



Slowly filling the gaps in our approach to diet and nutrition in inflammatory bowel diseases

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Malnutrition is an underrecognized complication among patients with inflammatory bowel diseases (IBD) and despite that, it has been reported to affect 16% of patients with IBD (1). Malnutrition is at least 5 times more prevalent among hospitalized patients with IBD compared to patients without IBD (2). Poor outcomes including increased rates of hospitalization, increased surgeries as well as lower response to medical treatment have been associated with malnutrition (2). Patients with Crohn's disease (CD) and ulcerative colitis (UC) suffer from malnutrition due to reduced oral intake, malabsorption, increased energy and protein requirements and an increase in nutritional losses associated with inflammatory states. Most societies recommend screening for malnutrition at IBD diagnosis and routinely during follow up. However, guidance about diet in IBD is often controversial and represents a challenge for care providers as well as patients. The role of diet has been investigated as a risk factor for IBD etiopathogenesis, as a potential therapy for active disease and as a supportive measure in the ill malnourished patient. The newly published European Society for Clinical Nutrition and Metabolism (ESPEN) guidelines on Clinical Nutrition in IBD (3) present an updated advancement in establishing strategies for nutritional management of patients with IBD.

In the area of prevention of IBD, certain factors like breastfeeding and a high intake of n-3 polyunsaturated fatty acids (PUFAs), such as marine based fish and fish oil, may have a protective role against the development of

UC, while increased consumption of sucrose, animal fat, cholesterol, and linoleic acid might increase the risk (3,4). As for CD, breastfeeding and a fiber-rich diet could protect against disease development, while a high intake of sucrose, saturated fat, monosaccharides, and prolonged consumption of fast food are considered risk factors for CD (3,4). As such, the question to be raised here is if a special diet has a more pronounced effect in decreasing the incidence of IBD in high risk patients such as those with relatives who have IBD? This question remains to be answered.

The ESPEN guidelines re-emphasize the need to assess nutritional status of patients with IBD soon after their diagnosis with IBD and regularly thereafter using validated screening tools (3). It is of utmost importance for registered dietitians to be involved early in the assessment of nutritional status, diagnosis, and management of malnutrition (5). Serum albumin level alone is not a reliable measure of malnutrition and should not be relied on in the diagnosis of malnutrition (5). Instead, malnutrition is diagnosed based on different criteria such as the Global Leadership Initiative on Malnutrition (GLIM) criteria, ESPEN criteria, and others (6). Regarding micronutrient deficiencies, the ESPEN guidelines address specific deficiencies, and offer a range of nutritional interventions for patients with IBD (3).

The ESPEN does not recommend a specific oral IBD diet to induce remission in patients with active disease, however, in adult patients with mild to moderate CD,

complete exclusive enteral nutrition (EEN) or a CD exclusion diet (CDED) can be considered. The use of a standard nutritional approach in the management of IBD is hampered by the variability in individual responses to the different dietary interventions which could be influenced by age, stage of life, sex, genomics, lifestyle, preference, and pleiotropy (7). As such, an individualized nutritional approach may be the ideal diet strategy for patients with CD (8). In certain situations, parenteral nutrition should be utilized, and again a personalized plan should be advocated for (5,9).

One new section in the recent ESPEN guidelines pertains to the microbiome and the use of prebiotics, probiotics and fecal microbiota transplantation (FMT) in the management of IBD. According to ESPEN, prebiotics play no beneficial role in IBD management. Although probiotics are not recommended for patients with CD at any stage of their disease, select probiotics may be considered in patients with mild to moderate UC who could not tolerate 5-aminosalicylic acid (5-ASA) (3) and in line with recent American Gastroenterological Association (AGA) pouchitis guidelines, multistrain probiotics can be considered to prevent pouchitis in patients with recurrent antibiotic responsive pouchitis (10). No recommendation was made for or against FMT in the management of IBD, although a recent meta-analysis demonstrated a clinical and endoscopic benefit of FMT in patients with active UC (11).

Although nutritional therapy is important in IBD, as evident in the ESPEN guidelines, its implementation in the real world setting faces challenges, especially when it comes to long term adherence. Palatability of these formulations, associated expenses, and the craving for 'regular' foods are other reasons that impact adherence. Additionally, the dietary recommendations in the ESPEN guidelines might not always align with cultural or regional dietary habits which may further contribute to poor patient adherence. Variations to accessibility of these formulations and registered dietician expertise across different regions may be lacking especially for patients with limited healthcare resources and infrastructure.

ESPEN is recognized for its expertise in nutritional management of IBD, however insufficient evidence for the recommendations could pose potential drawbacks. Of the 71 guidelines, 30 received a grade of recommendation of good practice points (GPP) and 22 received a grade of recommendation of 0, which were decided according to the levels of evidence assigned. GPP are based on experts'

opinions due to the lack of studies, for which the choice of wording was not restricted and grade 0 is low level of evidence and indicated by the word "can" or "may". The lack of clear evidence might lead to misinterpretations of the guidelines. The lack of robust evidence leads to insufficient data which might also result in lower confidence among healthcare professionals in implementing ESPEN's recommendations and may affect the confidence of patients in following these recommendations. Thus, it is crucial to continually update the guidelines based on new research and scientific evidence to maximize the quality of care for patients with IBD.

In line with the recently published ESPEN guidelines, nutritional interventions not only correct nutritional deficiencies, but also improve symptoms and the clinical course of IBD (12). Although not part of the ESPEN guidelines, the importance of enhancing the overall well-being of patients with IBD should be emphasized particularly pertaining to emotional, mental, and stress-related factors. This is important as stress may overshadow or interfere with the effectiveness of implemented therapies, whether the intervention is medical or nutrition related. A number of nutrients are needed to lower the body's levels of stress chemicals, such as adrenaline and cortisol (13) and hormonal responses to infection, surgery, inflammation and fasting can lead to fluctuations in cytokines, blood sugar levels, and other nutrient disruptions.

Guidelines on the role of diet in the prevention and management of IBD are extremely important and the available ESPEN guidelines play a crucial role in informing clinical practice about this unmet need (3). The IBD patient population is very heterogeneous calling for a very large sample size of patients from across the different parts of the world to be included in studies to investigate a dietary intervention. Additionally, there is a need for longer-term studies to evaluate the outcomes of the different dietary interventions as this will increase confidence in the different therapies. A more personalized dietary intervention according to each individual's needs should be considered in the future. Overall, each patient with IBD is unique and we are hopeful that individualization of medical therapy and nutritional therapy can be implemented to achieve the best outcome for each patient, reduce disease related complications, and improve their quality of life. The ESPEN guidelines, nevertheless, stand as the most comprehensive and authoritative source currently available regarding dietary recommendations for IBD (3).

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