

Study finds children with vegetarian diet have similar growth and nutrition compared to children who eat meat

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A study of nearly 9,000 children found those who eat a vegetarian diet had similar measures of growth and nutrition compared to children who

eat meat. The study, published in *Pediatrics* and led by researchers at St. Michael's Hospital of Unity Health Toronto, also found that children with a vegetarian diet had higher odds of underweight weight status, emphasizing the need for special care when planning the diets of vegetarian kids.

The findings come as a shift to consuming a plant-based diet grows in Canada. In 2019, updates to [Canada's Food Guide](#) urged Canadians to embrace plant-based proteins, such as beans and tofu, instead of meat.

"Over the last 20 years we have seen growing popularity of plant-based diets and a changing food environment with more access to plant-based alternatives, however we have not seen research into the nutritional outcomes of children following [vegetarian diets](#) in Canada," said Dr. Jonathon Maguire, lead author of the study and a pediatrician at St. Michael's Hospital of Unity Health Toronto.

"This study demonstrates that Canadian children following vegetarian diets had similar growth and biochemical measures of nutrition compared to children consuming non-vegetarian diets. Vegetarian diet was associated with higher odds of underweight weight status, underscoring the need for careful dietary planning for children with underweight when considering vegetarian diets."

Researchers evaluated 8,907 children age six months to eight years. The children were all participants of the [TARGet Kids!](#) cohort study and data was collected between 2008 and 2019. Participants were categorized by vegetarian status—defined as a [dietary pattern](#) that excludes meat—or non-vegetarian status.

Researchers found children who had a [vegetarian diet](#) had similar mean body mass index (BMI), height, iron, vitamin D, and [cholesterol levels](#) compared to those who consumed meat. The findings showed evidence

that children with a vegetarian diet had almost two-fold higher odds of having underweight, which is defined as below the third percentile for BMI. There was no evidence of an association with overweight or obesity.

Underweight is an indicator of undernutrition, and may be a sign that the quality of the child's diet is not meeting the child's [nutritional needs](#) to support normal growth. For children who eat a vegetarian diet, the researchers emphasized access to [healthcare providers](#) who can provide growth monitoring, education and guidance to support their growth and nutrition.

International guidelines about vegetarian diet in infancy and childhood have differing recommendations, and past studies that have evaluated the relationship between vegetarian diet and childhood growth and [nutritional status](#) have had conflicting findings.

"Plant-based dietary patterns are recognized as a healthy eating pattern due to increased intake of fruits, vegetables, fiber, whole grains, and reduced saturated fat; however, few studies have evaluated the impact of vegetarian diets on childhood growth and nutritional status. Vegetarian diets appear to be appropriate for most children," said Dr. Maguire, who is also a scientist at MAP Centre for Urban Health Solutions at St. Michael's Hospital.

A limitation of the study is that researchers did not assess the quality of the vegetarian diets. The researchers note that vegetarian diets come in many forms and the quality of the individual diet may be quite important to growth and nutritional outcomes. The authors say further research is needed to examine the quality of vegetarian diets in childhood, as well as growth and nutrition outcomes among [children](#) following a [vegan diet](#), which excludes meat and animal derived products such as dairy, egg, and honey.

More information: Laura J. Elliott et al, Vegetarian Diet, Growth, and Nutrition in Early Childhood: A Longitudinal Cohort Study, *Pediatrics* (2022). DOI: 10.1542/peds.2021-052598

Provided by St. Michael's Hospital

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