

City kids more likely to have food allergies than rural ones

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Children living in urban centers have a much higher prevalence of food allergies than those living in rural areas, according to a new study, which is the first to map children's food allergies by geographical location in the United States. In particular, kids in big cities are more than twice as likely to have peanut and shellfish allergies compared to rural communities.

The study will be published in the July issue of *Clinical Pediatrics*.

"We have found for the first time that higher population density corresponds with a greater likelihood of food allergies in [children](#)," said lead author Ruchi Gupta, M.D., an assistant professor of pediatrics at Northwestern University Feinberg School of Medicine and a physician at the Ann & Robert H. Lurie Children's Hospital of Chicago (formerly Children's Memorial). "This shows that environment has an impact on developing food allergies. Similar trends have been seen for related conditions like asthma. The big question is - what in the environment is triggering them? A better understanding of environmental factors will help us with prevention efforts."

Gupta, also a researcher at the Institute for Healthcare Studies at the Feinberg School, said some of her future research will focus on trying to identify the environmental causes.

The study included 38,465 children, 18 years and under, who comprised a representative sample of U.S. households. Their food allergies were mapped by ZIP code. Here are the key findings of the study:

- In urban centers, 9.8 percent of children have food allergies, compared to 6.2 percent in [rural communities](#), almost a 3.5 percent difference.
- Peanut allergies are twice as prevalent in

urban centers as in rural communities, with 2.8 percent of children having the allergy in urban centers compared to 1.3 percent in rural communities. Shellfish allergies are more than double the prevalence in urban versus rural areas; 2.4 percent of children have shellfish allergies in urban centers compared to 0.8 percent in rural communities.

- Food allergies are equally severe regardless of where a child lives, the study found. Nearly 40 percent of food-allergic children in the study had already experienced a severe, life-threatening reaction to food.
- The states with the highest overall prevalence of food allergies are Nevada, Florida, Georgia, Alaska, New Jersey, Delaware, Maryland and the District of Columbia.

The study controlled for household income, race, ethnicity, gender and age. It tracked food allergy prevalence in urban centers, metropolitan cities, urban outskirts, suburban areas, small towns and [rural areas](#).

Food allergy is a serious and growing health problem. An estimated 5.9 million children under age 18, or one out of every 13 children, now have a potentially life-threatening food allergy, according to 2011 research by Gupta. A severe allergic reaction that can lead to death includes a drop in blood pressure, trouble breathing and swelling of the throat. A food-allergic reaction sends an American to the emergency room every three minutes, according to a March 2011 study published in the *Journal of Allergy and Clinical Immunology*.

Past research has shown an increased prevalence of asthma, eczema, allergic rhinitis and conjunctivitis in urban areas versus rural ones. One hypothesis is that exposure early in life to certain bacteria associated with rural living may protect

against hereditary hypersensitivity to certain allergens. Or, many pollutants encountered in urban areas may trigger the development of these allergies.

The Food Allergy Initiative (FAI), a nonprofit founded in 1998 by concerned parents and grandparents and the largest private funder of food allergy research in the world, provided financial support for this study.

"Dr. Gupta's ongoing research on food allergy prevalence among children in the U.S. is providing critical information to help us address the growing public health issue of food allergies," said Mary Jane Marchisotto, executive director of the [Food Allergy Initiative](#). "We are committed to finding a cure for food allergies and this study provides additional insight about why certain people have food allergies and others do not."

Provided by Northwestern University

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