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Asian American children 40% more likely to develop food allergy

Study is among first to evaluate allergic disease prevalence by ethnic subgroup

Asian Americans are the fastest growing racial group in the United States and their population of more than 22 million includes more than 20 ethnic subgroups such as Chinese, Korean, Indian and Hmong. Despite this, "there's a gaping lack of allergy data to guide decision-making [in diagnosis and treatment]," explained Charles Feng, MD, an allergist/immunologist in the San Francisco Bay Area. "Existing allergy research often overlooks Asian Americans or treats them as a monolith," he continued.

To address this, Feng and colleagues from Stanford University and Sutter Health (a large multipayer health care system in Northern California), conducted one of the first studies of subgroups of Asian American children under age 18. Using nearly 500,000 electronic health records, they determined rates, in aggregate and by subgroup, for four of the most common allergic conditions—eczema, food allergy, asthma and allergic rhinitis (hay fever).

Significantly greater risks of allergies

Study results showed Asian American children are 40% more likely to develop a food allergy than the general population of US children. Filipino, Vietnamese, Native Hawaiian and Pacific Islanders are particularly vulnerable.

In addition, food allergy rates vary markedly among Asian American subgroups, ranging from 2.9% among Indian American children to 8.2% among Filipino children. (The rate of food allergies in US white children is 5.8%.)

Cultural barriers to diagnosis and treatment

The study also showed that Asian American children are 30% less likely to be diagnosed with food allergies, despite their heightened vulnerability.

Co-author Anna Chen Arroyo, MD, MPH, a clinical associate professor of medicine at Stanford University, provided possible reasons. "Language barriers, limited familiarity with specialist services and cultural hesitancy to seek medical advice can impede access to allergy care. Families may not connect the reaction to a specific food or recognize it as anaphylaxis until it becomes severe. [In addition,] parents or doctors might overlook symptoms—especially those from communities where allergies are rarely discussed—and may not recognize warning signs."

In her practice, Gupta has found many Asian American families are not aware of new treatment options for food allergies. She concludes this highlights the importance of early diagnosis and education.

Even after a child is diagnosed with food allergies, they may face cultural hurdles. Arroyo believes that Asian American families experience a greater decrease in quality of life due to food allergies than other racial groups. She suggests this is partly because shared meals are cornerstones of community and tradition in many Asian cultures.

Additional findings showed:

- Vietnamese and Filipino children have substantially increased odds of having all four allergic diseases compared to the general US population as well as to other Asian American subgroups.
- Filipinos were almost twice as likely as white children to develop allergic rhinitis and asthma, almost four times as likely to develop eczema, and almost five times as likely to develop food allergies.
- Multi-ethnic Asians (i.e., Asian Americans with one Asian and one non-Asian parent) also had increased odds of developing all four conditions.
- East Asian children—Korean, Japanese and Chinese—had an increased risk of eczema and food allergy, but, surprisingly, a lower risk of asthma.

"Asian American populations, particularly when broken down into ethnic groups, have allergy health outcomes that are distinct from one another and quite different from those of other ethnicities. Each ethnic group has unique cultural and social characteristics," noted Feng. "Furthermore, huge income disparities among Asian American ethnic groups likely mask meaningful health differences between these groups. With our research results, we're highlighting not only an issue of medical interest, but also one of health equity affecting hundreds of thousands of Asian American children."

Feng and his colleagues also believe the information "will be useful for pediatricians, emergency room doctors and family practice doctors, who are often the first point-of-contact for evaluating children with allergic conditions."

Allergic disease causes unknown

The factors responsible for the higher prevalence of allergic disease in Asian American children are currently unclear.

Ruchi Gupta, MD, MPH, a pediatrician and allergist at Northwestern University, believes "the dramatic rise in allergies and disproportionate impact on Asian American children cannot be due to genetics alone because the timeframe of only a few decades is too short for significant genetic changes." In addition, her research among children in countries such as India has not identified the same allergy patterns observed in American children with similar ancestry.

"Most likely, a child's genes interact with environmental and dietary shifts," said study co-author Latha Palaniappan, MD, a physician and professor at the Stanford University School of Medicine who studies health disparities. "For instance, adopting Westernized diets may alter children's gut microbiomes, which play a key role in immune responses."

Considerations for future studies

The authors indicated allergies could be related to social factors such as immigration patterns, diet and acculturation status. They also suggested culture-specific practices like cooking methods might influence allergy patterns and should be investigated.

"By studying differences among diverse Asian populations, we may learn about new genetic pathways for these diseases," said Feng, "as Asians currently make up only 10% of genetic databases in the world, despite representing 60% of the world's population."

Few longitudinal studies include them," noted Gupta, which she calls a missed opportunity. "As the fastest-growing racial group in the US, Asian Americans provide a unique window into nationwide food allergy trends. Studying Asian Americans might uncover the missing link to rising allergy rates for all children," she added.

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Advocating to support allergic children and families

Sharon Wong has two sons, both of whom are allergic to a range of foods. During celebrations of the Chinese New Year, peanut-studded desserts and sesame-coated snacks that symbolize prosperity were life-threatening for one of the boys. Therefore, Wong worked to create allergen-safe versions of special dishes from her childhood. She also began hosting family gatherings and used the opportunities to educate her relatives about food safety. Now she publishes the blog Nut Free Wok, where she describes her experiences and shares allergen-friendly recipes. She has also successfully lobbied for legislation to improve access to EpiPens in schools.

When Ina Chung joined a Facebook group for parents of allergic children, she found support—as well as extensive misinformation about Asian American foods and blanket warnings to avoid all Asian restaurants. Believing those comments to be uninformed and stereotypic, she started an Instagram page, @theasianallergymom, where she addresses those misconceptions and posts about classic Asian foods. She has also published a children's book to help parents teach children about food allergies and self-advocacy.

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