

High-quality diet in early life may curb subsequent inflammatory bowel disease risk

January 30 2024



Credit: Pixabay/CC0 Public Domain

A high-quality diet at the age of one may curb the subsequent risk of inflammatory bowel disease, suggests a large long-term study, published online in the journal *Gut*.

Plenty of fish and vegetables and minimal consumption of sugar-sweetened drinks at this age may be key to protection, the findings indicate. A linked editorial suggests that it may now be time for doctors to recommend a 'preventive' diet for infants, given the mounting evidence indicative of biological plausibility.

Cases of inflammatory bowel disease (IBD), which includes Crohn's disease and ulcerative colitis, are increasing globally. Although there is no obvious explanation for this trend, changes in dietary patterns are thought to have a contributory role, because of their impact on the gut microbiome.

While various studies have looked at the influence of diet on IBD risk in adults, there is little in the way of research on the potential influence of early childhood diet on risk.

In a bid to plug this [knowledge gap](#), the researchers drew on [survey data](#) from the All Babies in Southeast Sweden study (ABIS) and The Norwegian Mother, Father and Child Cohort Study (MoBa). ABIS includes 21,700 children born between October 1997 and October 1999; MoBa includes 114,500 children, 95,200 mothers, and 75,200 fathers recruited from across Norway between 1999 and 2008.

Parents were asked specific questions about their children's diet when they were aged 12–18 months and 30–36 months. The final analysis included dietary information for 81,280 1-year-olds: 11,013 (48% girls) from ABIS and 70,267 (49% girls) from MoBa.

Diet quality, gleaned from measuring intake of meat, fish, fruit, vegetables, dairy, sweets, snacks, and drinks, was assessed using a modified version of the Healthy Eating Index (HEI) scoring system, adapted for children. The weekly frequency of specific food groups was also assessed.

Higher diet quality—a higher intake of vegetables, fruit, and fish, and a lower intake of meat, sweets, snacks, and drinks—was reflected in a higher HEI score. The total score was divided into thirds to indicate a low, medium, or high quality diet.

Data on age at weaning, antibiotic use, and formula feed intake were also reported at age 12 (ABIS) and 18 months (MoBa). The children's health was monitored for an average of 21 (ABIS) and 15 (MoBa) years from the age of one until 31 December 2020–21.

During this period, 307 children were diagnosed with IBD (131 with Crohn's disease; 97 with ulcerative colitis; and 79 with unclassified IBD). The average age at diagnosis was 17 (ABIS) and 12 (MoB).

Medium and high-quality diets at the age of one were associated with an overall 25% lower risk of IBD compared with a low-quality diet at this age, after adjusting for potentially influential factors, such as parental history of IBD, the child's sex, ethnic origin, and education and co-existing conditions in the mother.

Specifically, high fish intake at the age of one was associated with a lower overall risk compared with its opposite, and a 54% lower risk of ulcerative colitis in particular. Higher vegetable intake at one year of age was also associated with a reduced risk of IBD. On the other hand, consumption of sugar-sweetened drinks was associated with a 42% heightened risk.

There were no obvious associations between any of the other food groups, including meat, dairy, fruit, grains, potatoes and foods high in sugar and/or fat, and overall IBD or Crohn's disease or ulcerative colitis risks.

By the age of 3, only high fish intake was associated with reduced IBD

risk, and ulcerative colitis in particular. The findings remained unchanged after accounting for [household income](#) and the child's formula intake and antibiotic use by the age of 1.

This is an observational study, and as such, can't establish cause. And the researchers acknowledge that while the ABIS participation rate was high (79%), it was only 41% for MoBa. And because Sweden and Norway are two high-income countries, findings may not be generalizable to low- or [middle-income countries](#) with other dietary habits, they add.

"While non-causal explanations for our results cannot be ruled out, these novel findings are consistent with the hypothesis that early-life diet, possibly mediated through changes in the gut microbiome, may affect the risk of developing IBD," they conclude.

In a linked editorial, gastroenterologist Dr. Ashwin Ananthakrishnan of Massachusetts General Hospital, Boston, U.S., cautions that the questionnaires didn't capture elements, such as additives and emulsifiers which are common in baby food, and which may contribute to the development of IBD.

Accurate measures of food intake in infants and young children are inherently fraught with difficulty, he adds.

But he goes on to say that it may nevertheless be time to recommend a 'preventive' diet, particularly as this is likely to have other health benefits.

"Despite the absence of gold standard interventional data demonstrating a benefit of dietary interventions in preventing disease, in my opinion, it may still be reasonable to suggest such interventions to motivated individuals that incorporate several of the [dietary patterns](#) associated with lower risk of IBD from this and other studies.

"This includes ensuring adequate dietary fiber, particularly from fruit and vegetables, intake of fish, minimizing [sugar-sweetened beverages](#) and preferring fresh over processed and ultra-processed foods and snacks."

More information: Early-life diet and risk of inflammatory bowel disease: a pooled study in two Scandinavian birth cohorts, *Gut* (2024). DOI: [10.1136/gutjnl-2023-330971](https://doi.org/10.1136/gutjnl-2023-330971)

Provided by British Medical Journal

Citation: High-quality diet in early life may curb subsequent inflammatory bowel disease risk (2024, January 30) retrieved 27 April 2024 from <https://medicalxpress.com/news/2024-01-high-quality-diet-early-life.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.