ECHO
Environmental influences on Child Health Outcomes
A program supported by the NIH

Study Summary

A Nationwide Study on How Childhood Asthma Relates to Obesity Development

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Who sponsored this study?

This research was supported by the Environmental influences on Child Health Outcomes (ECHO) program, Office of The Director, National Institutes of Health.

Why was this study needed?

Children who have asthma often have a higher body mass index (BMI) that classifies them as obese. In the last few decades, rates of both asthma and obesity have increased, leading researchers to study the link between the two diseases. The goal of this research was to see if children with asthma had a higher risk of developing obesity compared to children without asthma.

Who was involved?

This study looked at almost 9,000 children and teens across the U.S. between ages 6 to 18.5 who were not obese at the start of the study. On average, children were followed for five years to see if they developed obesity.

What happened during the study?

This study compared the obesity risk among U.S. children with and without asthma. The researchers also studied whether taking medicine for asthma affected the relationship between obesity and asthma in kids. Children with asthma were identified based on a caregiver's report of a doctor saying the child has asthma. Obesity was defined based on whether the child's BMI was in the top 5% for their age and sex. Researchers also collected information about whether the child used asthma medication. Over the course of the study 26% of children had an asthma diagnosis and 11% developed obesity.

What were the study results?

This study found that children with asthma had a 23% higher risk of developing obesity than children without asthma. The risk of obesity was 64% lower among children with asthma who were using asthma medication at a higher proportion compared to children with asthma who were using asthma medication at a lower proportion.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should not make changes to your health without first consulting your healthcare professional.

Impact

This study supports a link between childhood asthma and obesity later in childhood. Asthma medication may help lower obesity risk in children with asthma. The use of asthma medication for obesity prevention in children with asthma needs to be further researched. Overall, the findings from this study highlight the need for a better understanding of the factors and pathways involved in the link between asthma and obesity risk.

What happens next?

Researchers may want to study what contributes to increased obesity risk in children with asthma. For example, the effects of asthma on physical activity level or quality of sleep. In addition, there needs to be a better understanding of how the use of asthma medication affects obesity risk among children with asthma. One possibility is that asthma medication leads to higher physical activity in children with asthma, which then lowers the risk of obesity later in childhood.

Where can I learn more?

The abstract for this publication, titled "The Role of Childhood Asthma in Obesity Development: A Nationwide U.S. Multi-cohort Study" is now available. The full description of this study and its results will be published in the January 2022 issue of the scientific journal *Epidemiology*.

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