Fast food linked to asthma and allergies

A new study shows that kids around the world who eat more fast food also have more severe asthma and allergies.

By Maggie Fox, Senior Writer, NBC News

Could fast food cause that runny nose? A study published on Monday suggests it may.

The gigantic study looks at 400,000 kids from 51 countries. It found that teens who ate the most fast food were 39 percent more likely to have severe asthma. Younger children who ate the most fast food were 27 percent more likely to have severe asthma, the researchers report in the journal Thorax.

The kids who ate the most fruit, on the other hand, lowered their risk. Children who ate three or more servings of fruit a week – far below the two to three servings a day that experts recommend eating – were 11 to 14 percent less likely to have severe symptoms.

"Our results suggest that fast food consumption may be contributing to the increasing prevalence of asthma, rhinoconjunctivitis and eczema in adolescents and children," the researchers, Innes Asher of the University of Auckland in New Zealand and Hywel Williams of the Centre for Evidence Based Dermatology at Britain's University of Nottingham, wrote.

If cause and effect are proved, they said, "then the findings have major public health significance owing to the rising consumption of fast foods globally."

The findings were consistent in rich and poor countries, among boys and girls, and in many different societies across Europe, Africa, the Americas and Asia.

Kids were shown a video of what an asthma attack looked like, and answered questions about what they had eaten recently, and also about whether they had recently suffered any asthma attacks, any rhinoconjunctivitis (runny eyes and nose) and the itchy skin condition eczema.

The researchers defined severe asthma as four or more attacks of wheeze in the past year, or at least one attack every week. "The three categories for food intake were: never or occasionally; once or twice per week; and three or more times per week," they added.

There were two groups of children – 6- and 7-year-olds, and 13-14 year-olds.

"For all centers combined, a consistently positive association was observed between all three conditions (current and severe) and intake of butter, fast food, margarine and pasta three or more times per week," Asher and Williams wrote. The strongest finding: the kids who ate fast food three times a week or more were most likely to have asthma, runny nose and eczema.

Asthma and allergies are definitely on the rise, especially in developed countries, the researchers noted.

"Many developing countries are moving away from the traditional diet of locally grown foods as they become more westernized," they added.

There's the "hygiene hypothesis" of allergies – the idea that people's immune systems are out of whack because children are no longer exposed to various microbes and parasites, from worms to germs, and thus over-react to harmless stimuli.

But there are also possible biological explanations for how fast food might cause a rise in allergies and asthma, too, the researchers point out.

"There is a whole bunch of evidence out there suggesting a plausible link between foods and asthma, " Williams said by email.

"Saturated fatty acids, for example, have been shown to influence immune regulation in the body, and there is also some evidence to suggest a link between trans-fatty acids (found in margarine for example) and asthma. Or it could be something else such as sodium content (from salt), or sugar or carbs or even preservatives. We are just not sure, but the link through fatty acids seems the most plausible based on existing evidence."

Many processed foods are rich in linoleic acid – one of the omega-6 fatty acids found in vegetable oils. It's essential for health but it can displace another essential fatty acid, omega-3 fatty acid. These in turn, can affect the immune system, the researchers said.

Studies are also beginning to show that diet strongly affects the microbes living in and on the body, and that these so-called microflora can influence a person's tendency to allergy and asthma.

"Current information on vitamins, minerals and prenatal diet and antioxidants show relationships between low levels of vitamins A and C and increased symptoms of asthma, and the beneficial effects of consuming a Mediterranean diet characterized by higher consumption of whole grain cereals, oily fish, wine, fruits, nuts, legumes and olive oil showing less evidence of hay fever, skin allergy and wheezing," they wrote.

"Maternal diet during pregnancy has the potential to influence fetal immune and airway development," they added.

Studies have also implicated sugar in the diet.

Could kids who eat fast food also be more likely to live in the urban environments that are either too clean – supporting the hygiene hypothesis – or over-polluted?

"Absolutely, yes, but we did adjust for gender, region of the world, language and per capita gross national income," Williams said. "There could of course be other factors that confound the relationship between recalled food intake and severe allergic disease, but it is unlikely to be pollution as it has not emerged as a strong or consistent predictor of allergic diseases," Williams added.

"What surprised me in this study was that the findings are remarkably consistent when it comes to looking at specific regions of the world and within the different levels of affluence and sex."