The Effectiveness of Transcranial Electrical Stimulation on Brain Wave Pattern and Blood Pressure in Patients with Generalized Anxiety Disorder

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Abstract : Aim & Background: Electrical stimulation of transcranial direct current is considered one of the treatment methods for mental disorders. The aim of this study was to evaluate the effectiveness of transcranial electrical stimulation on the delta, theta, alpha, beta and systolic and diastolic blood pressure in patients with generalized anxiety disorder. Materials and Methods: The present study was a double-blind intervention with a pre-test and post-test design on people with generalized anxiety disorder in Tabriz in 1400. In this study, 30 patients with generalized anxiety disorder were selected by purposive sampling method based on the criteria specified in DSM-5 and randomly divided into an experimental group (n = 15) and a control group (n = 15). The experimental group received two sessions of 30 minutes of electrical stimulation of transcranial direct current with an intensity of 2 mA in the area of the lateral dorsal prefrontal cortex, and the control group also received artificial stimulation. Results: The results showed that transcranial electrical stimulation reduces delta and theta waves and increases beta and alpha brain waves in the experimental group. On the other hand, this method also showed a significant decrease in systolic and diastolic blood pressure in these patients (p <0.01). Conclusion: The results show that transcranial electrical stimulation has a statistically significant effect on brain waves and blood pressure, and this non-invasive method can be used as one of the treatment methods in people with generalized anxiety disorder.