Event-Related Potentials for Diagnosing Children and Adults With ADHD

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Abstract

Objective:
The diagnosis of ADHD is based on behavioral criteria, which allow for subjective variability and invite criticism regarding the reality of the disorder. In this situation, more objective criteria would be desirable. We review the scientific literature for diagnostic tests based on event-related potentials (ERPs).

Method:
Seven studies met the inclusion criteria of reporting the sensitivity and specificity of an ERP-based classifier discriminating participants with ADHD from healthy controls. Study quality was rated using the second version of the Quality Assessment of Diagnostic Accuracy Studies (QUADAS-2) system.

Results:
Overall, study quality was acceptable. The largest biases were lack of representativeness and overfitting. Sensitivities and specificities ranged from 57% to 96%, and 63% to 92%, respectively. However, no two studies used the same diagnostic test.

Conclusion:
There is a serious lack of coordination in worldwide efforts to find more objective ERP-based criteria for the diagnosis of ADHD. Concerted action is needed.