

EEG Neurofeedback Training - Healing the Wounded Brain

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Abstract : In the past two decades, with a population of more than a billion. India is passing through a major socio-demographic and epidemiological transition with consequent changes in health scenario. TBI constitute significant burden on health care resources in India. The impact on a person and family can be devastating. Patients with TBI experience persistent cognitive deficits, emotional changes, which contribute to the disruption of life activities. The recovery of TBI would be maximized by appropriate rehabilitation. Neurofeedback is an emerging neuroscience-based clinical application. Sixty patients were recruited for this study after obtaining informed consent. Rivermead Head Injury Follow-up Questionnaire, Rivermead Post Concussion Symptoms Questionnaire and Visual Analog Scale were used to assess the behavioral and symptomatology associated with post TBI. Neuropsychological assessment was carried out using NIMHANS neuropsychological battery 2004. The Intervention group received neurofeedback training and the waitlist group did not receive any treatment during this phase. Patients were allocated to intervention and waitlist group at random. There were 30 patients in each group. Patients were given 20 sessions of NFT. Patients were trained on the O1 and O2 channels for alpha theta training. Each session was of 40 minutes duration with 5-6 sessions per week. The post-training assessment was carried out for the intervention group after 20 sessions of NFT. The waitlist group underwent assessment after one month. Results showed neurofeedback training is effective in ameliorating deficits in cognitive functions and quality of life in patients with TBI. Improvements were corroborated by the clinical interview with patients and significant others post NFT.

Keywords : assessment, rehabilitation, cognition, EEG neurofeedback

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020