



## **Pregnant mothers who smoke are 65 per cent more likely to have children with asthma**

- **Smoking during the first three months of pregnancy had the biggest negative impact**

By [Daily Mail Reporter](#)

Risk: Children were 39 per cent more likely to wheeze if their mothers smoked during pregnancy. Children whose mothers smoked while pregnant are 65 per cent more likely to develop asthma, according to new research.

The harmful effects on an unborn baby can begin very early - with smoking during the first three months of pregnancy having the biggest negative impact.

A study of 21,600 children found the risk of wheeze and asthma dramatically increased for those exposed to maternal smoking during pregnancy.

Wheeze is a continuous whistling sound during breathing caused by a narrowing of part of the respiratory tract.

Dr Asa Neuman, of the Karolinska Institute in Stockholm, Sweden, said: '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 three months of pregnancy.'

The findings published online in the American Journal of Respiratory and Critical Care Medicine follows previous research suggesting smoking while pregnant can change the structure of a child's DNA, weakening the immune system.

Interestingly, the risk rose even among children who were not exposed to maternal smoking late in pregnancy or after birth.

Dr Neuman said: 'These results indicate the harmful effects of maternal smoking on the foetal respiratory system begin early in pregnancy, perhaps before the woman is even aware she is pregnant.' Exposure to cigarettes and information on symptoms of wheeze and asthma were derived from questionnaires sent to the parents of the child participants who came from eight birth cohorts across Europe.

The analyses found children aged four to six who were exposed to smoking in the womb were 39 per cent more likely to have wheeze and 65 per cent more likely to have asthma.



Asthma is a common chronic inflammatory disease of the airways. Acute symptoms are treated with a drug administered by an inhaler

Moreover maternal smoking during the first three months of pregnancy, but not the last three or the first year following birth, was associated with increased risks for both conditions.

Dr Neuman said: 'Our large pooled analysis confirms maternal smoking during pregnancy, particularly during the first three months, is associated with a greater risk of offspring developing wheeze and asthma when they reach preschool age.

'Teens and young women should be encouraged to quit smoking before getting pregnant.'

Last year US researchers found a potential genetic 'root cause' of the link between smoking while pregnant and childhood asthma.

Evidence is showing genes can be changed by everyday environmental influences through a normal biological process known as DNA methylation.

The team at the University of Southern California found the children of women who smoked while pregnant were more likely to have experienced more DNA methylation of the AXL gene, which is crucial to development of the immune system.

They said this was 'compelling evidence environmental exposure to tobacco smoke during pregnancy may alter DNA methylation levels.'