

Why kids breathe easier in summer

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A good night's sleep is important to our children's development. But with the first day of school just passed, many children are at increased risk for sleep breathing disorders that can impair their mental and physical development and hurt their academic performance.

A study conducted in North America in 2011 showed that the frequency of [sleep](#)-disordered breathing increases in the winter and spring. Until now, researchers believed asthma, allergies, and viral respiratory infections like the flu contributed to disorders that affect [children's](#) breathing during sleep.

Now, in a new study conducted at the Pediatric Sleep Center at the Tel

Aviv Sourasky Medical Center and published in the journal *Sleep Medicine*, Dr. Riva Tauman and her fellow researchers of the Sackler Faculty of Medicine at Tel Aviv University have shown that asthma and allergies do not contribute to pediatric sleep-disordered breathing. Viruses alone, they say, may be responsible for the [seasonal variation](#) seen in children.

The researchers say the study has broad implications for the treatment of sleep-[breathing disorders](#) in children, bolstering the idea that the time of year is relevant when treating children for sleep-disordered breathing in borderline cases.

Blowing hot and cold

"We knew from research and clinical practice that sleep-disordered breathing in children gets worse during the colder months," Dr. Tauman says. "What we didn't expect is that the trend has nothing to do with asthma or allergies."

"Sleep-disordered breathing" is a blanket term for a group of disorders. One of the common disorders is obstructive sleep apnea, in which the upper airway becomes blocked, usually by enlarged tonsils or [adenoids](#), causing snoring and, in more severe cases, breathing pauses that lead to poor-quality and fragmented sleep and decreased oxygen and elevated carbon dioxide levels in the bloodstream.

In the long term, sleep-disordered breathing in children can cause stunted growth, heart disease, and neurocognitive problems associated with diminished school performance, impaired language development, and behavioral issues.

In their study, Dr. Tauman and her Sackler Faculty of Medicine colleagues Michal Greenfeld and Yakov Sivan statistically analyzed the

cases of more than 2,000 children and adolescents who were referred to the sleep center to be tested for suspected sleep-disordered breathing between 2008 and 2010. Confirming earlier results of a 2011 study of five- to nine-year-olds, the researchers found that pediatric sleep-disordered breathing is worse in the winter—which in Israel they defined as from November to March—than in the summer. The seasonal variability is most apparent in children less than five years old, they found.

The researchers also found that wheezing and asthma do not contribute to the trend.

Based on their findings, the researchers speculate that [viral respiratory infections](#)—which are more prevalent in younger children and during colder months—are the major contributor to the seasonal variability seen in pediatric sleep-disordered breathing.

Taking the long view

If the sleep clinic tests had all been conducted in the winter, the researchers estimate that seven percent more children would have been diagnosed with sleep-disordered [breathing](#). Seven percent fewer would have been diagnosed if all the tests had been done in the summer, they estimate.

"Our study suggests that if a child comes into the sleep laboratory in the winter with a mild case, I may consider not treating him. I can assume he will be better in the summer," said Tauman. "But if he has only mild symptoms in the summer, I can assume they are more severe in the winter."

Provided by Tel Aviv University

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