Chapter 15

Nutrition
Nutrition

- Nutrition is the process by which the body uses food
- Malnutrition is a condition resulting from a lack of proper nutrients in the diet
Who Is at Risk of Malnutrition

- Malnutrition is common among people living in developing countries
- In the U.S.:
  - Older adults who are socially isolated or living on fixed incomes
  - Homeless people
  - Children of economically deprived parents
Who Is at Risk of Malnutrition (cont’d)

- In the U.S. (cont’d):
  - Pregnant teenagers
  - People with substance abuse problems such as alcoholism
  - Clients with eating disorders, such as anorexia nervosa and bulimia nervosa
Basic Nutrients

- Calories: energy value of food
- Proteins: building blocks of the body, composed of amino acids
- Carbohydrates: source of quick energy
- Fats: concentrated energy source
  - Saturated fats: generally solid
  - Unsaturated fats: healthier form of fat
Risks Associated With Cholesterol

<table>
<thead>
<tr>
<th>TABLE 15-1</th>
<th>CARDIAC RISK ASSOCIATED WITH BLOOD FAT LEVELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBSTANCE</td>
<td>VALUE</td>
</tr>
<tr>
<td>Total cholesterol</td>
<td>&lt;200 mg/dL</td>
</tr>
<tr>
<td></td>
<td>200–239 mg/dL</td>
</tr>
<tr>
<td></td>
<td>≥240 mg/dL</td>
</tr>
<tr>
<td>Low-density lipoprotein (LDL)</td>
<td>&lt;100 mg/dL</td>
</tr>
<tr>
<td></td>
<td>100–129 mg/dL</td>
</tr>
<tr>
<td></td>
<td>130–159 mg/dL</td>
</tr>
<tr>
<td></td>
<td>160–189 mg/dL</td>
</tr>
<tr>
<td></td>
<td>≥190 mg/dL</td>
</tr>
<tr>
<td>High-density lipoprotein (HDL)</td>
<td>&lt;40 mg/dL</td>
</tr>
<tr>
<td></td>
<td>40–59 mg/dL</td>
</tr>
<tr>
<td></td>
<td>≥60 mg/dL</td>
</tr>
</tbody>
</table>

Question

• Is the following statement true or false?

High-density lipoprotein (HDL) is referred to as “bad cholesterol.”
Answer

False.

High-density lipoprotein (HDL) is referred to as “good cholesterol.”
Basic Nutrients

- Minerals: noncaloric substances that regulates chemical processes
- Vitamins: normal growth, maintenance of health, and functioning of the body
  - Water-soluble vitamins: eliminated with body fluids
  - Fat-soluble vitamins: stored in the body as reserves for future needs
Vitamins

(Refer to Table 15-3 in the textbook.)
Question

• Is the following statement true or false?

Vitamin B complex and vitamin C are fat-soluble vitamins.
Answer

False.

Vitamin B complex and vitamin C are water-soluble vitamins. They are eliminated with body fluids and so require daily replacement.
Food Pyramid

- Amounts from various food group categories can be individualized according to a person’s age, gender, and level of activity

<table>
<thead>
<tr>
<th>Grain</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruits</td>
<td>Milk</td>
</tr>
<tr>
<td>Meat and Beans</td>
<td>Oil</td>
</tr>
</tbody>
</table>
MyPyramid

PHYSICAL ACTIVITY
30 min — most days
60 min — to prevent weight gain
60-90 min — to sustain weight loss

GRAINS
Whole grains should be whole grain

VEGETABLES
Dark green, orange, and deep-colored vegetables

FRUITS
A variety of fruits

MILK
Low-fat, fat-free

MEAT & BEANS
Lean

OILS

For 2,000 calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, use MyPyramid.

Eat 6 oz. every day

Eat 2 1/2 cups every day

Eat 2 cups every day

Eat 3 1/2 oz. every day

Know the limits on fats, sugars, and salt
Avoid these foods

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Nutritional Labels

• Identify the amounts of each nutrient per serving, which is identified in household measurements

• Show an expanded table illustrating the DV equivalents for both a 2,000- and a 2,500-calorie diet
Nutritional Labels (cont’d)

The federal Nutrition Labeling and Education Act states that companies should comply with standard definitions if they use health-related claims.
Nutritional Label

BOX 15-3  • Regulations for Labeling Terms

Calorie-free: <5 calories
Low calorie: ≤40 calories
Reduced calorie: at least 25% fewer calories than standard product
Light or "lite": 1/3 fewer calories or 50% less fat than regular product
Fat-free: <0.5 g fat; example: skim milk
Low fat: ≤3 g of fat; example: 1% milk
Reduced fat: at least 25% less fat than regular product; example: 2% milk
Cholesterol-free: <2 mg cholesterol and ≤2 g saturated fat
Low cholesterol: ≤20 mg cholesterol and ≤2 g saturated fat
Sugar-free: <0.5 g sugar
Fruit drink/beverage: <100% fruit juice
Imitation: new food that resembles a traditional food and contains less protein or less of any essential vitamin or mineral than the traditional food; example: imitation cheese

Figures per serving.
Factors That Influence Nutritional Needs

- Food preferences acquired during childhood
- Established patterns for meals
- Attitudes about nutrition
- Knowledge of nutrition
- Income level
- Time available for food preparation
Factors that Influence Nutritional Needs (cont’d)

- Number of people in the household
- Access to food markets
- Use of food for comfort, celebration, or symbolic reward
- Satisfaction or dissatisfaction with body weight
- Religious beliefs
Protein Complementation

- Protein complementation or combining plant sources of protein helps a person to acquire all essential amino acids from nonanimal sources
- Complete proteins contain all the essential amino acids; found in animal sources
- Incomplete proteins contain only some essential amino acids; found in plant sources
Protein Complementation (cont.)

- **Legumes**: Beans, Peas, Peanuts, Lentils, Tofu
- **Grains**: Breads, Cereals
- **Seeds**: Also: Rice with Sesame, Brazil nuts with Milk, Sesame with Milk
- **Nuts**: Also: Milk Products

Generally complementary relationships are shown between these food groups.
Objective Assessment

- Physical assessment: assessment of physique and general well-being
- Laboratory data: used in nutritional assessment
- Anthropometric data: body size and composition measurement; body-mass index (BMI)—ratio of height to weight
- Body measurement: measuring parts of the body
Diet History

• Assessment technique for obtaining facts about a client’s eating habits and factors that affect nutrition, such as level of appetite, weight loss or gain of 10 lbs in the past 6 months, and number of meals the client eats per day
Problems in Nutritional Assessment

- Obesity
- Emaciation
- Anorexia
- Nausea
- Vomiting
- Stomach gas
### Nursing Interventions for Resolving Problems

<table>
<thead>
<tr>
<th>Imbalanced nutrition: less than body requirements</th>
<th>Imbalanced nutrition: more than body requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficient knowledge: nutrition</td>
<td>Self-care deficit: feeding</td>
</tr>
<tr>
<td>Impaired swallowing</td>
<td>Risk for aspiration</td>
</tr>
</tbody>
</table>

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Hospital Diets

• Regular or general: allows unrestricted food selections

• Light or convalescent: differs from regular diet in preparation; typically omits fried, fatty, gas-forming, and raw foods and rich pastries
Hospital Diets (cont’d)

- Soft: contains foods soft in texture; usually low in residue and readily digestible; provides fewer fruits, vegetables, or meats than a light diet

- Mechanical soft: resembles a light diet but used for clients with chewing difficulties; provides cooked fruits and vegetables and ground meats
Hospital Diets (cont’d)

- Full liquid: fruit and vegetable juices; creamed or blended soups; milk, ices, ice cream, gelatin, junket, custards; and cooked cereals
- Clear liquid: water, clear broth, clear fruit juices, plain gelatin, tea, and coffee; may or may not include carbonated beverages
- Special therapeutic: foods prepared to meet special needs, such as low in sodium, fat, or fiber
Nursing Responsibilities

- Ordering and canceling diets for clients
- Serving and collecting meal trays
- Helping clients to eat
- Recording the percentage of food that clients eat
Client’s Diet

- Type of diet prescribed for each client
- Purpose for the diet
- Characteristics of the diet
Feeding Techniques

- Clients with dysphagia
- Clients with visual impairment or dementia
- Older adults
Question

• Is the following statement true or false?

Clients with dysphagia have difficulty in swallowing.
Answer

True.

Dysphagia is a condition that has difficulty in swallowing.
Older Adults

- Evaluation of nutritional status in annual examinations or more frequently
- Diminished senses of smell and taste; require fewer calories; nutritional supplements should be evaluated; if sedentary, teach benefits of exercise; oral and dental problems
- Chronic conditions; food–drug interactions; dysphagia; socioeconomic barriers; psychosocial impairments