

Sleep disorders can impair children's IQs as much as lead exposure

March 13 2007

Three decades ago, medical investigators began sounding the alarm about how lead exposure causes IQ deficits in children. Today, researchers at the University of Virginia Health System say children with sleep disorders can face similar risks of intellectual impairment.

UVa researchers have been studying sleep disturbances in children with enlarged tonsils and adenoids for the past seven years. In a recent study, they discovered that youngsters who snore nightly scored significantly lower on vocabulary tests than those who snore less often.

"Vocabulary scores are known to be the best single predictor of a child's IQ and the strongest predictor of academic success," explains Dr. Paul M. Suratt, a pulmonologist who directs the UVa Sleep Laboratory.

According to Dr. Suratt, the vocabulary differences associated with nightly snoring are equivalent to the IQ dissimilarities attributed to lead exposure. "Studies show that, even at nontoxic levels, lead exposure can reduce a child's IQ by more than seven points," he notes.

Sleep disorders can be intellectually and behaviorally detrimental to children because they interrupt the deep sleep patterns needed for healthy development. At night, children with sleep disorders can be observed snoring, snorting, gasping, tossing and turning. During the day, these children can be irritable, hyperactive and unable to concentrate.

A key goal of the UVa researchers is to predict which children with

sleep disorders are most likely to suffer cognitive impairment or develop behavior problems. "It's more difficult than you would think," Dr. Suratt explains. "Children with sleep disordered breathing may have cognitive impairment even if they don't completely stop breathing, even if their oxygen levels don't fall and even if they don't totally wake up."

In a series of studies involving six to twelve-year-olds, researchers have been piecing together a list of risk indicators. So far, snoring frequency combined with sleep lab results have proven to be the most reliable predictors of intellectual impairment and behavioral problems. Sleep duration and race appear to be important risk factors, too.

"One of our most recent studies found that kids who snore nightly and spend less time in bed score significantly lower on cognitive tests than children who snore less frequently and spend longer times bed," Dr. Suratt explains. "We've also found that obstructive sleep disordered breathing (OSBD) occurs more often in African American children and, therefore, places them at greater risk of cognitive impairment."

As part of their quest to accurately identify at-risk children, UVA researchers are now testing a device that records breathing sounds during sleep at home. When used in the lab, this method has proven more sensitive than existing equipment in detecting sleep apnea in children.

"We're getting closer to the day when we can quickly establish risk profiles and effective treatment plans for children with sleep disorders. Our goal is to minimize the cognitive and behavioral problems that often develop," says Dr. Suratt.

Source: University of Virginia Health System

Citation: Sleep disorders can impair children's IQs as much as lead exposure (2007, March 13)
retrieved 25 April 2024 from

<https://medicalxpress.com/news/2007-03-disorders-impair-children-iqs-exposure.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.