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Lower limb spasticity control in Hemiplegic Cerebral Palsy

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The present study was conducted to determine the effect of electromyographic feedback stimulation and co-ordination dynamic therapy, in addition to a designed physical therapy program, on controlling lower limb spasticity in hemiplegic cerebral palsy.

Subjects: Thirty hemiplegic cerebral palsied children (9 right side and 21 left side) ranging in age from six to eight years represented the sample of this study. They were selected from the out-patient clinic of the Faculty of Physical Therapy, Cairo University. The degree of spasticity ranged from mild to moderate grades according to the modified Ashworth scale. The lower limb was free from any structural deformities. Children were divided randomly into two groups of equal number A (control) and B (study).

Procedures: Five blind evaluation to determine H/M ratio and anterior tibial muscle strength (ATMS) was conducted for each child of the two groups, before and after three months of treatment. Group A (control) received a specially designed exercise program, while group B (study) received electromyographic feedback stimulation, followed by co-ordination dynamic therapy, in addition to the exercise program given to group A.

Results: The results revealed, no significant differences when comparing the pre-treatment mean values of the two groups. Significant improvement was observed in all the measuring variables of the two groups (A and B), when comparing their pre and post-treatment mean values. Significant improvement was also observed when comparing the post-treatment results of the two groups in favor of group B.

Conclusion and Discussion: Improvement of H/M ratio and ATMS may be attributed to the combined effects of electromyographic feedback stimulation and co-ordination dynamic therapy, in addition to the designed exercise program, in controlling spasticity of the affected lower limb and so, improving its functional activities.

Speaker Biography

Khaled A Olama working in the of Department of Physical Therapy for Growth and Development mainly dealing with the Rehabilitation Medicine, Sports Medicine, Neurology, Egypt. He is expertised in Neurorehabilitation, Physiotherapy, Rehabilitation Medicine, Sports Medicine, and Neurology. He has 6 peer reviewed publications.

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