

study include the use of *International Classification of Diseases, Ninth Revision* codes to establish allergy issues. For food allergies, these codes can reflect an intolerance, adverse reaction, or sensitization, in addition to immunoglobulin E-mediated allergic reactions. For other allergy issues, a diagnosis of asthma or allergic rhinitis may not have been confirmed by spirometry or allergy testing. Compliance with antibiotic prescriptions could also not be studied. However, the strengths of this study include the large sample size and the use of physician diagnosis of allergic issues in relation to antibiotic orders. Consultation or protopathic (reverse-causality) bias alone cannot account for the associations between early-life antibiotic use and subsequent diagnoses of food allergies and other allergic issues.

REVIEWER COMMENTS. Children with and without allergies have differences in their microbiota. Antibiotic use in early life has been linked to disruptions in the microbiome. The increase in the prevalence of allergies has paralleled the use of broad-spectrum antibiotics among children. This study adds to the literature supporting judicious use of antibiotics in early life.

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Association Between Medication Prescription for Atopic Diseases and Attention-Deficit/Hyperactivity Disorder

van der Schans J, Pleiter JC, de Vries TW, et al. *Ann Allergy Asthma Immunol.* 2016;117(2):186–191

PURPOSE OF THE STUDY. To determine if children with attention-deficit/hyperactivity disorder (ADHD) were more likely than matched controls to have been previously managed for atopic diseases. Furthermore, the authors sought to study the effect on children's ADHD medication use when parents were in treatment for ADHD and atopic diseases.

STUDY POPULATION. Children 6 to 12 years of age and their parents from a northern region of the Netherlands were included.

METHODS. This was a retrospective case-control study of children identified via regional pharmacy dispensing data from 1994 and 2013. The cases of the children reviewed had at least 2 prescriptions of methylphenidate within a 1-year period. Each child with ADHD was matched to 4 controls on the basis of sex, date of birth, and location. Parental prescription data for ADHD and atopic diseases were linked to the children with ADHD and controls. Data were analyzed by using conditional logistic regression and multivariable conditional logistic regression models.

RESULTS. A total of 4257 cases of children treated for ADHD and 17 028 corresponding controls were found. The

mean age of the children on ADHD medication was 8.3 years, and the group was predominantly made up of boys (76.7%); similar findings were seen in the matched control group. Children on ADHD medications were more likely than controls to have received medications for asthma (odds ratio [OR]: 1.4; 95% confidence interval [CI]: 1.3–1.6), allergic rhinitis (OR: 1.4; 95% CI: 1.1–1.8), and eczema (OR: 1.3; 95% CI: 1.1–1.5). The children with ADHD were more likely to have a parent on ADHD medication when compared with the control group (OR: 3.8; 95% CI: 3.3–4.3). Parental use of medications for allergic rhinitis (OR: 1.3; 95% CI: 1.1–1.5) and asthma (OR: 1.2; 95% CI: 1.1–1.3), but not eczema (OR: 1.1; 95% CI: 1.0–1.2), was associated with their child receiving ADHD medication.

CONCLUSIONS. Children with a history of medically treated atopic disease are at an increased risk of receiving ADHD drug treatment. Additionally, if the parent of the child had taken medication for asthma or allergic rhinitis, the child was also at an increased risk of using ADHD medication. These findings imply a link between atopic disease and ADHD that may be based on inherited and/or environmental factors.

REVIEWER COMMENTS. As ADHD and atopic disease have almost synchronously increased in prevalence, questions into possible etiologies and/or links have been raised. Whether atopic disease is implicated as a causative factor in the etiology of ADHD or may be considered a strong risk factor in its development is not clear and requires further investigation. This study aids in increasing provider awareness that atopic disease may be linked to ADHD. Also, the importance of a thorough family history as means to providing proper anticipatory guidance to patients and families is stressed in this study.

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Associations of Physical Activity and Sedentary Behavior With Atopic Disease in United States Children

Strom MA, Silverberg JI. *J Pediatr.* 2016;174:247–253

PURPOSE OF THE STUDY. To determine the association of eczema, asthma, and hay fever with sedentary behavior, including television and/or video game usage, sports participation, and days of vigorous physical activity. The authors of the study also sought to determine if sleep disturbances modify these associations.

STUDY POPULATION. The study included 133 107 children aged 6 to 17 years enrolled in the 2003–2004 and 2007–2008 National Survey of Children's Health.

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