Effects of Active Vestibulotherapy on Motor Disorders in Children with Attention Deficit Hyperactivity Disorder


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Abstract

Background and Aim:
Children with Attention Deficit Hyperactivity Disorder (ADHD) display obvious balance and motor disorders. Since the vestibular system has a vital role in balance and motor function, the present study was conducted to study the effects of active vestibular stimulation on motor disorders in children with ADHD.

Materials and Methods:
A total of 38 children with normal intelligence quotient (above 90), using the Wechsler Intelligence Scale for Children, were diagnosed with ADHD by a psychiatrist based on Diagnostic and Statistical Manual of Mental Disorders (DSM)-IV.TR criteria were included in the study. They were 7-12 years old and were selected from Atieh Rehabilitation Center. Participants were randomly assigned into experimental and control groups, and were evaluated before and after the intervention using the Bruininks-Oseretsky Test of Motor Proficiency (BOTMP). Children in the experimental group received vestibular stimulation intervention three times per week; each session lasted for 30 minutes and was based on a defined protocol. The control group participated only in academic education programs. The collected data were analyzed and compared between the two groups.

Results:
Vestibular stimulation resulted in significant changes in gross motor dexterity (P < 0.006), balance (P < 0.001), visual motor control (P=0.007), and total BOTMP test score (P<0.006) in the experimental group when compared to those of the control group.

Conclusion:
Vestibular stimulation was effective in improving balance, gross motor function, and visual-motor control in children with ADHD.