Letter to the Editor

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Protein Energy Malnutrition in Goitrous Schoolchildren of Ahwaz, Iran

Ammar Hassanzadeh Keshteli [a, b], *Samaneh Khanpour Ardestani* [c], *Mahin Hashemipour* [b]

[a]Vice Chancellery for Research, [b]Isfahan Endocrine and Metabolism Research Center, and [c]Medical Students Research Center, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran

We read with interest the article entitled 'Prevalence of goiter among children aged 11–16 years in Ahwaz, Iran' [1], which was published recently in *Medical Principles and Practice*. The article described the results of a well-designed cross-sectional study carried out to determine goiter prevalence in schoolchildren of Ahwaz, Iran, 7 years after the initiation of a universal salt iodization program.

One of the interesting findings presented by Monajemzadeh and Moghadam in the mentioned article was the significant difference in height and weight between goitrous and nongoitrous children. Here we want to add some points about this important finding.

Protein energy malnutrition (PEM) is one of the factors contributing to endemic goiter [2]. It is characterized not only by energy deficit due to reduced intake of all macronutrients, but also by deficits in many micronutrients. The mechanism of goiter in the setting of PEM is probably multifactorial [3]. Firstly, in PEM children, iodine absorption is decreased [3], leading to decreased iodine concentration in the thyroid gland because of depressed iodide clearance and uptake in PEM [4, 5]. Thus, PEM indirectly results in alterations in iodine metabolism that may lead to thyroid hyperplasia and further reduces circulating thyroid hormone levels [3]. Secondly, PEM may contribute to goitrogenesis directly through the lack of substrate availability, in particular the lack of essential amino acids such as tyrosine [6]. Thyroid size was larger in children who exhibited severer features of PEM [3]. Body mass index Z score and weight-to-height ratio are significantly lower in children without goiter [7].

We think the difference observed in height and weight measurements between goitrous and nongoitrous children in the present article could also be attributed to PEM. However, if the authors provided more specific measurements such as height-for-age, weight-to-height, weight-for-age ratios and BMI Z score, one could come to a more accurate conclusion about the role of PEM in goitrous schoolchildren of Ahwaz.

Editor's note: This letter was forwarded to the authors (S.M. Monajemzadeh and A.Z. Moghadam) for response. As of today, we have not received their response despite sending them two reminders.

References

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Dr. Ammar Hassanzadeh Keshteli
Vice Chancellery for Research
Isfahan University of Medical Sciences
Hezarjarib Street, Isfahan (Iran)
Tel. +98 935 728 1070, Fax +98 311 792 2531
E-Mail hasanzadeh@med.mui.ac.ir

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