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Vitamin D in migraine headache: a comprehensive review on literature

Zeinab Ghorbani ^{1 2}, Mansoureh Togha ², Pegah Rafiee ³, Zeynab Sadat Ahmadi ⁴,
Reyhaneh Rasekh Magham ⁵, Samane Haghighi ², Soodeh Razeghi Jahromi ⁶,
Maryam Mahmoudi ^{7 8 9}

Affiliations

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Abstract

Introduction: As a primary headache, migraine has been established as the first leading disability cause worldwide in the subjects who aged less than 50 years. A variety of dietary supplements have been introduced for migraine complementary treatment. As an anti-inflammatory and antioxidant agent, vitamin D is one of these agents which has been of interest in recent years. Although higher prevalence of vitamin D deficiency/insufficiency has been highlighted among migraineurs compared to controls, there is not any consensus in prescribing vitamin D in clinical practice. Therefore, in the current review, in addition to observational and case-control studies, we also included clinical trials concerning the effects of vitamin D supplementation on migraine/headache.

Methods: Based on a PubMed/MEDLINE and ScienceDirect database search, this review study includes published articles up to June 2019 concerning the association between migraine/headache and vitamin D status or supplementation.

Results: The percentage of subjects with vitamin D deficiency and insufficiency among migraineurs and headache patients has been reported to vary between 45 and 100%. In a number of studies, vitamin D level was negatively correlated with frequency of headaches. The present findings show that supplementation with this vitamin in a dose of 1000-4000 IU/d could reduce the frequency of attacks in migraineurs.

Conclusion: It seems a high proportion of migraine patients might suffer from vitamin D deficiency/insufficiency. Further, the current evidence shows that in addition to routine drug therapy, vitamin D administration might reduce the frequency of attacks in migraineurs. However, these results have yet to be confirmed.

Keywords: 25-hydroxyvitamin D; Cholecalciferol; Headache; Immune function; Inflammation; Nociception; Pain.

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