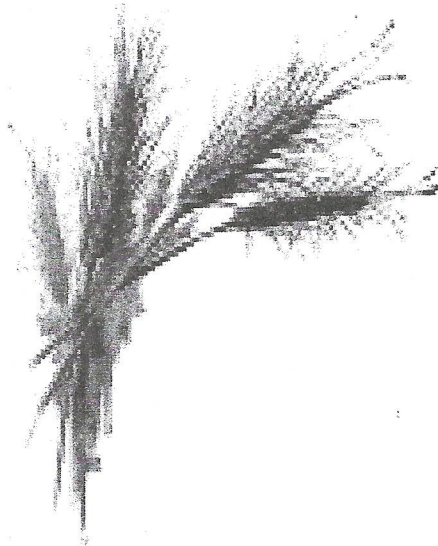




FIBER: AN ESSENTIAL PART OF YOUR DIET



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FIBER: AN ESSENTIAL PART OF YOUR DIET

Leader's Guide

Lesson Overview

Through reading and discussion of *Fiber: An Essential Part of Your Diet*, participants will learn the importance of incorporating fiber in their diet. Participants can then take part in a True or False on Dietary Fiber activity. Finally, the participants can apply these concepts when they begin planning their daily meals.

Objectives

Participants will:

- Define the two types of dietary fiber and list three food sources of each.
- Learn possible health benefits of dietary fiber.
- List the daily recommended intake for dietary fiber in association with their age.

Learning activities and times

- Leader – Read the introduction. 5 minutes
- Read Participant's Guide by taking turns reading aloud the fiber information. Encourage discussion and take time to share ideas and thoughts about fiber. 25 minutes
- Complete True or False on Dietary Fiber activity sheet independently. Rejoin as a group and discuss answers. Allow time for discussion. 20 minutes
- Complete evaluation. 5 minutes

Materials needed

As a Leader:

1. Leader's Guide
2. Participants' Guide
3. True or False on Dietary Fiber activity sheet
4. Evaluation

As a Participant:

1. Participant's Guide
2. True or False on Dietary Fiber activity sheet
3. Evaluation

Introduction

Read out loud:

We've all heard from our doctors, friends, family and information that we glean from our TVs and magazines that we should eat more fiber. Do we all know why?

At first, it was thought that the new low-fat American diet would mimic the low-fat, high-carbohydrate regimen of countries like China and Japan, which have very low heart attack rates. And now, the U.S. food industry provides us with low-fat foods that taste good. It created delicious, highly processed foods including cookies and baked goods prominently advertised as low-fat, no cholesterol. In whole foods, the sugars and starches are bound up with the fiber and nutrients, so when we eat whole grain rice, we get the entire package. Processing removes some of the fiber in order to make things such as white rice easier and faster to cook.

Americans did not begin to appreciate the critical role of fiber until the 1970s. Even then, most of the attention of the early work was on fiber's effect on colon and bowel function. U.S. and the northern European countries with the high fat intake and high heart attack rates also had the lowest levels of fiber, as a form of carbohydrate. In the less-developed countries with high-carbohydrate, low-fat diets had lots of fiber.

Dietary fiber, found mainly in fruits, vegetables, whole grains and legumes, is probably best known for its ability to prevent or relieve constipation. But fiber can provide other health benefits as well, such as lowering your risk of diabetes and heart disease.

If you need to add more fiber to your diet, we should not worry, because increasing the amount eaten each day is not a difficult process. First, find out how dietary fiber works, the amount needed in your daily diet, and finally, take a True or False quiz on Dietary Fiber.

* Pass out one Participant's Guide to each participant.

What is fiber?

Have a participant read out loud.

How does fiber work in the GI system?

Have a participant read out loud.

Health Benefits of increasing Dietary Fiber

Have a participant read out loud.

Recommendations for fiber in your diet

Have a participant read out loud.

Fiber supplements

Have a participant read out loud.

Tips for fitting in fiber

Have a participant read out loud. Encourage discussion.

True or False on Dietary Fiber

Pass out one activity sheet to each participant. Have participants work alone and answer all questions. When the entire group is finished, the Leader will read each question out loud from the activity sheet. Encourage participants to discuss whether the answer is true or false. After discussion, Leader will give the group the correct answer before moving on to the next question.

Answers:

1. True
2. True
3. True
4. False. Fiber is the combination of materials found in plant foods that cannot be digested readily or absorbed.
5. False. The Adequate Intake (AI) of fiber for women over 50 years of age is to consume 21 grams and men over the age of 50 years to consume 30 grams of fiber (14 grams/1000 calories).
6. False. The fiber helps regulate the passage of food through the GI system, but doesn't contribute energy (calories).
7. False. Fiber is often categorized into two types: soluble (dissolves in water) and insoluble (does not dissolve in water).
8. True
9. True
10. False. Choose whole-grain products, raw or cooked fruits and vegetables, and dried beans and peas. Refined or processed foods, such as fruit juice, white bread and pasta, and non-whole-grain cereals are lower in fiber content.

Conclusion

Dietary fiber is often categorized in two types: soluble and insoluble. Food sources for soluble fiber include dried beans and peas, oats, barley, and many fruits and vegetables such as apples, oranges and carrots. Insoluble fiber sources include whole wheat products and many vegetables, such as potatoes and green beans. There are many health benefits associated with eating dietary fiber. Fiber intake is linked associated with reduced

incidence of diverticular disease in men, non-insulin dependent diabetes in women, coronary heart disease in men, and hypertension in women and men. The daily Adequate Intake of dietary fiber for women over 50 years of age is 21 grams, and for men over the age of 50, their Adequate Intake is 30 grams (14 gram/1,000 calories).

Evaluation

Hand out evaluation form. Read through the instructions for the evaluation, making sure everyone understands, and allow time for participants to complete the evaluation. Collect all completed evaluations and give to appropriate person within the group.

Thank the group for their discussion and participation during *Fiber: An Essential Part of your Diet*.

Resources:

American Dietetic Association. Nutrition Fact Sheet. Dietary Fiber: An Important Link in the Fight Against Heart Disease. Available at: http://www.eatright.org/ada/files/Metamucil_Fact_Sheet.pdf accessed August 28, 2006.

American Dietetic Association. Nutrition Fact Sheet. Go With Whole Grains for Fiber. Available at: <http://www.eatright.org/ada/files/grain.pdf> accessed August 28, 2006.

Fiber Facts Brochure; American Dietetic Association; July 2005.

Foods: Experimental Perspectives, 4th edition; Margaret McWilliams; Prentice Hall, 2001.

Nutrition Through the Life Cycle; 2nd edition; Judith E Brown, et al; Thomson Wadsworth, 2005.

Understanding Nutrition; 8th edition; Whitney EN, Rolfes SR; West/Wadsworth, 1999.

U.S. Department of Agriculture. MyPyramid: Steps to a Healthier You. Available at: <http://www.mypyramid.gov> accessed June 15, 2006.

U.S. Department of Health and Human Services and the U.S. Department of Agriculture. Dietary Guidelines for Americans 2005. Available at: <http://www.healthierus.gov/dietaryguidelines> accessed June 15, 2006.

Wheat Foods Council. Available at: www.wheatfoods.org accessed June 15, 2006.



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Participant's Guide

What is Fiber?

Fiber is the combination of materials found in plant foods that cannot be digested readily or absorbed, referred to as complex carbohydrates. Fiber is sometimes categorized into two types: soluble (dissolves in water) and insoluble (does not dissolve in water). Insoluble fibers have possible benefits of speeding up the transit time of food in the intestines, and maintaining regularity by promoting bowel movements. Food sources for insoluble fiber are whole wheat products and many fruits and vegetables such as potatoes and green beans. Soluble fiber dissolves in water to form a gel-like material. It also plays a role in satiety (the condition of being full or gratified beyond the point of satisfaction) and can offer other benefits as well, such as delaying GI (gastrointestinal) transit time, reducing blood cholesterol levels and maintaining blood sugar levels. Sources for soluble fiber can be found in foods such as dried beans and peas, oats, and many fruits and vegetables such as apples, oranges, and carrots. Both types of fiber are important to incorporate in the diet. Because the amounts vary in different plant foods, it is best to eat a wide variety of fiber-rich foods to receive the greatest health benefit.

How does fiber work in the GI system?

Once a bite of food is taken in the mouth, the mechanical action of the mouth crushes and tears fiber in food and mixes it with saliva to moisten it for swallowing. Once swallowed, it travels down the esophagus to the stomach where fiber is not digested, and it delays gastric emptying. From the stomach it enters the small intestine where again, fiber is not digested. After the small intestine, some fiber moves into the large intestine and bacterial enzymes break down the fiber. The fiber attracts water, softens the stools, and regulates bowel activity, binding substances (bile, cholesterol and minerals) and carrying them out of the body. The fibers help regulate the passage of food through the GI system, but don't contribute energy (calories).

Health benefits of increasing dietary fiber

Fiber is a component of food that promotes health in many ways. An adequate fiber intake is associated with reduced incidence of diverticular disease (an abnormal, saclike herniation of the mucosal layer through the muscular wall of the colon) in men, non-insulin dependent diabetes in women, coronary heart disease in men, and hypertension in women and men.

The Food and Drug Association allows food manufacturers to use a food label claim that diets low in saturated fat and cholesterol and rich in fruits, vegetables, and grains that

contain some types of fiber, particularly soluble fiber, may reduce the risk of heart disease.

Recommendations for fiber in your diet

The Adequate Intake (AI) of fiber for women over 50 years of age is to consume 21 grams and men over the age of 50 years to consume 30 grams of fiber (14 grams/1000 calories). Adequate Intake means there is not enough evidence to set a firm number, however, AI's are to be used as "tentative" goals for the nutrient intake.

Tips for fitting in fiber

When beginning to increase the amount of your fiber intake, it is important to add fluids to process the fiber. It is best to slowly add both fiber and fluids to your diet, allowing the intestinal system time to adapt.

If you are not getting enough fiber each day, you may need to boost your intake. Choose whole-grain products, raw or cooked fruits and vegetables, and dried beans and peas. Refined or processed foods, such as fruit juice, white bread and pasta, and non-whole-grain cereals are lower in fiber content. The grain-refining process removes the outer coat (bran) from the grain, which lowers its fiber content. Similarly, removing the skin from fruits and vegetables decreases their fiber content.

Fiber supplements

Try to get the fiber you need from dietary sources. Some people may also need a fiber supplement. Sometimes the grain psyllium is used.

Excess use of fiber supplements could result in intestinal problems. The absorption of certain medications could also be decreased. **Always consult your physician before starting any new supplements.**

Food, Standard Amount	Dietary Fiber (g)	Calories
Navy beans, cooked, 1/2 cup	9.5	128
Bran readytoeat cereal (100%), 1/2 cup	8.8	78
Kidney beans, canned, 1/2 cup	8.2	109
Split peas, cooked, 1/2 cup	8.1	116
Lentils, cooked, 1/2 cup	7.8	115
Black beans, cooked, 1/2 cup	7.5	114
Pinto beans, cooked, 1/2 cup	7.7	122
Lima beans, cooked, 1/2 cup	6.6	108
Artichoke, globe, cooked, 1 each	6.5	60
White beans, canned, 1/2 cup	6.3	154
Chickpeas, cooked, 1/2 cup	6.2	135
Great northern beans, cooked, 1/2 cup	6.2	105
Cowpeas, cooked, 1/2 cup	5.6	100
Soybeans, mature, cooked, 1/2 cup	5.2	149
Bran readytoeat cereals, various, ~1 oz	2.6—5.0	90—108
Crackers, rye wafers, plain, 2 wafers	5.0	74
Sweetpotato, baked, with peel, 1 medium (146 g)	4.8	131
Asian pear, raw, 1 small	4.4	51
Green peas, cooked, 1/2 cup	4.4	67
Wholewheat English muffin, 1 each	4.4	134
Pear, raw, 1 small	4.3	81
Bulgur, cooked, 1/2 cup	4.1	76
Mixed vegetables, cooked, 1/2 cup	4.0	59
Raspberries, raw, 1/2 cup	4.0	32
Sweetpotato, boiled, no peel, 1 medium (156 g)	3.9	119
Blackberries, raw, 1/2 cup	3.8	31
Potato, baked, with skin, 1 medium	3.8	161
Soybeans, green, cooked, 1/2 cup	3.8	127
Stewed prunes, 1/2 cup	3.8	133
Figs, dried, 1/4 cup	3.7	93
Dates, 1/4 cup	3.6	126
Oat bran, raw, 1/4 cup	3.6	58
Pumpkin, canned, 1/2 cup	3.6	42
Spinach, frozen, cooked, 1/2 cup	3.5	30
Shredded wheat readytoeat cereals, various, ~1 oz	2.8—3.4	96
Almonds, 1 oz	3.3	164
Apple with skin, raw, 1 medium	3.3	72
Brussels sprouts, frozen, cooked, 1/2 cup	3.2	33
Wholewheat spaghetti, cooked, 1/2 cup	3.1	87

Recipes

Whole Wheat Muffins

Ingredients:

1/2 cup margarine or butter
1/2 cup granulated sugar
1/2 cup light brown sugar
1 teaspoon baking soda
1 egg
1/4 teaspoon vanilla
1 cup milk, 2%
2 cups whole wheat flour *

Directions: Preheat oven to 400°F. Have ingredients at room temperature.

Line the muffin tin using paper baking cups or use cooking spray to coat the bottom of the muffin tin.

With electric mixer; cream margarine, granulated sugar, brown sugar and baking soda together, scraping bowl with spatula.

In a small bowl, using a fork, beat together the egg and vanilla; add to creamed mixture. Beat until light and fluffy. Add the milk to the creamed mixture. Gradually add the whole wheat flour and lightly stir the ingredients together so dry ingredients are barely moistened. Over mixing will make the muffins tough with tunnels.

Fill muffin tins 2/3 full and bake 15 to 17 minutes or until browned and done. Remove from muffin tin and cool on wire rack.

Safety Tip: Do not lick the spoon or eat the batter, because the recipe contains raw egg and can make us ill — especially young children. Wait until the batter is baked and then enjoy!

Using Kansas white whole wheat flour makes a golden whole grain muffin.

*White whole wheat flour — for list of suppliers go to www.kswheat.com.

Calories/Serving: 231

Servings: 12 muffins

Nutrition: One muffin provides approximately: 231 calories; 5 g protein; 34 g carbohydrates; 9 g fat (1 g saturated); 19 mg cholesterol; 3 g fiber; 14 mcg folate; 1 mg iron; 120 mg sodium.

Source: Wheat Foods Council

www.wheatfoods.org

Mixed Bean Soup With Pasta

Ingredients:

3 quarts vegetable stock
1, 28 ounce can crushed tomatoes in puree
1, 15 ounce can black beans, drained
1, 15 ounce can garbanzo beans, drained
1, 15 ounce can kidney beans, drained
2 medium carrots, trimmed, scrubbed and cut into 1/2-inch dice
2 medium stalk celery ribs, washed and cut into 1/2-inch dice
3/4 cup onion, peeled and chopped
1 small green bell pepper, cored and cut into 1/2-inch dice
1 small red bell pepper, cored and cut into 1/2-inch dice
8 cloves garlic, chopped
1 teaspoon ground oregano
1 teaspoon thyme
1 teaspoon rosemary
1 teaspoon basil
1 cup dry pasta, Penne or Rotini
3 tablespoons balsamic vinegar
pepper to taste

Description: Great served in warm homemade bread bowls. See our recipe for whole wheat bread bowls.

Directions: In large soup pot combine everything except pasta, vinegar, and black pepper; bring to a boil over high heat; reduce heat to low and simmer, partially covered until carrots are tender crisp, stirring occasionally.

Add pasta and cook until tender, about 10 minutes.

Stir in vinegar and season with pepper. Serve in warm bread bowls. Please see recipes for whole wheat bread bowls on this web site.

Calories/Serving: 164 calories/serving

Servings: Provides 12 servings

Nutrition: One serving provides approximately: 164 calories, 8 g protein, 32 g carbohydrates, 9 g fiber, 2 g fat (0 g saturated), 0 mg cholesterol, 41 mcg folate, 3 mg iron and 613 sodium.

Source: Wheat Foods Council

www.wheatfoods.org



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True or False on Dietary Fat Activity Sheet

Circle the best answer for each question. When all participants are finished, discuss the correct answer as a group.

1. Fiber is only found in plant foods.

True False

2. Adding a lot of fiber to your diet too quickly may cause gas, cramps, and diarrhea.

True False

3. Oats are a high fiber food that may help reduce your cholesterol.

True False

4. Fiber is easily digested by your body.

True False

5. An average healthy adult needs 50 grams of dietary fiber per day.

True False

6. Fiber is a good source of energy (calories).

True False

7. Fiber is sometimes classified as solid and insoluble.

True False

8. Insoluble fiber speeds up the transit time of food in the intestines.

True False

9. You should always consult your physician before starting a fiber supplement.

True False

10. A good source of fiber is all-purpose enriched white flour.

True False