عنوان مقاله:

Interferential Current Ability to Change the Pattern of Brain Activity in Patients With Nonspecific Low Back Pain

محل انتشار:

مجله توانبخشی ایرانیان, دوره 20, شماره 4 (سال: 1401)

تعداد صفحات اصل مقاله: 10

نویسندگان:

Nahid Hooshmand - *Department of Physiotherapy, Faculty of Rehabilitation, Tabriz University of Medical Sciences, Tabriz, Iran.*

Abbas Soltani Someh - *Department of Physiotherapy, Faculty of Rehabilitation, Tabriz University of Medical Sciences, Tabriz, Iran.*

Ali Jahan - *Department of Speech Therapy, Faculty of Rehabilitation, Tabriz University of Medical sciences, Tabriz, Iran.*

Bahram Amirshakeri - *Department of Physiotherapy, Faculty of Rehabilitation, Tabriz University of Medical Sciences, Tabriz, Iran.*

خلاصه مقاله:

Objectives: Chronic low back pain (CLBP), along with physical limitations that affect the quality of life, is one of the most important problems in the health community. The pain causes a wide range of structural, functional, and neurological changes in the brain. However, these changes have not been well studied, as brain changes in other chronic pains. This study aimed to evaluate the changes in the electroencephalogram (EEG) of patients with nonspecific CLBP, and also to evaluate the effects of interferential current (IFC), as one of the common treatment methods in these patients, on the EEG. Methods: This randomized control trial was performed in the Physiotherapy Clinic of Rehabilitation Faculty of Tabriz University of Medical Sciences from July ۲۰۲۱ to February ۲۰۲۲. A total of ۲۰ patients with nonspecific CLBP and ۲۰ healthy individuals participated in this study. Healthy subjects were in the control group, and the patients were randomly divided into two groups: intervention and placebo. Participants' EEG and pain intensity were recorded before and after one session of IFC. Results: The results of statistical analyses to compare the EEG of patients and healthy individuals did not show a significant difference between the two groups. The results of statistical tests to evaluate the effects of IFC on participants' EEG showed a significant increase in alpha frequency in all three groups. In addition, a significant increase in theta frequency was recorded in the placebo group, and an increase in the beta frequency in the intervention group. Pain intensity showed a significant decrease only in the intervention group. Discussion: The results of this study suggest that changes in EEG in patients with low back pain may be related to the severity of pain and neurological involvement. In addition, the increased power of EEG following the application of IFC may be due to sensory stimulation of the skin surface.

کلمات کلیدی:

Brain mapping, Low back pain, Electroencephalography, Neurofeedback, Interferential current, Electric stimulation therapy