Evaluation of sleep organization in patients with attention deficit hyperactivity disorder (ADHD) and ADHD as a comorbidity of epilepsy.

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Abstract

OBJECTIVE/BACKGROUND:
Epilepsy or attention deficit hyperactivity disorder (ADHD) can influence sleep organization in different ways. The aim of this study was to evaluate sleep organization in children and adolescents with ADHD and epilepsy and to analyze the influence of methylphenidate.

METHODS:
This was an observational, cross-sectional study of children and adolescents with epilepsy, who were seizure free for at least three months, and was also diagnosed with ADHD. They were selected from epilepsy and child neurology outpatient clinic of a university hospital in Brazil. After sample size calculation, patients were consecutively included into four different groups, with 21 patients each: epilepsy + ADHD using methylphenidate, epilepsy + ADHD not using methylphenidate, only ADHD, and a healthy control group. All participants were evaluated with the Sleep Disturbance Scale for Children (SDSC) and monitored with actigraphy for five nights/days.

RESULTS:
Actigraphic analysis showed a higher number of night awakenings in epilepsy + ADHD groups; they were most prominent in the group without methylphenidate (p = 0.001). Parental reports demonstrated a higher risk for sleep disturbances in epilepsy + ADHD without methylphenidate and the ADHD groups (p < 0.001).

CONCLUSION:
Primary ADHD as a comorbidity of epilepsy impairs sleep organization in children, and the use of short-acting methylphenidate seems to improve it. Both objective (actigraphic) and subjective (SDSC) measures showed significant sleep alterations between primary ADHD and ADHD as a comorbidity of epilepsy; this was most prominent in the group without methylphenidate.