Effects of stimulants and atomoxetine on emotional lability in adults: A systematic review and meta-analysis.

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Abstract

BACKGROUND:
Emotional lability (EL) is an associated feature of attention-deficit/hyperactivity disorder (ADHD) in adults, contributing to functional impairment. Yet the effect of pharmacological treatments for ADHD on EL symptoms is unknown. We conducted a systematic review and meta-analysis to examine the effects of stimulants and atomoxetine on symptoms of EL and compare these with the effects on core ADHD symptoms.

METHODS:
A systematic search was conducted on the databases Embase, PsychInfo, and Ovid Medline® and the clinicaltrials.gov website. We included randomized, double-blind, placebo-controlled trials of stimulants and atomoxetine in adults aged 18-60 years, with any mental health diagnosis characterized by emotional or mood instability, with at least one outcome measure of EL. All identified trials were on adults with ADHD. A random-effects meta-analysis with standardized mean difference and 95% confidence intervals was used to investigate the effect size on EL and compare this to the effect on core ADHD symptoms.

RESULTS:
Of the 3,864 publications identified, nine trials met the inclusion criteria for the meta-analysis. Stimulants and atomoxetine led to large mean weighted effect sizes for on ADHD symptoms (n=9, SMD=-0.8, 95% CI:-1.07 to -0.53). EL outcomes showed more moderate but definite effects (n=9, SMD=-0.41, 95% CI:-0.57 to -0.25).

CONCLUSIONS:
In this meta-analysis, stimulants and atomoxetine were moderately effective for EL symptoms, while effect size on core ADHD symptoms was twice as large. Methodological issues may partially explain the difference in effect size. Reduced average effect size could also reflect the heterogeneity of EL with ADHD pharmacotherapy responsive and non-responsive sub-types. Our findings indicate that EL may be less responsive than ADHD symptoms overall, perhaps indicating the need for adjunctive psychotherapy in some cases. To clarify these questions, our findings need replication in studies selecting subjects for high EL and targeting EL as the primary outcome.