Acute effects of methylphenidate on impulsivity and attentional behavior among adolescents comorbid for ADHD and conduct disorder

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DOI: http://dx.doi.org/10.1016/j.adolescence.2016.10.013

Abstract

Adolescents with Attention Deficit Hyperactivity Disorder (ADHD) and Conduct Disorder (CD) experience deficits in neuropsychological measures of attention, inhibition, and reward processes. Methylphenidate treatment for ADHD and CD has acute effects on these processes. Some of these same aspects of performance are separately described in the Behavioral Model of Impulsivity, which uses a modified approach to measurement. This study characterized the acute effects of methylphenidate attention, initiation, inhibition, and reward processes described in this model of impulsivity. Thirty-one adolescents from the United States of America with comorbid ADHD and CD completed measures of impulsivity (response initiation, response inhibition, and consequence) and attention following placebo, 20 mg, and 40 mg of a long-acting dose of methylphenidate. Methylphenidate effects on attentional performance was more robust than on any of the measures of impulsivity. Adolescent performance from this behavioral perspective is interpreted in the context of divergence from previous neuropsychological tests of acute methylphenidate effects.