

Experts 'baffled' by growing ranks of allergy sufferers

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(PhysOrg.com) -- More Americans than ever are suffering from allergies. As spring allergy season approaches, expert Maya Jerath explains what researchers do -- and do not -- know about why we get them.

If springtime breezes bring you sniffles, you can take comfort in the knowledge that you are not alone.

For reasons that researchers do not fully understand, allergies to pollen, dust, pet dander and food have become more prevalent among Americans in recent decades. Today, one out of every five Americans suffers from allergies, according to the Asthma and Allergy Foundation of America.

“We don't know why the incidence of allergies is on the rise,” said Maya Jerath, M.D., Ph.D., an assistant professor in the University of North Carolina at Chapel Hill School of Medicine and director of the UNC Allergy and Immunology Clinic.

Nor do researchers understand why an allergy develops in the first place. “That has baffled people and continues to baffle people in this field a lot,” she said.

An allergy is an immune reaction to a harmless substance, such as a [pollen grain](#) or [peanut](#) protein. Instead of ignoring the substance, the body produces antibodies to mount a fight against it. Allergy symptoms

can range from itchy eyes and sneezing to life-threatening anaphylactic reactions.

The causes of allergies remain elusive in part because the immune system's role is complex, Jerath said. The system must defend the body from countless foreign invaders in food, water and the air around you.

Significantly for allergy sufferers, the immune system must also learn to distinguish particles that are dangerous from those that are not. For most people, this learning occurs during early childhood.

“If it doesn't get adequate exposure to certain things, those regulatory mechanisms don't get set up,” Jerath said.

For that reason, some researchers believe that a lack of exposure to microorganisms early in life may precondition a person to allergies. This explanation, called the “hygiene hypothesis,” suggests that growing up surrounded by many other children, dirt or livestock helps the immune system develop a tolerance to harmless irritants.

The hypothesis is supported by experimental studies demonstrating that mice raised in sterile environments do not develop appropriate tolerance to food proteins, Jerath said. Meanwhile, epidemiological data shows that people in developing countries have fewer allergies than in industrialized nations.

But other scientists suggest that air pollution plays a role in causing allergies, Jerath said. If pollution is partly responsible, that could explain why people in developing countries are less likely to get them.

Regardless of the causes of allergies, researchers have made advances in treating allergy patients.

“We've learned a lot about how to do allergy shots correctly,” Jerath said.

Treatment with allergy shots is called immunotherapy. Each shot contains a small dose of the substance that triggers an allergic reaction. During the course of treatment, which can take three to five years, the dose is gradually increased, training the body to tolerate the substance.

Jerath said immunotherapy is effective for stinging insect allergies well as for environmental allergies such as pollen, dust and dander. Similar treatments for food allergies are still in the experimental phase.

Here are Jerath's other tips for dealing with allergies.

- If you think you suffer from a food allergy, it's worth getting an allergist's evaluation. Jerath said that 20 percent of people believe they have food allergies, but only 2 percent actually do. If a doctor can confirm that you are not allergic, you can return to eating food that you enjoy.
- If you plan to seek medical treatment for your allergies, take notes about what you think may be causing them. An allergist will go over your history to determine possible allergy triggers. He or she will also test you to see if your body produces antibodies to certain allergens.
- Once you know what you are allergic to, avoid it if possible. “No amount of treatment is superior to avoiding what it is that is causing the problem,” Jerath said.
- If medication does not work or if you can not tolerate the side effects, consider allergy shots. But Jerath said the time commitment required for [allergy](#) shots means that they are not for everyone. “We're asking a lot of the patient in terms of their time,” she said. “It's not something to be taken lightly.”

Provided by University of North Carolina at Chapel Hill School of Medicine

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