Chapter 19

Nutritional Concepts and Related Therapies

Basic Nutrition and Nutritional Therapy

- Nutrition is the total of all processes involved in the taking in and utilization of food substances for proper growth, functioning, and maintenance of health
- Nutrition plays a role directly or indirectly and all body processes

Role of the Nurse in Promoting Nutrition

- The nurse can promote good nutrition by
  - Helping the patient understand the importance of diet and encouraging dietary compliance
  - Serving meal trays to patients in a prompt and positive manner
  - Assisting some patients with the eating process
  - Taking and recording patient’s weight
  - Recording patient’s intake
  - Observing clinical signs of poor nutrition and reporting them
  - Serving as a communication link
Basic Nutrition

- Diet planning guides
  - To help people maintain optimal nutrition
  - Standards are guidelines describing how good dietary habits can promote health and reduce the risk for major chronic diseases
  - Nutritional guidelines have changed based on our growing knowledge of nutrition
  - Started as a farmer’s bulletin over 100 years ago and has evolved to the current “My Plate”

Basic Nutrition (Cont.)

- My Plate
  - Developed by the US Department of Agriculture (USDA) and was introduced in 2011
  - Is an image of a round plate divided into four different-colored sections
  - Colored areas show how much people should eat from each of the four food groups: vegetables, fruits, grains, and proteins
  - A smaller circle next to the plate represents dairy food group
  - The USDA suggests that people balance calories by reducing portions; increase intake of fruits, vegetables, and whole grains and reduce the amount of sodium and sugary foods in the diet

Basic Nutrition (Cont.)

- Dietary guidelines for Americans
  - The dietary guidelines for Americans 2010 are the latest for the US population
  - Recommendations are for the general population as well as for specific population groups such as pregnant or lactating women
  - The recommendations are intended to help people choose an overall healthy diet
  - These guidelines emphasize balancing calories with activity to manage weight; consuming more fruits, vegetables, and whole grains; increasing fat-free or low-fat dairy products and seafood; and consuming less sodium, saturated fat, trans fat, cholesterol, added sugars, and refined grains.
Basic Nutrition (Cont.)

- Dietary guidelines for Americans
  - Are used to form the US federal nutrition policy and directly affect federal nutrition programs such as food stamps, school breakfast and lunch programs, and the special supplement nutrition program for women, infants, and children (WIC)

Basic Nutrition (Cont.)

- Dietary guidelines for Americans
  - Dietary reference intakes (DRIs)
    - A set of nutrient-based values that can be used for both assessing and planning diets
    - They form the basis for daily values used in the Nutrition Facts labels on foods
    - The DRIs are intended to help individuals optimize their health, prevent disease, and avoid consuming too much of a nutrient

Basic Nutrition (Cont.)

- Essential nutrients
  - Basic functions
    - Essential nutrients are those that our bodies cannot make in amounts necessary for good health
    - The six classes of essential nutrients are carbohydrates, fats, proteins, vitamins, minerals, and water
Basic Nutrition (Cont.)

- Essential Nutrients
  - Basic functions
    - Provide energy
    - Carbohydrates and proteins: 4 kcal/g
    - Fat: 9 kcal/g
    - Build and repair tissue
    - Protein, calcium, phosphorus, iron, and fat
    - Regulate body processes
    - Metabolism: the combination of all chemical processes that take place in living organisms

- Essential nutrients
- Carbohydrates
- Main function of carbohydrates is to provide energy
- Simple carbohydrates
  - Simple sugars: monosaccharides and disaccharides
  - Found naturally in many nutritious foods such as milk and fruit
- Complex carbohydrates
  - Polysaccharides
  - Starch, glycogen, and dietary fiber

- Digestion and metabolism of carbohydrates
  - All carbohydrates except fiber are broken down in the digestive tract into monosaccharides (simple sugar units)
  - They then are absorbed and eventually converted to glucose
  - Glucose circulates in the bloodstream and is used by the cells for energy
Basic Nutrition (Cont.)

- Essential nutrients
- Carbohydrates
- Digestion and metabolism of carbohydrates
  - If energy needs are met, carbohydrates will be stored as glycogen
  - Once glycogen stores are full, further excesses of carbohydrates will be converted to fat and stored as adipose tissue

Basic Nutrition (Cont.)

- Essential nutrients
  - Fats (lipids)
    - These are a group of organic substances of a fatty nature that are insoluble in water and are necessary in the body for good health
    - Both fats and cholesterol are lipids
    - Adipose tissue is the body's storage form of fat; it helps insulate the body from temperature extremes and serves as a cushion to protect organs and other tissues
    - Fat provides satiety; it adds flavor and aroma to foods

Basic Nutrition (Cont.)

- Essential nutrients
  - Fats (lipids)
    - Saturated fatty acids
    - These are generally of animal origin and solid at room temperature
    - They increase blood cholesterol levels and the risk of atherosclerosis
Basic Nutrition (Cont.)

- Essential nutrients
  - Fats (lipids)
  - Unsaturated fatty acids
    - There are one or more places on its chemical chain where hydrogen is missing
    - They can be monounsaturated or polyunsaturated
    - They usually are from plant sources and are liquid at room temperature
    - They are thought to have a blood cholesterol–lowering effect at moderate levels of intake

- Trans-fatty acids
  - These are unsaturated fatty acids that vary slightly in their chemical configuration from naturally occurring unsaturated fatty acids
  - They are produced during hydrogenation
  - They are found in foods containing partially hydrogenated vegetable oils
  - They tend to increase blood cholesterol levels, but not as much as saturated fats

- Cholesterol
  - It performs specific functions in the body but provides no energy
  - It is synthesized in the liver and is found in foods of animal origin
  - Dietary cholesterol is highest in organ meats and egg yolks
  - Intake of dietary cholesterol should average no more than 300 mg per day
Basic Nutrition (Cont.)

- Essential nutrients
  - Fats (lipids)
  - Digestion and metabolism of fats
    - Fats must be emulsified by bile to be digested
    - Once emulsified, fats can be broken down and absorbed
    - Excess dietary fat will be stored as adipose tissue
    - Lipoproteins facilitate the transport of lipids in the bloodstream: high-density (HDL) and low-density (LDL) lipoproteins

- Protein
  - Protein makes up the bulk of the body's lean tissues and organs
  - It is necessary for tissue growth and repair and wound healing
  - Protein is made of smaller units called amino acids
  - There are 22 amino acids, but only 9 are considered essential amino acids
  - The 9 essential amino acids must be obtained from the diet

- Complete proteins
  - One that contains all nine essential amino acids in sufficient quantity and ratio for the body's needs
  - Generally of animal origin; found in foods such as meat, poultry, fish, milk, cheese, and eggs

- Incomplete proteins
  - Lacking in one or more of the essential amino acids
  - Plant origin; include grains, legumes, nuts, and seeds
Basic Nutrition (Cont.)

- Essential nutrients
  - Protein
  - Vegetarian diets
    - They are made up of mainly plant foods; some may include dairy products or eggs as well
    - Lactovegetarian diet includes fruits, vegetables, grains, and milk and dairy products
    - Lacto-ovo vegetarian diet also includes eggs
    - Protein needs can be met with a vegetarian diet; a wide variety of plant foods must be included

Basic Nutrition (Cont.)

- Essential nutrients
  - Protein
  - Protein-kilocalorie malnutrition
    - Individuals suffering from a lack of kilocalories or protein; body breaks down its own protein stores for energy
    - Kwashiorkor: Malnutrition caused by severe protein deficiency; may occur in the presence of adequate kilocalories
    - Marasmus: Condition of extreme malnutrition and emaciation due to inadequate kilocalories and protein

Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - They are needed in small amounts; toxicity may occur with overconsumption
    - They are best received from a balanced, varied diet
    - Vitamins can be destroyed by heat, light, and exposure to air
    - Minerals cannot be destroyed because they are single elements rather than compounds
    - Both vitamins and minerals can be lost when foods are cooked in water
Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - Vitamins
      - Fat-soluble
        - A, D, E, and K
        - Usually carried in the fatty portion of food
        - Can be stored by the body
      - Water-soluble
        - B and C vitamins
        - Not stored in the body; excesses excreted in the urine

- Essential nutrients
  - Vitamins and minerals
    - Antioxidant vitamins
      - Vitamin E and C; previtamin form of A (beta-carotene)
      - Possible link to reduced risks of certain cancers and heart disease
      - Function by delaying or preventing the destruction or breakdown of cell membranes in the presence of oxygen

- Essential nutrients
  - Vitamins and minerals
    - Vitamin C
      - Adequate amounts are necessary for proper immune function
    - Vitamin D
      - Most common dietary sources include fortified milk and milk products
      - The body can also make vitamin D from exposure to sunlight
Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - Vitamin K
      - It plays a role in blood clotting
      - A large fluctuation in vitamin K intake may alter the effects of anticoagulation drugs
    - Folate (folic acid)
      - Before and during pregnancy, it may play a role in reducing the risk of neural tube defects in the infant

Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - Vitamin B12
      - It is primarily found in foods of animal origin
      - It requires a special intrinsic factor produced in the stomach for absorption
      - Pernicious anemia may result with inadequate amounts of intrinsic factor because B12 is not absorbed

Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - Minerals
      - Major minerals are those needed in amounts greater than 100 mg per day
      - Trace minerals are needed in much smaller amounts
Basic Nutrition (Cont.)

- Essential nutrients
  - Vitamins and minerals
    - Minerals
      - Calcium
      - Sodium
    - Potassium
    - Iron

Basic Nutrition (Cont.)

- Essential nutrients
  - Water
    - Nutrient most vital to life
    - Makes up approximately 60% of adult body weight and 80% of infant weight
    - Provides form and structure to body tissues
    - Acts as a solvent, necessary for most chemical processes
    - Transports nutrients and other substances
    - Lubricates and protects moving parts of the body
    - Lubricates food and aids in digestion
    - Regulates body temperature
Life Cycle Nutrition

- Pregnancy and lactation
  - Concerns in pregnancy
    - Weight gain
    - Discomforts and complications
      - Pregnancy-induced hypertension (PIH)

Life Cycle Nutrition (Cont.)

- Pregnancy and lactation
  - Concerns in pregnancy
    - Gestational diabetes
    - Anemia

- Lactation
  - Additional 500 kcal per day is recommended; increased fluid needs
  - Adequate nutrition vital

Concerns in pregnancy
- Weight gain
- Discomforts and complications
  - Pregnancy-induced hypertension (PIH)

Concerns in pregnancy
- Gestational diabetes
- Anemia

Practices to avoid
- Alcohol consumption
- Caffeine consumption; less than 300 mg per day
- Smoking
Life Cycle Nutrition (Cont.)

- **Infancy**
  - Breast milk or iron-fortified infant formula is generally recommended for the first year
  - Breastfeeding should be encouraged
  - Regular cow’s milk is inappropriate during the first year
  - Introducing solid foods too early may increase the risk for food allergies and choking
  - Most infants are not developmentally or physiologically ready to handle solid foods before 6 months of age
  - At 4-6 months of age, single-ingredient foods should be chosen and introduced one at a time at weekly intervals

- **Childhood**
  - This is a critical time for teaching good dietary habits
  - If children are offered nutritious foods in pleasant surroundings and in nonthreatening ways, they will most likely be adequately nourished
  - The parents should decide which foods to serve at what time; the child should be able to decide what and how much to eat

- **Adolescence**
  - Diets are often filled with kilocalorie-rich and nutrient-poor snack foods
  - Common dietary inadequacies include iron and calcium
  - Many teenagers experiment with alcohol and drugs, which have detrimental effects on nutrition
  - Obesity is a common problem; weight reduction diets should be attempted only under the advice of a health care provider and with the guidance of a dietitian
Life Cycle Nutrition (Cont.)

- Adulthood
  - The combined effects of decreased energy needs and reduced physical activity often result in weight gain
  - It is important to use nutrient-dense foods and thereby receive adequate nutrition and fewer kilocalories
  - With age comes the increasing likelihood of age-related illness; nutrient needs vary greatly from individual to individual

Life Cycle Nutrition (Cont.)

- Adulthood
  - Nutritional concerns of adults in long-term care facilities
    - Malnutrition is a common problem among nursing home residents and profoundly influences physical health and quality of life
    - Residents should be offered familiar foods that taste good
    - Fluids should be offered to residents at all meals and between meals
    - Nurses must understand the value of mealtime as a pleasant, social experience

Life Cycle Nutrition (Cont.)

- Adulthood
  - Nutritional concerns of adults in long-term care facilities
    - Malnutrition is a common problem among residents in long-term care (LTC) facilities
    - Poor nutrition is related to a number of factors
      - Many experience cognitive or physical impairment, disease processes, and emotional disturbances
      - Many need assistance with drinking and eating in LTC environment
      - Dietary restrictions can impact the palatability of the food and hinder nutritional intake
      - Inadequate fluid intake and dehydration sometimes occur secondary to decreased thirst sensation, decreased independence, dysphagia (difficulty swallowing), and incontinence
      - Pressure ulcers may occur in nonambulatory residents, increasing kilocalorie, protein, and nutrient needs
Life Cycle Nutrition (Cont.)

- Adulthood
  - Nutrient-drug interactions
    - Drugs may alter food intake by either increasing or decreasing appetite or the ability to eat
    - They may also affect the absorption, metabolism, and excretion of certain nutrients
    - Food intake and vitamin/mineral supplementation may affect the absorption, distribution, metabolism, and action of some medications

Life Cycle Nutrition (Cont.)

- Adulthood
  - Caffeine
    - Caffeine is a drug; it is a central nervous system stimulant and a diuretic
    - It can cause nervousness, irritability, anxiety, insomnia, and heart arrhythmias and palpitations; it may also affect blood pressure, circulation, and gastric acid secretion
    - In children, caffeine may cause hyperactive behavior
    - Limit intake to less than 300 mg per day

Question 1

A patient who abuses alcohol presents with significant mental status changes and loss of balance. Which vitamin deficiency does the nurse suspect as a possible cause?

1. Vitamin C
2. Thiamine
3. Riboflavin
4. Niacin
Question 2

The nurse determines that dietary teaching has been successful when a patient states that which food item has the highest sodium content?

1. Milk
2. Fresh fruit
3. Meat
4. Chocolate pudding

Medical Nutrition Therapy and Therapeutic Diets

- Medical nutrition therapy is the use of specific nutritional variations to build good health
- A diet used as a medical treatment is called a therapeutic diet
- Modifying a diet usually means adding or taking away specific nutrients or calories in a diet or a change in the consistency of a diet

Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Consistency, texture, and frequency modifications
  - Therapeutic diets that include changes in thickness, consistency, texture or are modified
  - Examples: puréed, soft, full, or thickened diets
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Consistency, texture, and frequency modifications
  - Liquid diets
    - Clear liquid diet is a nonirritating diet consisting of liquids that are easily digested and absorbed and leave little residue in the GI tract: bouillon, broth, gelatin, tea, coffee, ginger ale
    - Full liquid diet is more nutritionally complete than a clear liquid diet, but is still lacking in some nutrients: strained cereals and soups, ice cream, puddings, milk/milkshakes, and fruit juices

- Soft and low-residue diets
  - Soft diet is generally low in fiber; includes foods from all five food groups and is nutritionally adequate except for fiber
  - Low-residue diet is similar to the soft diet, but also includes restrictions on milk, because it leaves more residue in the colon
  - Mechanical soft diet eliminates foods that are difficult to chew or swallow

- High-fiber diets
  - This is a variation of the regular diet that doubles the intake of dietary fiber
  - Foods with high fiber should replace similar foods with little or no fiber
  - It is used for the treatment of some GI disorders
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

● Kilocalorie modifications
  ➢ High-kilocalorie and high-protein diets
    • During times of physiologic stress, the body’s energy and protein needs are increased
    • Diet should provide increased amounts of kilocalories and protein in small volumes
    • The diet should still provide a balance of foods from all of the food groups
    • Nutritional support in the form of tube feedings or IV feedings may be considered

● Kilocalorie modifications
  ➢ Kilocalorie-controlled and low-kilocalorie diets
    • Used in the treatment of obesity and in the prevention of excess weight gain
    • Measurements of obesity
      ➢ Height and weight tables
      ➢ Body mass index (BMI)
      ➢ Body composition
      ➢ Waist circumference

● Kilocalorie modifications
  ➢ Kilocalorie-controlled and low-kilocalorie diets
    • Treatment of obesity
      ➢ It should involve both behavioral and psychological goals.
      ➢ Diet should be low in fat and have an energy level that does not exceed expenditure
      ➢ Physical activity is an integral part of any weight management effort
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Eating disorders
  - Anorexia nervosa
    - Self-imposed starvation
    - Individuals have an intense drive for thinness, an intense fear of gaining weight or becoming fat, and a distorted body image
  - Bulimia nervosa
    - Periods of binge eating followed by purging (self-induced vomiting, emetics, laxatives, enemas, or diuretics)
    - Often normal weight or overweight

Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Eating disorders
  - Binge eating disorder
    - Frequent, recurrent episodes of binge eating; eating larger amounts of food than normal during a short period of time and feeling a lack of control over eating during binge episodes
    - Often obese; should consider treatment that focuses on binge eating behavior before attempting to lose weight

Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Carbohydrate-modified diets
  - Diabetes mellitus
    - Primary goals for medical nutrition therapy
      - Improve metabolic control by achieving and maintaining optimal blood glucose
      - Provide adequate energy for maintenance of a reasonable body weight
      - Prevent acute and chronic complications of diabetes
      - Improve overall health through optimal nutrition
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Carbohydrate-modified diets
  - Diabetes mellitus
  - Nutrition therapy for diabetes mellitus
    - Goal of diabetes is to control and prevent complications
    - Nutrition therapy is extremely important to meet that goal
    - Normal nutrition and dietary modification to control blood glucose and lipid levels are extremely important
    - Education is important to help the patient make changes in food and exercise habits in order to improve metabolic control

Type 1
- Many still in childhood or adolescence at the time of diagnosis; the eating plan needs to provide adequate kilocalories for normal growth and development
- Balance carbohydrate intake with insulin administration and exercise

Type 2
- Usually adults who are overweight and insulin-resistant
- Mild to moderate weight loss (5% to 7% of starting weight) has been shown to improve metabolic control

Carbohydrate intake should be monitored and controlled
- Diabetic diet tools
  - Exchange lists for meal planning
  - Carbohydrate counting
- Other nutritional considerations
  - Hypoglycemia: consumption of inadequate carbohydrates causes the blood sugar to drop
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Carbohydrate-modified diets
  - Dumping syndrome
    - It may occur after surgery in which a portion or all of the stomach is removed
    - The stomach contents may empty too rapidly into the jejunum; the body reacts by sending water to the intestinal tract, thus reducing blood pressure
    - The load in the intestinal tract increases peristalsis, leading to diarrhea
    - Diet therapy involves giving small, frequent meals that are higher in protein and fat and lower in carbohydrates

- Lactose intolerance
  - Intolerance occurs as a result of a lack of the digestive enzyme lactase
  - The GI tract is unable to break down lactose
  - Symptoms occur after the ingestion of milk products and include nausea, cramps, bloating, flatulence, and diarrhea
  - Diet for lactose intolerance excludes milk and milk products; foods with milk added may need to be avoided as well

Medical Nutrition Therapy and Therapeutic Diets (Cont.)

- Fat-modified diets
  - Fat-controlled diets
    - To prevent and treat atherosclerosis, heart disease, and hyperlipidemia
    - Limits total fat, saturated fat, and trans-fatty acids
    - Rather than totally eliminating high-fat foods, encourages moderation
  - Low-fat diets
    - All fats limited, regardless of saturation
    - Used for diseases that involve malabsorption of fat
Medical Nutrition Therapy and Therapeutic Diets (Cont.)

• Protein, electrolyte, and fluid modified
  • Protein-restricted diet
    • In the presence of defects in protein metabolism or excretion, protein intake reduced or controlled; chronic renal failure and cirrhosis of the liver
  • Sodium-restricted diet
    • May be used to treat hypertension, water retention, edema, and congestive heart failure
    • Restrictions range from "no added salt" to as little as 500 mg sodium per day

• Sodium-restricted diet
  • May be used to treat hypertension, water retention, edema, and congestive heart failure
  • Restrictions range from "no added salt" to as little as 500 mg sodium per day

• Potassium-modified diets
  • Increased intake may help with blood pressure control; encourage fruit, vegetables, and low-fat dairy products
  • Intake may be restricted with end-stage renal disease and other kidney disease; blood levels could increase to the point of causing arrhythmias and sudden cardiac arrest

• Fluid-modified diets
  • Fluid is restricted to 500-750 mL per day plus an amount equal to daily urine output during end-stage renal disease
  • Fluid restrictions may also be implemented during congestive heart failure, directly after a myocardial infarction, or in hepatic coma or ascites
  • Patient may experience excessive thirst: rinse mouth with cold mouthwash, lemon in cold water, freezing fluids, cold fruits and vegetables, breath mints or hard candies, and brushing teeth
Nutritional Support

- Tube feedings
  - Administration of nutritionally balanced liquefied foods or formula through a tube inserted into the stomach, duodenum, or jejunum by way of a nasogastric tube or a feeding ostomy
  - Indicated when a patient is unable to chew or swallow, has no appetite, or refuses to eat
  - Tube feeding used only when all or at least part of the GI tract is functioning
  - Feeding given continuously or intermittently

Nutritional Support (Cont.)

- Tube feedings
  - Nasogastric tube feedings
    - Checking for placement of a feeding tube before administering medication or tube feeding is critical to safe patient care
    - Tube may be accidentally placed in the lung, esophagus, or even the stomach when it should be in the small bowel
    - To test, use chest x-ray, test pH of aspirated fluid, or use auscultatory method

Nutritional Support (Cont.)

- Parenteral nutrition support
  - Parenteral nutrition (hyperalimentation)
    - Intravenous feedings
    - May be administered through peripheral veins
  - Total parenteral nutrition (TPN)
    - Administration of hypertonic solution into a large central vein
    - Composed of glucose, amino acids, vitamins, minerals, and electrolytes; fats also given as a supplement to the main formula
    - Indicated for the patient with a nonfunctioning or dysfunctional GI tract
Nutritional Support (Cont.)

- Feeding the patient
  - Weakness, paralysis, casts, and other physical limitations may make self-feeding impossible; these patients are fed
  - Provide a relaxed mood; demonstrate caring and respect for the patient; ask the patient about the order in which to offer foods and fluids; use spoons, which are less likely than forks to cause injury
  - For visually impaired patients, identify foods and fluids and their location on the tray

Nutritional Support (Cont.)

- Feeding the patient
  - Weakness and illness can affect a patient’s ability to eat
  - Bad odors, unpleasant equipment, an uncomfortable position, the need for oral hygiene, the need to void, and the presence of pain are some factors that affect appetite
  - Nursing staff members can control these factors by getting the patient ready for meals
  - Food is served in containers that keep hot and cold foods at the correct temperature; serve trays promptly

Question 3

A patient with an acute exacerbation of Crohn’s disease is having oral intake resumed after having been NPO and receiving total parenteral nutrition for 3 weeks. The nurse plans to do which of the following in order to ease transition of feeding methods?

1. Allow patient to have only ice chips for the first 2 days.
2. Gradually begin oral feedings as parenteral solution is decreased.
3. Infuse the TPN solution during the nighttime only when patient is sleeping.
4. Begin oral feedings of soft foods and stop TPN infusion.
Question 4

Which of the following should the nurse plan to do in order to maintain normal glucose levels in a patient receiving total parenteral nutrition (TPN) therapy?

1. Monitor blood glucose every 4-6 hours depending on patient’s acuity and follow regular insulin sliding scale.
2. Decreased rate of TPN solution to maintain euglycemic levels.
3. Increased rate of TPN solution to maintain euglycemic levels.
4. Use NPH insulin as an additive in TPN solutions to help maintain euglycemic levels.

Question 5

The diet history of a patient receiving anticoagulants indicates the patient eats a lot of garlic. The nurse plans to include which information when teaching the patient about possible drug-food interactions?

1. Garlic can enhance the coagulation process and accelerate clot formation.
2. Garlic has no effect on blood coagulation.
3. Garlic helps to support immune function, but does not affect coagulation.
4. Bleeding can occur because garlic inhibits platelet aggregation.