Effects of task-oriented training on mobility function in children with cerebral palsy

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Background/Objectives: Improvement in mobility function has been the primary goal in the rehabilitation of children with cerebral palsy (CP). Studies on the effects of task-oriented training have demonstrated the efficacy of this approach to improve mobility functions in individuals with central nervous system disorders. Few studies have examined the effectiveness of task-oriented training for children with CP. The purpose of this study was to examine the effects of task-oriented training on mobility function in children with CP.

Design: A single-blinded, randomized controlled trial with pre-training and post-training evaluations.

Participants and Setting: Outpatient Physical Therapy Facility. Ten children with CP (GMFCS levels I-III) randomly assigned to an experimental group (N=5) or control group (N=5).

Materials/Methods: All participants were examined at baseline (pre-test) and at the end of the study (post-test) following 5-weeks of intervention. Mobility function was assessed using the Gross motor function measure (GMFM) and the Timed “Up and GO” (TUG) test. Participants in the control group received conventional physical therapy focused on improving walking and balance through facilitation and normalization of movement patterns. Participants in the experiment group received task-oriented training focused on strengthening the lower extremities and practicing functional tasks similar to those the child performs during daily activities.

Results: After the 5-week training period there were significant improvements in change scores in the experimental group for dimension D (P=0.009), and dimension E (P=0.009) of the GMFM. The experimental group significantly reduced the time taken to complete the TUG (P=0.017).

Conclusions/Significance: This study supports the efficacy of task-oriented training for improving mobility function in children with CP. The findings demonstrate that the application of a task-oriented training program is linked to positive functional outcomes. The results suggest that children with cerebral palsy may benefit from a task-oriented training program. Further studies with a larger randomized sample and longer post-intervention follow-up are necessary to document the long-term effects of participation in task-oriented training programs in the cerebral palsy population.