Body mass index and asthma: The role of hormonal factors among women
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Despite the amount of literature regarding asthma and obesity, few studies have investigated the relation between body mass index (BMI) and asthma control. The role of early menarche has been evoked in the association of asthma severity and BMI. The aim was to study the association between BMI and asthma by sex, considering the level of control of the disease, among adults from the Epidemiological Study on the Genetics and Environment of Asthma, and to assess the modifying effect of early menarche in women.

Participants were categorized as never-asthmatics (n=751), current controlled asthmatics (n=324) and current uncontrolled/partly controlled asthmatics (n=276) (following GINA guideline, based on day and night symptoms, need for reliever treatment, lung function, exacerbations). Associations between BMI (<25, ≥ 25 kg/m²) and asthma were evaluated using polytomous logistic regressions stratified by sex and adjusted for age, energy intake, physical activity, smoking, education and use of inhaled steroids. Among women (n=685), analyses were stratified according to early menarche (≤ 11 yrs, n=140).

46% of men and 30% of women were overweight/obese. In men, no associations were reported between overweight/obesity and asthma (OR(95%CI)=0.81(0.51-1.28); 1.09(0.62-1.90), respectively controlled and uncontrolled/partly compared to non asthmatics), whereas in women, a poorer control was associated with overweight/obesity (OR(95%CI)=1.27(0.74-2.20); 1.92(1.04-3.52), respectively controlled and uncontrolled/partly), especially among women with early menarche (OR(95%CI)=0.81(0.23-2.84); 4.47(1.08-18.56), respectively controlled and uncontrolled/partly).

Findings suggest that hormonal factors are involved in uncontrolled asthma.