



Association between Serum Free Thyroxine and Anemia in Euthyroid Adults: A Nationwide Study (*Endocrinol Metab* 2020;35:106-14, Mijin Kim et al.)

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This letter is regarding the recent article “Association between serum free thyroxine and anemia in euthyroid adults: a nationwide study” by Kim et al. [1]. The findings presented by the authors are both interesting and applicable to clinicians and researchers who are currently working in this field. The authors reported that low free thyroxine (fT4) levels were associated with lower hemoglobin (Hb) levels and an increased risk of anemia in euthyroid Korean adults in a nationwide cross-sectional study [1].

Although the study had a large sample size of 5,352 adults, it had some important limitations that were not acknowledged by the authors. First, all the biochemical parameters—including thyroid-stimulating hormone (TSH), fT4, and Hb—were only measured once. Instead, it has been suggested that such measurements should be repeated to avoid underestimating the observed relationship between fT4 and anemia, especially in euthyroid participants. In addition, the authors did not apply age- and sex-specific reference ranges for TSH and fT4 levels in their analysis. This is particularly important because Korea is considered an iodine-replete area, and more than adequate and/or excessive iodine levels have been reported in Koreans [2,3]. An important cause of anemia is iron deficiency, as iron-deficiency anemia is one of the most common nutrient deficiencies

worldwide. Understanding the causes of anemia at the population level is crucial for planning public health interventions to reduce its prevalence. Future studies should also consider investigating how different forms of anemia can affect thyroid function in both sexes according to age. In addition, adults diagnosed with anemia are more likely than their counterparts without anemia to have lower economic productivity and a reduced quality of life. Therefore, the adverse consequences of anemia should not be overlooked.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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