

Excess Iodine Nutrition in Delhi

I read the informative and useful article by Marwaha, *et al.*(1), in the April 2010 issue of *Indian Pediatrics*. In their research communication, authors have made an unwarranted and potentially damaging extrapolation of their data. Authors have concluded that “this study shows evidence of excess iodine nutrition in USES school children. The source of this iodine could be salt or non salt iodine. The increased urinary iodine is associated with thyroid dysfunction though not with goiter”. Their conclusions are based on the findings of 997 USES school children studied which had median UIE level of 352 µg/L (97% of the urine samples had UIE level 300 and more µg/L). To have excretion of iodine of 300 µg/L, a child has to consume at least 20 g of salt per day, the possibility of all children consuming this high amount is very remote. The earlier multicentric study conducted in 1988 by Indian Council of Medical Research documented that in neighboring state of Haryana, the per capita per day consumption of salt was 10.2g in winter, 9.2 g in summer and 9.2 g in rainy seasons. Similarly in Uttar Pradesh state, per capita per day consumption of salt, was 12.4 g (winter), 12.9 g (summer) and 14.9 g (rainy) seasons(2). Also, the NFHS-III survey data of Delhi, conducted in 2005-2006 in which iodine content of salt was estimated, also documented that nearly 14% of the household in the highest income group were consuming salt with less than 15 ppm of iodine. These facts substantiate that the iodine intake of children could not come from iodized salt. In an earlier study, conducted in school age children in Delhi in 1999(3), we found that median UIE was 170 mcg /L and 42% of the households were consuming salt with less than 15 ppm of iodine. Another study conducted in Delhi in 2010, has reported that the median urinary iodine excretion was found to be 198.4 µg/L and 11.7% of household were consuming iodized salt less than 15 ppm(4).

Salt manufacturers in general try to save money by adding less iodine in the salt as the cost of iodine is about 10% of the total cost of the salt at the production level. There are no foods which are rich

in iodine and most common source of dietary iodine intake in India is iodized salt. The investigators have used a new methodology for estimation of UIE which could be possibly responsible for reported higher value of UIE levels. The findings of the study indicate the excessive intake of iodine by the children, which is a cause of great concern as it might lead increase in thyroid disorders and can have adverse impact on the universal salt iodization program in the country. Hence, the results of present study should be urgently communicated to managers of National Iodine Deficiency Disorders Control Program in the Ministry of Health and Family Welfare, New Delhi, so that corrective measures can be initiated.

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REPLY

I appreciate the interest and concern shown by Dr Kapil regarding the high urinary iodine excretion in Delhi children from upper socioeconomic strata. We have earlier also shown high UIE using the same method from Delhi and other cities(1). Similar trend of high UIE has also been reported from Delhi in another study(2). While we have not looked at the patterns of food consumption, salt consumption or estimation of salt iodine content, the sources of excess UIE remains speculative and this has been accepted by us in our paper.