Island populations may be iodine deficient despite their proximity to the sea: iodine deficiency on the islands of Madeira and the Azores

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The Portuguese island of Madeira

This study evaluated iodine intake on the islands of Madeira and Azores, in two populations – school children and pregnant women. It was decided to extend a recent iodine study, performed in continental Portugal to these regions. Urinary iodine concentrations (UIC) of 987 children, 6-12 years of age and from both genders were studied; 311 were from schools of Madeira and 676 from schools of Azores. Iodine intake of 566 pregnant women on the two islands was evaluated.

Results

Among school children, in Madeira the median UIC was 81 µg/L; the percentage of children with an inadequate UIC (<100 µg/L) was 68% and 19% had a UIC <50 µg/L. In Azores, the median UIC was 73 µg/L, with 78% of children showing inadequate iodine intake and 26% with levels lower than 50 µg/L. Iodine intake from both of these islands was significantly lower than those from continental Portugal.

Among pregnant women, in Madeira, median UIC was 69 µg/L, with 92% of pregnant women showing inadequate UIC (<150 µg/L) and 34% with UIC <50 µg/L. In Azores, median UI was 46 µg/L; the percentage of pregnant women with inadequate UI (<150 µg/L) was 99% and the percentage of UI <50 µg/L was 56%. Median UICs from pregnant women of Madeira and Azores were significantly lower than those from continental Portugal. Iodine intakes in both women and children were significantly lower in the Azores than on Madeira.

Conclusions

Island populations are not protected against IDD simply because of their proximity to the sea. This is a popular misconception. Considering the deleterious effects of inadequate iodine intake during pregnancy and childhood, it is urgent to implement iodine supplementation in pregnant women and iodine prophylaxis through salt iodization in the Madeira and the Azores islands.