



Dietary Management of IBD in Adult Patients



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Ulcerative colitis and Crohn’s disease are the principal forms of inflammatory bowel disease (IBD). Both are chronic diseases that occur due to mucosal inflammation due to a number of reasons which are still not fully understood. However, these 2 types of inflammatory bowel disease differ in how they present, the location of the disease and their behaviour. Distinguishing between ulcerative colitis and Crohn’s disease can sometimes be complicated and as a result effective treatment to achieve remission can be challenging. Nutritional or dietary management is one component of treating inflammatory bowel disease. Malnutrition is a common problem in both ulcerative colitis and Crohn’s disease, but is a considerably greater problem in Crohn’s disease due to the capacity of the disease to affect any part of the gastrointestinal tract.

What is IBD?

Inflammatory bowel disease (IBD) is the term used to describe the two conditions: ulcerative colitis and Crohn’s disease.¹

Crohn’s disease is characterised by a patchy, transmural inflammation and ulceration affecting anywhere in the gastrointestinal tract.² The cause of Crohn’s disease remains unclear, but it is thought to involve a complex interaction of environmental factors, including smoking, diet and stress and an altered immune response to the gut microbiota.³

Ulcerative colitis only affects the colon and rectum and is characterised by ulceration and inflammation.¹

Table 1 outlines the common symptoms of Crohn’s disease and ulcerative colitis.

Table 1: Symptoms of Crohn’s disease & ulcerative colitis¹

Main symptoms	Crohn’s specific symptoms
Abdominal pain	Strictures
Bloody diarrhoea	Fistulas
Urgency of defecation	
Fatigue	
Anaemia	
Malnutrition	
Weight loss	
Mouth ulcers	

The role of diet in IBD

The rising incidence of IBD in Western countries has led to consideration that lifestyle is a contributory factor, such as smoking, antibiotic use and diet, which are all potentially reversible risk factors for IBD. With regards to diet, a systematic review⁴ of the evaluation of the dietary intake and risk of developing IBD found a relationship between omega-6 fatty acids and increased risk of IBD. This led to ESPEN (2017) making the recommendation that a diet rich in fruit and vegetables, rich in omega-3 fatty acids and low in omega-6 fatty acids is associated with a decreased risk of developing Crohn's disease or ulcerative colitis.⁵

The increasing incidence in IBD seems to be associated with a Western lifestyle, including diet. Diet can shape the microbiota composition and activity and impact on host-microbe interactions.⁶

Appropriate use of diet and nutritional therapy is integral to the overall management strategy of Crohn's disease.⁷ As part of the UK IBD Standards (2019),⁸ statement 1.15 states the following: "All forms of nutritional therapy should be available to IBD patients, where appropriate, including exclusive enteral nutrition for Crohn's disease and referral to services specialising in parenteral nutrition." As such, all adult IBD patients should have access to a dietitian as outlined in Statement 3.2 of the IBD Standards.⁸

Nutritional challenges in IBD

Malnutrition

Malnutrition is a common problem for people with IBD, especially those with Crohn's disease.⁹ This is due to a number of factors, including reduced food intake, increased nutritional requirements and increased gastrointestinal loss of nutrients.¹⁰ It is important that malnutrition screening is undertaken in this patient population so that they can be identified and appropriately managed. The management of malnutrition in patients with IBD is in line with the usual principles of nutrition support, which include the following strategies:

- Small, frequent meals and snack
- Energy dense food choices
- Protein rich food choices
- Food fortification
- Oral nutritional supplements are indicated, where oral diet alone incorporating the above strategies does still lead to an energy and protein deficit.

Nutritional treatment should also address micronutrient deficiencies, which occur due to malnutrition, and gut losses from diarrhoea. Micronutrients of particular concern in this patient group include iron, calcium, zinc, vitamin B12 and vitamin D.¹⁰ It is important to address these deficiencies to prevent the onset of the consequences of inadequate levels in the body, such as iron deficiency anaemia and osteoporosis due to low calcium levels.

In practice, malnutrition and weight loss can also occur due to patients restricting their intake of certain foods under the belief that they are triggering their symptoms. Poor intake and unguided food restriction will increase the risk of malnutrition and worsen the overall health and quality of life.¹¹ Study findings by the UK Crohn's and Colitis charity suggest that even in case of inactive disease, people should be screened for dietary imbalance and insufficient intake should be treated accordingly due to inconsistent findings of inadequate nutritional intake, including macro and micronutrients.¹¹

Exclusive enteral nutrition

It is recommended that primary nutritional therapy in the form of exclusive enteral nutrition (EEN) is considered in all patients with acute active Crohn's disease and that this is a first choice in patients at high risk from alternative therapy, such as steroids.⁵ The rationale for this recommendation is based on the evidence that EEN can be effective at inducing disease remission. EEN will also provide the added benefit that an individual's nutritional needs are being met particularly where there is a concern about malnutrition. There is limited evidence to demonstrate that a particular format of EEN is more effective for inducing remission. However, it is worth considering the following factors when choosing a EEN formula:

- Palatability of chosen formula
- Ease of preparation
- Route of chosen formula - oral or via a feeding tube.

All of the above factors will determine the impact upon patient compliance which we know can affect the clinical effectiveness of such dietary intervention.¹²

Evidence supporting the use of EEN is well established in the paediatric population as a primary treatment option for inducing disease remission.

In adults, studies have been small on the use of EEN as an effective treatment method but where tolerated, EEN can be

effective at inducing remission. There are a number of reasons beyond the lack of high-quality evidence, including poor compliance with exclusion of food and drink, and limited access to dietetic expertise within the IBD multidisciplinary team (MDT).¹³

Specifically developed diets, including CD-Treat and the Crohn's Disease Exclusion Diet (CDED), are growing in interest as the evidence base expands to demonstrate such diets as safe, effective and a sustainable dietary intervention in Crohn's disease.¹⁴ CD-Treat is a prescriptive personalise diet, creating EEN by the exclusion of certain dietary components (e.g. gluten, lactose and alcohol) and matching other components as closely as possible using ordinary foods to existing EEN formulas on the market. The hypothesis of the CD-Treat diet is that therapeutic results, similar to those with an EEN could be observed but based on an ordinary food diet.

The CDED is a whole foods diet coupled with partial enteral nutrition (PEN), designed to exclude or limit exposure to foods that may adversely affects the microbiome, or alter intestinal barrier function.¹⁵ The findings from this study support their hypothesis that the exclusion of components found in the habitual diet is required to maintain remission in Crohn's disease.¹⁵

The low FODMAP diet

During disease remission, functional gastrointestinal symptoms are very common. It is thought that the prevalence of IBS-like symptoms in IBD patients in long standing remission is 2-3 times higher than in the normal population.¹⁶ A UK study by Prince *et al.* found that a low FODMAP diet delivered in routine clinical practice seems effective in improving satisfaction with, and severity of, functional gastrointestinal symptoms in IBD.¹⁷ The low FODMAP diet appears to have a role in helping to manage functional gastrointestinal symptoms during periods of remission and inactive disease. It is important to support patients during the reintroduction phase on the diet to prevent nutritional deficiencies.

Fibre

Strictureing Crohn's disease occurs when inflammation causes the bowel wall to thicken. Dietary advice for managing strictures may involve the exclusion of any foods that may cause a mechanical obstruction or pain as a result of excessive gas production.

“The rising incidence of IBD in Western countries has led to consideration that lifestyle is a contributory factor, such as smoking, antibiotic use and diet, which are all potentially reversible risk factors for IBD.”

Therefore, advice around the appropriate exclusion of foods, such as the fibrous parts of fruits and vegetables (skins, seeds, etc.), wholegrains, nuts and seeds may need to be considered.⁷

Probiotics & prebiotics

The gastrointestinal microbiota is likely to be involved in the development of the chronic inflammation in Crohn’s disease and as a result there is growing interest in the use of probiotic and prebiotics to manipulate the microbiota to create a favourable outcome.⁷ Currently there are no approved health claims associated with prebiotics and probiotics and there is limited evidence to support that prebiotics induce or maintain remission in Crohn’s disease.⁷

Overall dietary management of IBD

The British Society of Gastroenterology consensus guidelines (2019) make the following recommendations for diet and IBD, see Table 2.

The current recommendation for diet and IBD is that patients should be

encouraged to eat a varied diet that meets their energy, macro and micronutrient requirements. The diet should be based on eating a varied diet, including dietary fibre.¹³

Dietetic roles & responsibilities in IBD management

Dietitians as part of the IBD MDT play an essential role in addressing all aspects related to the patient’s nutritional care. At every stage through the patient’s journey with IBD, assessment of nutritional status should take place; from diagnosis, during admissions and flare up and pre- and post-operatively. Specialist IBD dietitians have the expertise to provide the most up to date evidence-based advice to both patient and the wider MDT.

Summary

Diet and the role of the dietitian is an important aspect of IBD management. There is no singular ‘IBD diet’ and it is the skills of the expert IBD specialist dietitian to provide evidence-based, patient-centred recommendations.

Table 2: British Society of Gastroenterology recommendations for diet and IBD¹⁵

Good Practice Recommendation 20	IBD patients should be encouraged to eat a varied diet that meets their energy, macro- and micronutrient requirements. All who are at risk of malnutrition should have dietitian or nutrition team review, and where nutritional requirements cannot be met, supplementation with enteral or parenteral nutrition are indicated.
Good Practice Recommendation 21	Patients with IBD should have an assessment of their general nutritional status and screening for evidence of recent weight loss and/or assessment of malnutrition risk at each clinic appointment and on hospital admissions.
Statement 102	We recommend that IBD patients who are malnourished or at risk of malnutrition should have relevant screening blood tests to assess for macronutrient and micronutrient deficiencies. This may include measurement of iron stores, vitamin B12, folate, vitamins A, C, D and E, potassium, calcium, magnesium, phosphate, zinc and selenium.
Statement 103	We suggest that vitamin D levels should be measured, and deficiency corrected in Crohn’s disease and ulcerative colitis.
Statement 104	We suggest that a low FODMAP diet may be used to treat functional bowel symptoms in IBD patients.

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