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**Title:** Increased body mass index predicts severity of asthma symptoms but not objective asthma traits in a large sample of asthmatics

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**Body:** Aim: To examine the relationship between body mass index (BMI) and different indicators of asthma severity in a large community-based sample of Danish adolescents and adults. Methods: A total of 1,186 subjects, 14-44 years of age, who in a screening questionnaire had reported a history of airway symptoms suggestive of asthma and/or allergy, or who were taking any medication for these conditions were clinically examined. All participants were interviewed about respiratory symptoms and furthermore skin test reactivity, lung function, and airway responsiveness were measured. Results: A total of 516 individuals had clinical asthma. The mean BMI was 24.9 kg/m<sup>2</sup> (SD=5.1). Asthma severity measured by GINA score increased with higher BMI (p=0.007). The result remained significant after adjusting for age, sex and smoking (p=0.032). Severity of individual asthma symptoms; cough (p=0.001) and chest tightness (p=0.037) was also significantly related to BMI, whereas severity of wheezing and shortness of breath was not. Airway obstruction was more pronounced in subjects with increased BMI (p<0.001) but the effect disappeared after adjustment for age. Lung function, airway responsiveness, and atopy were not significantly related to BMI as were use of medication for asthma and adherence to treatment. Conclusions: Increased body mass index predicts severity of asthma symptoms but not objective asthma traits.