Evaluation of the Relationship between Brain-Derived Neurotropic Factor Levels and the Stroop Interference Effect in Children with Attention Deficit Hyperactivity Disorder

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ABSTRACT

Introduction:
Brain-derived neurotropic factor (BDNF) has been suggested to play a role in the pathogenesis of attention-deficit hyperactivity disorder (ADHD). In addition, impairment in executive functions has been reported in children with ADHD. This study investigated the presence of a relationship between Stroop test scores and BDNF levels in children with ADHD.

Methods:
The study was conducted in the Department of Child Psychiatry at Dicle University. The study included 49 children between 6 and 15 years of age (M/F: 42/7), who were diagnosed with ADHD according to DSM-IV, and who did not receive previous therapy. Similar in terms of age and gender to the ADHD group, 40 children were selected in the control group. The Kiddie Schedule for Affective Disorders and Schizophrenia, Present and Lifetime version was administered to all participants. Parents and teachers were administered Turgay DSM-IV-based Child and Adolescent Behavior Disorders Screening and Rating Scale to measure symptom severity in children with ADHD. Children with ADHD underwent the Stroop test. BDNF levels were evaluated in serum by ELISA.

Results:
The ADHD and control groups did not differ in terms of BDNF levels. BDNF levels did not differ between ADHD subtypes. There was also no relationship between the Stroop test interference scores and BDNF levels.

Conclusion:
The findings of the present study are in line with those in studies that demonstrated no significant role of BDNF in the pathogenesis of ADHD.