

## Pre-pregnancy overweight may program teen asthma symptoms

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Mums who are overweight or obese when they become pregnant may be programming their children to have asthma-like respiratory symptoms during adolescence, suggests research published online in the *Journal of Epidemiology and Community Health*.

The prevalence of children's asthma has risen substantially worldwide, since the 1970s, and up to 37% of teenagers may have [asthma symptoms](#), making it one of the most common childhood long term conditions, say the authors.

The reasons for this increase are unclear, but [environmental factors](#) are likely to have a key role, they say, adding that the prevalence of overweight/obesity among women at the time they enter pregnancy has also increased dramatically over the past few decades.

In a bid to find out if there was any potential link between these factors, the research team assessed the [respiratory health](#) of just under 7,000 15 and 16 year olds, all of whom were born in northern Finland between July 1985 and June 1986.

Their mums had been questioned on their lifestyle, [social background](#), and educational attainment when they were 12 weeks pregnant. Information had also been collected by [midwives](#) on the occasion of their first antenatal visit. This included height and weight before pregnancy and parental medical history.

One in 10 of the teens wheezed and one in five had wheezed at some point; similarly, 6% had asthma and one in 10 had had asthma at some point.

Several early [life factors](#) were significantly associated with subsequent respiratory symptoms, the findings showed.

These included extremes of birthweight; being brought up by a single parent; a [genetic predisposition](#); and being a smoker or having a mum who smoked during pregnancy.

A mum's weight before she became pregnant also had a bearing on wheeze/asthma risk, and remained so, even after accounting for these other factors.

Teens whose mums had been seriously overweight or obese before they became pregnant were between 20% and 30% more likely to wheeze/have wheezed or have asthma currently or previously.

When a mother's weight was looked at by kilogram per height, the association with wheeze and asthma in adolescents became highly significant, amounting to an increased risk for every extra kilogram of weight of between 2.7% and 3.5%.

Teens whose mums were among the heaviest, were 47% more likely to have severe wheeze after taking account of factors likely to influence the results.

The authors point out that their findings do not show that pre-pregnancy obesity definitely causes respiratory symptoms among teenagers, but they point to other research showing links between maternal obesity and [respiratory symptoms](#) in infants and young children, as well as numerous complications during pregnancy.

They suggest that overweight may interfere with normal fetal development as a result of disrupted metabolic, hormonal, or ovarian activity.

Increasing weight is also linked to increasing levels of the hormone leptin, receptors for which are found in the lung of the developing fetus.

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