



## Effectiveness of Treatment Through Nervous Electrical Stimulation in Chronic Migraine

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### Introduction

Migraine is a primary headache disorder classified as the third most prevalent disorder worldwide. It is characterized by episodes of intense pulsating headache, typically unilateral, associated with nausea, vomiting, photophobia, and phonophobia. Predominantly more common in women, migraine is a debilitating condition for both sexes and considered a public health problem due to its interference with individuals' daily lives and its underdiagnosed and undertreated nature. Currently, in addition to pharmacological strategies for treatment, there is discussion about the application of non-invasive methods of brain or nervous stimulation that may be effective in managing migraine, but with less impact on patients' quality of life.

### Objective

To identify in the literature the effectiveness of chronic migraine treatment through nervous electrical stimulation. Methods An integrative literature review was conducted, with data obtained from the Pubmed and Embase databases. It included texts related to the topic in Portuguese or English, with a temporal range between 2018 and 2023, and full-text articles. The logical operators AND and OR were combined, resulting in 91 manuscripts. After applying inclusion and exclusion criteria to remove duplicates, 20 publications were analyzed in full.

### Results

In the analysis of the 20 eligible publications, it was observed that 17 articles showed effective results in the treatment of migraine with nervous electrical stimulation. Among these, four demonstrated the effectiveness of transcutaneous stimulation of the occipital nerve, particularly in reducing the intensity and number of days with pain. Three highlighted benefits from transcutaneous stimulation of the vagus nerve, both auricular and cervical branches. Additionally, three publications emphasized the effectiveness of supraorbital transcutaneous stimulation, including in acute treatment, as this modality is predominantly used in the prophylaxis of chronic migraines. The results also indicated effectiveness in electrical stimulation of the peripheral facial nerve and benefits in the percutaneous mode of occipital nerve stimulation. Only two manuscripts were inconclusive regarding the effectiveness of nervous electrical stimulation in migraine treatment.

### Conclusion

Based on the findings, there is evidence of potential effectiveness in methods involving nervous electrical stimulation for the treatment of chronic migraine. The analysis conducted revealed possible benefits regarding migraine pain, as well as the attenuation of the harms and risks associated with medication, which is part of the first-line intervention. However, it is worth noting that there are still few specific studies for each type of nervous stimulation, which hinders a concrete and sufficient analysis to establish the desired relationships. Therefore, further research is needed to delve deeper into the topic and provide robust evidence on the effectiveness of nervous stimulation for patients with chronic migraine.

**Keywords:** Transcutaneous Electric Nerve Stimulation; Migraine; Cronic; Refractory.