

## Sleepiness in children linked to obesity, asthma

May 16 2011

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(Medical Xpress) -- Obese, asthmatic, anxious or depressed children are more likely to experience excessive daytime sleepiness, or EDS, according to Penn State College of Medicine sleep researchers.

"Although EDS in [children](#) is commonly assumed by physicians and the public to be the result of sleep-disordered breathing or inadequate sleep, our data suggest that EDS in young children is more strongly associated with obesity and mood issues as it is in adults," said Edward Bixler, Ph.D., professor of psychiatry and vice chair of research, Sleep Research and Treatment Center.

EDS is the inability to stay awake during the day, while sleep-disordered breathing is a group of disorders that includes sleep apnea, characterized by pauses in breathing.

"EDS may interfere with daytime functioning in children, including [academic performance](#)," said Bixler. "Although [excessive daytime sleepiness](#) in adults has been the focus of extensive research, studies on the risk factors associated with EDS in children have been limited."

The researchers studied 508 children and found EDS in 15 percent of them.

"Our study indicates that EDS is highly prevalent in children, a symptom that may adversely affect daytime functioning," said Bixler.

This study suggests an association between childhood EDS and medical factors, medication for asthma, [waist circumference](#), and parent-reported anxiety/depression and parent-reported [sleep difficulties](#) - trouble falling asleep, restless sleep and waking often during the night.

Researchers conducted a two-phase study to look at the issue. In phase I, a screening questionnaire to identify children at high risk for sleep-disordered breathing was sent to parents of every student in kindergarten through fifth grade in four school districts. The questionnaire asked for general information from parents about their child's sleep and behavioral patterns.

In phase II, the researchers randomly selected 200 children each year for five years based on grade, gender and risk for [sleep-disordered breathing](#). In all, they chose 508 children for the study, including those with medical problems and mental health disorders, to represent the general population.

The researchers recorded height, weight, body mass index, and waist circumference -- a marker of central [obesity](#) and metabolic abnormalities -- for each child. All children spent one night in a sleep laboratory and were screened for [sleep apnea](#) -- defined as at least five seconds of breathing stoppage while sleeping.

Parents completed a sleep questionnaire to assess EDS. If the parent reported yes for one or both of the questions, "Does your child have a problem with sleepiness during the day?" and "Has a teacher or other supervisor commented that your child appears sleepy during the day?" the researchers classified the children as having EDS.

The 508 children consisted of 431 children without EDS and 77 children with EDS. They ranged in age from 5 to 12 years old. One-quarter were minority, and 51.8 percent were boys.

The researchers found waist circumference, positive history of asthma, use of asthma medication, heartburn, and parent-reported symptoms of anxiety/depression and of sleep difficulty significantly associated with EDS. The researchers published their results in the journal [Sleep](#).

Waist circumference alone contributed to the independent prediction of EDS, suggesting that metabolic factors may play a contributing role in the mechanisms of EDS.

"Primary lines of treatment might include weight loss if the child is overweight, treatment for underlying depressive and anxious symptoms, and implementation of nocturnal asthma prevention methods if the child is diagnosed with asthma," said Bixler.

Provided by Pennsylvania State University

Citation: Sleepiness in children linked to obesity, asthma (2011, May 16) retrieved 12 July 2023 from <https://medicalxpress.com/news/2011-05-sleepiness-children-linked-obesity-asthma.html>

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