

The Relationship between Attention Deficit Hyperactivity Disorder (ADHD) and Circadian Misalignment and Sleep Disorders

Ishay Levy, Maria Korman

Ishay Levy, BA Behavioral Sciences, MA Learning Disabilities, PhD student at Sagol, Department of Neurobiology, Faculty of Natural Sciences, University of Haifa and E.J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa. levyishi@gmail.com

Maria Korman, PhD, E.J. Safra Brain Research Center for the Study of Learning Disabilities, University of Haifa.

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The current review describes the evidence for sleep and biological diurnal (circadian) clock characteristics associated with Attention Deficit Hyperactivity Disorder (ADHD) and presents some of the common therapeutic approaches addressing the problems of sleep and circadian clock disorders among children and adults with ADHD. Systematic research on the relationship between sleep dysfunction and ADHD is relatively recent. The circadian clock controls sleep-wake behavior and is a central mechanism involved in disrupted sleep and functional deficits among individuals with ADHD. The impact of an atypical, evening-oriented circadian system is reflected in reduced quality of life and maladaptation of individuals with ADHD. It is proposed that significant improvements in cognitive, emotional and social domains may be achieved through integrated diagnosis and treatment of inattention/hyperactivity and circadian factors. We conclude that circadian rhythm disruption in ADHD may present an important novel therapeutic target for occupational therapists. Intervention approaches may include alignment of circadian clock to social and occupational constraints and interventions to improve sleep quality and hygiene: behavioral therapy, exposure to natural and artificial light, adjustment of timing of meals and physical exercise and time management.