

Higher BMI increases the risk of asthma in children

The increase in asthma risk in children could be partially explained by the rise in body mass index (BMI), according to new research from the University of Bristol published today in PLOS Medicine.



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The study led by Dr Raquel Granell and colleagues, used genetic data from the Children of the 90s project to show that higher BMI increases the risk of childhood asthma.

The incidence of asthma, a chronic condition caused by inflammation of the airways, has been rising steadily over the past few decades. According to Asthma UK, 1.1 million children (1 in 11) and 4.3 million adults (1 in 12) are currently receiving treatment for asthma at a cost of £1 billion a year to the NHS.

The root causes of asthma are not known but some experts think obesity may play a role. Obesity, like asthma, is increasingly common, and previous studies in children have shown a link between BMI and asthma but until now have not been able to show whether high BMI actually causes asthma.

This study used a novel technique called 'Mendelian randomization' to look at changes in gene patterns in almost 5,000 children in Children of the 90s when they were aged seven and a half.

Using a weighted genetic score they found a strong connection between asthma, BMI and body fat. Most significantly they found that the relative risk of asthma increased by 55 per cent for every extra unit of BMI.

These findings suggest that a higher-than-average BMI increases the risk of childhood asthma and that public-health strategies designed to reduce obesity could also help to stem the global rise in asthma.

Speaking about the findings, Dr Granell said: "We have found, for the first time, strong evidence of a causal effect of increased BMI on increased risk of asthma in mid-childhood, however mechanisms operating through lean mass and other

non-BMI related factors are also likely to play a role."

Paper'[Effects of BMI, fat mass, and lean mass on asthma in childhood: a Mendelian randomization study](#)' [open access] by Granel R, Henderson AJ, Evans DM, Smith GD, Ness AR, et al. (2014) in PLoS Med 11(7): e1001669. doi:10.1371/journal.pmed.1001669

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