Methylphenidate doses in Attention Deficit/Hyperactivity Disorder and comorbid substance use disorders

Charlotte Skoglund, Lena Brandt, Brian D’Onofrio, Henrik Larsson, Johan Franck

European Neuropsychopharmacology, 2017
DOI: http://dx.doi.org/10.1016/j.euroneuro.2017.08.435

Abstract
Patients with Attention Deficit/Hyperactivity Disorder (ADHD) and comorbid Substance Use Disorders (SUD) are increasingly being treated with central stimulant medication despite limited evidence for its effectiveness. Lack of longitudinal follow-up studies of dosing and adverse effects has resulted in conflicting treatment guidelines. This study aims to explore whether individuals with ADHD and comorbid SUD are treated with higher stimulant doses than individuals with ADHD only, and whether doses increase over time as a sign of tolerance, a core symptom of addiction.

Information on methylphenidate doses for 14,314 Swedish adults, including 4,870 individuals with comorbid SUD was obtained through linkages of Swedish national registers between 2006 and 2009. Differences in doses between patients with and without SUD were estimated using logistic regression while a linear regression model calculated time trends in mean doses.

Individuals with SUD were prescribed higher methylphenidate doses than those without (ORday365; 2.12, 95% CI 1.81–2.47; ORday730 2.65, 95% CI 2.13–3.30). Patients with SUD were, two years after initiating stimulant treatment, prescribed approximately 40% higher doses compared to individuals with ADHD only.

The results may suggest a need for increased doses in this population to achieve optimal ADHD symptom control. A tendency towards increasing doses during the first years of treatment, more pronounced in individuals with comorbid SUD, may reflect a reluctance to prescribe adequate doses due to lack of clinical guidelines. Mean doses stabilized after about two years in both groups, which does not lend support to continuously increasing tolerance over time.