

Smoking during pregnancy increases the risk of wheeze and asthma in preschool children

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Maternal smoking during pregnancy is associated with wheeze and asthma in preschool children, even among children who were not exposed to maternal smoking late in pregnancy or after birth, according to a new study.

"[Epidemiological evidence](#) suggests that exposure to [maternal smoking](#) during fetal and early life increases the risk of childhood wheezing and [asthma](#), but earlier studies were not able to differentiate the effects of prenatal and postnatal exposure," said lead author Åsa Neuman, MD, of the Institute of Environmental Medicine at the Karolinska Institutet in Stockholm, Sweden. "Our study, a large pooled analysis of eight birth cohorts with data on more than 21,000 [children](#), included 735 children who were exposed to maternal smoking only during pregnancy."

"These children were at increased risk for [wheeze](#) and asthma at preschool age. Furthermore, the likelihood of developing wheeze and asthma increased in a significant dose-response pattern in relation to maternal cigarette consumption during the first trimester."

The findings were published online ahead of print publication in the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

The eight European birth cohorts included in the study included a total of 21,600 children. Exposure information and information on symptoms of wheeze and asthma were derived from parental questionnaires.

In analyses adjusted for sex, parental education, parental asthma, birth weight and siblings, maternal smoking only during pregnancy was associated with increased risks for wheeze (odd ratio 1.39, 95 % CI 1.08-1.77) and asthma (odds ratio 1.65, 1.18-2.31) at age four to six years. Moreover, maternal smoking during the first trimester of pregnancy, but not during the third trimester or the first year following birth, was associated with increased risks for subsequent wheeze and asthma.

"These results indicate that the harmful effects of maternal smoking on the fetal respiratory system begin early in [pregnancy](#), perhaps before the women is even aware that she is pregnant," said Dr. Neuman.

The study has some limitations, including the use of parental questionnaires to obtain exposure and outcome information.

"Our large pooled analysis confirms that maternal [smoking during pregnancy](#), particularly during the first trimester, is associated with a greater risk of offspring developing wheeze and asthma when they reach preschool age," concluded Dr. Neuman. "Teens and young women should be encouraged to quit smoking before getting pregnant."

Provided by American Thoracic Society

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