

Summary

Attention - deficit/hyperactivity disorder (ADHD) is the most frequent neurobehavioral disorder of childhood. Complaints of sleep disorders are very common in children with ADHD. The underlying mechanisms of this relationship are systematically investigated. The results of sleep studies are very heterogenous. It is still unclear if ADHD is connected with a special sleep disturbance or if sleep disorders are another comorbidity in patients with ADHD.

In our prospective study we evaluated sleep macrostructure and microstructure, the incidence of sleep disorders and the level of daytime sleepiness in patients with ADHD. The patients have never been pharmacologically treated for ADHD and they did not have any comorbid psychiatric disorders. Comparing the results with a control group we find neither changes in sleep macrostructure and microstructure, nor in the incidence of sleep disorders. While we fell short of proving increased daytime sleepiness, we did find evidence of significant daytime vigilance variability in children with ADHD-in support of the theory of hypoarousal in ADHD. Based on this data we believe that generally sleep disorders have no substantial or causative role to play in ADHD.

We excluded psychiatric comorbidities in our cohort. We presume they can participate in the occurrence of sleep disorders (insomnia, periodic limb movements in sleep, changes of sleep macrostructure) observed in some sleep studies. We stress the necessity of appropriate assessment of mood and behavior disorders which appear in 50% of children with ADHD because they could contribute to sleep disturbances.

In our retrospective study we evaluated the cohort of patients with ADHD who underwent nocturnal polysomnography because of sleep problems. The most frequent diagnosis were periodic limb movements in sleep, parasomnia, sleep disordered breathing, sleep delay. The sleep disorders was found in the majority of these patients with ADHD (81%). The strong association with ADHD was apparent in rare sleep disorders (rhythmic movements in sleep, nocturnal groaning).

We believe that sleep disorders are important comorbidity of ADHD and patients should be systematically queried about sleep problems.