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Title: Prospective cohort study of cured meat intake and asthma symptom score in the EGEA study

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Body: Cured meat intake may adversely affect lung function and increase the risk of chronic obstructive pulmonary disease. However, its association with incident asthma and asthma symptoms remains unknown. Because of the likely role of obesity in asthma, one challenge when investigating the role of diet components, such as cured meats, is how to properly consider body mass index (BMI) as a mediator.

We investigated the longitudinal association between cured meat intake and asthma symptom score in the French Epidemiological study on the Genetics and Environment of Asthma (EGEA), taking into account BMI as a mediator. Using a 118-item food frequency questionnaire at EGEA2 (2006), cured meat intake (i.e., sausages, dried sausage, ham) was estimated and categorized in 2 groups: <1 serving/week (18.7%), ≥1 serving/week. The change of the asthma symptom score (Pekkanen et al. 2005) between EGEA2 and EGEA3 (2012) was categorized in 2 groups: 1) better (decreased score) or identical, 2) worse (increased score). BMI (kg/m²) was measured at EGEA2. Associations were studied using a counterfactual approach mediation analysis.

We included 967 men and women (mean age 43 years). After adjustment for age, sex, smoking and other potential confounders, higher cured meat intake was associated with an increased asthma symptom score between EGEA2 and EGEA3 (OR [95%CI]=1.79[1.07-2.98]). This association was partly mediated by having a higher BMI (indirect effect
OR=1.06[1.01-1.14]), but remained significant after taking into account BMI as a mediator (direct effect OR=1.69[1.00-2.82]).

Higher cured meat intake was associated with an increase in the asthma symptom score over time, independently of BMI.