

LETTER

Vitamin D status among Mediterranean regions

Dear Editor,

Vitamin D is an essential element in the absorption cycle of calcium in the human body and, therefore, its adequacy and availability are of high importance for skeletal calcification and health. Furthermore, its association with several other key biological processes, and its involvement in gene expression via its hormonal metabolite 1,25-dihydroxy vitamin D, are of high scientific interest for further research¹.

The concentration of serum of 25-hydroxyvitamin D (25(OH)D), which is the biomarker of vitamin D in the human body, has been used to indicate the levels of vitamin D in humans¹. Various factors such as sunlight exposure, seasonality, geography, air pollution, skin pigmentation, sunscreen use, and aging may relate to the serum concentration². In general, deficiency is associated with various health conditions including, bone defects, cardiovascular diseases, sleep disorders, and several infection diseases^{1,2}.

Potential adverse effects of a low vitamin D concentration raised concerns of public health globally. A relevant investigation regarding the status of Vitamin D in Mediterranean countries showed insights into the global vitamin D concentration that demonstrated Southern European countries to be in a greater deficiency risk than Northern ones. A recent systematic review confirmed the high prevalence of low vitamin D concentration in countries of Southern Europe and Eastern Mediterranean regions³. Whereas food fortification with vitamin D and vitamin D supplementation were common practice in northern Europe, in the Mediterranean regions were highly underestimated. Additionally, further research showed that sun-seeking behavior is rather avoided in southern countries, both due to heat avoidance or melanoma prevention guidelines⁴.

Another aspect could be the urbanization that is observed in all Southern European regions. Studies have shown that there is a higher prevalence rate of vitamin D insufficiency in urban populations due to the modern lifestyle and office jobs that entail to less time outdoors. Fortification policies and the overall capacity of the diet to supply enough vitamin D to maintain healthy serum 25-hydroxyvitamin D concentration (S-25(OH)D) failed to be as effective as expected. Therefore, current data advocate for the need for fortification of foods with vitamin D and/or vitamin D supplementation across Europe. Consequently, further studies are needed to enhance our knowledge on factors affecting vitamin D absorption efficiency, in an effort to improve our strategies and overcome this public health issue.

Keywords: 25-hydroxyvitamin D, Vitamin D, deficiency, prevalence, South Europe

Conflict of interest

Authors declare no conflict of interest.

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Kasapidou E, Oikonomidou AC, Chourdakis M

Laboratory of Hygiene, Social and Preventive Medicine and Medical Statistics, School of Medicine, Faculty of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece

Corresponding author: Michael Chourdakis, Assistant Professor, Laboratory of Hygiene, Social & Preventive Medicine and Medical Statistics, School of Medicine, Aristotle University of Thessaloniki, Thessaloniki, Greece, tel: +302310999035, e-mail: mhourd@auth.gr