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### Original Article

#### Abstract

**Introduction:** Attention-deficit/hyperactivity disorder (ADHD) is an important research topic and a common disorder among children in schools, accompanied by the symptoms of aggression, hyperactivity, anxiety, and attention deficit. Considering the side-effects of medications used to treat this disorder, this study endeavored to investigate the effect of perceptual-motor parent-child exercises on executive functions in children with ADHD.

**Materials and Methods:** Participants were 36 children with ADHD with age range of 7-10 years with their mothers, randomly divided into two 18-person groups of mother-and-child-together exercises and mother-child-separately exercises. Regarding the above-mentioned groups, the participants practiced perceptual-motor exercises for 8 weeks, three 45-minute sessions per week. Before and after the intervention, data were collected by the Stroop Word Test (computerized version). Data analysis was done through the covariance test at significance level of 0.05.

**Results:** Higher mean post-test scores in both groups showed that perceptual-motor exercises were effective on executive functions. However, the number of congruent errors ( $P = 0.006$ ), incongruent errors, congruent correct responses, incongruent correct responses ( $P = 0.001$ ), congruent reaction time ( $P = 0.028$ ), incongruent reaction time ( $P = 0.007$ ), and interference scores were significantly different between the two groups. The mother-and-child-together exercise group performed better than the mother-child-separately exercise group.

**Conclusion:** Findings reveal that perceptual-motor exercises can improve executive functions of children with ADHD, and mother-and-child-together exercises can be an appropriate method for improving executive functions of children with ADHD.

**Keywords:** Attention-deficit/hyperactivity disorder; Child-parent exercise; Executive functions; Simultaneous exercise

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