

Researcher finds correlation between childhood obesity and asthma

12 December 2008

A Kansas State University graduate student has found a correlation between childhood obesity and asthma. Sara Rosenkranz, doctoral student in human nutrition, Manhattan, conducted research that found that healthy children with higher levels of body fat and lower levels of physical activity had greater amounts of airway narrowing after exercise.

"Kids who are overweight and inactive are having -- even at the age of 8 to 10 years old -- a negative response to exercise challenge tests, which might be contributing to the increase that we've been seeing over the past several decades in asthma prevalence as well as obesity prevalence," Rosenkranz said.

Rosenkranz worked with other K-State faculty and students to recruit 40 children in the 8- to 10-year-old age range to participate in exercise studies. All of the children were healthy, meaning none of took medication or had a diagnoses or history of acute or chronic disease, including asthma.

For Rosenkranz's project, the children completed pulmonary function tests, an exercise test that doctors often conduct to determine if children have asthma, and body composition tests.

The children also took questionnaires to determine if they were active or inactive compared to the standards of their age, gender and ethnicity.

After the exercise challenge, the researchers measured the children's FEV-1, which determines if the individual's airways narrow post-exercise. The researchers found that the higher the body fat and the lower the level of activity of the child, the more likely they were to have asthma-like symptoms following exercise. In fact, these specific children had FEV-1 measures that many consider to be classified as exercise-induced asthma.

"It was pretty interesting. There's that whole idea

that it's possible to be fit and fat in adults, but that really hasn't been looked at closely in kids," Rosenkranz said. "That's what spurred the idea for this research."

At the completion of the project, a follow-up letter was sent to the parents that showed their child's pulmonary test results and body fat percentage, which also had the corresponding fat group based on the child's age, gender and ethnicity.

"It's important for parents to know what's going on with their children at a young age so that they can help do something to maybe stop a downward cycle," Rosenkranz said. "It's especially important for those kids who already are overweight and are very physically inactive."

For many of the students that had higher levels of body fat and lower levels of activity, Rosenkranz said it is possible that they had the early stages of asthma and they didn't know it.

"They might not know it because they might not be doing anything that could ever trigger it," she said.

When an asthma diagnosis is made, Rosenkranz said it is important that the child remain active to prevent airway problems.

Before the study, little was known about the role body composition and physical activity have in airway health in children, Rosenkranz said. When considering childhood obesity, pulmonary function wasn't often considered, she said.

"At K-State, we just started working with the childhood population," she said. "We've been working more with college-age students because that's a handy group to have access to, but with kids, it's a whole new world and there's not much information out there."

Source: Kansas State University

APA citation: Researcher finds correlation between childhood obesity and asthma (2008, December 12) retrieved 25 September 2021 from <https://medicalxpress.com/news/2008-12-childhood-obesity-asthma.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.