

## Chapter 01: Food, Nutrition, and Health

### Nix: Williams' Basic Nutrition and Diet Therapy, 15th Edition

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#### MULTIPLE CHOICE

1. Promoting a health care service that improves diabetes management for the elderly in a community would assist in which of the following?
  - a. Supporting the national health goals *Healthy People 2020*
  - b. Reducing hunger in a subset of the United States population
  - c. Improving Medicare reimbursement claims
  - d. Providing access to primary health care services

ANS: A

*Healthy People 2020* has a wide influence and is the focus of the nation's main objective to promote health and prevent disease.

DIF: Cognitive Level: Application

REF: p. 2

TOP: Nursing Process: Implementation

MSC: NCLEX: Health Promotion and Maintenance

2. A patient requires a nutrition assessment. The most appropriate professional to perform the assessment is a
  - a. physician.
  - b. nurse.
  - c. public health nutritionist.
  - d. registered dietitian.

ANS: D

The registered dietitian is the nutrition expert registered with the Commission of Dietetic Registration (CDR), the certifying agency of Academy of Nutrition and Dietetics. Registered dietitians are the only professionals who have met strict educational and professional prerequisites and passed a national registration examination that properly prepares them to conduct a nutrition assessment.

DIF: Cognitive Level: Application

REF: p. 1

TOP: Nursing Process: Assessment

MSC: NCLEX: Safe and Effective Care Environment: Management of Care

3. The sum of all body processes inside living cells that sustain life and health is
  - a. science.
  - b. digestion.
  - c. metabolism.
  - d. nutrition.

ANS: C

Metabolism is the sum of all chemical changes that take place in the body. Metabolism provides energy, builds tissue, and regulates metabolic processes in the body.

DIF: Cognitive Level: Knowledge

REF: p. 3

TOP: Nursing Process: Planning

MSC: NCLEX: Physiological Integrity: Physiological Adaptation

4. The nutrients that provide the body with its primary source of fuel for energy are

- a. vitamins.
- b. minerals.
- c. fiber.
- d. carbohydrates.

ANS: D

Carbohydrates (e.g., starches and sugars) are the body's primary fuel to carry out necessary processes; fat is the secondary source of energy.

DIF: Cognitive Level: Knowledge REF: p. 4 TOP: Nursing Process: Planning  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

5. Which of the following is the most accurate statement regarding the functions of protein?
- a. Proteins can be a primary fuel source even if there is adequate carbohydrate intake.
  - b. Proteins are a necessary nutrient to provide energy for the body in times of stress.
  - c. Proteins can be used as coenzyme factors during cell metabolism.
  - d. Proteins are essential to building and repairing tissues within the body.

ANS: D

The primary function of proteins is to provide amino acids, which are the building units necessary to building and repairing tissues within the body. This is a constant process that ensures adequate growth and maintenance of tissues for a strong body.

DIF: Cognitive Level: Comprehension REF: p. 4  
TOP: Nursing Process: Assessment  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

6. A 65-year-old man requires 2000 kcal/day without any specific fat or carbohydrate requirements. The approximate number of kilocalories per day from fat that his diet should provide is \_\_\_\_\_ kcal/day.
- a. 400 to 700
  - b. 100 to 300
  - c. 500 to 800
  - d. 900 to 1200

ANS: A

Fat should provide no more than 20% to 35% of the total kilocalories per day, so for a 2000-kcal diet, 400 to 700 kcal should be provided.

DIF: Cognitive Level: Application REF: p. 4 TOP: Nursing Process: Planning  
MSC: NCLEX: Health Promotion and Maintenance

7. The body's main storage form of carbohydrate is
- a. glycogen.
  - b. glycerol.
  - c. glucagon.
  - d. glucose.

ANS: A

Glycogen is a polysaccharide that is the main storage form of carbohydrate in the human body. It is mainly stored in the liver and to a lesser extent in muscle tissue.

DIF: Cognitive Level: Knowledge      REF: p. 4      TOP: Nursing Process: Planning  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

8. The number of kilocalories provided by one slice of bread that contains 30 g carbohydrate, 3 g protein, and 1 g fat is \_\_\_\_\_ kcal.
- 34
  - 136
  - 141
  - 306

ANS: C

Calculate as follows: Carbohydrate provides 4 kcal/g, protein provides 4 kcal/g, and fat provides 9 kcal/g. Therefore:

$$\begin{aligned} 30 \text{ g carbohydrate} \times 4 \text{ kcal/g} &= 120 \text{ kcal} \\ 3 \text{ g protein} \times 4 \text{ kcal/g} &= 12 \text{ kcal} \\ 1 \text{ g fat} \times 9 \text{ kcal/g} &= 9 \text{ kcal} \\ &= 141 \text{ total kcal (120 kcal + 12 kcal + 9 kcal)} \end{aligned}$$

DIF: Cognitive Level: Application      REF: p. 4  
TOP: Nursing Process: Assessment  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

9. The number of kilocalories from fat in a sandwich that contains 22 g fat is \_\_\_\_\_ kcal.
- 88
  - 132
  - 154
  - 198

ANS: D

Fat provides 9 kcal/g. Thus, 22 g fat  $\times$  9 kcal/g = 198 kcal.

DIF: Cognitive Level: Application      REF: p. 4  
TOP: Nursing Process: Assessment  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

10. The number of kilocalories from protein in a sandwich that contains 15 g protein is \_\_\_\_\_ kcal.
- 45
  - 60
  - 75
  - 135

ANS: B

Protein provides 4 kcal/g. Thus, 15 g protein  $\times$  4 kcal/g = 60 kcal.

DIF: Cognitive Level: Application      REF: p. 4  
TOP: Nursing Process: Assessment  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

11. The basic building units of protein are called \_\_\_\_\_ acids.
- fatty

- b. amino
- c. nucleic
- d. carboxyl

ANS: B

The basic building units of protein are amino acids, which are necessary for building, repairing, and maintaining body tissues.

DIF: Cognitive Level: Knowledge REF: p. 4 TOP: Nursing Process: Planning  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

12. The main nutrients involved in metabolic regulation and control are
- a. water and vitamins.
  - b. vitamins and minerals.
  - c. vitamins and fatty acids.
  - d. minerals and carbohydrates.

ANS: B

Vitamins and minerals are the key nutrients in regulating and controlling the many chemical processes in the body. Vitamins and minerals function as coenzyme factors, which are components of cell enzymes that govern cell chemical reactions in cell metabolism.

DIF: Cognitive Level: Knowledge REF: p. 5 TOP: Nursing Process: Planning  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

13. The dietary regimen that would provide optimal nutrition for a person who is recovering from an extended illness is a diet
- a. low in protein, fat, and carbohydrates; high in minerals and vitamins; and very low in fiber.
  - b. providing adequate amounts of carbohydrates, protein, fat, minerals, and vitamins along with adequate water and fiber.
  - c. high in protein, fiber, and fluid; low in carbohydrates; and adequate in vitamins and minerals.
  - d. with essential amounts of vitamins and minerals; high in protein; and low in fat, carbohydrates, and fiber.

ANS: B

Optimal nutrition incorporates a varied diet supplying adequate amounts of all nutrients, including carbohydrates, protein, fat, vitamins, minerals, fiber, and fluid.

DIF: Cognitive Level: Application REF: p. 5 TOP: Nursing Process: Planning  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

14. A young woman is 5 months pregnant. She currently lives in a condition of poverty and often runs out of money to buy food. She is most at risk for
- a. liver damage.
  - b. osteopenia.
  - c. undernutrition.
  - d. overnutrition.

ANS: C

A person with undernutrition, or an intake less than the desired amounts of nutrients a person needs to sustain and maintain health, carries a greater risk for physical illness than a person receiving adequate nutrition. In this case, a young, pregnant woman living in poverty who cannot obtain the necessary nutrition for herself and her baby is in a state of undernutrition, placing both at nutritional risk.

DIF: Cognitive Level: Application REF: p. 5 TOP: Nursing Process: Diagnosis  
MSC: NCLEX: Safe and Effective Care Environment: Management of Care

15. Which factors place a person at the greatest risk for malnutrition?
- Poor appetite, insufficient nutrient intake, poor hygiene, and depleted nutrition reserves
  - Poor hygiene, insufficient exercise, and excess carbohydrate intake
  - Depleted carbohydrate intake, poor hygiene, and excess calorie intake
  - Poor appetite, insufficient nutrient intake, depleted nutrition reserves, and a form of metabolic stress

ANS: D

Malnutrition appears when nutritional reserves are depleted and nutrient and energy intake is not sufficient to meet day-to-day needs or added metabolic stress.

DIF: Cognitive Level: Knowledge REF: p. 5 TOP: Nursing Process: Diagnosis  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

16. Mr. Katz, who is 48 years old, is admitted to the hospital with a fracture to his left hip. He weighs 248 lb (54 lb above his desired weight). He is considered to be in a state of overnutrition. The statement most true regarding his state of overnutrition is that
- desired nutrients are consumed in excess amounts without the risk of malnutrition.
  - because excess body fat is evident and excess calories are consumed, there is no risk of nutrient deficiency leading to malnutrition.
  - even though excess body fat and excess nutrient intake are evident, there still may be a risk for some type of nutrient deficiency leading to malnutrition.
  - excess body weight may or may not be present along with excess consumption of carbohydrates and fat, which results in inadequate vitamin and mineral intake.

ANS: C

Overnutrition results from excess nutrient and energy intake over time, resulting in excess weight and a state of obesity. Malnutrition can result from excess body weight and the lack of vitamin- and mineral-rich food consumption (e.g., consumption of fatty and carbohydrate-rich foods only).

DIF: Cognitive Level: Application REF: p. 5 TOP: Nursing Process: Diagnosis  
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

17. Which is least likely to be a primary cause of malnutrition?
- Conditions of poverty
  - Prolonged hospitalization
  - Homelessness
  - Exercise

ANS: D