

Why are peanuts notorious for causing allergies?

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The average European has access to thousands of different kinds of food, yet some are more problematic than others. Dairy, shellfish, wheat and especially peanuts are high on the list of common allergens.

"You suffer from allergies against those foods that you eat more frequently," explains Díaz-Perales, professor of Biochemistry and Molecular Biology at the Polytechnic University of Madrid.

This is why food allergies tend to be geography-specific. Those countries that consume more nuts, tend to have higher levels of nut allergies.

In general, [plant foods](#) are more allergenic than animal foods, especially high-protein plants. How they are eaten also makes a difference. The United Kingdom has higher rates of peanut allergies than Spain, despite both eating large quantities of the food. Díaz-Perales suspects this is because the United Kingdom consumes more peanuts in a high-fat, processed form: as butter, oil, confectionaries and [snack foods](#).

Researchers are discovering that sensitivity to certain allergens doesn't necessarily start in the gut, but could be developed through the [respiratory tract](#), or even the skin—[vegetable oils](#) are a common base in cosmetics. After becoming sensitized, when people consume the food, they suffer from [allergic symptoms](#), says Díaz-Perales.

"The health of your skin is so relevant in preventing food allergies," she adds. Aggressive cleaning products can damage not only the microbiome—the collection of microorganisms that live all over our bodies—but also the protective more superficial layer of skin. "That allows allergens to enter and leads to sensitization to certain foods," she says.

Stress could also play a part: scientists are learning that the hormone system, [immune system](#) and neuronal development are all closely linked; any change in one has a knock-on effect in the others. So, it's possible our increasingly hectic lives are making us more susceptible.

Identifying allergens in advance

Díaz-Perales worked on the AllerScreening project developing an innovative test to diagnose food allergies.

The prevalence of food allergies has been rising dramatically in both developed and developing countries since the second half of the 20th century. There is a constant need for more accurate, faster ways to test for allergen sensitivities.

Díaz-Perales and her team developed a new device that quickly measures the amount of antibodies able to trigger an allergic response present in blood.

Unlike conventional skin prick tests, the new test can detect antibodies for over 20 different proteins from 12 different foods. This makes diagnosing patients with rare clinical histories far easier.

Yet countering the rise in food allergies will be a tougher nut to crack and will require a more complete understanding of how our environment, diet, microbiome and immune system interact. In the future, we may know how to adjust our diets (or even our skincare routine) to prevent us from developing allergies, while still enjoying all the foods the world has to offer.

Provided by CORDIS

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