Medical Xpress

Serious allergic reactions to food among children stabilize since guideline changes

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The rate of increase in serious allergic reactions to food among children has flattened since changes to Australian infant feeding guidelines. Credit: Kamran Aydinov

The rate of increase in serious allergic reactions to food among children

has flattened since changes to Australian infant feeding guidelines, a new study has found.

The research, led by the Murdoch Children's Research Institute (MCRI) and the John James Medical Centre and published in *The Journal of Allergy and Clinical Immunology*, stated the rising rates of hospital admissions for food anaphylaxis (serious allergic reactions) had stabilized in young children and teenagers in Australia since 2008.

MCRI Professor Mimi Tang said the study was the first real-world evidence to show that updates to allergy prevention and infant feeding guidelines were having a measurable impact on the population prevalence of food anaphylaxis.

Australasian Society of Clinical Immunology and Allergy (ASCIA) infant feeding and food allergy prevention guidelines changed in response to published studies over the past 15 years, from a recommendation to 'delay' allergenic foods (1999 to 2007) to 'not delay' (2008) and then later to 'introduce early and often' (since 2016).

In the 1990s most guidelines recommended avoiding allergenic foods until age 1-3 years and avoidance of these foods in infancy became widespread. By 2008, this advice was removed in Australia and New Zealand based on increasing evidence that delaying allergenic foods had been associated with an increased food allergy risk.

John James Medical Centre Dr. Raymond Mullins said the rise in food allergy rates among Australian children appeared to have stabilized after a steady increase over several decades.

"Before 2008, we saw large year-on-year increases in admission rates, a bit like compound interest. But now we are seeing a flattening of the curve," he said.

"In children, aged 1 to 4 years, the yearly rate of increase dropped from 17.6 percent a year between 1999 to 2007, to 6.2 percent a year between 2008 to 2015 and then 3.9 percent a year since 2016.

"A slowing in the rates of increase in food anaphylaxis admissions also occurred in those aged 5-14 years, born after the 2008 changes. These changes were not seen in older teens aged 15 and over who were born before 2008, who could not have benefited from the changing guidelines.

"Whilst we did see a spike in children aged less than one year, this is most likely due to earlier hospital presentations of pre-existing food allergy following introduction of allergenic solids in the first year of life."

The study examined national emergency department data for food anaphylaxis during three different time periods from 1998-1999 and 2006-2007, between 2007-2008 and 2014-2015 and between 2015-2016 and 2018-2019. A total of 37,132 anaphylaxis admissions were recorded over the timespan.

Professor Tang said it was important not to be complacent as overall food anaphylaxis hospital admission rates had still increased and there was an unmet need for effective treatments that could induce remission.

"The absence of an absolute drop in anaphylaxis admissions is disappointing, although it is possible that other environmental factors such as microbial exposures, diet and vitamin D levels may be driving the increased admission rates," she said.

"It's a positive sign that changes to Australasian guidelines have led to earlier introduction of common allergy causing foods and that most parents have access to reliable advice. But even if early introduction of

common allergy causing foods partially reduces the risk of food allergy development, there will still be children who develop food allergy and many children and adults already have food allergy, so we need to also work towards finding effective treatments."

The results come after a MCRI led study last year also found changes to the guidelines had led to a 16 percent decrease in peanut allergy among infants and noted a significant increase in parents introducing peanut into their babies' diet.

More information: Raymond James Mullins et al, Changes in Australian food anaphylaxis admission rates following introduction of updated allergy prevention guidelines, *Journal of Allergy and Clinical Immunology* (2022). DOI: 10.1016/j.jaci.2021.12.795

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