Emotional Face Recognition in Children with Attention Deficit/Hyperactivity Disorder: Evidence from Event Related Gamma Oscillation

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Abstract:

Introduction:
Children with attention-deficit/hyperactivity disorder (ADHD) have some impairment in emotional relationship which can be due to problems in emotional processing. The present study investigated neural correlates of early stages of emotional face processing in this group compared with typically developing children using the Gamma Band Activity (GBA).

Methods:
A total of 19 children diagnosed with ADHD (Combined type) based on DSM-IV classification were compared with 19 typically developing children matched on age, gender, and IQ. The participants performed an emotional face recognition while their brain activities were recorded using an event-related oscillation procedure.

Results:
The results indicated that ADHD children compared to normal group showed a significant reduction in the gamma band activity, which is thought to reflect early perceptual emotion discrimination for happy and angry emotions (P<0.05).

Conclusion:
The present study supports the notion that individuals with ADHD have some impairments in early stage of emotion processing which can cause their misinterpretation of emotional faces.