

2022, ▪ Anais do Congresso "Avanços em Neurocirurgia" ▪ e-ISSN: 2674-7103

Jornal Memorial *da* Medicina

▪ DOI: 10.37085/jmm.2022.ac.an5

Efficacy of Transcranial Direct Current Stimulation (tDCS) for treating sleep disorders: a scoping review

Igor Domenici Araujo Lanna[1], Juan Rodrigues Barros[1], André Lopes Lacerda Sales[1], Thais Luiza Oliveira de Holanda[1], Mylena Etelvina de Macedo Alves[1], Ana Luiza de Almeida Freitas[2], Pedro Melo Cordeiro de Freitas[1], Yuri de Castro Machado[3]

[1]Faculdade de Ciências Médicas da Universidade de Pernambuco, Recife, Pernambuco, Brasil.
[2]Faculdade de Ciências Médicas da Universidade José do Rosário Vellano, Belo Horizonte, Minas Gerais, Brasil.
[3]Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brasil.

Introduction
Sleep disorders are a class of diseases that affect the natural sleep-wake cycle mechanism, regulated mainly by the hypothalamic-pituitary-adrenal axis, which, when activated, initiates an alert response to threatening or stressful events. Such dysregulations set is capable of negatively affects the quality of sleep and productivity, either due to insufficient sleep or ineffectiveness of rest. These changes are traditionally treated by the use of drugs. However, new interventions such as the use of Transcranial Direct Current Stimulation may represent an alternative to the common treatment.

Objective
To evaluate the therapeutic efficiency of tDCS as a non-pharmacological option to improve sleep quality.

Methods
The analysis followed the PRISMA methodology guidelines. This research was performed in the Scielo, Lilacs, Bireme and Pubmed repositories, using three descriptors: Transcranial Direct Current Stimulation and Treatment and Sleep Disorders. Data collection was limited to the last five years and the English language. 48 works were found, of which 06 accorded the inclusion criteria, evaluated by three reviewers.

Results
It was identified that 66.7% of the selected articles directly analyze the use of tDCS to the treatment of sleep disorders, either directly or as a consequence of secondary pathologies (migraine, fibromyalgia, HIV, anxiety and depression). In these studies, improvements were observed related to overall sleep efficiency and quality, subjective sleep quality, sleep latency, and sleep time prolongation, evaluated using specific parameters such as the Pittsburgh Sleep Quality Index (PSQI).

Conclusion
The use of tDCS in the treatment of sleep disorders is effective as an auxiliary source in the treatment of this group of diseases, ensuring the resumption of patients' quality of life by improving the quality and time of sleep. However, there is a need for further studies in order to evaluate the best ways to apply the technique, enabling understanding of the parameters of use related to the number and time of sessions, voltage value, anatomical region and possible effects on secondary pathologies.

Keywords: Sleep disorders, Treatment, tDCS.

© Copyright 2022