Impact of co-morbid attention-deficit and hyperactivity disorder on cognitive function in male children with Tourette syndrome: A controlled study

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Abstract

Tourette syndrome (TS) and attention-deficit and hyperactivity disorder (ADHD) are co-morbid neurodevelopmental conditions affecting more commonly male patients. We set out to determine the impact of co-morbid ADHD on cognitive function in male children with TS by conducting a controlled study. Participants included four matched groups of unmedicated children (age range 6-15 years): TS (n=13), TS+ADHD (n=8), ADHD (n=39), healthy controls (n=66). Following clinical assessment, each participant completed a battery of tests from the Wechsler Intelligence Scale for Children-III, the Italian Battery for ADHD, the Tower of London test, the Corsi test, and the Digit Span test. All patient groups reported significantly lower scores than healthy controls across the neuropsychological tests involving executive functions. The TS+ADHD group was the most severely affected, followed by the ADHD group and the TS group, particularly in the tests assessing planning ability, inhibitory function, working memory and visual attention, but not auditory attention. Problems in executive functions are more common in patients with neurodevelopmental disorders than controls. Deficits in planning ability, inhibitory function, working memory and visual attention reported by children with TS appear to be more strongly related to the presence of co-morbid ADHD symptoms than core TS symptoms.