

Chapter 03: Psychobiology and Psychopharmacology

Halter: Varcarolis' Foundations of Psychiatric Mental Health Nursing: A Clinical Approach, 8th Edition

MULTIPLE CHOICE

1. A patient asks, "What are neurotransmitters? My doctor said mine are imbalanced." Select the nurse's best response.
 - a. "How do you feel about having imbalanced neurotransmitters?"
 - b. "Neurotransmitters protect us from harmful effects of free radicals."
 - c. "Neurotransmitters are substances we consume that influence memory and mood."
 - d. "Neurotransmitters are natural chemicals that pass messages between brain cells."

ANS: D

The patient asked for information, and the correct response is most accurate.

Neurotransmitters are chemical substances that function as messengers in the central nervous system. They are released from the axon terminal, diffuse across the synapse, and attach to specialized receptors on the postsynaptic neuron. The distracters either do not answer the patient's question or provide untrue, misleading information.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
 REF: Page 3-9 TOP: Nursing Process: Implementation
 MSC: Client Needs: Physiological Integrity

2. The parent of an adolescent diagnosed with schizophrenia asks the nurse, "My child's doctor ordered a PET. What kind of test is that?" Select the nurse's best reply.
 - a. "This test uses a magnetic field and gamma waves to identify problem areas in the brain. Does your teenager have any metal implants?"
 - b. "PET means *positron-emission tomography*. It is a special type of scan that shows blood flow and activity in the brain."
 - c. "A PET scan passes an electrical current through the brain and shows brain-wave activity. It can help diagnose seizures."
 - d. "It's a special x-ray that shows structures of the brain and whether there has ever been a brain injury."

ANS: B

The parent is seeking information about PET scans. It is important to use terms the parent can understand, so the nurse should identify what the initials mean. The correct response is the only option that provides information relevant to PET scans. The distracters describe magnetic resonance image (MRI), computed tomography (CT) scans, and EEG. See relationship to audience response question.

PTS: 1 DIF: Cognitive Level: Apply (Application)
 REF: Pages 3-13, 58 (Table 3-2) TOP: Nursing Process: Implementation
 MSC: Client Needs: Physiological Integrity

3. A patient with a long history of hypertension and diabetes now develops confusion. The health care provider wants to make a differential diagnosis between Alzheimer's disease and multiple infarcts. Which diagnostic procedure should the nurse expect to prepare the patient for first?
- Skull x-rays
 - CT scan
 - PET
 - Single photon emission computed tomography (SPECT)

ANS: B

A CT scan shows the presence or absence of structural changes, including cortical atrophy, ventricular enlargement, and areas of infarct, information that would be helpful to the health care provider. PET and SPECT show brain activity rather than structure and may occur later. See relationship to audience response question.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-13, 58 (Table 3-2) TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

4. A patient's history shows drinking 4 to 6 L of fluid and eating more than 6,000 calories per day. Which part of the central nervous system is most likely dysfunctional for this patient?
- Amygdala
 - Parietal lobe
 - Hippocampus
 - Hypothalamus

ANS: D

The hypothalamus, a small area in the ventral superior portion of the brainstem, plays a vital role in such basic drives as hunger, thirst, and sex. See relationship to audience response question.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-10, 11 TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

5. The nurse prepares to assess a patient diagnosed with major depressive disorder for disturbances in circadian rhythms. Which question should the nurse ask this patient?
- "Have you ever seen or heard things that others do not?"
 - "What are your worst and best times of the day?"
 - "How would you describe your thinking?"
 - "Do you think your memory is failing?"

ANS: B

Mood changes throughout the day may be related to circadian rhythm disturbances. Questions about sleep pattern are also relevant to circadian rhythms. The distracters apply to assessment for illusions and hallucinations, thought processes, and memory.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Page 3-7 TOP: Nursing Process: Assessment
MSC: Client Needs: Psychosocial Integrity

6. The nurse administers a medication that potentiates the action of γ -aminobutyric acid (GABA). Which effect would be expected?
- Reduced anxiety
 - Improved memory
 - More organized thinking
 - Fewer sensory perceptual alterations

ANS: A

Increased levels of GABA reduce anxiety. Acetylcholine and substance P are associated with memory enhancement. Thought disorganization is associated with dopamine. GABA is not associated with sensory perceptual alterations. See relationship to audience response question.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-15, 16, 20, 53 (Table 3-1) TOP: Nursing Process: Evaluation
MSC: Client Needs: Physiological Integrity

7. A nurse would anticipate that treatment for a patient with memory difficulties might include medications designed to
- inhibit GABA.
 - prevent destruction of acetylcholine.
 - reduce serotonin metabolism.
 - increase dopamine activity.

ANS: B

Increased acetylcholine plays a role in learning and memory. Preventing destruction of acetylcholine by acetylcholinesterase would result in higher levels of acetylcholine, with the potential for improved memory. GABA affects anxiety rather than memory. Increased dopamine would cause symptoms associated with schizophrenia or mania rather than improve memory. Decreasing dopamine at receptor sites is associated with Parkinson's disease rather than improving memory.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-37, 43, 53 (Table 3-1) TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

8. A patient has disorganized thinking associated with schizophrenia. Neuroimaging would likely show dysfunction in which part of the brain?
- Hippocampus
 - Frontal lobe
 - Cerebellum
 - Brainstem

ANS: B

The frontal lobe is responsible for intellectual functioning. The hippocampus is involved in emotions and learning. The cerebellum regulates skeletal muscle coordination and equilibrium. The brainstem regulates internal organs.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)

9. The nurse should assess a patient taking a drug with anticholinergic properties for inhibited function of the
- parasympathetic nervous system.
 - sympathetic nervous system.
 - reticular activating system.
 - medulla oblongata.

ANS: A

Acetylcholine is the neurotransmitter found in high concentration in the parasympathetic nervous system. When anticholinergic drugs inhibit acetylcholine action, blurred vision, dry mouth, constipation, and urinary retention commonly occur.

PTS: 1

DIF: Cognitive Level: Understand (Comprehension)

REF: Page 3-50 (Figure 3-1) | Page 3-53 (Table 3-1)

TOP: Nursing Process: Assessment

MSC: Client Needs: Physiological Integrity

10. The therapeutic action of neurotransmitter inhibitors that block reuptake cause
- decreased concentration of the blocked neurotransmitter in the central nervous system.
 - increased concentration of the blocked neurotransmitter in the synaptic gap.
 - destruction of receptor sites specific to the blocked neurotransmitter.
 - limbic system stimulation.

ANS: B

If the reuptake of a substance is inhibited, it accumulates in the synaptic gap, and its concentration increases, permitting ease of transmission of impulses across the synaptic gap. Normal transmission of impulses across synaptic gaps is consistent with normal rather than depressed mood. The other options are not associated with blocking neurotransmitter reuptake.

PTS: 1

DIF: Cognitive Level: Understand (Comprehension)

REF: Pages 3-10, 24, 64 (Box 3-2)

TOP: Nursing Process: Implementation

MSC: Client Needs: Physiological Integrity

11. A patient taking medication for mental illness develops restlessness and an uncontrollable need to be in motion. Which drug action causes these symptoms to develop?
- Anticholinergic effects
 - Dopamine-blocking effects
 - Endocrine-stimulating effects
 - Ability to stimulate spinal nerves

ANS: B

Medication that blocks dopamine often produces disturbances of movement, such as akathisia, because dopamine affects neurons involved in both thought processes and movement regulation. Anticholinergic effects include dry mouth, blurred vision, urinary retention, and constipation. Akathisia is not caused by endocrine stimulation or spinal nerve stimulation.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-28, 36, 52 (Figure 3-20) TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

12. A fearful patient has an increased heart rate and blood pressure. The nurse suspects increased activity of which neurotransmitter?
- GABA
 - Norepinephrine
 - Acetylcholine
 - Histamine

ANS: B

Norepinephrine is the neurotransmitter associated with sympathetic nervous system stimulation, preparing the individual for “fight or flight.” GABA is a mediator of anxiety level. A high concentration of histamine is associated with an inflammatory response. A high concentration of acetylcholine is associated with parasympathetic nervous system stimulation.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Page 3-30 (Figure 3-1) | Page 3-53 (Table 3-1)
TOP: Nursing Process: Assessment MSC: Client Needs: Physiological Integrity

13. A patient has acute anxiety related to an automobile accident 2 hours ago. The nurse should teach the patient about medication from which group?
- Tricyclic antidepressants
 - Antipsychotic drugs
 - Mood stabilizers
 - Benzodiazepines

ANS: D

Benzodiazepines provide anxiety relief. Tricyclic antidepressants are used to treat symptoms of depression. Mood stabilizers are used to treat bipolar disorder. Antipsychotic drugs are used to treat psychosis.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-20, 21, 51 (Figure 3-12) TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

14. A patient is hospitalized for severe major depressive disorder. Of the medications listed below, the nurse can expect to provide the patient with teaching about
- chlordiazepoxide.
 - clozapine.
 - sertraline.
 - tacrine.

ANS: C

Sertraline (Zoloft) is a selective serotonin reuptake inhibitor (SSRI). This antidepressant blocks the reuptake of serotonin, with few anticholinergic and sedating side effects. Clozapine is an antipsychotic. Chlordiazepoxide is an anxiolytic. Tacrine treats Alzheimer's disease.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Page 3-25 TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

15. A patient diagnosed with bipolar disorder displays aggressiveness, agitation, talkativeness, and irritability. The nurse expects the health care provider to prescribe a medication from which group?
- Psychostimulants
 - Mood stabilizers
 - Anticholinergics
 - Antidepressants

ANS: B

The symptoms describe mania, which is effectively treated by mood stabilizers, such as lithium, and selected anticonvulsants (carbamazepine, valproic acid, and lamotrigine). Drugs from the other classifications listed are not effective in the treatment of mania.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-32, 33 TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

16. A drug causes muscarinic receptor blockade. The nurse will assess the patient for
- dry mouth.
 - gynecomastia.
 - pseudoparkinsonism.
 - orthostatic hypotension.

ANS: A

Muscarinic receptor blockade includes atropine-like side effects, such as dry mouth, blurred vision, and constipation. Gynecomastia is associated with decreased prolactin levels. Movement defects are associated with dopamine blockade. Orthostatic hypotension is associated with α_1 antagonism.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-25, 30, 35 to 37 TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

17. A patient begins therapy with a phenothiazine medication. What teaching should the nurse provide related to the drug's strong dopaminergic effect?
- Chew sugarless gum.
 - Increase dietary fiber.
 - Arise slowly from bed.
 - Report changes in muscle movement.

ANS: D

Phenothiazines block dopamine receptors in both the limbic system and basal ganglia. Movement disorders and motor abnormalities (extrapyramidal side effects), such as parkinsonism, akinesia, akathisia, dyskinesia, and tardive dyskinesia, are likely to occur early in the course of treatment. They are often heralded by sensations of muscle stiffness. Early intervention with antiparkinsonism medication can increase the patient's comfort and prevent dystonic reactions. The distracters are related to anticholinergic effects.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-28, 36, 37, 52 (Figure 3-20)
TOP: Nursing Process: Implementation MSC: Client Needs: Physiological Integrity

18. A patient tells the nurse, "My doctor prescribed paroxetine for my depression. I assume I'll have side effects like I had when I was taking imipramine." The nurse's reply should be based on the knowledge that paroxetine is a(n)
- selective norepinephrine reuptake inhibitor.
 - tricyclic antidepressant.
 - monoamine oxidase (MAO) inhibitor.
 - SSRI.

ANS: D

Paroxetine is an SSRI and will not produce the same side effects as imipramine, a tricyclic antidepressant. The patient will probably not experience dry mouth, constipation, or orthostatic hypotension.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Page 3-25 TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

19. A nurse can anticipate anticholinergic side effects are likely when a patient takes
- lithium.
 - bupirone.
 - imipramine.
 - risperidone.

ANS: C

Imipramine (Tofranil) is a tricyclic antidepressant with strong anticholinergic properties, resulting in dry mouth, blurred vision, constipation, and urinary retention. Lithium therapy is more often associated with fluid-balance problems, including polydipsia, polyuria, and edema. Risperidone therapy is more often associated with movement disorders, orthostatic hypotension, and sedation. Bupirone is associated with anxiety reduction without major side effects.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-29, 30, 52 (Figure 3-17) TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

20. Which instruction has priority when teaching a patient about clozapine?
- "Avoid unprotected sex."
 - "Report sore throat and fever immediately."
 - "Reduce foods high in polyunsaturated fats."

d. "Use over-the-counter preparations for rashes."

ANS: B

Clozapine therapy may produce agranulocytosis; therefore, signs of infection should be immediately reported to the health care provider. In addition, the patient should have white blood cell levels measured weekly. The other options are not relevant to clozapine.

PTS: 1

DIF: Cognitive Level: Apply (Application)

REF: Pages 3-38, 39

TOP: Nursing Process: Planning

MSC: Client Needs: Physiological Integrity

21. A nurse cares for a group of patients receiving various medications, including haloperidol, carbamazepine, trazodone, and phenelzine. The nurse will order a special diet for the patient who takes
- carbamazepine.
 - haloperidol.
 - phenelzine.
 - trazodone.

ANS: C

Patients taking phenelzine, an MAO inhibitor, must be on a low tyramine diet to prevent hypertensive crisis. There are no specific dietary precautions associated with the distracters.

PTS: 1

DIF: Cognitive Level: Apply (Application)

REF: Page 3-31

TOP: Nursing Process: Planning

MSC: Client Needs: Physiological Integrity

22. A nurse instructs a patient taking a drug that inhibits MAO to avoid certain foods and drugs because of the risk of
- cardiac dysrhythmia.
 - hypotensive shock.
 - hypertensive crisis.
 - hypoglycemia.

ANS: C

Patients taking MAO-inhibiting drugs must be on a low tyramine diet to prevent hypertensive crisis. In the presence of MAO inhibitors, tyramine is not destroyed by the liver and in high levels produces intense vasoconstriction, resulting in elevated blood pressure.

PTS: 1

DIF: Cognitive Level: Understand (Comprehension)

REF: Page 3-31

TOP: Nursing Process: Implementation

MSC: Client Needs: Physiological Integrity

23. A nurse caring for a patient taking a SSRI will develop outcome criteria related to
- coherent thought processes.
 - improvement in depression.
 - reduced levels of motor activity.
 - decreased extrapyramidal symptoms.

ANS: B

SSRIs affect mood, relieving depression in many cases. SSRIs do not act to reduce thought disorders. SSRIs reduce depression but have little effect on motor hyperactivity. SSRIs do not produce extrapyramidal symptoms.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-24, 25 TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

24. By which mechanism do SSRI medications improve depression?
- Destroying increased amounts of serotonin
 - Making more serotonin available at the synaptic gap
 - Increasing production of acetylcholine and dopamine
 - Blocking muscarinic and α_1 norepinephrine receptors

ANS: B

Depression is thought to be related to lowered availability of the neurotransmitter serotonin. SSRIs act by blocking reuptake of serotonin, leaving a higher concentration available at the synaptic cleft. SSRIs prevent destruction of serotonin. SSRIs have little or no effect on acetylcholine and dopamine production. SSRIs do not produce muscarinic or α_1 norepinephrine blockade.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-24, 25 TOP: Nursing Process: Implementation
MSC: Client Needs: Physiological Integrity

25. The laboratory report for a patient taking clozapine (Clozaril) shows a white blood cell count of 3000 mm^3 . Select the nurse's best action.
- Report the results to the health care provider immediately.
 - Administer the next dose as prescribed.
 - Give aspirin and force fluids.
 - Repeat the laboratory test.

ANS: A

These laboratory values indicate the possibility of agranulocytosis, a serious side effect of clozapine therapy. These results must be immediately reported to the health care provider, and the drug should be withheld. The health care provider may repeat the test, but in the meantime, the drug should be withheld. (*Note: This question requires students to apply previous learning regarding normal and abnormal values of white blood cell counts.*)

PTS: 1 DIF: Cognitive Level: Analyze (Analysis)
REF: Pages 3-38, 39 TOP: Nursing Process: Implementation
MSC: Client Needs: Physiological Integrity

26. A drug blocks the attachment of norepinephrine to α_1 receptors. The patient may experience
- hypertensive crisis.
 - orthostatic hypotension.
 - severe appetite disturbance.
 - an increase in psychotic symptoms.

ANS: B

Sympathetic-mediated vasoconstriction is essential for maintaining normal blood pressure in the upright position. Blockage of α_1 receptors leads to vasodilation and orthostatic hypotension. Orthostatic hypotension may cause fainting and falls. Teach patients ways of minimizing this phenomenon.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-28, 41, 42 TOP: Nursing Process: Implementation
MSC: Client Needs: Physiological Integrity

27. A nurse cares for four patients who are receiving clozapine, lithium, fluoxetine, and venlafaxine, respectively. With which patient should the nurse be most alert for problems associated with fluid and electrolyte imbalance? The patient receiving
- lithium.
 - clozapine.
 - fluoxetine.
 - venlafaxine.

ANS: A

Lithium is a salt and known to alter fluid and electrolyte balance, producing polyuria, edema, and other symptoms of imbalance. Patients receiving clozapine should be monitored for agranulocytosis. Patients receiving fluoxetine should be monitored for acetylcholine block. Patients receiving venlafaxine should be monitored for heightened feelings of anxiety.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-33, 62 (Table 3-3) TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

28. An obese patient has a diagnosis of schizophrenia. Medications that block which receptors would contribute to further weight gain?
- H₁
 - 5 HT₂
 - Acetylcholine
 - GABA

ANS: A

H₁ receptor blockade results in weight gain, which is undesirable for an obese patient. Blocking of the other receptors would have little or no effect on the patient's weight.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-37, 38, 40 TOP: Nursing Process: Planning
MSC: Client Needs: Physiological Integrity

29. An individual hiking in the forest encounters a large poisonous snake on the path. Which change in this individual's vital signs is most likely?
- Pulse rate changes from 90 to 72.
 - Respiratory rate changes from 22 to 18.
 - Complaints of intestinal cramping begin.
 - Blood pressure changes from 114/62 to 136/78.

ANS: D

This frightening experience would stimulate the sympathetic nervous system, causing a release of norepinephrine, an excitatory neurotransmitter. It prepares the body for fight or flight. Increased blood pressure, pupil size, respiratory rate, and pulse rate signify release of norepinephrine. Intestinal cramping would be associated with stimulation of the parasympathetic nervous system.

PTS: 1 DIF: Cognitive Level: Apply (Application)
REF: Pages 3-5, 50 (Figure 3-1) TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

30. Consider these medications: carbamazepine, lamotrigine, gabapentin. Which medication below also belongs to this group?
- Galantamine
 - Valproate
 - Buspirone
 - Tacrine

ANS: B

The medications listed in the stem are mood stabilizers, anticonvulsant types. Valproate (Depakote) is also a member of this group. The distracters are drugs for treatment of Alzheimer's disease and anxiety.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)
REF: Pages 3-33, 34 TOP: Nursing Process: Assessment
MSC: Client Needs: Physiological Integrity

31. A professional football player is seen in the emergency department after losing consciousness from an illegal block. Prior to discharge, the nurse assists the patient to schedule an outpatient computed tomography (CT) scan for the next day. Which strategy should the nurse use to ensure the patient remembers the appointment?
- Write the appointment day, time, and location on a piece of paper and give it to the player.
 - Log the appointment day, time, and location into the player's cell phone calendar feature.
 - Ask the health care provider to admit the patient to the hospital overnight.
 - Verbally inform the patient of the appointment day, time, and location.

ANS: B

This player may have suffered repeated head injuries with damage to the hippocampus. The hippocampus has significant role in maintaining memory. Logging the appointment into the player's cell phone calendar will remind him of the appointment the next day. Paper will be lost, and the patient is unlikely to remember verbal instruction. Hospitalization is unnecessary. See relationship to audience response question. Caution: This question requires students to apply previous learning regarding central nervous system anatomy and physiology.

PTS: 1 DIF: Cognitive Level: Analyze (Analysis)
REF: Page 3-12 TOP: Nursing Process: Implementation
MSC: Client Needs: Safe, Effective Care Environment

MULTIPLE RESPONSE

1. A nurse prepares to administer a second-generation antipsychotic medication to a patient diagnosed with schizophrenia. Additional monitoring for adverse effects will be most important if the patient has which co-morbid health problems? (*Select all that apply.*)
 - a. Parkinson's disease
 - b. Grave's disease
 - c. Hyperlipidemia
 - d. Osteoarthritis
 - e. Diabetes

ANS: A, C, E

Antipsychotic medications may produce weight gain, which would complicate care of a patient with diabetes, and increase serum triglycerides, which would complicate care of a patient with hyperlipidemia. Parkinson's disease involves changes in transmission of dopamine and acetylcholine, so these drugs would also complicate care of this patient. Osteoarthritis and Grave's disease should have no synergistic effect with this medication.

PTS: 1 DIF: Cognitive Level: Analyze (Analysis)

REF: Pages 3-37, 38, 40 TOP: Nursing Process: Planning

MSC: Client Needs: Physiological Integrity

2. Questions the nurse could ask that would be nonjudgmental when obtaining information about a patient's use of complementary and herbal remedies include (*Select all that apply*)
 - a. "You don't regularly take herbal remedies, do you?"
 - b. "What herbal medicines have you used to relieve your symptoms?"
 - c. "What over-the-counter medicines, vitamins, and nutritional supplements do you use?"
 - d. "What differences in your symptoms do you notice when you take herbal supplements?"
 - e. "Have you experienced problems from using herbal and prescription drugs at the same time?"

ANS: B, C, D, E

The correct responses are neutral in tone and do not express bias for or against the use of complementary or herbal medicines. The distracter, worded in a negative way, makes the nurse's bias evident.

PTS: 1 DIF: Cognitive Level: Apply (Application)

REF: Page 3-45 TOP: Nursing Process: Assessment

MSC: Client Needs: Psychosocial Integrity

3. An individual is experiencing problems with memory. Which of these structures are most likely to be involved in this deficit? (*Select all that apply.*)
 - a. Amygdala
 - b. Hippocampus
 - c. Occipital lobe
 - d. Temporal lobe

e. Basal ganglia

ANS: A, B, D

The frontal and temporal lobes of the cerebrum play a key role in the storage and processing of memories. The amygdala and hippocampus also play roles in memory. The occipital lobe is predominantly involved with vision. The basal ganglia influence integration of physical movement, as well as some thoughts and emotions.

PTS: 1 DIF: Cognitive Level: Understand (Comprehension)

REF: Pages 3-7, 12, 16, 50 (Figure 3-5) TOP: Nursing Process: Planning

MSC: Client Needs: Physiological Integrity

4. A patient's sibling says, "My brother has a mental illness, but the doctor ordered a functional magnetic resonance image (fMRI) test. That test is too expensive and will just increase the hospital bill." Select the nurse's best responses. (*Select all that apply.*)
- "Sometimes there are physical causes for psychiatric symptoms. This test will help us understand whether that is the situation."
 - "Some mental illnesses are evident on fMRIs. This test will give information to help us plan the best care for your brother."
 - "This test will indicate whether your brother has been taking his psychotropic medications as prescribed."
 - "It sounds like you do not truly believe your brother had a mental illness."
 - "It would be better for you to discuss your concerns with the health care provider."

ANS: A, B

The correct responses provide information to the sibling. Modern imaging techniques are important tools in assessing molecular changes in mental disease and marking the receptor sites of drug action, which can help in treatment planning. Psychiatric symptoms can be caused by anatomical or physiologic abnormalities. There is no evidence of denial in the sibling's comment. The nurse can answer this question rather than referring it to the physician/health care provider. An fMRI does not demonstrate adherence to the medication regime.

PTS: 1 DIF: Cognitive Level: Apply (Application)

REF: Pages 3-13, 58 (Table 3-2) TOP: Nursing Process: Implementation

MSC: Client Needs: Physiological Integrity