and under 150 microg/L. Median UIC in women of child-bearing age was 136 microg/L. Thyroid volumes in schoolchildren were within the normal range according to the new reference values. Mean value of KI/kg of salt in samples from Croatian salt plants was 25.5 mg/kg and 24.9 mg/kg in samples of imported salt. A total of 72/384 (18.8%) of salt samples didn't corresponded to the Croatian law on obligatory salt iodination. Presented data indicate sufficient iodine intake of the Croatian population. Current medians of UIC in schoolchildren in Croatia are significantly higher than medians measured in 2002. This indicates that other potential sources of iodine are present in Croatian diet that may contribute to overall iodine intake. Due to rising medians of UIC in schoolchildren in Croatia, it is important to conduct nutrition studies to identify potential sources of "silent prophylaxis" in order to avoid iodine excess.