The Effect Of Biofeedback On The Motor– Muscular Situation In Rehabilitation Of Stroke Patients

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Background:
Stroke is the most common debilitating neurological disease in adults. Therefore, rehabilitation is a major consideration to reduce costs and relief disabilities. Biofeedback, a newly recommended method is claimed to be able to improve the consequences following stroke by enhancement the understanding of the psychological functions of the body.

Objectives:
The purpose of this study was to investigate the effect of biofeedback on the motor– muscular situation in rehabilitation of stroke patients

Methods:
The present study was a randomized clinical trial that was started in May 2016 and completed in September 2016. The sample of this study included all the patients with stroke attending the physiotherapy center of Imam Raza hospital in Mashhad, Iran. The participants were randomly divided into 2 groups (case and control group) after considering the inclusion and exclusion criteria. In the intervention group, biofeedback (2 times a week for 15 sessions, each session lasting 20 minutes) was performed.Before the intervention demographic information questionnaire was complete by all participants. Then a check list of main variables such as hands muscle strength, muscle stiffness (spasticity), balance and ability to walk was complete by a physician. In the 7th session of the exercise and in the end of intervention (14th session), again, the main variables of the check list were reassessed by the researcher. The statistical analysis was done by Statistical Package for the Social Sciences (SPSS) software version 16.

Results:
the mean score of balance evaluation in pre-intervention had not any significant differences (p=0.503), but in post intervention evaluation, this score in intervention group versus control group showed significant differences (p=0.014).the mean score of muscle strength,Results showed that by eliminating the effects of muscular strength before the intervention, this variable in both intervention and control groups after the intervention, had improvement and significant difference (p=0.005).Comparison the average spasticity, showed that spasticity evaluation score before and after intervention had no significant difference between the two groups (p=1.00)

Conclusion:
Considering the findings of this study, the biofeedback therapy is a promising treatment modality in improvement the motor– muscular condition following stroke.

Key words: Biofeedback - Stroke- Neurological Rehabilitation

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