

Letter to the Editor

Thyroid dysfunction in region of excess iodine intake of eastern Nepal

Sir,

This letter is regarding the recent publication of “Thyroid dysfunction in region of excess iodine intake of Eastern Nepal” by Thapa et al.¹ The findings reported by the authors are interesting and informative. Although the authors did not measure thyroid volume and thyroglobulin (Tg), their findings have provided valuable information, particularly the assessment of iodine status in primary school-aged children of Nepal. Although iodine deficiency is one of most common micronutrient deficiencies worldwide, the consequences of excess iodine should not be ignored. Both chronic iodine excess and iodine deficiency can result in thyroid dysfunction in populations, especially children and pregnant women if not corrected. This is because children and pregnant women are very vulnerable to iodine deficiency and sensitive to iodine changes.²

The authors examined some biomarkers of iodine status urinary iodine concentration (UIC), thyroid hormones, and thyroid-stimulating hormone (TSH). Although UIC was 232 µg/L (i.e. more than adequate), the concentrations of thyroid hormones and TSH were within the normal reference range, suggesting that thyroid hormones and TSH are not sensitive enough to detect subtle changes in iodine intake of populations. Also, thyroid hormones and TSH might not be a useful biomarker to measure iodine excess in populations.²

On the contrary, Tg might be a useful biomarker of iodine status for both iodine deficiency and iodine excess in populations.²⁻⁴ When a population is exposed to high concentration of dietary iodine for a prolonged period, excess iodine might increase the Tg synthesis and subsequently elevate Tg concentration. However, the underlying mechanism still remains unclear, but it could be attributable to the failure of thyroid to adapt the Wolff-Chaikoff effect. In some remote regions of Nepal, Tg can be collected using dried blood spots which make the sampling easier and practical. Moreover, the use of dried blood spot Tg simplifies the transport and storage of

samples in field studies. Future studies should include the measurement of Tg when assessing iodine status in Nepal populations in order to allow for a more comprehensive evaluation of population iodine status.

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