

What is the effect of ADHD stimulant medication on heart rate and blood pressure in a community sample of children?

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Abstract

Objective

This study examines the effect of ADHD (attention deficit hyperactivity disorder) diagnosis and stimulant medication for ADHD treatment on child heart rate (HR) and blood pressure (BP) in a community sample compared to children without ADHD.

Methods

Data came from the HBEAT Study. From 49 schools, 2013 participants from southern Ontario in grades 5–8 were included. Linear regression analyses examined the effects of ADHD medications on systolic blood pressure (SBP), diastolic blood pressure (DBP) and heart rate adjusting for age, sex and body mass index (BMI).

Results

Compared to non-ADHD children and adjusting for age, sex and BMI, children with ADHD on stimulant medication had a 12.3-bpm higher HR, and 3.0-mmHg higher SBP and DBP (all statistically significant). Children with ADHD on no stimulant medication had no differences in HR and BP compared to those children without a diagnosis of ADHD.

Conclusion

Stimulant medications used to treat ADHD are associated with elevated HR and higher BP. While it is unknown whether children on ADHD medications may be at risk for longer-term cardiovascular issues, this study supports the need to examine the long-term consequences of ADHD medication.