Sleep disturbances in adolescents with ADHD: A systematic review and framework for future research

Jessica R. Lunsford-Avery, Andrew D. Krystal, Scott H. Kollins

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Abstract

Background
Biological mechanisms underlying symptom and prognostic heterogeneity in Attention-Deficit/Hyperactivity Disorder (ADHD) are unclear. Sleep impacts neurocognition and daytime functioning and is disrupted in ADHD, yet little is known about sleep in ADHD during adolescence, a period characterized by alterations in sleep, brain structure, and environmental demands as well as diverging ADHD trajectories.

Methods
A systematic review identified studies published prior to August 2016 assessing sleep in adolescents (aged 10–19 years) with ADHD or participating in population-based studies measuring ADHD symptoms.

Results
Twenty-five studies were identified (19 subjective report, 6 using actigraphy/polysomnography). Findings are mixed but overall suggest associations between sleep disturbances and 1) ADHD symptoms in the population and 2) poorer clinical, neurocognitive, and functional outcomes among adolescents with ADHD. Common limitations of studies included small or non-representative samples, non-standardized sleep measures, and cross-sectional methodology.

Conclusions
Current data on sleep in adolescent ADHD are sparse and limited by methodological concerns. Future studies are critical for clarifying a potential role of sleep in contributing to heterogeneity of ADHD presentation and prognosis. Potential mechanisms by which sleep disturbances during adolescence may contribute to worsened symptom severity and persistence of ADHD into adulthood and an agenda to guide future research are discussed.