

Headache may be related to vitamin D deficiency

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Dear Sir,

We appreciate the comments of Zhang and colleagues and agree that our review is not sufficient enough to suggest that vitamin D insufficiency causes headache. The purpose of our review was to delineate a relationship of headache prevalence with the latitude, and we noted a significant relation; the prevalence of headache increased with increasing latitude [1]. The geographical variation of a disease could be due to environmental and genetic factors, and a positive relation with latitude hints towards a role of vitamin D. However, as discussed in the article, a number of confounding factors exist, and a possibility of coincidence exists.

In medical science, a hypothesis is proposed to explain some observable facts. Leedy and Ormrod [2] define hypothesis as “a logical supposition, a reasonable guess, and an educated conjecture”. A hypothesis is a speculative idea that has yet to be explored. It may be important as it guides the research. As far as vitamin D is concerned, a causal association of vitamin D deficiency with various diseases was initially suggested by some epidemiological and ecological observations. Later on, many of these disorders were confirmed by various studies. The association of vitamin D with colon cancer is the best example for it [3]. Even a role of vitamin D in the pathogenesis of multiple sclerosis and schizophrenia was first suggested on epidemiological evidences, including a positive relation with latitude [3, 4].

We agree with the authors that observational studies to find decreased levels of serum vitamin D levels in patients with headache and placebo-controlled studies to observe the therapeutic effects of vitamin D in headache are required to confirm our observations. However, at present, a few case series of vitamin D responsive headaches [5], a few observational studies showing low serum vitamin D levels in patients with headache [6], high prevalence of vitamin D insufficiency in patients with generalized muscle pain syndrome and depression (two most common comorbid conditions with headache disorders) [5], and a high concentration of vitamin D receptor and vitamin D binding protein in the hypothalamus somewhat suggest that an inter-relation exists between vitamin D and headache [1].

Conflict of interest None.

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