

Sleep Quality and Attention Deficit Hyperactivity Disorder

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A study at the University of Toronto's Institute of Medical Science, measured the correlation between sleep quality and the different subtypes of Attention-Deficit/Hyperactivity Disorder (ADHD). Researcher, Sun Young Rosalia Yoon, expected that sleep quality and ADHD would be correlated due to the effects of sleep deprivation, such as deficits in cognitive functions; such effects are also evident in those with ADHD. Yoon hypothesized that the negative effects of sleep deprivation give rise to the symptoms of ADHD.

Attention Deficit Hyperactivity Disorder is a neurodevelopmental disorder which consists of not being able to focus, being overactive, and not being able to control your behaviour. This disorder is broken down into three different subtypes. (1) Predominantly Hyperactive/Impulsive, which consists of mainly hyperactive or impulsive symptoms, with few or no inattentive symptoms, (2) Predominantly Inattentive, which is mainly inattentive symptoms, with few or no hyperactive symptoms, and (3) Combined, which is equal parts inattentive and hyperactive. The current study predicted that sleep quality amongst the three subtypes would differ, largely due to frequently reported sleeping problems in those with ADHD, such as insomnia, breathing problems, nightmares, and anxiety. Yoon hypothesized that although there may be sleep differences among the three subtypes, the significant differences would be in ADHD-I (Inattentive) and ADHD-C (Combined).

The study began with Phase 1, where the researchers collected subjective data by having the 126 participants complete different scales. Such scales included Conner's adult ADHD rating scale (CAARS), where participants rated their ADHD symptoms on a scale of 0 "none of the time" to 3 "all of the time." A sleep scale for Phase 1 was the Pittsburgh sleep quality index, where they rated their quality of sleep over the past month from 0-21, with scores higher than 5 indicated poor sleep quality. Phase 2 consisted of objective data, where the researchers used polysomnography, a technique that measures physiological parameters, such as eye movements and heart activity during sleep.

After comparing the participants' results across the two phases, the results validated Yoon's prediction, by showing that sleep quality had been worse for those participants with ADHD-I, in comparison with those who had ADHD-C. Yoon also found that sleep quality was directly associated with fatigue, but not with sleepiness. Fatigue tends to affect individuals both mentally and physically; it is what someone means when they say they're feeling exhausted after a long day. Sleepiness, on the other hand, is purely physical; someone is sleepy when they can feel their eyes closing. What this tells us is that fatigue may be a better predictor of poor sleep quality than sleepiness. What we take from this study is that ADHD is not a disorder that only affects individuals in

obvious ways, such as school work and job performance. Instead, the difficulties of ADHD are not limited to an individual's function during the day, but rather they prolong into sleep. With such knowledge, individuals with ADHD may be encouraged to better monitor their sleep, and possibly consider improving their sleep quality, thus improving their day time function as well.

SOURCES

Yoon, S. (2016). Sleep in Adults with Attention-Deficit/Hyperactivity Disorder of the Predominantly Inattentive and Combined Subtypes. ProQuest Information & Learning, 1-222.