High Fiber Diet Instruction

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1. Purpose:

 a. Nutrition Indicators: Patients with chronic constipation, irritable bowel syndrome, and diverticulosis (and diverticulitis) are generally lacking a significant amount of fiber in the diet. The purpose of the high fiber diet is to provide adequate fiber to promote regularity in bowel movements and to sustain the pro-biotic symbiosis of bacteria within the intestines. Diets high in fiber require both insoluble fiber (from cellulose in plants that is insoluble) and soluble fiber (which will dissolve in water). High fiber diets are also found to be associated with lowering cholesterol, regulating blood glucose, reduced blood pressure, and may help to prevent colon cancers (Cleveland Clinic Foundation, 2010).

 b. Criteria to Assign the Diet: Chronic constipation, diverituclar disorders, and IBS are common disease states in which a high fiber diet would be suggested. In order to fully diagnose such disorders, a colonoscopy, CT scan, or barium enema may ordered by the physician; this diagnosis is often followed with referrals for dietary change, if non-emergent (Gemlo, 2004). Additionally, a high fiber diet can be beneficial for many other medical concerns, including hypertension, cardiovascular disease, diabetes, obesity, and even hunger control (US Department of Health and Human Services, 2003).

 c. Rationale for Diet: The most common rationale for the high fiber diet is to aid in the prevention of intestinal distress associated with chronic constipation, IBS, and the acute inflammation/infection of diverticulae (in the cases of diverticulosis). With a high fiber diet, water is pulled into the intestines toward the insoluble fiber causing the feces to become more mobile, thereby decreasing the irritation of constipation and intestinal pressure that accompanies it. With decreased intestinal pressure and increased regularity, diverticulae become less irritated and inflammation decreases or is alleviated altogether (Anderson, et al, 1994).

2. Population

 a. Overview: Colonic diverticulosis in among the most common of intestinal disorders in the United States. It occurs within 1/3 of the population over the age of 45 years, and in 2/3 of the population over age 85 (Aydin, Nail, et al, 2011). Most commonly, the disease state is prevalent among patients with low-fiber diets, who are obese, smokers, with a high intake of caffeine or alcohol; most patients report little to no physical activity outside of daily routines (Aydin, et al, 2011).

 b. Disease Process: Diverticulae are formed in the intestines due to the high pressure associated with constipation, and delayed motility. As fecal matter collects and is forced through the colon, herniations in the circular muscle tissues form to relieve pressure. Often, the herniations are not noticeable to the patients until a time when the inflammation of the diverticulae causes pain or infection (diverticulitis). (Nelms, 2011, p. 422)

 c. Biochemical and Nutrient Needs: Patients with diverticulosis may present with an increased WBC count if the diverticulae become infected or inflamed. Aside from this marker, the disease state often goes unnoticed. A high fiber diet (following a progression from clear liquids to normal diets) is the most effective nutritional treatment, with the inclusion of manufactured fiber supplements to attain adequate intake as needed. Protein needs will increase to 1.2g/kg of body weight to aid in healing of the intestinal walls. Should enteral nutrition be desired within the first few weeks post surgery, choosing a formula enhanced with glutamine, which is a preferred amino acid for enterocytes. (Nelms, 2011, p. 61)

3. General Guidelines

 a. Nutrition Rx: Moving from a clear liquid diet progressively to a high fiber diet will take several weeks. Generally, 1-2 days (at most) of clear liquids is prescribed, following acute inflammation. 2-4 days of low residue foods should follow the clear liquid diet. Progression to a normal diet should happen within 5-7 days of the acute diverticulitis, and a slow progression to increase dietary fiber to 6-10grams above normal fiber recommendations should commence and continue as tolerable (UCSF, 2012).

 b. Adequacy of Nutrition Rx: As there is no relative risk for malnutrition as indicated, therefore, no further changes to the macronutrient distribution ranges will be necessary (Nelms, 2011, p.423).

 c. Goals: The goals of the high fiber diet include a slow progression to recommended increased fiber intake to avoid excess gas, bloating, or discomfort. It is necessary to follow up with the patient to monitor acceptance and ensure compliance; changes in fiber increases should be made to accommodate the patient’s comfort level to best ensure adherence to the therapy plan.

 d. Does it Meet DRI: Because there is little change in the recommendations fro macronutrients, the DRI should bet met (or exceeded in the case of vitamins and fiber) without fail if the patient is compliant.

4. Education Material

 a. Nutrition Therapy: The goal of nutrition therapy is to attain and maintain a high fiber diet to avoid all recurrences of inflammation and reduce colonic pressure through regularity. It will be important to instruct the client to increase fiber intake GRADUALLY, as large increases can cause gastric distress, gas, and bloating. When moving from clear liquid diets to high fiber, the transition should take at least two weeks to attain full high fiber intake. Food logs and physical activity logs will be needed.

 b. Ideas for Compliance: In order to increase compliance, daily food logs, fiber content references, and physical activity logs will be crucial. Be sure to impart on the client the importance of GRADUAL addition of fiber to prevent discomfort and thereby increase compliance. Explain to the client that fiber intake and a balanced diet is the medicine to prevent recurrences of inflammation and will significantly reduce the risk for need of surgical resection. Explain the benefits of the high fiber diet (apart from preventing inflammation and infection of the diverticulae) include reduced blood pressure, weight loss, satiety, and regularity. If the client has internet access and feels comfortable using an online program to track foods, introduce a food tracking program such as fitday.com to help track foods more easily. If not, ensure the client receives comprehensive materials to understand fiber and calorie contents of foods.

5. Sample Menu

 a. Foods Recommended: High contents of insoluble fiber are found only in plant products like vegetables, beans, nuts, fruits, and grains.

 b. Foods to Avoid: *(Although it was once considered important to avoid seeds, nuts, popcorn hulls, etc. studies have shown that there is no evidence to support this theory; in fact, seeds, popcorn, etc. are excellent sources of fiber.)* Foods that should be avoided include high fat foods and low-fiber/high calorie foods (which could replace vegetables and fruits).

 c. Example of a meal plan: *Yields approximately 1800 calories with 36 grams fiber*

Breakfast

 ¾ cups Oat Bran Flakes

 ½ cup Skim Milk

½ cup Sliced Peaches

6 Almonds

Snack

3 cups Popcorn (air popped)

Lunch

1 cup Romaine Lettuce Salad

½ cup Artichoke Hearts

4 Tomato Wedges

2 Tbs Caesar Dressing

1 cup Cream of Asparagus Soup

¼ cup Strawberries

6 Whole Wheat Crackers

Iced Water

Dinner

½ cup Blackeyed Peas

2 ounces Roast Chicken Breast

2 Whole-Wheat Flour Tortillas

½ cup Green Pepper Strips and Onions (Sauteed)

1 cup shredded Lettuce

4 Tbs Salsa

½ cup Raspberries

Snack

4 Graham Crackers

4 ounces Fat Free Yogurt (frozen)

*(Anderson, et al, 1994)*

6. Websites

 a. Organizations with Websites

1. American Gastroenterological Association - <http://www.gastro.org>
2. American Society of Colon & Rectal Surgeons - <http://www.fascrs.org>
3. International Foundation for Functional Gastrointestinal Disorders –

<http://www.iffgd.org/site/gi-disorders/other/diverticulosis>

1. World Gastroenterology Organisation –

<http://www.worldgastroenterology.org/diverticular-disease.html>

 b. Government Websites

1. National Digestive Diseases Information Clearinghouse - <http://digestive.niddk.nih.gov/ddiseases/pubs/diverticular/>
2. National Institutes of Diabetes and Digestive and Kidney Diseases - <http://www2.niddk.nih.gov>
3. National Institutes of Health - <http://health.nih.gov/topic/DiverticulosisandDiverticulitis>

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