Nutrition and Diet Therapy 12th edition Roth Solutions Manual

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CHAPTER 2
PLANNING A HEALTHY DIET

Key Terms

balanced diet
daily values
descriptors
Dietary Guidelines for Americans
dietary laws
Dietary Reference Intakes (DRIs)
flavonoids
food customs
foodways
fusion
lacto-ovo vegetarians
lactose intolerance
lacto-vegetarians
legumes
masa harina
mirin
miso
MyPlate
vegans
wasabi

Objectives

After studying this chapter, you should be able to:

- Define a balanced diet
- List the U.S. government's Dietary Guidelines for Americans and explain the reasons for each
- Identify the food groups and their placement on MyPlate
- Describe information commonly found on food labels
- List some food customs of various cultural groups
- Describe the development of food customs

Learning and Teaching Strategies

1. Have students compare food packaging labels of different manufacturing brands for nutrients and food composition. Locate and present various food products that contain descriptors discussed in the chapter.

2. Interview individuals from a variety of cultures. Evaluate the quality of their diet by comparing caloric and nutrient composition.

3. Plan a class project for students to prepare and bring in foods from different cultures. Students should report on the ingredients, food preparation methods, and nutritional content of the meal or food, including calories, vitamins, minerals, and other essential nutrients.

4. Interview someone in a worksite wellness department to see what his or her organization does to uphold healthy eating and physical activity in their workers.

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5. Interview a school food service official to discuss how menus have changed according to government standards.

6. Investigate if any of the farmer's markets in your area take Food Stamps (SNAP) or WIC vouchers.

Additional Discussion Questions

Discussion Question 1

Have student groups pick a country that grows a particular food item or items and uses them as main staples in its own diet. Instruct them to use the nursing process to answer the following questions and formulate a solution to the problem caused by eating that particular food item.

A. What vitamins, minerals, or nutrients may be deficient?

B. What diseases occur commonly as a result of the dietary deficiency?

C. What additional food sources do they need?

D. How widespread is the disease? Does it affect adults or children, or both?

E. Are there humanitarian efforts taking place in that country to aid in the prevention or cure of those diseases caused by the dietary deficiency?

F. From the variety of presentations, choose the one(s) with the most devastating impact, and have the groups develop a relief project to address the situation in that country.

Use the nursing process to plan, set goals, implement, or present to the class and let the class evaluate how clearly it is presented and how relevant and successful they think the project would be. The project should include topics such as planning a budget; fundraising; how to allocate, store, ship, and deliver to the need areas; and the manpower needed to perform the operation.

Discussion Question 2

The most common nutrient deficiency in the world is the lack of iron. It is more prevalent among four specific population groups (women of childbearing age, infants, the elderly, and pregnant women). Assign a particular population group to the students and detail a one week diet plan for the designated population group. The diet plan should include food that is palatable and pleasurable to look at for the age group for which it is intended.

Discussion Question 3

Investigate the teaching initiative "Nutrition Detectives™" written by Dr. Katz from Yale's Prevention and research center. What did you learn when you reviewed the material? Do you think this should be curriculum for school students in their health classes? Do students receive this information in your area?

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Discussion Question 4

Have students track their intake with a smart phone app of their choice. Have them track their activity level. Did students meet recommendations as set forth in physical activity guidelines and the U.S. Healthy Eating Patterns? Have students comment on where the gaps happened. If an app is not available, use the Supertracker on Choose MyPlate.

Answers to Review Questions

1. b
2. a
3. b
4. a
5. c
6. b
7. c
8. a
9. b
10. b
11. b
12. c
13. b
14. c
15. b
16. b
17. d
18. a
19. c
20. d
21. c
22. a
23. c

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CASE IN POINT—MARA: MAINTAINING A HEALTHY DIET WHILE GAINING INDEPENDENCE

Mara's parents immigrated to the United States from Mexico when she was young. She has lived with her parents who have worked for farmers since moving to the United States. They have been able to enjoy many of the fresh vegetables and fruits grown by the farmers. They also have access to a local farmer's market where her parents deliver produce from the farmers. They purchase fresh meats and seafood at the market as well. Her mother loves to cook and therefore they have rarely eaten at restaurants. Now that Mara has finished high school, she has received a scholarship to college. The college is nearby; however, Mara will be living on campus and not with her parents. Her mother is concerned about her health and nutrition as she goes away to college. She is concerned she will make poor nutritional choices if she is not educated on nutrition. She would like her to be aware of the consequences of fast foods and alcohol consumption. Mara and her parents will be traveling to college to get her registered for classes soon. Mara's mother has made an appointment with a dietitian at the local hospital before they leave. She would like the dietitian to review healthy nutrition for Mara. She would like her to discuss with Mara how to incorporate American foods and eating out while still maintaining a healthy diet.Mara is currently 5 ft 4 in and 119 lb. She is happy with her current body weight and feels good about herself. She tells the dietitian she is interested in becoming more aware of what she is eating. She knows that in her new independence it will be easier to prepare healthy meals if she has the knowledge she needs to accomplish this task.

ASSESSMENT

1. What factors will be influencing Mara as she attends college?
   - **a. Money**
   - **b. How busy she becomes**
   - **c. Ease of getting fast food**
   - **d. Different geographical area**
   - **e. Being on her own**

2. List the subjective information that can be obtained from Mara and her mother about her eating habits.
   - **a. Mara is used to eating a healthy meal of fruits and vegetables. Fresh meats and seafood are her main protein sources. She has no preservatives in her food since she eats from the garden and from what her parents get from local meat and seafood markets.**

3. What can you caution Mara regarding her introduction into the college world of nutrition?
   - **a. Fast foods contain high quantities of salts and preservatives.**
   - **b. Fast foods are high in fat.**
   - **c. Be aware of healthy choices where food is concerned.**
   - **d. Preparing her own meals is an option.**

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4. How significant are these problems?
   a. **Highly significant to Mara's well-being**

5. Is Mara currently at a healthy weight for her height?
   a. **Yes, her ideal body weight is 120 pounds ± 10%.**

DIAGNOSIS

6. Write a nursing diagnosis for Mara.
   a. **Nursing Diagnosis: Altered health maintenance, related to insufficient knowledge of nutrition or of effects of poor nutrition on her body, manifested by new surroundings and independent living.**
   b. **Interventions: Educate Mara on nutrition for healthy living. Discuss high-fat, low nutrient-dense foods, label reading, and alcohol consumption. Discuss healthy meals Mara will be able to fix easily and independently.**

PLAN/GOAL

7. What changes will Mara expect to see if she decides to eat less healthily?
   a. **Loss of energy**
   b. **Change in appearance**
   c. **Increase in weight**
   d. **Acne**
   e. **Mental alertness altered**

8. What situations will be most stressful to Mara?
   a. **Initially the new surrounding**
   b. **Away from home for the first time**
   c. **Different geographical culture**
   d. **Exams**
   e. **Meeting new people**

9. What could Mara do to help keep her nutrition and food consumption on track?
   a. **She could keep track of what she eats to make sure she is consuming the foods and quantities she discussed with the dietitian.**

10. What goals could Mara set to also help maintain her weight and her health?
    a. **She could make a plan to exercise at least 3 days per week.**
    b. **She could monitor her weight every 1–2 weeks to make sure she is staying stable at her healthy body weight.**

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IMPLEMENTATION

11. List some strategies Mara can use to help keep healthy.

a. Keep a food diary
b. Limit the intake of fast foods to once a week
c. Be aware of how she is feeling physically
d. Weigh herself weekly
e. Exercise at least three times per week.

12. What substitutes could Mara make to be able to fit in with the crowd and still be eating well?

a. Mara can carry her lunch and still eat with her friends on campus.
b. Mara can encourage others to eat well.
c. She can buy good vitamins.
d. She can limit poor food choices by planning her meals and decreasing the spontaneous food choices that are less healthy.

13. What would you caution Mara about in regard to stressful situations?

a. Become aware of what she does to relieve her stress
b. If food is a stress reliever, then make sure she has on hand lots of fresh vegetables that she can eat
c. Take a walk to relieve the stress

EVALUATION/OUTCOME CRITERIA

14. How will Mara be able to determine her success for healthy eating?

a. Keeping her weight within normal limits
b. Keeping her energy level up

15. How well will Mara be able to associate body changes with poor food choices?

a. After speaking with the nurse and dietitian, she should be able to identify body changes and food choices extremely well.

16. How could the dietitian evaluate Mara's progress?

a. Mara could follow up with the dietitian at her semester break. She could discuss with the dietitian how things have been going and any problems she has had staying on track with her nutritional goals.
b. Mara could discuss any pitfalls to healthy eating she has encountered and brainstorm with the dietitian on how to avoid them.
c. Mara could discuss her exercise routine. Has she been able to exercise or have there been obstacles to achieving that goal?
d. Dietitian could assess Mara's weight since beginning college. Any significant changes or fluctuations?

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THINKING FURTHER

17. Who else will benefit from Mara's food choices?

a. Her roommate
b. Her friends

18. What resources could help Mara achieve her goals?

a. Internet: she could look up nutrient content of foods on webpages such as www.calorieking.com or webpages specific to restaurants.
b. She could get a pocket guide for nutritional content of foods and fast foods.
c. She could find healthy recipes that are quick and easy to prepare.
d. If she has a smart phone, there are many nutritional apps that she could download to track what she is eating or the calories in the food that she is consuming.

RATE THIS PLATE

Analyze the meal that Mara has prepared for dinner. Are the portions the right size for Mara? How would you change the portion sizes you feel are not correct? Rework this plate.

2 chicken tacos with lettuce, tomato, cheese, and onion
1 cup rice
¾ cup refried beans made with lard
12 oz regular soda

ANSWERS TO RATE THIS PLATE FOR MARA

The 2 chicken tacos are fine.

The cup of rice is too large of a serving. She only needs ½ cup of rice for a serving.

Refried beans made with lard add extra calories and fat. The serving should be ½ cup made without lard to provide her with protein and some fat.

If she is not lactose intolerant, she should be drinking a glass of milk instead of soda.

CASE IN POINT—THOMAS: CONSIDERING A VEGAN LIFESTYLE

Thomas has always been an athlete. He played a wide variety of sports throughout his high school years. He continued to be very active even in college. He has done some bodybuilding and has always consumed a high percentage of his calories from protein and meat sources. Thomas is 26 years old and Caucasian. He is currently 5 ft 9 in tall and 215 lb. Recently he has been dating a woman with whom he is really in love. His only concern is that she is of Indian decent and due to her cultural and religious beliefs, she is a vegan. She has not tried to persuade him to adopt the vegan lifestyle; however, he knows that meals at home with her would never contain animal proteins. He is not sure that he would ever be able to give up his meat sources for a different protein source. He is primarily concerned he would not get the adequate protein he needs for his weightlifting and bodybuilding activities. He has decided it may be in his best interest to discuss his concerns with his doctor. His doctor suggested meeting with a registered dietitian to review his calorie and protein needs and to discuss his options for alternative protein sources.

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ASSESSMENT

1. Thomas is 5 ft 9 in tall. What is the ideal body weight for him?
   a. **Ideal body weight for men is 106 pounds for being 5 feet tall and 6 extra pounds per inch above 5 feet. Thomas' ideal body weight is 160 pounds ± 10%.**

2. Is Thomas at a healthy body weight for his height?
   a. **No, he is above his ideal body weight range.**

3. Using Table 2-1, what would you expect an appropriate calorie range for Thomas to be?
   a. **2,400–3,000. Toward the lower end if he desires weight loss.**

4. What would be important to discuss with Thomas when considering a vegan diet plan?
   a. **What alternate sources of protein Thomas could consume to ensure he is meeting his nutritional needs.**
      i. **Beans**
      ii. **Chickpeas**
      iii. **Meat analogues**
      iv. **Tofu**
      v. **Nuts**
   b. **How to read labels and nutrient lists for animal source products.**
   c. **Any vitamin or mineral supplements he may need to take to ensure he is meeting his needs for all nutrients. Of particular concern may be B_{12}, iron, omega-3, and calcium.**

DIAGNOSIS

5. Write a nursing diagnosis for Thomas.
   a. **Nursing Diagnosis: Risk for imbalanced nutrition: less than body requirements, risk factors include new vegan lifestyle, manifested by excluding animal source foods and learning to incorporate alternate sources of protein, B_{12}, iron, omega-3, and calcium.**
   b. **Interventions: Educate the patient on how to follow a vegan lifestyle and continue to receive adequate nutrition for his body's needs.**

PLAN/GOAL

6. What could Thomas do to help ensure he is receiving adequate nutrition and meeting his macro- and micronutrient needs?
   a. **Log the foods he is eating and review them to ensure he is receiving a variety of foods and nutrients.**
   b. **Take a vitamin and mineral supplement.**
   c. **Monitor his weight and assess how he is feeling routinely.**
   d. **He may want his physician to check blood work for iron and B_{12} status to assure he is meeting his needs.**

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IMPLEMENTATION

7. Name food sources Thomas could consume that are high in calcium.

   a. White beans
   b. Broccoli
   c. Brussels sprouts
   d. Kale
   e. Kohlrabi
   f. Mustard greens
   g. Orange juice (calcium fortified)
   h. Soy milk
   i. Tofu (calcium set)
   j. Turnip greens

8. Name food sources Thomas could consume that are high in vitamin B_{12}.

   a. Brewer's yeast
   b. Sea vegetables such as dulse, kelp, and nori
   c. Foods fortified in vitamin B_{12}, including some plant milks, some soy products, and some breakfast cereals.
   d. May also need a B_{12} supplement

9. Name food sources Thomas could consume that are high in iron.

   a. Green leafy vegetables
   b. Whole grains
   c. Almonds
   d. Avocados
   e. Beets
   f. Blackstrap molasses
   g. Brewer's yeast
   h. Dates
   i. Dulse
   j. Kelp
   k. Kidney and lima beans
   l. Millet
   m. Peaches
   n. Pears
   o. Dried fruits including raisins
   p. Pumpkins
   q. Rice and wheat bran
   r. Sesame seeds
   s. Soybeans
   t. Watercress
   u. Iron-rich herbs include alfalfa, catnip, cayenne, chamomile, chickweed, dandelion, fennel seed, kelp, lemongrass, paprika, parsley, peppermint, plantain, and many more. The use of ironware when cooking foods also contributes to dietary intake.

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Tip: Be sure to eat organic blackstrap molasses so you know it does not contain lard as a foam-reducing agent, which may reduce its healthful effects.

10. Name food sources that Thomas could consume that are high in omega-3 fatty acids.

a. Flaxseeds
b. Hemp seeds
c. Walnuts
d. Soybeans
e. Some leafy green vegetables and plant foods
f. Vegans typically will also need an omega-3 supplement.

EVALUATION/OUTCOME CRITERIA

11. How would you determine the success of Thomas's transition to his new vegan lifestyle?

a. He reports satisfaction with the foods.
b. He reports feeling good with no fatigue or health issues.
c. His iron and B_{12} blood work is within normal ranges.

THINKING FURTHER

12. What other types of vegetarian lifestyles are options for Thomas if he would like to incorporate some animal food sources?

a. Lacto-ovo vegetarians—use dairy products and eggs but no meats, poultry, or fish
b. Lacto-vegetarians use dairy products but no meat, poultry, or eggs.
c. There is even a new term known as flexitarian. A flexitarian is someone who follows mainly a lacto-ovo vegetarian diet, but will occasionally incorporate fish or poultry. They usually do not incorporate red meat. The Mediterranean diet is a flexitarian type diet.

RATE THIS PLATE

Thomas is concerned about getting enough protein on a vegan diet. Will this meal provide Thomas with enough protein? What vegan protein sources could Thomas include in the meal or as a snack to meet his protein needs? Rate this plate.

Tofu stir-fry with broccoli, snow peas, carrots, and onion
½ cup brown rice
⅛ of a cantaloupe, sliced
Carbonated fruit beverage

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ANSWERS TO RATE THIS PLATE FOR THOMAS

The stir-fry is a healthy option. Four ounces of tofu will provide Thomas with 10 grams of protein. Including ½ cup of cooked beans will provide about 5–7 grams of protein and adding 2 tablespoons of nuts to the stir-fry will add 4–5 grams. The brown rice will provide carbohydrate for energy and a small amount of protein. Cantaloupe is a fruit and therefore provides more carbohydrate than protein to the meal.

Since Thomas is physically active and a bodybuilder, he will need additional protein for muscle building. Consuming around 30–35 grams of protein per meal will meet his daily protein need. Thomas may also choose to eat a snack higher in protein such as ¼ cup of nuts, vegetables with hummus, or a peanut butter sandwich to assist in achieving the recommended intake.

Resource Guide

1. http://www.usda.gov

   The U.S. Department of Agriculture makes available to all consumers this website, with a variety of related topics and activities, as well as links to additional sites for consumers. Enter into the search line, "Dietary Assessment Tools." Findings include:

   a. An Activity Calorie Calculator calculates the calories burned for a variety of different activities. It is individualized by using each individual's weight and entering the length of time spent performing each activity.

   b. A Calorie Calculator calculates the number of daily calories needed to maintain a person's weight. Maintain, in this case, is to keep the individual at the same weight. The site makes recommendations for the number of calories to be decreased daily to lose weight.

   c. The Fruit, Vegetable, and Fiber Screener calculates the approximate amount of fiber consumed per day from an individual's daily food sources.

2. http://www.fda.gov

   U.S. Food and Drug Administration: Center for Food Safety and Applied Nutrition. This site is sponsored by the U.S. Food and Drug Administration and the Center for Food Safety and Applied Nutrition. This site provides a variety of food safety information about topics such as current food recalls, biotechnology, and food defense and emergency response.

3. https://www.supertracker.usda.gov

   MyPlate Super Tracker is sponsored by the U.S. Department of Agriculture Center for Nutrition Policy and Promotion. This site provides a dietary and physical activity assessment tool that provides information on your diet and activity status.

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4. http://www.choosemyplate.gov

   This U.S. Department of Agriculture website provides information for professionals and includes printable materials, including posters and food tracking worksheets. Additional findings at this site include:

   a. Weight Management and Calories—Provides detailed information about maintaining a healthy weight and making better food choices. The links provided within this site explain empty calories and how to manage calorie intake.

   b. Physical Activity—Defines physical activity, recommends how much physical activity is needed, and provides tips for physical activity.

   c. Super Tracker—Using this resource, individuals can look up nutrition information for over 8,000 foods and compare foods side-by-side.

   d. Healthy Eating Tips—Provides a wealth of information and suggestions that can help individuals get started toward a healthy diet. Sample menus and recipes, tips for vegetarians, and other cultural cooking methods can be found here.

5. http://www.health.gov

   Specific advice for all age groups on amount of aerobic, muscle strengthening and bone building activity for Americans.

6. http://www.health.gov

   The U.S. Department of Agriculture and the Department of Health and Human Services publish jointly the *Dietary Guidelines for Americans 2015–2020.*
   The new Dietary Guidelines have a multitude of federal physical activity nutrition resources and web page sites in Appendix 8.

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