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# Reflections on the Low FODMAP Diet (and an incidental book publication)

Author: Lorraine Maher, Dietitian, Blackrock Clinic

September 2017

## 'Just IBS'

People with IBS tend to have endured a diagnosis hamster wheel for quite some time, sometimes years, before their condition is verified. And at diagnosis, sadly, it may be flippantly revealed as 'Just IBS', even though chronic uncontrolled functional bowel symptoms are horrendous, debilitating and kept secret for many. In the long run, sufferers are usually ultra-confused about how to best manage their condition.

Not surprisingly people with IBS will have a skeptical relationship with food. In fact, nearly two-thirds of patients perceive their GI symptoms to be food-related (1). Coincidently, the nutrition management of IBS has been become very interesting over the last 10 years.

## Low FODMAP Diet

When the evidence based diet low in Fermentable Oligo-, Di- & Mono-Saccharides and Polyols (FODMAP's) emerged (first coined in 2005) it captured everyone's interest as it promised to sever the chains of IBS more permanently. This diet removes short chain carbohydrates that are poorly absorbed in the small intestine and have been shown to exert their effect by increasing small intestinal water and colonic gas (2) and possible immune activation (3). Examples of common high FODMAP foods are shown in Table 1.

Since this time, the Low FODMAP diet as an intervention continues to gain international interest and credibility. There is a substantial evidence base with over 30 scientific studies. Designing and implementing prospective placebo-controlled dietary intervention FODMAP studies however prove extremely difficult. The more robust trials include two controlled trials (4,5), six randomized controlled trials (6-11) and 1 meta-analysis (12) which support its use in clinical practice. The recently revised British Dietetic Association (BDA) guidelines for the dietary management of IBS recommend the low-FODMAP diet as the second-line intervention in IBS patients (13).

Overall success rates (satisfactory relief of symptoms) are around 70% (2). Research defends the view that trained dietitians have the best skillset to support its implementation as they delivered the low FODMAP education in nearly all of the trials to date.

For the patient, having sufficient relief from IBS symptoms is akin to winning a lotto. And professionally it's very rewarding to see people self-managing their condition through dietary changes. It has proved to be a paradigm shift for many IBS sufferers.

**Table 1**

**Where are FODMAPs found?**

A few examples of food sources high in each of the FODMAPs are listed below.

**Excess Fructose:** Honey, Apples, Mango, Pear, Watermelon

- **Fructans:** Artichokes (Globe), Artichokes (Jerusalem), Garlic, Leek, Onion, Wheat, Rye, Barley, Inulin, Fructo-oligosaccharides
- **Lactose:** Milk, Yogurt, Ice cream, Custard
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- **Galacto-Oligosaccharides (GOS):** Beans (e.g. baked beans, kidney beans), Lentils, Chickpeas
- **Polyols:** Apples, Apricots, Nectarines, Pears, Plums, Prunes, Mushrooms, sorbitol, mannitol, xylitol, maltitol and isomalt

## What it's like to follow the Low FODMAP diet?

Having followed the Low FODMAP diet experimentally (for just one week!), it allowed me to get an authentic feels of what it's like to experience FODMAPing. As dietitians, we certainly cannot underestimate the nuances and complexities of trying to apply this restrictive diet.

Whilst guinea pigging, I faced many day to day hurdles - having to think about what foods I bought and cooked was really inconvenient (whipping foods off the shelf into the trolley was passé), trying to find a palatable gluten free bread on the run (unsuccessful) and how to handle going out for a meal (I hesitated asking for food cooked devoid of onion and garlic).

I therefore fully advocate getting real life experience (within reason!) of what it's like to follow a restrictive plan. I always admired the dietetic student who had an NG tube placed so he could relate to what his patients were going through, and as we all aspire to, to help improve care plan outcomes, with a good dose of empathy. Having personally undertook the Low FODMAP diet, I feel it's an essential part of helping people successfully implement this plan.

In truth, inconvenience will be part and parcel of any dietary restriction. But it's clear that it *would* be absolutely worth restricting your diet if relentless

abdominal pain, bloating, wind and toilet emergencies were to regress after years and years of unsuccessful interventions. Symptom relief is the motivation and readiness to change parameter we need and thus the Low FODMAP diet can be very effective (in the right person).

**Who's suitable to follow a low FODMAP diet?**

Before a Low FODMAP diet is explained, many people may anticipate a diet of maybe rabbit food, chicken overdose or just plain misery…forever. In reality, there is a decent bank of 'allowed' foods and nutrition requirements can be met if one is properly educated and a personalised plan is agreed. Once the Low FODMAP diet is explained, the most common response is that 'it's not as bad as I thought it would be'.

However, there are caveats and that's where we as professionals need to intervene. For instance, extra care is needed in terms of personalizing the plan if someone is deliberately already avoiding certain foods (e.g. dairy, vegans), do not tend to cook (reliance on processed foods or eating out), and/or also has additional intolerances on top of an IBS diagnosis e.g. they have an allergy or they are Coeliac. A 'bottom up approach' maybe more prudent in some of the potentially overly restricted cohorts.

And crucially, understanding that the presence of disordered eating behaviours is greater in populations with GI disorders than in populations of healthy controls (14) and therefore dietitians should not recommend strict elimination diets in those with eating disorder characteristics for fear it could exacerbate weight loss or prompt further disordered eating.

In fact the Avoidance Restrictive Food Intake Disorder (ARFID) is a new diagnosis in the DSM-5. Accordingly, ARFID can result in suboptimal caloric and nutrient intake due to concern about problematic symptoms as a consequence of eating. In addition, there is also the situation where self-diagnosis of food intolerances based on inaccurate scientific evidence is prevalent and which we need to be mindful of and screening for.

Also, and unfortunately in many cases, someone may download a Low FODMAP diet sheet from the internet but not actually have an IBS diagnosis (could be a whole raft of reasons for symptoms including undiagnosed Coeliac disease to a gynecology problem to just having some mild bloating as a normal part of digestion). We can safely say that a FODMAP consultation is much more than a Google print out!

With two RCTs (4, 10), comparing standard advice to FODMAPs, its apparent that for many, improving IBS symptoms could also be achieved by focusing on reducing the size of ones meals, adjusting fibre, increasing fluid intake, slowing down the rate of eating and/or reducing alcohol or coffee or fizzy drinks.

It is obvious that individual assessment and clinically judged suitable candidates is essential. Dietitians are in the position to be able to guide patients to choose the most suitable and least intrusive dietary option.

Alternatively, if people are not suitable for dietary restrictions or unsuccessful with dietary intervention, adding other adjunctive therapies such as gut-directed hypnosis or psychology, yoga, medication or prebiotics and probiotics have evidence to indicate effectiveness.

**A FODMAP Diet is temporary!**

The most important fact to stress is that patients aren't supposed to follow the low-FODMAP elimination diet for a lifetime. It is wise to advise to stay on the plan for as short a time as possible and start re-introductions when one achieves satisfactory symptoms relief (anywhere from 2-6 weeks) or stop completely if no change.

The low-FODMAP diet consists of three stages: FODMAP restriction (when a strict low-FODMAP diet is followed), FODMAP reintroduction (when specific FODMAPs are systematically challenged) and FODMAP personalization (when well tolerated FODMAPs are to be consumed and the diet is liberalised) (15).

Unfortunately, it’s not uncommon for those who have implemented the diet solo to forego the reintroduction phase and unduly continue long term dietary restrictions. Some others will admit to staying on the diet long term with unabated symptoms! This is very frustrating and concerning and improved ways of informing people to the three phases of the Low FODMAP diet are warranted.

**Unknown consequences of the low FODMAP Diet**

There are many gaps in the knowledge and understanding of long term use of the Low FODAMP diet. In particular, studies have shown reduced total bacterial abundance (16) and reduced concentration of bifidobacteria (17) following a low FODMAP diet. Furthermore, butyrate-producing bacteria are markedly reduced, and mucus-degrading bacteria are increased with strict reduction of FODMAP intake (16). These effects, if maintained over the long term, may theoretically carry negative health implications.

What we really need to know is whether the aforementioned changes to the microbiome are harmful or not and what happens when FODMAPs are reintroduced i.e. are the *bifidobacteria* restored when the low-FODMAP diet is liberalised and the diet is a modified Low FODMAP diet?

**How did the Gut Feeling book come about?**

Whilst un-complicating the Low FODMAP diet for those who attended clinic, I also began compiling Low FODMAP recipes. People wanted ideas for a wide variety of foods, most notably onion-less soups, stocks, dips and sauces. One day, on merely a whim, I contacted a publisher regarding possible publication of this increasing collection of recipes and things snowballed from there. It was a

case of being in the right place at the right time. Along with my colleague, Paula Mee, a collaborative book deal with Gill Books was signed.

The 15 month process, from first drafts to getting the book on the shelf, was pretty arduous but also an utterly delightful experience. The journey along a conveyor belt of buyers, editors, stylists, photographers, copy-writers, indexers, designers, marketers, sales persons and distributors, and the culmination in a memorable book launch was unforgettable.

Gut Feeling was published in March 2017 and was a best seller! I believe it is a very user-friendly FODMAP diet reference guide with 100 tasty and easy to make recipes. And ultimately I hoped it achieved two things: (a) increased awareness that anyone undertaking a Low FODMAP diet should implement this diet with a health professional specifically trained in this area and (b) that those undertaking the plan don't have to go through the FODMAP Programme feeling their food is bland and boring, as it doesn't have to be!

This article was written by Lorraine Maher (M.I.N.D.I) as requested by FreseniusKabi in September, 2017

## References


1. Simrén M, Månsson A, Langkilde AM, et al. Food-related gastrointestinal symptoms in the irritable bowel syndrome. Digestion. 2001;63(2):108–115
2. Staudacher, H.M., Irving, P. M., Lomer, M.C et al, Mechanisms and efficacy of dietary FODMAP restriction in IBS. Nat Rev Gastroenterolo Hepatal. 2014; 11: 256-266
3. McIntosh K, Reed DE, Schneider T, et al. FODMAPs alter symptoms and the metabolome of patients with IBS: a randomised controlled trial. *Gut*. 2017;66(7):1241-1251.
4. Staudacher HM, Whelan K, Irving PM, Lomer MC. Comparison of symptom response following advice for a diet low in fermentable carbohydrates (FODMAPs) versus standard dietary advice in patients with irritable bowel syndrome. J Hum Nutr Diet. 2011;24(5):487–495.
5. Ostgaard H, Hausken T, Gundersen D, El-Salhy M. Diet and effects of diet management on quality of life and symptoms in patients with irritable bowel syndrome. Mol Med Rep. 2012;5(6):1382–1390
6. Ong DK, Mitchell SB, Barrett JS, et al. Manipulation of dietary short chain carbohydrates alters the pattern of gas production and genesis of symptoms in irritable bowel syndrome. J Gastroenterol Hepatol. 2010;25(8):1366–1373

7. Halmos EP, Power VA, Shepherd SJ, Gibson PR, Muir JG. A diet low in FODMAPs reduces symptoms of irritable bowel syndrome. Gastroenterology. 2014;146(1):67–75.e65
8. Staudacher HM, Lomer MC, Anderson JL, et al. Fermentable carbohydrate restriction reduces luminal bifidobacteria and gastrointestinal symptoms in patients with irritable bowel syndrome. J Nutr. 2012;142(8):1510–1518
9. Shepherd SJ, Parker FC, Muir JG, Gibson PR. Dietary triggers of abdominal symptoms in patients with irritable bowel syndrome: randomized placebo-controlled evidence. Clin Gastroenterol Hepatol. 2008;6(7):765–771
10. Böhn L, Störsrud S, Liljebo T, et al. Diet low in FODMAPs reduces symptoms of irritable bowel syndrome as well as traditional dietary advice: a randomized controlled trial. Gastroenterology. 2015;149(6):1399–1407.e139
11. Pedersen N, Andersen NN, Vegh Z, et al. Ehealth: low FODMAP diet vs Lactobacillus rhamnosus GG in irritable bowel syndrome. World J Gastroenterol. 2014;20(43):16215–1622
12. Marsh A., Eslick E.M., Eslick G.D. Does a diet low in FODMAPs reduce symptoms associated with functional gastrointestinal disorders? A comprehensive systematic review and meta-analysis. Eur. J. Nutr. 2016;55:897–906
13. McKenzie Y.A., Bowyer R.K., Leach H., Gulia P., Horobin J., O'Sullivan N.A., Pettitt C., Reeves L.B., Seamark L., Williams M., et al. British Dietetic Association systematic review and evidence-based practice guidelines for the dietary management of irritable bowel syndrome in adults (2016 update) J. Hum. Nutr. Diet. 2016;29:549–575
14. Satherley R Howard R, Higgs S Disordered eating practices in gastrointestinal disorders. Appetite. 2015 Jan;84:240-50
15. Whelan K, Martin LD, Staudacher HM, Lomer MC. The low FODMAP diet in the management of irritable bowel syndrome: an evidence-based review of FODMAP restriction, reintroduction and personalisation in clinical practice. J Hum Nutr Diet. 2018; 31: 239-255
16. Halmos EP, Christophersen CT, Bird AR, Shepherd SJ, Gibson PR, Muir JG. Diets that differ in their FODMAP content alter the colonic luminal microenvironment. Gut. 2015;64(1):93–100
17. Staudacher HM, Lomer MC, Anderson JL, et al. Fermentable carbohydrate restriction reduces luminal bifidobacteria and gastrointestinal symptoms in patients with irritable bowel syndrome. J Nutr. 2012;142(8):1510–1518