Mixed-amphetamine salts increase abstinence from marijuana in patients with co-occurring attention-deficit/hyperactivity disorder and cocaine dependence

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Abstract

Background and Objectives
The prevalence of ADHD is greater in substance use disorders than the general population, and ADHD and substance use disorders share neurobiological features such as dysregulation of reward circuitry. We tested the hypothesis that stimulants would decrease marijuana use in a randomized controlled trial of extended release mixed amphetamine salts (MAS-XR) for treatment of co-occurring ADHD and cocaine use disorders.

Methods
Marijuana users were defined as participants reporting use in the 30 days before study initiation, collected with timeline follow-back. The original 14-week trial utilized a 3-arm randomized design, comparing placebo, MAS-XR 60 mg, and MAS-XR 80 mg. For this analysis, both MAS-XR groups were combined, leaving n = 20 in the placebo group and n = 37 in the MAS-XR group. The primary outcome was proportion of subjects reporting any marijuana use per study week. Comparisons between groups were made using a logistic mixed effects model incorporating multiple predictors and modeling time-by-treatment interactions.

Results
There were no significant baseline differences in marijuana use frequency and quantity. There was a significant decrease in the proportion of participants using marijuana over time in the MAS-XR group, but no difference in the proportion of marijuana-use days over time.

Discussion and Conclusions
Treatment of ADHD and comorbid cocaine use disorders with MAS-XR is associated with increased weekly abstinence from marijuana but not with a decrease in the proportion of marijuana using days per week.

Scientific Significance
Stimulant treatment of ADHD and cocaine use disorders may diminish co-occurring cannabis use.