Delay aversion and Executive Functioning in adults with Attention-Deficit/Hyperactivity Disorder: Before and after stimulant treatment

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Abstract

BACKGROUND:
ADHD is a heterogeneous disorder, associated with deficits in motivation (e.g., delay aversion) and cognition. Methylphenidate is recommended as a first line treatment for ADHD symptoms, but little is known about its non-acute effects on motivational and cognitive deficits, particularly in adults with ADHD.

METHODS:
We utilized a prospective, non-randomized, non-blinded, six-week follow-up design with 42 initially stimulant medication-naïve adult patients with moderate to severe ADHD, and 42 age- and parental education-matched healthy controls. DA and EF were assessed with two questionnaires and five performance-based tests.

RESULTS:
At baseline, patients and controls differed significantly on performance-based measures (moderate to large effect sizes), and self-report of DA and EF (very large effect sizes). Treatment with methylphenidate medication (mean dose 65.54 mg/day, SD = 10.39) was not associated with improvements in performance-based measures of DA and EF compared to controls, although improvements in self-report EF and DA were found. Self-reported DA was most consistently associated with ADHD symptomatology at baseline and after medication.

CONCLUSION:
Methylphenidate treatment does not have an effect on performance-based measures of DA and EFs, but may have significant effects on self-reported DA and EFs. The latter finding should be interpreted cautiously, given the subjective nature of these measures and design limitations. Self-reported DA is most consistently associated with ADHD symptomatology.