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Methodological Issues in Iodine Deficiency Disorders Survey

This is in reference to the recent article on “Iodine deficiency disorder in children of Ambala, Haryana” [1]. We thank the authors for highlighting an important public health issue; we have the following concerns:

- Current irrelevance of the district based iodine deficiency disorders (IDD) survey:* The current district specific IDD guidelines have their historic genesis from the National Goitre Control Program (NGCP) (1962). The ban on the sale of non-iodised salt was based on district level goitre prevalence and was district specific. However, sufficient evidence has been generated since establishing IDD as ubiquitous in all states and geographical regions of India [2,3] and a national level ban on sale of non-iodised salt was implemented in the year 1997. The current district specific IDD survey guidelines lack any epidemiological rationale and cannot be collated to generate state level or national level data as these surveys are done over different time period. Further these guidelines do not conform to the internationally acceptable WHO/ UNICEF/ ICCIDD recommendations.
- Use of spot testing kits (STK) for salt iodine content estimation:* The iodine content of salt in the present study was estimated using STK. As the reported sensitivity and specificity of STKs is low [4] the revised guidelines recommend iodometric titration for estimating iodine content of salt.
- Details of the method used for urinary iodine estimation:* The authors have reported that they have used iodometric titration for iodine estimation in urine but the prescribed method to estimate urinary iodine as per the guidelines is Sandell-Kolthoff reaction [5].
- Need to report median urinary iodine:* In addition to reporting the percentage of individuals above and below a given cut-off value of urinary iodine, the

authors should have also reported the median urinary iodine. The revised indicators prescribed by WHO/ UNICEF/ICCIDD also suggest inclusion of median urinary iodine [5].

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REPLY

We thank the authors for raising important methodological issues related to iodine deficiency disorder (IDD) survey. We clarify:

- The sampling methodology for selection of survey sites by probability proportionate-to-size (PPS) sampling adopted in the present study are in accordance with the revised guidelines of National Iodine Deficiency Disorder Control Program (NIDDCP) [1] and WHO/UNICEF/ICCIDD [2]. This method has been found to be suitable for generating state and national level data [1].
- For household surveys, qualitative testing of salt using a rapid test kit has been employed successfully to determine overall coverage of iodized salt and to identify geographical gaps in the program. Another