Effectiveness of neurofeedback training as a treatment for opioid-dependent patients.

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Abstract

Neurofeedback (NF) training has been employed as a therapeutic method in substance-dependence disorder over the last three decades. The purpose of the present study was to examine the effectiveness of this method on improvement of comorbid neuro-psychological syndromes in opioid-dependence disorder. Psychopathological and craving dimensions and brain activity signals of 20 opioid dependent patients were measured using Symptom Checklist-90-Revised (SCL-90-R), Heroin Craving Questionnaire (HCQ), and Quantitative Electroencephalography (QEEG). All the patients were undergoing pharmacotherapy. They were assigned to two groups that were matched based on SCL-90-R scores, education and age. The experimental group received 30 sessions of NF training in addition to their medicine. The control group received only the usual pharmacotherapy. The probable changes were monitored by reappraisal of all the patients after the treatment. We hypothesized that patients in the experimental group would show more reduction in their comorbid syndromes. The Multivariate Analysis of Covariance (MANCOVA) showed that the experimental group, in comparison with control group, showed significantly more improvement in all three outcome measures. In the SCL-90-R, improvement was noted with the hypochondriacs, obsession, interpersonal sensitivity, aggression, psychosis, and general symptomatic indexes. In the HCQ, improvement was found in the anticipation of positive outcome, desire to use substance, and total average score. Finally, the QEEG showed positive changes in frontal, central and parietal delta, frontal and central theta, parietal alpha and frontal and central Sensory Motor Rhythm (SMR) amplitudes. This study suggests that NF can be used as a therapeutic method to ameliorate abnormalities related to opioid-dependence disorders. The results emphasize the importance of neuropsychological interventions in treatment of substance-dependence disorders.

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MeSH Terms

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