

SEX DIFFERENCES IN THE RELATION BETWEEN BODY MASS INDEX AND ASTHMA AND ATOPY IN A BIRTH COHORT STUDY

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Introduction. Several studies have identified an association between asthma and obesity in women. It remains unclear if this association is due to genuine asthma or to symptoms caused by poor fitness and overweight. It is also unclear at what age the association develops and whether it is confined to females.

Methods. The relation between body mass index (BMI) and asthma and atopy was assessed in a birth cohort of approximately 1000 individuals followed to age 26, using generalised mixed models for repeated measures.

Results. BMI was positively associated with asthma, wheeze, asthma treatment, atopy, and IgE, and inversely with the FEV₁/FVC ratio. There was no significant association with airway responsiveness to methacholine or salbutamol. For asthma, wheeze, asthma treatment, and atopy, there were significant sex-BMI interactions and analyses showed much stronger associations in females. There was little evidence of an association between BMI and asthma or atopy in males. Analyses adjusting for potential covariates showed similar findings. Childhood asthma was not associated with BMI and did not lead to overweight as an adult.

Conclusions. The findings indicate that increasing body weight during adolescence and early adulthood is associated with the development of asthma in females. This association was not observed in males.

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