



# Assessing the Effect of Zinc on Reducing Migraine Headaches: A Systematic Review and Meta-Analysis

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## ABSTRACT

**Introduction:** It is essential to explore potential therapies due to the significant impact of migraine-related disabilities. The role of metals in this context warrants attention because of their importance in clinical medicine for both diagnosis and treatment. Zinc, in particular, stands out as a vital element and is increasingly recognized for its role in maintaining health. This study aimed to conduct a systematic review and meta-analysis to thoroughly evaluate and compile international data on the relationship between zinc intake and migraine headaches.

**Search Strategy:** Until May 8, 2024, we thoroughly searched the PubMed, Scopus, MEDLINE, and EMBASE databases using relevant search phrases associated with "Migraine" and "Zinc". There were no limitations on the language or the publication date. Review Manager 5.4 was used to conduct statistical analyses to evaluate the impact of zinc supplementation on the frequency and duration of migraine attacks.

**Results:** We examined data from a comprehensive study involving five trials. It was found that the combined effect of zinc on reducing the frequency of migraine attacks was -2.03 (95% CI: -3.61 and -0.46), showing a significant decrease. Moreover, there was a trend toward reduction, as shown by the pooled impact of zinc, which was -1.37 (95% CI: -3.03 and 0.28), in reducing the duration of these attacks.

**Conclusion and Discussion:** Our findings demonstrate that taking zinc supplements significantly reduces the frequency of migraine attacks. However, the evidence regarding its effect on the duration of the attacks is less compelling. Consequently, these results suggest that zinc supplementation may serve as a potential intervention for mitigating the frequency of migraine episodes. Further investigation and clinical trials to validate its efficacy and determine optimal dosage regimens.

**Keywords:** Headache, Meta-analysis, Migraine disorders, Systematic review, Zinc

