Early food allergy and respiratory allergy symptoms, and attention-deficit/hyperactivity disorder in Chinese children: a cross-sectional study.


Abstract

BACKGROUND:
The relationship between food allergy and respiratory allergy, and attention-deficit/hyperactivity disorder (ADHD) in children is rarely investigated. Our objective is to determine whether early food allergy and respiratory allergy symptoms are associated with the prevalence of ADHD in Chinese school-age children.

METHODS:
This cross-sectional study was conducted in school-age children using cluster-stratified methods from nine cities across China between November and December 2005. A family and social environmental questionnaire including the diagnosis history of ADHD and allergic diseases (food allergy, allergic rhinitis and bronchial asthma), as well as general information was completed by parents.

RESULTS:
The prevalence of allergic rhinitis (20.4%) and asthma (11.6%) in the food allergy group were both significantly higher than in the non-food allergy group (9.0% and 2.8%, respectively) (both P <0.001). The multivariable analysis showed that single food allergy (OR=1.53, 95%CI: 1.13-2.05, P=0.005), food allergy complicated with allergic rhinitis or asthma (OR=3.36, 95%CI: 2.19-5.14, P<0.001), and food allergy complicated with allergic rhinitis and asthma simultaneously (OR=4.08, 95%CI: 2.05-8.11, P<0.001) were independently associated with the increased risk of ADHD.

CONCLUSIONS:
Early food allergy is associated with ADHD in school-age children. Early food allergy and respiratory allergy symptoms independently and synergistically contributed to higher risk of ADHD. Monitoring food allergy in early life could help the early prediction and intervention for the consequent allergy march and ADHD in children.