LETTER TO THE EDITOR

Urinary iodine excretion in Estonian children

Recently, Mityukova et al. (1) reported the results of urinary iodine excretion in Belarus children. We would like to report the results of a similar study carried out in Estonia in 1995. Estonia is located about 700 km to the north of Belarus. Historically, Estonia has been an area of mild iodine deficiency, especially the south-eastern part of the country (2, 3). In the beginning of the 1960s, it was concluded that the iodine concentration of phreatic water was such that Estonia could be classified as a biogeochemical area with moderate iodine deficiency (3). Only in the northern parts of Estonia were the phreatic waters found to be relatively abundant in iodine (3); the success of iodine prophylaxis in reducing goitre prevalence among school children of the south-eastern regions of the country has confirmed this (4). Iodine prophylaxis has been neglected in Estonia for several years. There have been no recent investigations on iodine consumption in Estonia and this study was carried out because the urinary iodine level is a good indicator of dietary iodine intake (5).

In April and May 1995 random urine samples were collected from 1840 8–10-year-old schoolchildren from 28 randomly selected schools from a list of all the schools in Estonia. The urinary iodine concentration was detected by the method described by Dunn et al. (6). The median values were calculated for each school studied (Fig. 1).

According to the WHO–UNICEF–ICCIDD score (5), the median urinary iodine excretion in nine schools showed moderate (< 50 µg/l) iodine deficiency and in fifteen schools showed mild (< 100 µg/l) iodine deficiency. Seventeen per cent of all investigated children had iodine excretion < 20 µg/l, which corresponds to severe iodine deficiency. Only in four schools did the urinary iodine excretion correspond to a sufficient iodine intake. In two schools the median iodine concentration was rather high (186 µg/l and 200 µg/l, respectively). It is interesting to note that these two schools are in an area where, according to the study on iodine content in Estonian phreatic waters (3), the daily water intake meets 50–100% of the needs in iodine and also where environmental pollution and the radiation level are higher than elsewhere in Estonia. The urinary iodine excretion was below normal in 67% of all investigated children.

Estonia as a whole was found to suffer from mild iodine deficiency and the overall median urinary iodine content was 65 µg/l. It is recommended that the iodine deficiency be corrected by introducing the universal use of iodized salt.

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References


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