J Pediatr Endocrinol Metab

. 2019 Feb 25;32(2):143-149.

 doi: 10.1515/jpem-2018-0344.

**Socioeconomic status of the population - a prime determinant in evaluating iodine nutritional status even in a post salt iodization scenario**

[Udayan Bhattacharya](https://pubmed.ncbi.nlm.nih.gov/?term=Bhattacharya+U&cauthor_id=30710486)[1](https://pubmed.ncbi.nlm.nih.gov/30710486/#full-view-affiliation-1), [Amar K Chandra](https://pubmed.ncbi.nlm.nih.gov/?term=Chandra+AK&cauthor_id=30710486)[2](https://pubmed.ncbi.nlm.nih.gov/30710486/#full-view-affiliation-2)

Affiliations expand

* PMID: 30710486

* DOI: [10.1515/jpem-2018-0344](https://doi.org/10.1515/jpem-2018-0344)

**Abstract**

Background To compare the state of iodine nutrition among school age children (SAC) in high- (HSGs) and low-socioeconomic groups (LSGs) during a post iodation scenario in Kolkata. Methods Clinical examinations of the goiter, median urinary iodine (MUI), mean urinary thiocyanate (MUSCN) in SAC (6-12 years) from both sexes in the different socioeconomic groups were carried out and the iodine content of edible salt was measured. Results A total of 5315 SAC, of which 2875 SAC were from a HSG and another 2440 SAC from an LSG were clinically examined for goiter. In the HSGs the total goiter prevalence (TGP) was 3.2% and in the LSGs the TGP was 9.1% and the difference was statistically significant (p<0.001). The MUI of the HSGs was 242 μg/L as compared to 155 μg/L in the LSGs (p<0.001). MUSCN of the HSGs was 0.77±0.45 mg/dL while in the LSGs it was 0.94±0.44 mg/dL and the difference was statistically significant (p<0.01). In the HSGs 19.4% salt samples had 15-30 ppm iodine and 80.6% salt samples were above 30 ppm as compared to 26.3% salt samples which were below 15 ppm, 37.1% salt samples which were between 15 and 30 ppm and 36.6% salt samples which were above 30 ppm in the LSGs. Conclusions The population of the LSGs was clinically mildly iodine deficient having no biochemical iodine deficiency while in the HSGs it was more than the adequate requirement and the HSG children are possibly at risk of excess iodine induced thyroid diseases. Existing goiter prevalence in the LSGs was from their relatively high consumption of dietary goitrogens. Therefore, socioeconomic status plays a pivotal role in the management of iodine nutrition even in a post salt iodation scenario.

**Keywords:**goiter; iodine deficiency disorders; urinary iodine; urinary thiocyanate.