

Study finds antibiotics before age 2 associated with childhood health issues

November 16 2020



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In a retrospective case study, Mayo Clinic researchers have found that antibiotics administered to children younger than 2 are associated with several ongoing illnesses or conditions, ranging from allergies to obesity. The findings appear in *Mayo Clinic Proceedings*.

Using health record data from the Rochester Epidemiology Project, a population-based [research collaboration](#) in Minnesota and Wisconsin, researchers analyzed data from over 14,500 children. About 70% of the children had received at least one treatment with [antibiotics](#) for illness before age 2. Children receiving multiple [antibiotic treatments](#) were more likely to have multiple illnesses or conditions later in childhood.

Types and frequency of illness varied depending on age, type of medication, dose and number of doses. There also were some differences between boys and girls. Conditions associated with early use of antibiotics included asthma, [allergic rhinitis](#), weight issues and obesity, food allergies, [attention deficit hyperactivity disorder](#), celiac disease, and atopic dermatitis. The authors speculate that even though antibiotics may only transiently affect the microbiome, the collection of microbes in the body, this may have long-term health consequences.

"We want to emphasize that this study shows association—not causation—of these conditions," says Nathan LeBrasseur, Ph.D., a researcher at Mayo Clinic's Robert and Arlene Kogod Center on Aging and the study's senior author. "These findings offer the opportunity to target future research to determine more reliable and safer approaches to timing, dosing and types of antibiotics for children in this age group."

While recent data show an increase in some of the childhood conditions involved in the study, experts are not sure why. Other than the issue of multidrug resistance, antibiotics have been presumed safe by most pediatricians.

Researchers also say the ultimate goal is to provide practical guidelines for physicians on the safest way to use antibiotics early in life.

More information: Zaira Aversa et al, Association of Infant Antibiotic Exposure With Childhood Health Outcomes, *Mayo Clinic*

Proceedings (2020). [dx.doi.org/10.1016/j.mayocp.2020.07.019](https://doi.org/10.1016/j.mayocp.2020.07.019)

Provided by Mayo Clinic

Citation: Study finds antibiotics before age 2 associated with childhood health issues (2020, November 16) retrieved 26 June 2024 from <https://medicalxpress.com/news/2020-11-antibiotics-age-childhood-health-issues.html>

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