Fiber Therapy in IBS and Other GI Disorders

Irritable bowel syndrome (IBS) is one of the most common and most troublesome conditions for which individuals seek medical attention. More people have symptoms compatible with this disorder than are actually diagnosed. Specific food practices may contribute to constipation, diarrhea, bloating, gas, and abdominal pain. Based on our observation and experiences in nutrition research, I will share with you some suggestions for improving bowel function and decreasing symptom severity.

Fiber is a double-edged sword for persons with intestinal disorders. While fiber alleviates constipation, certain high fiber foods, such as bran, may increase gas production and bloating. However, it seems likely that most persons with IBS will benefit from at least a moderate increase in dietary fiber intake.

While fiber may appear to be a simple solution, the Western diet suggests the challenge in attempting to increase dietary fiber intake. The current recommendation [for adults] is 20–35 gm per day. The typical American consumes far below that amount. Adding insult to injury, many people will “binge” on fiber and find themselves in a worse condition than when they were on a low fiber diet. A gradual increase in dietary fiber can modify, improve and, in some people, eliminate the abnormal bowel habits and painful symptoms associated with IBS. Persons who have difficulty obtaining the goal of 20-35gm per day through diet alone may find fiber supplementation helpful. With any dietary fiber, the guideline is to start low, go slow.

GENERAL HEALTH BENEFITS OF DIETARY FIBER

Consuming generous amounts of fiber in our everyday diets potentially can improve overall health. The clearest health benefit associated with high fiber intake relates to a reduction in risk for coronary heart disease. Persons with the highest intake of cereal fiber have a 30% reduction in risk for coronary heart disease. Dietary fiber, especially soluble fiber, acts to decrease serum total and low-density lipoprotein cholesterol (the “bad” cholesterol) concentrations, thereby decreasing risk for heart disease.

Dietary fiber also offers advantages for persons at risk for hypertension, diabetes or obesity. Increased fiber intake improves blood pressure and may

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decrease risk for developing hypertension. While the benefits of high fiber diets for persons with diabetes has been recognized for years, recent research indicates that a high fiber intake decreases risk for actually developing diabetes. The anti-cancer effects of dietary fiber have received much attention, but the research remains controversial. In general, populations with the highest intake of fiber have the lowest rates of cancer.

Fruits and vegetables exert a strong protective effect, quite possibly due to their high content of antioxidants and phytochemicals. Encouraging five servings of fruits and vegetables daily, the recommendation of the American Cancer Society and other authoritative bodies, makes good sense and is sound advice for everyone.

GASTROINTESTINAL HEALTH BENEFITS OF DIETARY FIBER

Dietary fiber has specific benefits for maintaining gastrointestinal health, affecting the entire GI tract from top to bottom. High fiber foods take longer to chew which gives the brain a chance to register fullness, preventing overeating. High fiber foods also slow digestion, which prolongs this feeling of fullness. Evidence suggests a high fiber diet may reduce the risk for colon cancer.

Research in fiber and GI health took off in the 1970s when a link was first proposed between high fiber intake and low rates of chronic diseases such as heart disease and cancer. A correlation was also found between high fiber and lower rates of irritable bowel syndrome, as well as hiatal hernia, appendicitis, diverticular disease, constipation, bowel polyps, and hemorrhoids. Constipation alone can lead to an increased risk for hemorrhoids and diverticular disease. While the use of dietary fiber in the treatment of certain GI disorders may be debatable, the evidence to at least consider fiber therapy is strong.

IBS patients who are prone to constipation appear to benefit the most from fiber treatment. Other individuals with various forms of gastrointestinal disorders may benefit from a variety of treatments involving more than a little trial and error. Because IBS and other GI disorders have many components, the greatest challenge will be in identifying one or several strategies that prove effective.

Dietary fiber can be classified as either soluble or insoluble. Soluble fiber dissolves in water, becomes a soft gel, and is readily fermented. These include pectin, guar gum, and other gums. Insoluble fiber does not dissolve or gel in water and is poorly fermented. Cellulose [found in legumes, seeds, root vegetables, and vegetables in the cabbage family], wheat bran, and corn bran are examples of insoluble fiber.

High fiber substances containing both soluble and insoluble fibers have the properties of both. They include oat bran, psyllium, and soy fiber. Methylcellulose is a semi-synthetic fiber. It is soluble and gel forming, but not fermentable.

Types of fiber differ in the process of fermentation, and in the speed and extent to which they are digested in the GI tract. There may be both good and bad aspects to fermentation, but there are certainly metabolic products produced by fermentation which contribute to colonic health. The solubility and fermentation of a particular fiber affects how it is handled in the GI tract. As well, the effect of identical fibers varies from person to person. Individual response may vary and we encourage individuals try different types of fiber.

TREATMENT USING DIETARY FIBER

Once a diagnosis of IBS is made, you may suggest specific fibers for treatment of specific symptoms. Despite some uncertainties about its use, nutrition therapy, with an emphasis on dietary fiber modification, appears to be a safe and effective initial treatment of GI disorders—particularly in constipation prone individuals. Fiber intake can be tailored to the most evident symptoms and can be fine-tuned in partnership with your patient.

SUMMARY

Making small, gradual changes can add up to a big difference in the nutritional value of a patient’s diet. Have them experiment with fresh foods and encourage them to try new foods and recipes. Here are a few practical tips for adding fiber to the diet.

Vegetables

• Cook in microwave to save time and nutrients
• Cook only until tender-crisp to retain taste and nutrients

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Beans
- Replace the meat in salads and main dishes with dried beans and peas
- Pre-soaking reduces the gas-producing potential of beans if you discard the soaking water and cook using fresh water
- Use a slow cooker for beans soups and stews

Fruit
- Snack on fruit anytime, anywhere
- Experiment with unusual fruits such as kiwi, pineapple, and mangoes
- Leave peelings on fruit whenever possible
- Use fresh and dried fruit in muffins, pancakes, quick breads, and on top of yogurt

Grains
- Choose whole-grain varieties of breads, muffins, bagels, and English muffins
- Try fresh pasta instead of dried
- Mix barely cooked vegetables with pasta for a quick pasta salad

Children and Fiber
Children also benefit from a balance of fiber in their diet. Their requirements are less than for adults. For children, ages 3–18, the American Dietetic Association reports a formula for determining recommended fiber intake—a child’s age plus five equals the grams of dietary fiber he or she should eat daily. Good sources are fruits, vegetables, and whole grains. As with anyone increasing dietary fiber, it is important to drink extra liquids such as water, juice, or milk.

More on Fiber
Consuming a variety of fiber types—such as those found in fruits, vegetables, and whole grains—is most beneficial to general health.

Soluble fiber is readily fermented; beneficial bacteria in the colon break down carbohydrates. A byproduct is gas that can stimulate colonic muscles and help soften stool. However, in some people, this can cause discomfort. Adding fiber gradually and slowly over time may eliminate the discomfort.

Common sources of soluble fiber include citrus fruits, flaxseeds, and legumes. Pectin is found in apples, berries, and oranges. Sources of gum include oats and kidney beans.

Different types of fiber either dissolve in liquid or absorb liquid. Fruits and vegetables are 80%–90% water by weight; cooked grains are 70%–85% water. Insoluble fiber can absorb up to 15 times its weight in water as it moves through the digestive tract. It is important to consume adequate amounts of liquids along with fiber, particularly with products containing dry fiber such as supplements or dry cereals.

Fiber Supplements
Fiber supplements refer to either dry fiber tablets or a concentrated form of natural fiber such as bran. It is essential to drink plenty of water when taking a fiber supplement—1 or 2 glasses, or as otherwise recommended on the package, at the time you take the supplement and 8 glasses (8 oz each) during the day. A slow, gradual increase of any source of fiber can help minimize discomfort sometimes associated with fiber intake. Some common fiber supplements are:
- Psyllium seed husks. A source of soluble as well as insoluble fiber. Can be purchased in powdered form at health food stores and can also be found in brand name products such as Hydrocil, Metamucil, Konsyl, or Perdiem.
- Methylcellulose. A semi-synthetic fiber. It is soluble and gel forming, but not fermentable. Available in brand name products such as Citrucel, or Fibre Naturale.
- Polycarbophil. A synthetic fiber bulking agent. Not fermentable. Found in brand name products such as Equalactin, or FiberCon.

Editor’s Note: Specific products are cited in this article as examples. IFFGD does not endorse any particular product.

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