Review: Transcranial direct current stimulation eases migraine

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Transcranial direct current stimulation (tDCS) is effective and safe for migraine, according to a review published online April 19 in *CNS Neuroscience and Therapeutics*.

Peiwei Hong, from Sichuan University in Chengdu, China, and colleagues conducted a systematic review and meta-analysis of randomized controlled trials (RCTs) to examine the efficacy and safety of tDCS for migraine. The meta-analysis included 11 RCTs with 425 patients with migraine. The RCTs examined the efficacy and safety of anodal or cathodal stimulation targeting different brain areas, including the primary motor cortex (M1), primary sensory cortex (S1), dorsolateral prefrontal cortex (DLPFC), and visual cortex (VC).

The researchers found that in patients with migraine, the number of migraine days per month was reduced with tDCS with M1 and VC activation. Migraine pain intensity could be improved with tDCS with activation of DLPFC and M1. tDCS with VC inhibition could also reduce the number of migraine days per month. Pain intensity could be reduced with tDCS with inhibition of M1, S1, and VC. No difference in the incidences of adverse events was seen between the active stimulation and sham stimulation groups.

"Our results showed that either activating or inhibiting M1 or VC could improve migraine prognosis," the authors write. "Meanwhile, activating the DLPFC or inhibiting S1 could improve migraine prognosis."

More information: Peiwei Hong et al, Transcranial direct current stimulation for migraine: a systematic review and meta-analysis of randomized controlled trials, *CNS Neuroscience & Therapeutics* (2022). DOI: 10.1111/cns.13843