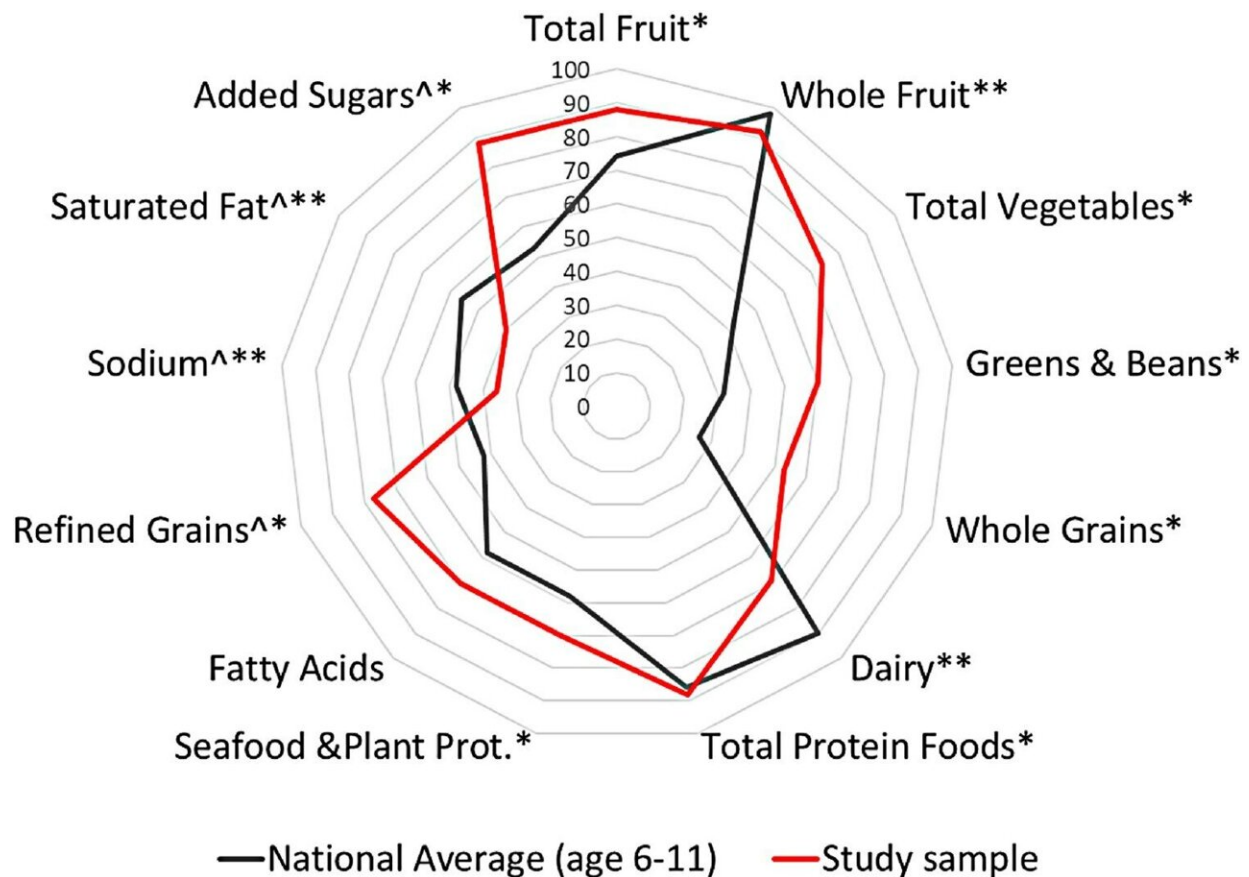


# Diet plays key role in ADHD symptoms in children

May 19 2022, by Jeff Grabmeier



Relationship between ADHD symptom severity and diet quality in children. The median CASI-5 symptom score for the group at baseline for inattention was 2.2 (IQR: 1.9–2.7) and for hyperactivity/ impulsivity was 1.9 (IQR: 1.3–2.3). The results of the regression analysis between diet quality scores and ADHD symptom severity are shown in Table 2. The severity of inattention and hyperactivity-impulsivity symptoms were not associated with the HEI-2015 Total Score (Table 2). In further analysis using the dietary component scores,

vegetables ( $\beta = -0.118$ ,  $p = .004$ ) and total fruit ( $\beta = -0.158$ ,  $p = .037$ ) intakes were found to be negatively associated with inattention, while refined grains component score was positively associated with inattention ( $\beta = 0.056$ ,  $p = .012$ ), even after adjusting for potential covariates of gender, household income, and parent education. Credit: *Nutritional Neuroscience* (2022). DOI: 10.1080/1028415X.2022.2071805

Here's a good reason for children with attention deficit hyperactivity disorder (ADHD) to eat their fruits and vegetables: It may help reduce inattention issues, a new study suggests.

As part of a larger study, researchers asked parents of 134 kids with ADHD symptoms to complete a detailed questionnaire about the typical foods the [children](#) ate, including portion sizes, over a 90-day period.

Another questionnaire asked parents to rate symptoms of inattention—a hallmark of ADHD—in their kids, such as having trouble staying focused, not following instructions, difficulty remembering things, and difficulty regulating emotions.

Results showed that kids who consumed more fruits and vegetables showed less severe symptoms of inattention, said Irene Hatsu, co-author of the study and associate professor of human nutrition at The Ohio State University.

"Eating a healthy diet, including fruits and vegetables, may be one way to reduce some of the symptoms of ADHD," Hatsu said.

The study was published online recently in the journal *Nutritional Neuroscience*.

The data for this research was collected as part of the Micronutrients for ADHD in Youth (MADDY) Study, which examined the efficacy of a 36-ingredient vitamin and mineral supplement to treat symptoms of ADHD and poor emotional control in the 134 kids aged 6 to 12.

The study that evaluated the effectiveness of the supplement showed that children who took the micronutrients were three times as likely to show significant improvement in their ADHD and emotional dysregulation symptoms than those who took a placebo. That study was published last year in the [\*Journal of the American Academy of Child and Adolescent Psychiatry\*](#).

Another study involving the same children, published earlier this year in the journal [\*Nutrients\*](#), showed that kids whose families had higher levels of [food insecurity](#) were more likely than others to show more severe symptoms of emotional dysregulation, such as chronic irritability, angry moods and outbursts of anger.

The three studies all paint a similar picture, Hatsu said: A [healthy diet](#) that provides all the nutrients that children require can help reduce the symptoms of ADHD in children.

"What clinicians usually do when kids with ADHD start having more [severe symptoms](#) is increase the dose of their treatment medication, if they are on one, or put them on medication," Hatsu said.

"Our studies suggest that it is worthwhile to check the children's access to [food](#) as well as the quality of their diet to see if it may be contributing to their symptom severity."

Children in the MADDY study, all of whom met the criteria for ADHD, were recruited from three sites: Columbus, Ohio; Portland, Oregon; and Lethbridge, Alberta, Canada. The study took place between 2018 and

2020. Participants were either not taking medication or stopped using it two weeks before the study began.

The studies on fruit and vegetable intake and the role of food insecurity were based on data collected when the children were first enrolled in the study, before they began taking the micronutrient supplement or placebo.

## **Why may diet be so important in ADHD?**

Researchers believe that ADHD is related to low levels of some neurotransmitters in the brain—and vitamins and minerals play a key role as cofactors in helping the body make those important neurochemicals and in overall brain function, Hatsu said.

Food insecurity may play an additional role.

"Everyone tends to get irritated when they're hungry and kids with ADHD are no exception. If they're not getting enough food, it could make their symptoms worse," she said.

Also, the stress of parents who are upset about not being able to provide enough food for their children can create family tension that could lead to more symptoms for children with ADHD.

The MADDY study is one of the first to look at the relationship between ADHD symptoms and diet quality among children in the United States and Canada, Hatsu said.

That's important because Western diets are more likely than many others, such as the Mediterranean diet, to fall short on fruit and vegetable intake, she said.

"We believe clinicians should assess the food security status of children with ADHD before creating or changing a treatment program," Hatsu said.

"Some symptoms might be more manageable by helping families become more food secure and able to provide a healthier diet."

**More information:** Lisa M. Robinette et al, Fruit and vegetable intake is inversely associated with severity of inattention in a pediatric population with ADHD symptoms: the MADDY Study, *Nutritional Neuroscience* (2022). [DOI: 10.1080/1028415X.2022.2071805](https://doi.org/10.1080/1028415X.2022.2071805)

Provided by The Ohio State University

Citation: Diet plays key role in ADHD symptoms in children (2022, May 19) retrieved 14 March 2023 from <https://medicalxpress.com/news/2022-05-diet-key-role-adhd-symptoms.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.