Essentials of Psychiatric Mental Health Nursing 8th edition Morgan Test Bank

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Chapter 2: Biological Implications

Multiple Choice

Identify the choice that best completes the statement or answers the question.

____ 1. A health-care provider prescribes computerized electroencephalography mapping for a client with suspected schizophrenia. Which statement made by the client accurately describes the procedure?
   1. "Electrodes will be placed on my scalp and measure and mark waves of activity in my brain."
   2. "X-rays will be taken to detect any lesions I might have in my brain."
   3. "This test will use magnetic imaging and show if I have any swelling in my brain."
   4. "After receiving an injection of a radioactive substance, an image will measure brain functioning and produce an image."

____ 2. A client diagnosed with major depressive disorder asks, "What part of my brain controls my emotions?" Which nursing response is appropriate?
   1. "The occipital lobe governs perceptions, judging them as positive or negative."
   2. "The parietal lobe has been linked to depression."
   3. "The medulla regulates key biological and psychological activities."
   4. "The limbic system is largely responsible for one's emotional state."

____ 3. A nurse would identify which part of the nervous system as playing a major role during a stressful situation?
   1. Peripheral nervous system
   2. Somatic nervous system
   3. Sympathetic nervous system
   4. Parasympathetic nervous system

____ 4. Which client statement reflects an understanding of circadian rhythms?
   1. "When I dream about my mother's horrible train accident, I become hysterical."
   2. "I get really irritable during my menstrual cycle."
   3. "I'm a morning person. I get my best work done before noon."
   4. "Every February, I tend to experience periods of sadness."

____ 5. Six months after her husband and children were killed in a car accident, a client is diagnosed with ulcerative colitis. The nurse would recognize that this situation validates which study perspective?
   1. Neuroendocrinology
   2. Psychoneuroimmunology
   3. Diagnostic technology
   4. Neurophysiology

____ 6. A client diagnosed with schizophrenia is experiencing frequent hallucinations. What altered component of the nervous system would a nurse recognize as being responsible for this behavior?
   1. Increase in serotonin
   2. Decrease in histamine
   3. Increase in dopamine
   4. Decrease in acetylcholine

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____ 7. The nurse would associate the fight-or-flight response with which neurotransmitter?
1. Acetylcholine
2. Dopamine
3. Serotonin
4. Norepinephrine

____ 8. Which neurotransmitters would a nurse expect to be elevated in a client with a diagnosis of catatonic schizophrenia?
1. Serotonin
2. Dopamine
3. Gamma-aminobutyric acid (GABA)
4. Histamine

____ 9. A client's wife of 34 years dies unexpectedly. The client cries often and becomes socially isolated. The client's therapist encourages open discussion of feelings, proper nutrition, and exercise. What is the best rationale for the therapist's recommendations?
1. The therapist recognizes the role of circadian rhythms in the client's condition.
2. The client has an alteration in neurotransmitters.
3. The therapist is attempting to increase the client's acetylcholine levels.
4. The client is susceptible to illness because of effects of stress on the immune system.

____ 10. Which mental illness would a nurse identify as being associated with an increase in prolactin level?
1. Depression
2. Psychosis
3. Anorexia nervosa
4. Alzheimer's disease

____ 11. Which would a nursing instructor describe to students as the "emotional brain"?
1. The cerebellum
2. The limbic system
3. The cortex
4. The left temporal lobe

____ 12. The nurse is caring for a client whose diagnosis has been linked to an abnormal secretion of growth hormone. Which illness does the client most likely have?
1. Acute mania
2. Schizophrenia
3. Anorexia nervosa
4. Alzheimer's disease

____ 13. A client is admitted to an emergency department experiencing memory deficits and decreased motor function. What alteration in brain chemistry should a nurse correlate with the production of these symptoms?
1. Abnormal levels of serotonin
2. Decreased levels of histamine
3. Increased levels of norepinephrine

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4. Decreased levels of acetylcholine

____ 14. A nurse is caring for a client with decreased norepinephrine levels. Which mental illness is the client most likely at risk for?
1. Bipolar disorder: mania
2. Schizophrenia
3. Generalized anxiety disorder
4. Major depressive episode

____ 15. A nurse would expect that an increase in dopamine activity might play a significant role in the development of which mental illness?
1. Schizophrenia spectrum disorder
2. Major depressive disorder
3. Tourette syndrome
4. Parkinson's disease

Multiple Response
Identify one or more choices that best complete the statement or answer the question.

____ 16. Which of the following information would a nurse include when explaining causes of anorexia nervosa to a client? (*Select all that apply.*)
1. There is a possible correlation between abnormal secretion of growth hormone and anorexia nervosa.
2. There is a possible correlation between antidiuretic hormone levels and anorexia nervosa.
3. There is a possible correlation between low levels of gonadotropin and anorexia nervosa.
4. There is a possible correlation between increased levels of prolactin and anorexia nervosa.
5. There is a possible correlation between high levels of oxytocin and anorexia nervosa.

____ 17. The nurse is caring for a client who has been found to have decreased levels of thyroid-stimulating hormone (TSH). Which symptoms would like the client likely exhibit? *(Select all that apply.)*
1. Depression
2. Fatigue
3. Increased libido
4. Mania
5. Hyperexcitability

____ 18. Which are biological implications of both bipolar disorder and panic disorder? (*Select all that apply.*)
1. Increased levels of dopamine
2. Increased levels of thyroid hormones
3. Decreased cortisol levels
4. Decreased GABA activity
5. Increased levels of norepinephrine

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Completion
Complete each statement.

19. _____ is the study of the biological foundations of cognitive, emotional, and behavioral processes.

20. The junction between two neurons is called a _____.

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Chapter 2: Biological Implications
Answer Section

MULTIPLE CHOICE

1. ANS: 1
Chapter: Chapter 2, Biological Implications
Objective: Identify various diagnostic procedures used to detect alteration in biological functioning that may be contributing to psychiatric disorders
Page:
Heading: Table 2-5 Diagnostic Procedures Used to Detect Altered Brain Functioning
Integrated Processes: Teaching and Learning
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Application [Applying]
Concept: Cognition
Difficulty: Moderate

	Feedback
1	An electroencephalogram (EEG) involves placing electrodes on the scalp and recording waves to measure brain activity.
2	A CT scan involves X-rays taken to detect lesions or abscesses of the brain.
3	An MRI involves measuring strong anatomical and biochemical status of various segments of the brain, detecting edema, ischemia, trauma, and other changes using magnetic energy.
4	A position emission tomography (PET) scan involves a patient receiving an injection of a radioactive substance to measure specific brain functioning, such as glucose metabolism, oxygen utilization, blood flow, an interest in psychiatry, and neurotransmitter-receptor interaction.

PTS: 1 CON: Cognition

2. ANS: 4
Chapter: Chapter 2, Biological Implications
Objective: Identify gross anatomical structures of the brain and describe their functions.
Page:
Heading: Limbic System
Integrated Processes: Teaching and Learning
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Easy

	Feedback
1	The occipital lobes are the area of visual reception and interpretation.
2	Somatosensory input (touch, taste, temperature, etc.) occurs in the parietal lobes.

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3	The medulla contains vital centers that regulate heart rate and reflexes.
4	The nurse should explain to the client that the limbic system is largely responsible for one's emotional state. This system is often called the "emotional brain" and is associated with feelings, sexuality, and social behavior.

PTS: 1 CON: Mood

3. ANS: 3
Chapter: Chapter 2, Biological Implications
Objective: Discuss the physiology of neurotransmission in the central nervous system.
Page:
Heading: Autonomic Nervous System
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Easy

	Feedback
1	The peripheral nervous system does not play a major role during stressful situations.
2	The somatic nervous system is part of the peripheral nervous system.
3	The nurse should identify that the sympathetic nervous system plays a major role during stressful situations. The sympathetic nervous system prepares the body for the fight-or-flight response.
4	The parasympathetic nervous system is dominant when an individual is in a non-stressful state.

PTS: 1 CON: Mood

4. ANS: 3
Chapter: Chapter 2, Biological Implications
Objective: Discuss the physiology of neurotransmission in the central nervous system.
Page:
Heading: Circadian Rhythms
Integrated Processes: Teaching and Learning
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Analysis [Analyzing]
Concept: Sleep and Rest
Difficulty: Moderate

	Feedback
1	This statement does not indicate understanding of circadian rhythms.
2	The menstrual cycle is not affected by the circadian rhythm.
3	By stating, "I am a morning person," the client demonstrates an understanding that circadian rhythms may influence a variety of regulatory functions, including the sleep-wake cycle, regulation of body temperature, and patterns of activity.

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	Most humans follow a 24-hour cycle that is largely affected by lightness and darkness.
4	Experiencing periods of sadness is not indicative of the circadian rhythm. This describes seasonal affective disorder.

PTS: 1 CON: Sleep and Rest

5. ANS: 2
Chapter: Chapter 2, Biological Implications
Objective: Discuss the influence of psychological factors on the immune system.
Page:
Heading: Psychoneuroimmunology > Implications of the Immune System in Psychiatric Illness
Integrated Processes: Nursing Process
Client Need: Psychosocial Integrity
Cognitive Level: Application [Applying]
Concept: Stress
Difficulty: Easy

	Feedback
1	Neuroendocrinology is the study of the interaction between the nervous system and the endocrine system.
2	Psychoneuroimmunology is the branch of medicine that studies the effects of social and psychological factors on the functioning of the immune system. Studies of the biological response to stress hypothesize that individuals become more susceptible to physical illness following exposure to stressful stimuli.
3	Diagnostic testing assists in diagnosing.
4	Neurophysiology is the physiology of the nervous system.

PTS: 1 CON: Stress

6. ANS: 3
Chapter: Chapter 2, Biological Implications
Objective: Describe the role of neurotransmitters in the central nervous system.
Page:
Heading: Synapses, Dopamine
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Moderate

	Feedback
1	Although an increase in serotonin is thought to play a role in schizophrenia, it is not associated with schizophrenic hallucinations.
2	A decrease in histamine can epilepsy, stroke, anxiety depression, psychosis, neurodegeneration, and neuroinflammatory processes.
3	Excessive activity of dopamine is believed to be responsible for symptoms of

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	hallucinations and delusions seen in people with schizophrenia.
4	A decrease in acetylcholine affects Parkinson's disease, Huntington disease, and Alzheimer's disease. It affects muscle as well.

PTS: 1 CON: Mood

7. ANS: 4
Chapter: Chapter 2, Biological Implications
Objective: Describe the role of neurotransmitters in the central nervous system.
Page:
Heading: Monoamines > Norepinephrine
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Easy

	Feedback
1	Acetylcholine functions include pain, arousal, and pain perception.
2	Dopamine functions include regulation of movement and coordination.
3	Serotonin plays a role in sleep, libido, and appetite.
4	The nurse should associate the neurotransmitter norepinephrine with the fight-or-flight response. Norepinephrine produces activity in the sympathetic postsynaptic nerve terminal and is associated with the regulation of mood, cognition, perception, locomotion, and sleep and arousal.

PTS: 1 CON: Mood

8. ANS: 2
Chapter: Chapter 2: Biological Implications
Objective: Describe the role of neurotransmitters in the central nervous system.
Page:
Heading: Monoamines > Norepinephrine
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Application [Applying]
Concept: Mood
Difficulty: Easy

	Feedback
1	Serotonin plays a role in sleep, libido, and appetite.
2	The nurse should expect that elevated dopamine levels might be a contributing factor to the client's current level of functioning. Dopamine functions include regulation of movements and coordination, emotions, and voluntary decision-making ability.
3	GABA prevents postsynaptic excitation, but it is not associated with catatonic schizophrenia.

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4	Histamine mediates allergic and inflammatory reactions and would not be associated with the client's current state.

PTS: 1 CON: Mood

9. ANS: 4
Chapter: Chapter 2: Biological Implications
Objective: Discuss the influence of psychological factors on the immune system.
Page:
Heading: Psychoneuroimmunology > Implications of the Immune System in Psychiatric Illness
Integrated Processes: Planning
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Analysis [Analyzing]
Concept: Stress
Difficulty: Moderate

	Feedback
1	Although circadian rhythms and appropriate sleep are thought to play a role in various psychological conditions, the therapist's plan of care addresses a different area of concern.
2	Although this may be true, the therapist's plan of care responds to the role of a different area of concern.
3	An increase of acetylcholine levels would likely increase the client's depression.
4	The therapist's recommendations are most likely based on the knowledge that the client has decreased immune response due to exposure to stressful stimuli. As such, the client is at increased risk to develop illness and should take steps to increase immune function.

PTS: 1 CON: Stress

10. ANS: 1
Chapter: Chapter 2, Biological Implications
Objective: Recognize various theorized influences in the development of psychiatric disorders including brain physiology, genetics, endocrine function, immune system, and psychosocial, and environmental factors.
Page:
Heading: Prolactin
Integrated Processes: The Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Moderate

	Feedback
1	First generation antipsychotic medication increases prolactin levels and may be responsible for the undesired side effect of lactation in patients on these medications. High prolactin levels are associated with depression, decreased libido, anxiety, irritability, and schizophrenia.

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2	An increase in adrenocorticotropic hormone (ACTH) is known to lead to psychosis.
3	There is no known correlation between increased levels of prolactin and anorexia nervosa. An increase in growth hormone (GH) can lead to anorexia nervosa.
4	There is no known correlation between increased levels of prolactin and Alzheimer's disease. None of the neuroendocrine hormones are linked to Alzheimer's disease.

PTS: 1 CON: Mood

11. ANS: 2
Chapter: Chapter 2, Biological Implications
Objective: Identify gross anatomical structures of the brain and describe their functions.
Page:
Heading: Limbic System
Integrated Processes: Teaching and Learning
Client Need: Psychosocial Integrity
Cognitive Level: Knowledge [Remembering]
Concept: Mood
Difficulty: Easy

	Feedback
1	The cerebellum is concerned with involuntary movement, posture, and equilibrium.
2	The limbic system is often referred to as the "emotional brain." The limbic system is largely responsible for one's emotional state and is associated with feelings, sexuality, and social behavior.
3	The cortex is identified by numerous folds called gyri and sulci.
4	The left temporal lobe is concerned with auditory functions.

PTS: 1 CON: Mood

12. ANS: 3
Chapter: Chapter 2, Biological Implications
Objective: Discuss the association of endocrine functioning to the development of psychiatric disorders.
Page:
Heading: Table 2-3 Hormones of the Neuroendocrine System
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Mood
Difficulty: Moderate

	Feedback
1	There is no correlation between abnormal levels of growth hormone and acute

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	mania.
2	An abnormal level of growth hormone has not been associated with schizophrenia.
3	The nurse should understand that research has found a correlation between abnormal levels of growth hormone and anorexia nervosa. The growth hormone is responsible for growth in children, as well as continued protein synthesis throughout life.
4	Alzheimer's Disease has been linked to altered levels of various neurotransmitters, but not abnormal secretion of growth hormone.

PTS: 1 CON: Mood

13. ANS: 4
Chapter: Chapter 2, Biological Implications
Objective: Describe the role of neurotransmitters in human behavior.
Page:
Heading: Acetylcholine
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Application [Applying]
Concept: Mood
Difficulty: Moderate

	Feedback
1	Serotonin may play a role in the sleep-wake cycle, pain perception, and mood, but it is not linked to memory deficits and decreased motor functions.
2	Histamine is associated with allergic and inflammatory reactions and is not associated with memory deficits or motor function.
3	Norepinephrine is associated with mood disorders and anxiety states. It is not thought to cause memory deficits and decreased motor functions.
4	The nurse should correlate memory deficits and decreased motor function with decreased levels of acetylcholine. Acetylcholine is a major chemical effector of the autonomic nervous system. Functions of acetylcholine include sleep regulation, pain perception, the modulation and coordination of movement, and memory.

PTS: 1 CON: Mood

14. ANS: 4
Chapter: Chapter 2, Biological Implications
Objective: Discuss the physiology of neurotransmitters in human behavior.
Page:
Heading: Neurotransmitters > Monoamines > Norepinephrine
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Application [Applying]
Concept: Mood
Difficulty: Moderate

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	Feedback
1	An increase, rather than a decreased, in norepinephrine is linked to mania.
2	An increase in norepinephrine, rather than a decrease, is thought to play a role in schizophrenia.
3	An increase, not a decrease, in norepinephrine has been linked to development of generalized anxiety disorder.
4	A decrease in norepinephrine level would play a significant role in the development of major depressive disorder. The functions of norepinephrine include the regulation of mood, cognition, perception, locomotion, cardiovascular functioning, and sleep and arousal.

PTS: 1 CON: Mood

15. ANS: 1
Chapter: Chapter 2, Biological Implications
Objective: Discuss the physiology of neurotransmitters in human behavior.
Page:
Heading: Table 2-2 Neurotransmitters in the Central Nervous System
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Application [Applying]
Concept: Cognition
Difficulty: Moderate

	Feedback
1	The nurse should expect that an increase in dopamine activity might play a significant role in the development of schizophrenia spectrum disorder. Functions of dopamine include regulation of emotions, coordination, and voluntary decision-making ability. Increased dopamine activity is also associated with mania.
2	Increased dopamine activity is not associated with major depressive disorder. A decrease in dopamine can be seen with depression.
3	Increased dopamine activity is not associated with Tourette syndrome. A decrease in dopamine is seen in Tourette syndrome.
4	Increased dopamine activity is not associated with Parkinson's disease. A decrease in dopamine activity is seen in Parkinson's disease.

PTS: 1 CON: Cognition

MULTIPLE RESPONSE

16. ANS: 1, 3
Chapter: Chapter 2, Biological Implications
Objective: Discuss the association of endocrine functioning to the development of psychiatric disorders.

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Page:
Heading: Pituitary Gland > The Posterior Pituitary (Neurohypophysis)
Integrated Processes: Teaching and Learning
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Addiction and Behaviors
Difficulty: Moderate

	Feedback
1	The nurse would explain to the client that there is a possible correlation between anorexia nervosa and decreased levels of growth hormones.
2	There is no correlation between anorexia nervosa and antidiuretic hormone levels.
3	Research shows that there is possible correlation between low levels of gonadotropin and anorexia nervosa.
4	There is no correlation between anorexia nervosa and increased prolactin levels.
5	Decreased levels of oxytocin are reported in patients with anorexia nervosa.

PTS: 1 CON: Addiction and Behaviors

17. ANS: 1, 2
Chapter: Chapter 2, Biological Implications
Objective: Discuss the association of endocrine functioning to the development of psychiatric disorders.
Page:
Heading: Thyroid-Stimulating Hormone
Integrated Processes: The Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Comprehension [Understanding]
Concept: Metabolism
Difficulty: Easy

	Feedback
1	The nurse would associate depression with decreased levels of TSH.
2	The nurse would associate fatigue with decreased levels of TSH.
3	Decreased libido is associated with decreased levels of TSH.
4	Mania is not associated with decreased levels of TSH.
5	Hyperexcitability is not associated with decreased levels of TSH.

PTS: 1 CON: Metabolism

18. ANS: 2, 5
Chapter: Chapter 2, Biological Implications
Objective: Describe the role of genetics in the development of psychiatric disorders
Page:
Heading: Table 2-4 Biological Implications of Psychiatric Disorders

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Integrated Processes: The Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Analysis [Analyzing]
Concept: Immunity
Difficulty: Hard

	Feedback
1	Increased levels of dopamine are a biological implication in bipolar disorder (acute mania) but not in panic disorder.
2	Increased levels of thyroid hormones are a biological implication of both bipolar disorder and panic disorder.
3	An increase in cortisol levels is often associated with anorexia nervosa, rather than bipolar disorder or panic disorder.
4	Decreased GABA activity is a biological implication in panic disorder but not in bipolar disorder.
5	Increased levels of norepinephrine are a biological implication of both bipolar disorder and panic disorder.

PTS: 1 CON: Immunity

COMPLETION

19. ANS:
Psychobiology
Chapter: Chapter 2 Biological Implications
Objective: Discuss the implications of psychobiological concepts to the practice of psychiatric/mental health nursing.
Page:
Heading: Introduction
Integrated Processes: Teaching and Learning
Client Need: Psychosocial Integrity
Cognitive Level: Knowledge [Remembering]
Concept: Mood
Difficulty: Easy

Feedback: Psychobiology is the study of the biological foundations of cognitive, emotional, and behavioral processes. In recent years, a greater emphasis has been placed on the study of the organic basis for psychiatric illness.

PTS: 1 CON: Mood

20. ANS:
synapse
Chapter: Chapter 2 Biological Implications
Objective: Discuss the physiology of neurotransmission in the central nervous system.
Page:

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Heading: Synapses
Integrated Processes: Nursing Process
Client Need: Physiological Integrity: Physiological Adaptation
Cognitive Level: Knowledge [Remembering]
Concept: Mood
Difficulty: Easy

Feedback: Some messages may be processes through only a few neurons, while others may require thousands of neuronal connections. The neurons that transmit the impulses do not touch each other. The space between the neurons is called a synapse.

PTS: 1 CON: Mood

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