

## **Chapter 2: Theories of Aging**

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### **MULTIPLE CHOICE**

1. The theory of aging that suggests the basis for aging results from decreased weight of the thymus and decreased ability to produce T-cell differentiation is known as:
  - a. cross-link theory.
  - b. free radical theory.
  - c. stochastic theory.
  - d. immunity theory.

**ANS: D**

The most relevant pathological change in the immune system of the aging person is thymic atrophy. The cells of the immune system become progressively more diversified with age and lose self-regulatory ability. The cross-link theory describes aging in terms of the accumulation of errors of cross-linking or stiffening of proteins in the body. The free radical theory describes free radical errors as the result of random damage from free radicals. The stochastic theory is a group of theories that propose that aging is an accumulation of errors in the synthesis of cellular DNA and RNA, which are the building blocks of the cell. Immunity is a nonstochastic theory.

**DIF: Cognitive level: Knowledge**

**REF: 30**

2. The family member of a patient asks you if vitamin C will prevent aging. In formulating your response, you are considering what biological theory of aging?
  - a. Free radical theory
  - b. Immunity theory
  - c. Clunker theory
  - d. Continuity theory

**ANS: A**

The free radical theory posits that aging is a result of random damage from free radicals. Research is ongoing on the ability of substances with antioxidant effects to counter the actions of free radicals. Vitamin C is thought to have antioxidant features and act as a free radical scavenger. The immunity theory posits that the cells of the immune system become progressively more diversified with age and lose self-regulatory ability. The use of vitamin C is not associated with this theory. There is no such theory as the clunker theory. The continuity theory is a sociological theory that deals with the tendency of individuals to develop and maintain consistent patterns of behavior throughout their lives.

**DIF: Cognitive level: Knowledge**

**REF: 29**

3. In your discharge teaching of your client with diabetes, you use concepts from the activity theory of aging when you instruct your client to:
  - a. continue her daily walking routine.
  - b. curtail further increases in physical activity.
  - c. limit contact with children.
  - d. avoid exposing herself to crowds.

ANS: A

The activity theory states that successful aging equals active aging, which is related to the person's need to maintain a productive life for it to be a happy life. Option B is diametrically opposite to option A and contrary to the tenets of the activity theory. Options C and D are not related to the activity theory.

DIF: Cognitive level: Application

REF: 34-35

4. Select the true statement regarding the nonstochastic group of theories.
- Aging events occur randomly.
  - Biological aging is genetically programmed.
  - Aging is a result of an accumulation of errors in RNA and DNA metabolism.
  - The free radical theory is an example of this type of theory.

ANS: B

The nonstochastic group of theories are those in which the changes of aging are attributed to a process that is programmed and thought to be predetermined. Research is currently looking at genes being responsible for aging. The nonstochastic theories view aging as predetermined and not random. The stochastic theories or error theories propose that aging is the result of an accumulation of errors in the synthesis of cellular DNA and RNA synthesis. The free radical theory is a stochastic theory.

DIF: Cognitive level: Knowledge

REF: 29

5. Erikson's stage or task for later life is:
- ego maturation vs. stagnation.
  - ego transcendence vs. ego preoccupation.
  - generativity.
  - ego integrity vs. despair.

ANS: D

Erikson's last developmental stage is ego integrity versus despair. Option A is not one of Erikson's stages. Option B is not one of Erikson's stages; it is one of Peck's developmental stages. Peck expanded on the work of Erikson. Option C is Erikson's developmental stage for middle age.

DIF: Cognitive level: Knowledge

REF: 37

6. During her nursing admission assessment, your patient tells you that she is taking several herbs and supplements because she heard that they can slow down the aging process. She asks you if this is true. When answering her, which theory of aging should you consider?
- Cross-link theory
  - Error theory
  - Free radical theory
  - Nutrition theory

ANS: C

The free radical theory states that aging occurs as a result of random damage from free radicals. Research is ongoing on the ability of substances with antioxidant effects to counter the actions of free radicals. Some of the herbs and supplements are thought to have antioxidant features and act as free radical scavengers. The cross-link theory describes aging in terms of the accumulation of errors of cross-linking or stiffening of proteins in the body. The error theory is actually a category of theories and not a theory itself. The nutrition theory is not one of the theories of aging.

DIF: Cognitive level: Application

REF: 29

7. A community health nurse provides an annual flu prevention workshop at a local senior center. The activities include a lecture on preventing infections, which includes hand washing and limiting exposure to individuals who are ill, as well as an influenza immunization clinic. The nurse is basing her activities on what theory of aging?
- Wear and tear
  - Cross-link
  - Immunity
  - Free radical

ANS: C

The immunity theory of aging describes changes in cells of the immune system, which make an older person more susceptible to infection. Prevention of infection is very important in older adults and can be accomplished by education and immunization. Options A, B, and D are incorrect because none of these theories of aging deal with prevention of infection.

DIF: Cognitive level: Application

REF: 30

8. You are caring for a 90-year-old resident of an assisted living facility. He seems sad and depressed and frequently talks about how his health has declined during the past few years. He talks about all of the things he planned to do once he retired, but was not able to due to a recent stroke. You respond to him by helping him understand that changes in health are often a challenge that older adults must cope with and adapt to in order to age successfully. This response is based on what type of aging theory?
- Biological
  - Psychological
  - Social
  - Spiritual

ANS: B

The psychological theories posit that, as a person ages, various adaptive strategies must occur in order to age successfully. The biological theories focus on physiological changes. The sociological theories focus on roles and relationships. Spiritual aging is not related to this patient's concerns.

DIF: Cognitive level: Application

REF: 36

9. A 66-year-old retired professional basketball player is admitted to the hospital for a total knee replacement due to osteoarthritis. In preparing preoperative teaching for this patient, you may want to include which theory of aging to help him understand how the disease has progressed?

- a. Free radical theory
- b. Wear and tear theory
- c. Gene theory
- d. Cross-link theory

ANS: B

Osteoarthritis is characteristic of degeneration that results from joint usage. This disease is a good example of the wear and tear theory; repeatedly injuring one organ or body system, such as occurs during playing sports, may result in premature aging and diseases such as osteoarthritis. The free radical theory states that cell damage is a result of the accumulation of oxygen radicals. The gene theory states that genes govern cellular mortality. The cross-link theory is related to the accumulation of cross-linked proteins, which may cause disease.

DIF: Cognitive level: Application

REF: 28

10. A married couple are residents of a life care community. They retired to the community after the husband had heart surgery. The wife has always been physically and socially active and joined an aerobic class, knitting groups, and a book club shortly after moving to the community. She walks on a daily basis and swims twice a week. Her husband spends his days reading and watching television. He was never a social person and enjoys being by himself. Which of the sociological theories of aging best describes the couple?
- a. Role theory
  - b. Disengagement theory
  - c. Continuity theory
  - d. Personality theory

ANS: C

The continuity theory asserts that individuals tend to develop and maintain a consistent pattern of behavior as they age. The wife was active and social and continues to be so. Her husband was not very social and preferred less active activities and continues to do so. The role theory describes that people engage in roles consistent with their chronological age. The scenario above describes activity levels, not roles. The disengagement theory describes withdrawal of older adults from role and activities of earlier life. Personality theories are distinct and different from sociological theories of aging.

DIF: Cognitive level: Application

REF: 35