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Role of Fermentable Oligo-Di-Monosaccharides and Polyols (FODMAPs) in food intolerance

P Peter*

Department of Gastroenterology, University Hospital Zurich, 8091 Zurich, Switzerland
*Corresponding author. E-mail: pohlp@gmail.com

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DESCRIPTION

Naturally occurring and present in a wide variety of foods are fermentable carbohydrates called Fermentable Oligo-Di-Monosaccharides and Polyols (FODMAPs). A group of carbohydrates in patients with such functional gastrointestinal symptoms causes symptoms in Irritable Bowel Syndrome (IBS). Low FODMAP diets have been extensively studied around the world, have shown good evidence of efficacy, are supported by meta-analyses, and are incorporated into clinical guidelines. A key factor that enabled reproducible results was the establishment of food analysis technology and the subsequent availability of detailed food composition data. Low FODMAP diets include (i) excess fructose in foods such as honey, apples and mangoes, (ii) lactose in milk and yogurt, and (iii) polyols (largely comprised of sorbitol and mannitol) present in avocado and pears, (iv) fructans in wheat, onions and garlic, and (v) galacto-oligosaccharides in legumes and nuts. A detailed and regularly updated food list is available elsewhere. A wide range of foods are classified as high in FODMAPs, but no food group is excluded from the diet. Therefore, if the diet is properly implemented and appropriate alternatives are included, nutritional adequacy is largely maintained.

Induced Responses of FODMAP

Consuming a high-FODMAP diet in sensitive individuals is thought to be associated with reduced GI symptoms such as abdominal pain, flatulence, gas, and changed bowel habits. Randomized controlled trials of low-FODMAP diets showed an improvement in overall abdominal symptoms, pain, abdominal distension, and bowel habits. However, one study found importance in reducing abdominal pain, but not in controlling overall symptoms, which may be a product of the study program. Studies have shown that a low-FODMAP diet can improve both diarrhea and constipation, but there are few data on the subtypes that are prevalent in constipation. Recent studies have shown that FODMAPs can alter the motility of the upper gastrointestinal tract, affect gastric pressure, and help manage functional dyspepsia. Improvements in fatigue have also been observed, but extra intestinal symptoms have not been well studied on a low-FODMAP diet. Symptom improvement using a low-FODMAP diet has been shown to fluctuate between 50%-80% in a cohort of IBS patients. This range can be influenced by several factors, including study design, patient selection, and FODMAP intake as part of a normal diet.

Diagnosis and Management of FODMAP Related Intolerances

A low-FODMAP diet can be performed after IBS diagnosis based on symptom criteria, with appropriate exclusion of organic disease. Before you start, you can do a lactose breath test to assess the need for lactose restriction. However, other biomarkers and tests cannot provide reliable information on food tolerance to different FODMAP subgroups. The low FODMAP diet should be followed under the guidance of a dietitian and is designed as a three-step diet. This includes a short-term (28-week) reduction in FODMAP intake, a strategic re-challenge to assess subsequent tolerance, and finally a long-term maintenance re-challenge to

maintain symptom control. The UK National Institutes of Health (NICE) guidelines for adults with irritable bowel syndrome follow dietary recommendations such as general lifestyle and regular dietary intake and avoidance, secondary to a low-FODMAP diet. It suggests that it should be used as a treatment. You can use foods that are suspected of triggering. Indeed, dietary advice needs to coordinate the individual's normal diet and how their culture and cooking affect FODMAP intake, emphasizing the individual role of dietitians in the implementation process.

As with any restrictive diet, the potential consequences of dietary changes during a low-FODMAP diet should be considered. First, high FODMAP foods, especially foods containing oligosaccharides, are generally a good source of prebiotics, so reducing intake can change the profile of the microbial flora. Short-term studies have shown that a low-FODMAP diet can lead to a reduction in the total number of bacteria, bifidobacteria, and Faecalibacterium prausnitzii, but the long-term effects on the microbial phase after re-challenge is not known. Second, diet adequacy has been raised as a concern for patients using the diet, with some studies showing reduced calcium and fiber intake during the restricted stages of the low FODMAP diet, and there are UK studies suggesting that the number of people on a diet is small and may meet national dietary guidelines. Little is known about the long-term effects of diet on nutritional adequacy, as well as changes in the microbiota. A 6-month follow-up study showed that fiber intake returned to pre-intervention levels after reloading, and long-term effects may be minimal as long as reloading is performed. It was suggested that it was high. In addition to the need for long-term data, future studies need to assess the ability of patients to adhere to a low-FODMAP diet. Dietitian guidance is considered to be the key to a success of a diet, but depending on the type of training, diet adherence, diet adequacy, and short-term and long-term. More data is needed to understand the impact on the microbiota profile in both short- and long-term depending on mode of education.