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# **Iodine Insufficiency is Prevalent in Israel: Findings of a National Survey of School Age Children and Pregnant Women in the Maccabi Healthcare Services**

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## **Introduction**

National data on iodine status in Israel is lacking. Israel's iodine-depleted water, the absence of a universal salt iodization (USI) program and reports of increased use of thyroid medication suggested that the population's iodine intake is likely inadequate.

## **Aims**

To determine iodine status in the Israeli population in a nationally-representative sample of school age children (SAC) and pregnant women (PW).

## **Methods**

Pre-discard spot-urine samples, from 1,023 SAC and 1,074 PW, representing all regions and major sectors in Israel (Arab, Jewish secular and orthodox) were collected during 2016 at the Maccabi Healthcare Services (MHS) central laboratory. Urinary iodine concentration (UIC) was measured using the modified Sandell-Kolthoff method, and analyzed by trimester, region and sector. The Ministry of Health and MHS ethical committees approved the research.

## **Results**

The Israeli population is mildly deficient (SAC median UIC 83 µg/L; IQR 52-127) and PW are insufficient (median UIC 61 µg/L; IQR 36-97), with 62% of SAC and 85% of PW below the World Health Organization's adequacy range (100-199 µg/L for the population as determined in SAC and 150-249 µg/L for PW). PW residing in Israel's central district had significantly higher, though still insufficient, UIC (median 75 µg/L, n=256) than those residing in all other districts (p<0.05); however, UIC did not differ by district for SAC.

## **Conclusions**

The high prevalence of iodine insufficiency in Israel is a serious public health and clinical concern. A USI and monitoring program should be urgently initiated. Caregivers should recommend adequate iodine intake during pregnancy and lactation. A randomized clinical trial of risk and benefit for correction of mild-moderate iodine deficiency during pregnancy must be considered.