LETTER IN REPLY

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Population-specific Thyroid Hormones Normative Data

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Dear Editor,

Thyroid dysfunction is diagnosed and managed based on guidelines that focus primarily on the measurement of thyroid stimulating hormone (TSH), as the most sensitive and specific marker of systemic thyroid status, with test results interpreted according to defined reference ranges.[1] Understanding the results of a biomarker test of thyroid function hangs on the ability to distinguish normal from abnormal results.[2] As such, the population reference range for normal TSH is classified as comprising 95% of a normal population who are assumed to be free of conditions that could influence TSH levels, with 2.5% of people over and under the actual range.[3] Thyroid function tests may differ with age and sex, and between race and ethnicity. This is possibly influenced by genetic factors and hence population-specific thyroid hormones normative data should be employed to provide clinicians the accurate evaluation of thyroid disease disorders. Presently, we utilize international reference ranges for almost all our laboratory tests. Among chronic kidney disease (CKD), we found that thyroid dysfunction had a prevalence of 11.7%,[4] whereas Rhee et al,[5] found that among hemodialysis patients, 1928 (22%) had hypothyroid and 6912 (78%) had euthyroid. The authors of one study suggested that the likely low risk of thyroid hormone replacement therapy may be justifiable in patients with CKD who are not on dialysis.[6] However, they also stated that this would require a proper prospective research study. Also, they concluded that there is a need for careful consideration if we are to enhance the well-being of the focus inhabitants, so to appreciate and utilize this new insight and improve the lives of patients with CKD.[6]

We do agree with the author of the letter about the precise assessment of thyroid gland functions, for a particular population, that needs a referral to the thyroid hormones normative data.[7] However, regrettably, there is no existence yet of such references in the country. This issue of foreign reference intervals of thyroid function tests to define subclinical hypothyroidism and hyperthyroidism, instead of using a local standard, is quite common. However, the Ministry of Health conducts a regular non-communicable diseases cross-sectional study every few years. This would be a great opportunity to provide national thyroid hormone normative data. We, therefore, strongly echo Professor Al-Mendalawi for the need to construct Omani thyroid hormone normative data and hence the utilization and employment of such data in clinical and research settings.

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