

# Accelerated infant growth increases risk of future asthma symptoms in children

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Accelerated growth in the first three months of life, but not fetal growth, is associated with an increased risk of asthma symptoms in young children, according to a new study from The Generation R Study Group at Erasmus Medical Center in the Netherlands.

"We know that [low birth weight](#) is associated with an increased risk of asthma symptoms in children, but the effects of specific fetal and infant growth patterns on this risk had not been examined yet," said researcher Liesbeth Duijts, MD, PhD. "In our study, weight gain acceleration in early infancy was associated with an increased risk of asthma symptoms in children of [preschool age](#), independent of fetal growth patterns, suggesting that early infancy might be a critical period for the development of asthma."

The findings were published online ahead of print publication in the American Thoracic Society's [American Journal of Respiratory and Critical Care Medicine](#).

This study was embedded in the Generation R Study, a population-based [prospective cohort study](#), and included 5,125 children who were followed from fetal life through the age of four. Information on asthma symptoms was obtained by questionnaires at the ages of 1, 2, 3, and 4.

No consistent relationships between fetal length and weight growth during different trimesters and the development of asthma symptoms were observed. Accelerated weight gain from birth to 3 months

following normal fetal growth was associated with increased risks of asthma symptoms, including wheezing (overall odds ratio (OR) 1.44 (95% confidence interval (CI): 1.22, 1.70), shortness of breath: 1.32 (1.12, 1.56), [dry cough](#): 1.16 (1.01, 1.34), and persistent phlegm: 1.30 (1.07, 1.58)). The associations between accelerated infant growth and risk of developing asthma symptoms were independent of other [fetal growth](#) patterns and tended to be stronger among children of atopic mothers.

"Our results suggest that the relationship between infant weight gain and asthma symptoms is not due to the accelerated growth of fetal growth-restricted infants only," said Dr. Duijts. "While the mechanisms underlying this relationship are unclear, accelerated weight growth in early life might adversely affect lung growth and might be associated with adverse changes in the immune system."

The study had a few limitations, including the possibility of measurement error in the estimation of fetal weight and the use of self-report for asthma symptoms.

"Further research is needed to replicate our findings and explore the mechanisms that contribute to the effects of growth acceleration in infancy on respiratory health," concluded Dr. Duijts. "The effects of infant growth patterns on asthma phenotypes in later life should also be examined."

Provided by American Thoracic Society

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