



The effectiveness of cognitive rehabilitation and physical exercise on locomotor movement skills of children with developmental coordination disorder

Oral Presentation

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Abstract

Introduction: It is important to use new methods and complementary therapies that facilitate the effect of exercise on improving the motor skills of children and reduce the length of the course of sports interventions. The purpose of this study was to evaluate the effectiveness of cognitive rehabilitation and physical exercise on locomotor movement skills of children with developmental coordination disorder.

Methods: The present study was a quasi-experimental study with a pre-posttest design with a control group. 80 boys aged 6-10 years (mean age: 8.68 ± 1.2) were selected from primary school students in Shiraz using multi-stage cluster sampling method and were randomly divided into three experimental (TDCS, Physical exercises and Combined group) and control groups. Each group consisted of 20 people. Developmental Coordination Disorder Questionnaire (DCDQ7), Raven Intelligence Test and Movement Assessment Battery for Children (MABC-2) were used to screen children and the Ulrich Gross Motor Skills Development Test (TGMD-2) was used to assess locomotor movement skills. Experimental groups performed the interventions for 8 weeks (3 sessions per week and 45 minutes per session). Paired t-test and analysis of covariance were used to analyze the data.

Results: The results showed that the locomotor movement skills score in the groups of cognitive rehabilitation, physical exercise and combined intervention from the pre-test to post-test stages increased significantly ($P < 0.05$). While in the control group no significant difference was observed ($P > 0.05$). The results also showed that locomotor movement skills in the combined groups and physical exercise in the post-test were significantly higher than the cognitive rehabilitation and control groups. Also, the performance of locomotor movement skills score in the cognitive rehabilitation group was significantly better than the control group ($P < 0.05$).

Conclusion: Concomitant use of cognitive rehabilitation-related interventions with physical exercise is more effective in improving locomotor movement skills in children with developmental coordination disorders.

Keywords

Cognitive Rehabilitation; Physical Exercise; Fundamental Skills; locomotor movement skills; Developmental Coordination Disorder

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