

Precision nutrition in pediatric IBD: A position paper from the ESPGHAN special interest group for basic science and translational research, the IBD Porto group, and allied health professionals

Gerasimidis, Konstantinos; Russell, Richard K.; Giachero, Federica; More

Journal of Pediatric Gastroenterology and Nutrition. 78(2):428-445, February 2024.

Stratified and precision nutrition refers to disease management or prevention of disease onset, based on dietary interventions tailored to a person's characteristics, biology, gut microbiome, and environmental exposures. Such treatment models may lead to more effective management of inflammatory bowel disease (IBD) and reduce risk of disease

- [Abstract](#)
- Favorite
- [Permissions](#)

Stratified and precision nutrition refers to disease management or prevention of disease onset, based on dietary interventions tailored to a person's characteristics, biology, gut microbiome, and environmental exposures. Such treatment models may lead to more effective management of inflammatory bowel disease (IBD) and reduce risk of disease development. This societal position paper aimed to report advances made in stratified and precision nutritional therapy in IBD. Following a structured literature search, limited to human studies, we identified four relevant themes: (a) nutritional epidemiology for risk prediction of IBD development, (b) food-based dietary interventions in IBD, (c) exclusive enteral nutrition (EEN) for Crohn's disease (CD) management, and (d) pre- and probiotics for IBD management. There is scarce literature upon which we can make recommendations for precision or stratified dietary therapy for IBD, both for risk of disease development and disease management. Certain single-nucleotide polymorphisms related to polyunsaturated fatty acid (PUFA) metabolism may modify the effect dietary PUFA have in increasing the risk of IBD development. Non-colonic CD, mild-to-moderate CD, and high microbiota richness may predict success of EEN and may be used both for prediction of treatment continuation, but also for early cessation in nonresponders. There is currently insufficient evidence to make recommendations for precision or stratified dietary therapy for patients with established IBD. Despite the great interest in stratified and precision nutrition, we currently lack data to support conclusive recommendations. Replication of early findings by independent research groups and within structured clinical interventions is required.

What is Known

- Diet has long been implicated in the pathogenesis of inflammatory bowel disease (IBD), although this relationship is complex and difficult to decipher.
- Epidemiology points to potentially harmful and beneficial nutrients, from a Western and Mediterranean type diets, respectively, modifying risk of development of IBD.

What is New

- There is currently no data to propose modifiers of the influence of dietary factors in increasing risk of developing IBD. The only exception is for single-nucleotide polymorphisms related to polyunsaturated fatty acid metabolism, which needs replication in independent cohorts.
- There is currently no evidence to make recommendations for precision or stratified dietary therapy for patients with established IBD. Laboratories and commercial enterprises offering such services to people with IBD should be mandated to provide the evidence base supporting their commercial services.