Relationship between subtypes and symptoms of ADHD, insomnia, and nightmares in connection with quality of life in children

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Objectives:
This study examined the links between sleep disorders and subtypes of attention deficit-hyperactivity disorder (ADHD-inattention, ADHD-combined, ADHD-hyperactive/impulsive) in childhood. We set up a hypothetical model linking different symptoms of both disorders to construct the underlying and shared pathways. By examining a sample of children with ADHD we firstly tested parts of the model.

Methods:
A total of 72 children with symptoms of ADHD (aged 6–13 years; 79.2% boys) were diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders, fifth edition and the International Classification of Sleep Disorders, third edition in regards to ADHD and sleep disorders via standardized parent-rated questionnaires. Additionally, quality of life (QoL) was assessed. Overall, 46 children fulfilled the criteria of ADHD and were medication-naive.

Results:
On average, the whole sample had clinically elevated total scores of the Children’s Sleep Habits Questionnaire in the validated German version (CSHQ-DE), indicating an increased prevalence of sleep disorders in children with ADHD. In accordance to our hypothetical model, children with primarily hyperactive–impulsive ADHD showed the highest CSHQ-DE scores. Moreover, we found a high impact for insomnia in this subgroup and a high comorbid load for the mutual occurrence of insomnia and nightmares. Furthermore, QoL was reduced in our whole sample, and again intensified in children with comorbid insomnia and nightmares.

Conclusion:
We verified an elevated occurrence of sleep disorders in children with ADHD and were able to link them to specific subtypes of ADHD. These results were in line with our hypothetical model. Moreover, we found a clinically reduced QoL in mean for the whole sample, indicating the strong impact of ADHD in the lives of affected children, even intensified if children exhibited comorbid insomnia and nightmares. These results should be kept in mind regarding the treatment and therapy of this subgroup of children. Specific treatment strategies should be considered for these children.