

Efficacy of Trzanscranial Magnetic Stimulation on Balance in Children with Spastic Diplegia

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ABSTRACT

The propose of this study was to investigate the effect of transcranial magnetic stimulation on balance in children with spastic diplegic cerebral palsy. Fourty children of spastic diplegic cerebral palsy, ranged in age from 6 to 9 years, participated in this study. They were selected from both sex and were classified randomly into 2 groups of equal number twenty patients each, control group (A) and study group (B). Balance parameters were assessed using the Biodex stability system in both groups before and after three successive months of the application of the treatment program. The control group (A) received a selective physical therapy balance training program for 1 h. The study group (B) received the same program received by the control group in addition to application of Transcranial Magnetic Stimulation for 15 min at 15 Hz frequency. Before starting treatment program no significant difference was recorded between the mean values of the parameters used for evaluation of the two groups. The result also revealed statistically significant improvement in the measuring variables of both the control and study groups when comparing their pre and post treatment mean values. After treatment program significant difference was recorded between the two groups in favor of the study group, which support adding of transcranial magnetic stimulation for 15 min at 15 Hz frequency to the balance training program in rehabilitation of children with spastic diplegic cerebral palsy.

Key words: Diplegic cerebral palsy, balance, postural control and transcranial magnetic stimulation