Unit Two
Pharmacology and the Nurse-Client Relationship

Chapter 5
The Nursing Process in Pharmacology

Question1
Type MCMA

A patient is ordered an antibiotic for a urinary tract infection. Which of the following elements of assessment would the nurse include in relation to pharmacotherapy.

1. An ability of the client to assume responsibility for his/ or her own drug administration.
2. Whether the patient has any known allergies.
3. Documentation of preferred outcome as no pain upon urination and no fever.
4. Whether the client experiences any adverse effects of the medication.
5. Which side effects should be reported to the health care provider.

Correct Answer 1, 2, 4
Rationale 1. The nurse is responsible for assessing whether the client is capable of managing his/her own drug administration as well as being able to monitor for any side effects
Rationale 2. The nurse would assess for allergies during the initial physical examination and history.
Rationale 3. The documentation of preferred outcomes would be included in Planning/goal setting.
Rationale 4. The nurse will be assessing for the effectiveness of the drug and whether the client experiences any adverse effects.
Rationale 5. Which side effects should be reported to the physician would be an element of implementation.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5 -1 Explain the steps of the nursing process in relation to pharmacotherapeutics.

Question 2
Type: MCSA

The student nurse is admitting an elderly patient to the medical unit who has been diagnosed with pneumonia and will be receiving intravenous antibiotics to treat. After completing a physical and health history of the patient with her nurse, the student states. " Now that our assessment is complete, we can analyze the data to determine our diagnosis." What is the best response of the nurse?

1. "Can you identify what diagnosis would be appropriate for someone receiving antibiotics?"

2. "Correct, and then we will administer the intravenous antibiotics."
3. " Actually, your assessment is ongoing and will continue even after the antibiotics are administered."
4. We usually skip this phase of the nursing process and go directly to goal setting."

Correct Answer: 3
Rationale 1. While this may be an important question to ask the student, it is more important that the student understand that her assessment is ongoing.
Rationale 2. The next step in the process would be planning and goal setting after establishing the diagnosis.
Rationale 3. This is correct. Assessment is ongoing and continues on the monitor for effectiveness of the drug, side effects and whether the client has a good understanding of any teaching that has been completed.
Rationale
Rationale 4. There is no part of the process that is skipped during pharmacotherapy.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-1 Explain the steps of the nursing process in relation to pharmacotherapeutics.

Question 3
Type: MCSA

The student nurses are learning in pharmacology how the nursing process is applied in pharmacotherapy. They have just completed the first class on assessment. Which statement by one of the students indicates that more explanation is necessary?

1. A thorough assessment will promote safety in medication administration.
2. Assessing for allergies will determine whether the appropriate drug has been ordered.
3. Ongoing assessments are conducted to determine a drug's effectiveness.
4. Assessment focusses on actual or potential problems with the client seeking care.

Correct Answer: 4
Rationale 1. This is an accurate statement, and does not indicate the need for more explanation.
Rationale 2. This is an accurate statement, and does not indicate the need for more explanation.
Rationale 3. This is an accurate statement, and does not indicate the need for more explanation.
Rationale 4. This statement by the student indicates the need for further information. Assessment does not focus on client problems, the diagnosis phase of the nursing process does.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies

Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-2. Identify assessment data to to be gathered to ensure safe medication administration.

Question 4
Type MCMA

An 80 year old client visits the emergency room after stepping on a rusty nail 2 days ago. He has a puncture wound on his right foot that is red and swollen.. Which of the following would be included in his assessment that would be relevant for pharmacological treatment?

1. Past medication history
2. Past surgical history
3. Alcohol intake
4. Drug allergies
5. Renal function

Correct Answer: 1,3,4,5
Rationale 1. Past medication use, and an assessment of any medications he is currently on, including OTC and herbal supplements is important information that the health care provider will consider when ordering drugs for his current condition.
Rationale 2. His past surgical history is not relevant in this situation. The initial history is tailored to the client's current condition, his past surgical history information will not provide significant information needed to prescribe medication
Rationale 3. Alcohol intake is important to know because medications may react with alcohol.
Rationale 4. Drug allergies are essential information to assess with any client seeking treatment for a health condition.
Rationale 5. Considering the decrease in organ function as we age, determining both liver and renal function is important to determine before prescribing drug therapy.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-2-Identify assessment data to be gathered to ensure safe medication administration.

Question 5
Type FIB

The two most common nursing diagnosis related to medication administration that a nurse can manage independently are inadequate knowledge and _____.

Correct Answer: non-adherence

Rationale. While there may be many actual and potential problems that need to be identified, knowledge defect and non-adherence are two common ones that the nurse can manage independently of other health personnel.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-3 Develop appropriate nursing diagnosis for clients receiving medications.

Question 6
Type MCSA

The student nurse has just completed a history and physical on Mr Morris admitted with hypertension. She says to the nurse, " Mr Morris is not compliant with taking his blood pressure medications." What is the best response of the nurse to this statement.

1. He has agreed to treatment while in hospital, let us show him how effective the medications are, that will encourage him to take them at home.
2. We will write a note for the physician to change his medications to ones he will take.
3. We will document his non compliance on the care plan and set goals for how to encourage him to take his medications as ordered.
4. We need to determine the reasons why he is not taking his drugs, that is the only way we can develop interventions that he can live with.

Correct Answer: 4
Rationale 1. This statement does not address reasons why Mr Morris is not taking his medications at home.
Rationale 2. Changing his medications does not address the reasons why he is not taking the medications at home.
Rationale 3. Setting goals for his non compliance will not increase the chances that he will continue medications once at home, and does not involve the client in his care.
Rationale 4. Real problem solving will not take place until the reasons why Mr Morris is not taking his pills are addressed.

Cognitive Level: Understanding
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-3 Develop appropriate nursing diagnosis for clients receiving medications.

Question 7

Type MCSA
Miss Althorn developed a deep vein thrombosis while recovering from her abdominal surgery. She is to be discharged home in 2 days. The nurse has documented a goal for her that states; Client will be able to self administer Dalteparin before discharge. Which of the following is considered an outcome statement?
1. Client will know and understand the side effects of Dalteparin
2. Client will be able to administer premixed Dalteparin subcutaneously into the abdomen within 2 days
3. Client will procure all supplies for her daily dalteparin injection.
4. Client will report to physician adverse effects of dalteparin.

Correct Answer 2

Rationale 1. Outcome statements are specific and measurable, this does not address the self administration of Dalteparin
Rationale 2 This is the only choice that is specific and measurable and is related to the self administration of the drug
Rationale 3. This is not specific to the Dalteparin injection.
Rationale 4. This is not specific to the Dalteparin injection.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-4 Set realistic goals and outcomes during the planning stage for clients receiving medications.

Question 8
Type MCMA

The student nurse is caring for a client who is receiving anticoagulants for DVT prophylaxis. Which of the following are key interventions by the nurse?
1. Monitor for unusual bleeding following administration.
2. Write interdisciplinary plan of care for the client.
3. Plan for discharge by identifying specific goals for the client.
4. Limit adverse effects of the drug
5. Document that the drug has been administered.

Correct Answer: 1, 4, 5
Rationale 1. Monitoring for adverse effects is a key intervention the nurse is responsible for.
Rationale 2. Writing the interdisciplinary care plan is completed during the planning stage of the nursing process.
Rationale 3. Identification of goals and outcomes occurs during the planning stage.
Rationale 4. A key intervention for the nurse is to ameliorate adverse effects if possible.
Rationale 5. Documentation is a key part of the nursing interventions.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-5: Discuss key intervention strategies to be carried out for clients receiving medications.

Question 9
Type MCSA

Client monitoring after the administration of medications is an important responsibility of the nurse. What knowledge is key in fulfilling this role?
1. Mechanism of action of the drug
2. Factors affecting drug absorption
3. What the half life of a drug is.
4. What the median effective dose of a drug is.

Correct Answer: 1
Rationale 1. A thorough knowledge of the actions of each medication is necessary to carry out this monitoring process including therapeutic and adverse effects.
Rationale 2. Factors affecting absorption will not provide relevant information for monitoring clients after drug administration.
Rationale 3. The half life of a drug does not provide relevant information for monitoring clients after drug administration.
Rationale 4. The median effective dose will not provide relevant information for monitoring clients after drug administration.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-5 Discuss key intervention strategies to be carried out for clients receiving medications.

Question 10
Type MCSA
A student has worked through the nursing process while preparing and administering a narcotic analgesic for a patient in pain. She says to her instructor, “all I have left to complete is evaluating whether the drug was effective”. What is the best response of the instructor?
1. “ Correct, and you will need to document that on the care plan.”
2. “ Yes, and you will need to evaluate the same for the other medications you gave your client.”
3. “ You will need to evaluate for adverse effects as well as reassessing your diagnosis and planning phase.”

4. " Your documentation should include all 5 steps of the nursing process."

Correct Answer: 3
Rationale 1. The student's evaluation must include assessing for effectiveness of the drug as well as adverse effects. Evaluation also includes reassessing diagnosis, reviewing goals and outcomes and new interventions if appropriate.
Rationale. Documentation of the evaluation is important, but is not complete.
Evaluation also includes reassessing diagnosis, reviewing goals and outcomes and new interventions if appropriate
Rationale 3. This would be the best response by the instructor. " The process comes full circle as the nurse reassesses the client, reviews the nursing diagnoses, makes necessary changes, reviews and rewrites goals and outcomes, and carries out further interventions to meet those goals and outcomes.
Rationale 4. While this is true, evaluation is a complex step that can incorporate a review of all other steps of the nursing process, with revisions being made to the plan if necessary.

Cognitive Level: Understanding
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process:Evaluation
Learning Outcome: 5-6 Evaluate the outcomes of medication administration.

Question 11
MCSA

A nurse sees a 34 year old female in the clinic for a urinary tract infection. It is the woman's second visit in a month for the same reason. The client states that she felt better after a few days and stopped taking the antibiotic that was ordered. Considering this statement by the client, what should be a priority for the nurse to evaluate?

1. The dose of the antibiotic previously ordered.
2. The culture and sensitivity report of the urine
3. The effectiveness of the client teaching provided.
4. The therapeutic drug levels of the antibiotic ordered.

Correct Answer: 3
Rationale 1. While it is important for the nurse to understand safe drug dosages, reviewing the dose of the previous antibiotic would be the responsibility of the health care provider, not the nurse.
Rationale 2. The culture and sensitivity would be important to review, but is not the priority here.
Rationale 3. This is correct, the patient has stated that she did not take all the medications as ordered. The client teaching needs two be reviewed for this client so that she understands the instructions for taking the antibiotic.
Rationale 4. Not all drugs have therapeutic levels monitored, and this does not address the issue of the client not taking all her drugs.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-6 Evaluate the outcomes of medication administration.

Question 12
Type: FIB
In planning, the nurse plans ways to assist the client to resolve problems and return to an optimum level of wellness. Goals focussing on what the client will be able to do or achieve are established. Outcomes are the _____ measures of those goals.

Answer: objective

Rationale: Planning includes setting realistic goals and outcomes for the client Goals are focussed on what the client will be able to achieve, and the outcomes are the objective ways of measuring them

Cognitive Level:Understanding
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 5-4 Set realistic goals and outcomes during the planning stage for clients receiving medications

Chapter 6
Lifespan Considerations in Pharmacotherapy

Question 1
Type: MCSA
A pregnant client tells the nurse that her prescribed medication is not as effective as it was before her pregnancy. Which explanation by the nurse is best?
1. "This is because your blood volume has increased."
2. "This is because high estrogen levels increase stomach acid, which may decrease absorption."
3. " The medication may be expired; check the label."
4. "Tell me how you have been taking your medication."
Correct Answer: 2

Rationale 1: The increase in blood volume would result in higher concentrations of "free" drug in the plasma. This would result in an increase in drug response, not decreased effectiveness.
Rationale 2: High estrogen levels can increase hydrochloric acid in the stomach, which can affect the absorption of some medications.
Rationale 3: This is not the best response. If she routinely took the medication before her pregnancy, it is unlikely the medication would have expired.
Rationale 4: This might be an appropriate question after other factors have been established. This is not the best response.
Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-4 Describe physiological changes during pregnancy that may affect the absorption, distribution, metabolism, and excretion of drugs.

Question 2
Type: MCSA
The nurse knows that pregnancy affects the absorption, distribution, metabolism, and excretion of drugs. Which one is the least affected by pregnancy?
1. Distribution
2. Metabolism
3. Excretion
4. Absorption
Correct Answer: 2
Rationale 1: Distribution results in greater hemodilution of plasma proteins and drugs.
Rationale 2: Metabolism is the least affected by pregnancy.
Rationale 3: Excretion is enhanced by increases in renal plasma flow, glomerular filtration rate, creatinine clearance, and renal tubular reabsorption.

Rationale 4: Absorption is delayed related to changes in the gastrointestinal tract during pregnancy.
Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-4 Describe physiological changes during pregnancy that may affect the absorption, distribution, metabolism, and excretion of drugs.

Question 3
Type: MCSA
The nurse educator is explaining the factors that impact the transfer of medications across the placenta. Which factor would be responsible for higher concentrations of a drug being transferred to the fetus through the placenta?
1. Low degree of metabolic activity of the placenta
2. Increased blood flow to the placenta
3. Plasma drug level in the mother
4. Increased blood volume of the mother
Correct Answer: 3

Rationale 1: The placenta has a high metabolic activity level.
Rationale 2: Decreased blood flow to the placenta results in trapped circulating drugs; therefore, higher levels of drug concentration would be present in the fetus.
Rationale 3: Higher concentrations of drugs in the maternal blood lead to higher levels of circulating drug to the placenta.
Rationale 4: Increased blood volume of the mother does not affect amount of drug that is transferred to the fetus.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-4 Describe physiological changes during pregnancy that may affect the absorption, distribution, metabolism, and excretion of drugs.

Question 4
Type: MCSA
Student nurses are learning that Health Canada uses the same pregnancy categories developed by the Food and Drug Administration (FDA). What statement by the student indicates understanding of the content learned?
1. FDA pregnancy category N represents drugs that are least hazardous to the fetus.
2. FDA pregnancy categories are based on clinical human studies.
3. FDA pregnancy categories provide a framework for safe use of drugs in pregnant women.
4. FDA pregnancy category C is safe to use during pregnancy.
Correct Answer: 3

Rationale 1: FDA pregnancy category N represents drugs that have not been categorized.
Rationale 2: Testing drugs on humans to determine their ability to cause birth anomalies is illegal and unethical. Drugs are tested on pregnant animals.
Rationale 3: FDA pregnancy categories provide a guideline for prescribers to help them choose the least teratogenic drug possible.
Rationale 4: FDA pregnancy category C includes drugs that we do not have sufficient information for in order to determine their safety. This includes about two-thirds of all prescribed medications.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Evaluation
Learning Outcome: 6-3 Match the six pregnancy categories with their definitions.

Question 5
Type: MCSA
What is a common reason that assessing for side effects of medications during pregnancy is challenging?
1. Drug doses are decreased during pregnancy to decrease the incidence of side effects.
2. Adverse effects of medications are not experienced as often with pregnant women.
3. Adverse effects of medications are often similar to common discomforts of pregnancy.
4. The mother has increased blood volume, so the drugs may not be strong enough to produce side effects.
Correct Answer: 3

Rationale 1: There is no evidence to support that drug doses are decreased.
Rationale 2: Pregnant women have the same potential for experiencing adverse effects from drugs as do women who are not pregnant.
Rationale 3: Nausea, vomiting, abdominal cramps, flushed skin, and diaphoresis are also normal symptoms in pregnancy.
Rationale 4: Volume of blood may increase the strength of medication but this will not result in difficulty assessing side effects.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6- 6 Outline important points in patient and family education regarding drug use during pregnancy and lactation.

Question 6
Type: MCSA
The nurse is teaching a prenatal class for mothers with a past history of drug abuse. Which factor would the nurse need to emphasize about the first trimester of pregnancy?

1. There is very little chance of the fetus being affected by teratogens during this phase.
2. This is the time where the development of thee fetus is at highest risk .
3. Over the counter drugs and herbals are safe during this time.
4. Teratogenic agents during this phase will not cause severe malformations in the fetus.
Correct Answer: 2

Rationale 1: This is the phase when teratogens have the greatest effect on the embryo.
Rationale 2: During this stage, the skeleton and major organs are developing. If teratogenic drugs are used by the mother, major fetal malformations may occur.
Rationale 3: Herbals and OTC medications can have harmful effects during this time.
Rationale 4: This is the phase when teratogens have the greatest effect on the embryo resulting in possible severe malformations.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-6 Outline important points in client and family education regarding drug use during pregnancy and lactation.

Question 7
Type: MCSA
The nurse tells the expectant mothers during their last prenatal class that their fetus might receive a larger dose of a drug in the later period of their pregnancy. Which processes in the mother's body systems are responsible for this action?

1. Blood flow to placenta increases, and placental vascular membranes become thicker.
2. Blood flow to placenta decreases, and placental vascular membranes become thicker.
3. Blood flow to placenta increases, and placental vascular membranes become thinner.
4. Blood flow to placenta decreases, and placental vascular membranes become thinner.
Correct Answer: 3

Rationale 1: The placenta vascular membranes become thinner.
Rationale 2: The blood flow to the placenta increases and the placenta vascular membranes become thinner.
Rationale 3: Blood flow to placenta increases, and placental vascular membranes become thinner, allowing for more substances to be transferred through the placenta.
Rationale 4: The blood flow to the placenta increases.
Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome:6- 4 Describe the physiological changes during pregnancy that may affect absorption, distribution, metabolism and excretion.

Question 8
Type: MCSA
The pregnant client plans to breast-feed her baby. She asks the nurse about the use of herbal products during breast-feeding. Which response by the nurse is the most appropriate?
1. "That should be fine as long as at least 12 hours pass between the time you use the product and when you breast-feed."
2. "Most drugs can be transferred to the infant during breast-feeding, so this is not recommended."
3. "Herbal products are considered natural, so it should be fine to use them during breast-feeding."
4. "Be sure to check the label to see whether the herbal product can be used during breast-feeding."
Correct Answer: 2

Rationale 1: Research data does not support this statement.
Rationale 2: The majority of drugs are secreted into breast milk to some extent.
Rationale 3: Herbal products can be transferred through breast milk and can be toxic to the newborn.
Rationale 4: Herbal products may not have to include factual information on their labels. All drugs should be discussed with a provider prior to consuming while breast-feeding.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-7 Identify the importance of teaching the breastfeeding mother about about prescription and over the counter (OTC) products as well as the use of herbal products.

Question 9
Type: MCMA
The nurse teaching a prenatal class on breastfeeding. What does the nurse share with the class on taking medications while breastfeeding?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Common drug effects seen in breast-feeding infants include diarrhea and irritability.
2. The concentration of drugs in breast milk is very high.
3. Effects on the infant can be very serious.
4. There is rarely serious effects on the infant.
5. The concentration of drugs in breast milk is low but may still result in adverse drug effects in an infant.

Correct Answer: 1,3,5

Rationale 1: Common drug effects in breast-fed infants include diarrhea, constipation, sedation, and irritability.
Rationale 2: The concentration is actually very low.
Rationale 3: The effects can be very serious depending on the drug ingested.
Rationale 4: There is always an effect from any drug. The seriousness varies.
Rationale 5: Even a low drug concentration in breast milk can cause very serious effects to the infant.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-7 Identify the importance of teaching the breastfeeding mother about about prescription and over the counter (OTC) products as well as the use of herbal products.

Question 10
Type: MCSA
The nurse is teaching a prenatal class for mothers with a past history of drug abuse. Which fact about the use of drugs with a breast-feeding infant would the nurse need to emphasize?
1. The infant might experience withdrawal symptoms and test positive for the drug for several hours following exposure.
2. The infant will not experience withdrawal symptoms and will not test positive for the drug following exposure.
3. The infant might experience withdrawal symptoms and test positive for the drug for several days following exposure.
4. The infant might experience withdrawal symptoms and test positive for the drug for several weeks to months following exposure.
Correct Answer: 4

Rationale 1: The infant could experience withdrawal symptoms and test positive for the drug for several weeks to months following exposure.
Rationale 2: The infant could experience withdrawal symptoms and test positive for the drug for several weeks to months following exposure.
Rationale 3: The infant could experience withdrawal symptoms and test positive for the drug for several weeks to months following exposure.
Rationale 4: The infant could experience withdrawal symptoms and test positive for the drug for several weeks to months following exposure.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation

Learning Outcome: 6-7 Identify the importance of teaching the breastfeeding mother about about prescription and over the counter (OTC) products as well as the use of herbal products.

Question 11
Type: MCMA
A pregnant client suspected of drug abuse is admitted to the emergency department. Which cop the following conditions associated with drug use during pregnancy would the nurse discuss with her client?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Preterm birth
2. Low birth weight
3. Birth defects
4. Immature renal development
5. Increased labor
Correct Answer: 1,2,3

Rationale 1: Many illicit drugs can cause preterm birth.
Rationale 2: Many illicit drugs can cause low birth weight.
Rationale 3: Many illicit drugs can cause birth defects.
Rationale 4: No research suggests that drug use can cause immature renal development.
Rationale 5: No research suggests that drug use can cause increased labor.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-6 Outline important points in patient and family education regarding drug use during pregnancy and lactation.

Question 12
Type: MCMA
The clinic nurse will immediately alert the health care provider when which category X drugs are identified on a recently diagnosed pregnant client?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Tetracycline
2. ACE inhibitors
3. Methotrexate
4. Acetaminophen
5. Oral contraceptives

Correct Answer: 2, 3,5

Rationale 1: Tetracycline is in category D, not category X. It should be avoided during pregnancy, and the nurse should alert the health care provider.
Rationale 2: ACE inhibitor antihypertensive drugs are considered unsafe during pregnancy.
Rationale 3: Methotrexate is in category X and should be avoided during pregnancy.
Rationale 4: Acetaminophen is a category N drug
Rationale 5: Oral contraceptives are in category X and should be avoided during pregnancy.

Cognitive Level: Analyzing
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-3 Match the six pregnancy risk categories with their definitions,

Question 13
Type: MCMA
A client admitted to the emergency department for vaginal bleeding is surprised to find she is in the third trimester of pregnancy. An ultrasound determines the fetus is not viable. The nurse recognizes that which drug could be responsible for the fetal demise?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.
1. Selective serotonin reuptake inhibitors (SSRIs)
2. Fluoroquinolone
3. Acetaminophen
4. Nonsteroidal anti-inflammatory drugs (NSAIDs)
5. Angio-converting enzyme inhibitor (ACE inhibitor)
Correct Answer: 4,5

Rationale 1: SSRI drugs are category C and do not cause fetal demise.
Rationale 2: Fluoroquinolone is category C and does not cause fetal demise.
Rationale 3: Acetaminophen is category N and does not cause fetal demise.
Rationale 4: Nonsteroidal anti-inflammatory drugs (NSAIDs) can cause fetal demise in the third trimester.
Rationale 5: ACE inhibitors are category D and can cause fetal demise.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-3 Match the six pregnancy risk categories with their definitions,
.

Question 14

Type: MCSA
The nurse recognizes that which physiological change during pregnancy can alter absorption of medication?
1. Decreased levels of progesterone cause a decrease in gastric tone and intestinal motility.
2. High estrogen levels cause decreased hydrochloric acid production, which may affect the absorption of certain acid labile drugs.
3. An enlarging uterus presses against the stomach, resulting in increased gastric emptying.
4. Increased levels of progesterone increase pulmonary blood flow, resulting in higher serum levels for respiratory drugs.
Correct Answer: 4

Rationale 1: Increased levels of progesterone cause a decrease in gastric tone and intestinal motility.
Rationale 2: High estrogen levels cause increased hydrochloric acid production, which may affect the absorption of certain acid labile drugs.
Rationale 3: An enlarging uterus presses against the stomach, resulting in decreased gastric emptying.
Rationale 4: Increased levels of progesterone increase pulmonary blood flow, resulting in higher serum levels for respiratory drugs.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-4 Describe physiological changes during pregnancy that may affect the absorption, distribution, metabolism, and excretion of drugs.

Question 15
MCSA
The nurse educator is teaching student how some medications end up in the breast milk of mothers. Which statements by a student following class indicates that more clarification of the content is necessary?
1. Drugs that are highly protein bound will enter the breast milk easily.
2. Drugs that are fat soluble enter the milk at higher concentrations.
3. Drugs with a short half-life will be eliminated quickly by the mother.
4. The higher the drug dose taken by the mother, the more drug will pas through the milk.
Correct answer 1
Rationale 1. This answer is correct, drugs that are highly protein bound will not enter the bloodstream easily. This statement by the student indicates the need for more teaching.
Rationale 2. This is a correct statement and does not require further clarification.
Rationale 3. This is a correct statement and does not require further clarification.
Rationale 4. This is a correct statement and does not require further clarification.

Cognitive Level: Understanding
Client Need: Physiological Integrity

Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Evaluation
Learning Outcome: 6-5 Identify factors that influence the transfer of drugs into breast milk. and older adulthood.

Question 16
Type: MCMA

Mrs. Knox has been ordered an anti-infective for a small wound infection. She is currently exclusively breast feeding her 4 month old infant. She voices concerns over taking medications that may enter the breast milk and harm her baby. What teaching can the nurse provide at this time?

Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply

1. You could postpone anti-infectives and take an herbal equivalent that will not harm your baby.
2. Taking your dose immediately after breast feeding will decrease active amount in milk when your baby feeds
3. The physician has ordered a anti-infective compatible with breastfeeding.
4. Take the drugs immediately before breast feeding, the baby will take the same time to feed as it will for the drug to activate in your system.

Correct Answer 2,3

Rationale 1. Postponing the anti-infective would put the mother's health at risk, herbal products can pass through the breast milk as well.
Rationale 2. This Is correct it is sometimes useful to administer it immediately after breastfeeding, or when the infant will be sleeping for an extended period, so that the longest possible time elapses before the next feeding.
Rationale 3. This is correct, there are medications available that are considered safe for Brest feeding mothers and their infants.
Rationale 4. There is no evidence to support this statement.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Evaluation
Learning Outcome: 6-5 Identify factors that influence the transfer of drugs into breast milk. and older adulthood.

Question 17
MCSA

Which factor would lead to the dilution of the drug furosemide (Lasix) in the newborn?
1. The higher proportion of fat to water dilutes water-soluble drugs.
2. There is no dilution of the drug in pediatric clients.
3. The lower proportion of water to fat dilutes water-soluble drugs.
4. The higher proportion of water to fat dilutes water-soluble drugs.
Correct Answer: 4
Rationale 1: The proportion of water to fat is higher in the newborn.
Rationale 2: The high water-to-fat ratio in the newborn dilutes furosemide.
Rationale 3: The proportion of water to fat is higher in the newborn.
Rationale 4: The newborn's weight is 80% water. The high proportion of water to fat dilutes water-soluble drugs.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 18
Type: MCMA
The nurse plans to teach a safety class to parents of toddlers about household exposure to medications. Which information would be included in an effective teaching plan?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Poisoning is extremely common during the toddler years.
2. Excessive doses of vitamins may cause vomiting but are not toxic.
3. All medications should be locked up or stored out of reach of the toddler.
4. Prescription drugs for children come in flavoured elixirs and can be mistaken for candy.
5. Toddlers put everything in their mouths, including topical medications.
Correct Answer: 1,3,4,5

Rationale 1: Toddlers are curious; they explore and want to try new things.
Rationale 2: Vitamins can be very toxic to toddlers if taken in too large a dose.
Rationale 3: All medications and toxic substances should be locked up or stored out of reach of the child.
Rationale 4: Parents should never refer to medication as candy, to prevent toddlers from ingesting the medication on their own.
Rationale 5: Topical medications can be poisonous if ingested and should be kept out of the child’s reach.

Cognitive Level: Applying

Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Planning
Learning Outcome: 6-9 Discuss the nursing and pharmacological implicationsassociated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood and older adulthood.

Question 19
Type: MCSA
The nurse plans to administer medication to a preschool-age child. Which approach indicates the nurse has an understanding of growth and development?
1. The child will be more cooperative if the parent is not in the room.
2. A brief explanation, followed by quick administration of the medication, is best.
3. There should be no need to restrain a child this age.
4. The child will do better with verbal instruction than play instruction.
Correct Answer: 2

Rationale 1: Parents should be in the room with a child this age. Children need the security of someone familiar.
Rationale 2: Children this age have a limited ability to reason to understand the relationship of health to medicines.
Rationale 3: Uncooperative children sometimes need to be restrained.
Rationale 4: Play instruction makes the child feel more in control of the situation.

Cognitive Level: Applying
Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-1 Discuss the basic concepts of growth and development in relation to pharmacotherapeutics.

Question 20
Type: MCSA
Which principle guides medication administration to an infant?

1. The gluteal site is the preferred site for intramuscular (IM) administration of medication.
2. The dosage should be based on milligrams per kilogram weight per day.
3. Oral medications are the preferred route due to fewer side effects.
4. Medications should be calculated based on the infant's age.
Correct Answer: 2

Rationale 1: The vastus lateralis is the preferred site for IM medication administration in infants. It has few nerves and is relatively developed in infants.
Rationale 2: The dosage should be based on milligrams per kilogram weight per day. This is one of the most accurate methods of calculating medication dosages at this age.

Rationale 3: There is no indication that oral medications have fewer side effects in infants.
Rationale 4: Medication calculations based on age would be inaccurate in infants.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 21
Type: MCSA
The student nurse is planning on giving medications to a 7 year old child. Which medication administration principles specific to paediatric clients guide her actions?
1. Confirm the client's identity before administering the first dose of the shift.
2. Use a designated paediatric medication pump to deliver medications.
3. Check medication calculations with another professional.
4. Verify drug orders after medication administration.
Correct Answer: 3

Rationale 1: The nurse should always confirm the client's identity before administering any medication.
Rationale 2: Only intravenous medications would require the need for a paediatric pump.Medication ordering and dispensing systems vary from facility to facility.
Rationale 3: The nurse should always have another professional check calculations. Anyone can make a mathematical error.
Rationale 4: Drug orders should be verified before administration. Verifying drug orders after medication administration would be too late to prevent an error.

Cognitive Level: Remembering
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 22
Type: MCMA

The emergency department nurse is preparing for the arrival of a 3-year-old with suspected drug overdose. Which medications are most likely to be the cause of the overdose?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Analgesics
2. Cough syrup
3. Topical ointments
4. Vitamins
5. Oral antibiotics
Correct Answer: 1,2,3,4

Rationale 1: Analgesics are among the most common poisonous drugs children younger than 6 years are exposed to.
Rationale 2: Cough and cold preparations are among the most common poisonous drugs children younger than 6 years are exposed to.
Rationale 3: Topical ointments are among the most common poisonous drugs children younger than 6 years are exposed to.
Rationale 4: Vitamins are among the most common poisonous drugs children younger than 6 years are exposed to.
Rationale 5: Children younger than 6 years are more likely to be exposed to other common drugs.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Planning
Learning Outcome: 6-9: Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 23
Type: MCMA

The nurse is teaching the mother of an infant how to properly administer medication. Which teaching points are important for this age group?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Cuddle the infant while administering medications.
2. Deposit oral medication into the cheek area of the infant’s mouth.
3. Hold the buttocks closed for 5 to 10 minutes after administering a rectal suppository.
4. Administer oral medications as quickly as possible before the infant can resist.
5. Use a household teaspoon for oral medications.

Correct Answer: 1,2,3

Rationale 1: Cuddling the child will encourage the infant to take the medication.
Rationale 2: Directing oral medication to the inner cheek of the mouth will decrease the risk of aspiration.
Rationale 3: Holding the buttocks closed helps prevent expulsion of the drug before absorption occurs.
Rationale 4: Administering oral medications may cause the infant to aspirate.
Rationale 5: Medications are more accurately administered to infants via droppers.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 24
Type: MCMA
The nurse in a pediatric clinic is preparing to give a toddler and a preschooler intramuscular (IM) antibiotics. The nurse chooses the injection sites for each child based on which considerations?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. The vastus lateralis muscle is the preferred site for IM injections in toddlers.
2. After the child has been walking for a year, the ventrogluteal site is used for IM injections.
3. Use of the dorsogluteal site should be avoided.
4. The vastus lateralis muscle is the preferred site for IM injections in preschoolers.
5. The dorsogluteal site is the preferred site for IM injections.
Correct Answer: 1,2,3

Rationale 1: The vastus lateralis muscle is the preferred site for IM injections in toddlers because there are few nerves and the muscle is well developed.
Rationale 2: After the child has been walking for a year, the ventrogluteal site is used for IM injections because it causes less pain than the vastus lateralis.
Rationale 3: Use of the dorsogluteal site has declined due to the risk of affecting the sciatic nerve.
Rationale 4: The vastus lateralis muscle is the preferred site for IM injections in toddlers, not preschoolers.
Rationale 5: Use of the dorsogluteal site has declined due to the risk of affecting the sciatic nerve.

Cognitive Level: Applying

Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-1 Discuss the basic concepts of human growth and development in relation to pharmacotherapy.

Question 25
Type: MCMA
A clinic nurse is discussing an acne medication regimen with an adolescent client. Which statements by the adolescent represent common problems with adherence?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. "I was taking the medicine for a while, but it didn't seem to be working."
2. "I took it the first month but my mom got busy and kept forgetting to get my refill."
3. "I felt nauseous whenever I took the medicine."
4. "The nurse explained everything to me so that I could understand."
5. "I only have to take the medication once a day."
Correct Answer: 1,2,3

Rationale 1: High expectations of a successful outcome will help clients adhere to a medication regimen. If the medication does not meet these expectations, the client may stop taking it.
Rationale 2: Clients are more likely to follow a medication regimen if they have supportive family members.
Rationale 3: Clients are more likely to adhere to a medication regimen if there are minimal adverse effects. Teaching the client to take this medication with food may decrease the nausea and improve adherence.
Rationale 4: Positive interactions with staff may increase adherence.
Rationale 5: A simple, short-term, inexpensive regimen with minimum daily disruption helps to increase adherence.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 26
Type: MCMA

The nurse has been assigned to the pediatric floor. What actions by this nurse indicate an understanding of pharmacokinetic variables in children?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Monitoring diagnostic lab work for therapeutic levels of phenobarbital in a premature infant
2. Monitoring blood sugars for hyperglycemia in an infant with eczema requiring frequent applications of topical corticosteroid cream
3. Monitoring a 5-month-old infant taking propranolol (Inderal) for symptoms of toxicity
4. Monitoring a 6-year-old taking salicylates for hepatic toxicity
5. Monitoring a 2-week-old infant taking gentamicin for decreased blood urea nitrogen (BUN)

Correct Answer: 1,2,3

Rationale 1: Low gastric acid production may slow the absorption of weak acids such as phenobarbital.
Rationale 2: The skin of infants is thin and very permeable, allowing topical drugs to be absorbed at a rapid rate. Frequent applications of topical corticosteroid cream can cause a systemic effect of hyperglycemia.
Rationale 3: Prior to 6 months, the child's liver function is immature and produces very small amounts of plasma proteins. This could lead to toxicity with drugs requiring high levels of protein binding such as propranolol (Inderal).
Rationale 4: Metabolic rate reaches adult levels by 5 years of age. Hepatic toxicity from salicylates would be unusual.
Rationale 5: Gentamicin is potentially nephrotoxic. This child has immature kidney function, which may result in an accumulation of the drug and an increased, not decreased, BUN.

Cognitive Level: Analyzing
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-2 Explain how physical, cognitive and psychomotor development influences pharmacotherapy.

Question 27
Type: MCMA
Which factors does the nurse recognize potentially influence oral absorption of drugs in the pediatric client?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Increased gastric pH
2. Delayed gastric emptying
3. Immature hepatic cytochrome P450
4. Immaturity of the kidneys
5. High water-to-fat proportion

Correct Answer: 1,2

Rationale 1: Increased gastric pH may enhance the absorption of acid–labile drugs such as ampicillin and penicillin and slow the absorption of weak acids such as Phenobarbital.
Rationale 2: Delayed gastric emptying may keep a drug in the stomach longer, increasing the absorption across the stomach mucosa but slowing the rate of drug absorption for drugs designed to be absorbed in the intestine.
Rationale 3: The immature hepatic cytochrome P450 enzyme system affects metabolism of drugs, not absorption.
Rationale 4: The immaturity of the kidneys affects excretion of drugs, not absorption.
Rationale 5: The high water-to-fat proportion affects distribution of drugs, not absorption.

Cognitive Level: Understanding
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 28
Type: MCSA
Which of these is an age-related physiological change that occurs in older adults?
1. Brain mass increases.
2. GI motility increases.
3. The kidneys function more efficiently as a client ages.
4. Blood flow to the liver decreases.
Correct Answer: 4

Rationale 1: Brain mass typically gets smaller, not larger.
Rationale 2: GI motility decreases, not increases, with age.
Rationale 3: Kidney function declines, not improves, with advancing age.
Rationale 4: Liver blood flow typically decreases with advancing age.

Cognitive Level: Remembering
Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 29
Type: MCSA
A nurse notices that an older adult client has not urinated all day, despite drinking three liters of water. Which physiological change is the most likely cause for this issue?

1. Reduction in plasma protein levels
2. Increased glomerular filtration rate
3. Increase in body fat
4. Renal function impairment
Correct Answer: 4

Rationale 1: A reduction in plasma protein levels occurs as liver function declines. This will not affect urine output.
Rationale 2: Urine output will be affected when glomerular filtration rate is decreased, not increased. Glomerular filtration rate will be decreased in the elderly, not increased.
Rationale 3: Changes in body fat are not related to urine output.
Rationale 4: A decline in renal function, especially if acute, would best explain why the client has not urinated.

Cognitive Level: Applying
Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 30
Type: MCSA
Why can a reduction in albumin synthesis that may occur with aging result in exaggerated effects of a medication?
1. Blood flow to the liver decreases.
2. More unbound drug will be present.
3. Pharmacodynamics will be altered.
4. Renal elimination of the drug will be decreased.
Correct Answer: 2

Rationale 1: Blood flow to the liver is indeed decreased, but this is not related to protein binding.
Rationale 2: If the drug is protein-bound, a decrease in albumin will result in higher concentrations of free drug and increased pharmacologic effects.
Rationale 3: Pharmacodynamics is unrelated to protein binding.
Rationale 4: Renal elimination will be unchanged or increased.

Cognitive Level: Analyzing
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies

Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 31
Type: MCSA
Why are older adults more prone to adverse drug reactions and interactions than younger adults?
1. Presence of fewer chronic disease states
2. More predictable pharmacokinetics and pharmacodynamics
3. Use of fewer chronic medications
4. Physiologic changes in body composition
Correct Answer: 4

Rationale 1: Older clients tend to have more chronic disease states, not fewer.
Rationale 2: Pharmacokinetics are less predictable in older clients, not more.
Rationale 3: Older clients tend to use more chronic medications, not fewer.
Rationale 4: Physiologic changes in body composition can affect drug pharmacokinetics, increasing the risk of adverse drug reactions and interactions.

Cognitive Level: Understanding
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome: 6-1 Discuss the basic concepts of human growth and development in relation to pharmacotherapy.

Question 32
Type: MCSA
An older adult client recently started digoxin (Lanoxin) and is in the office for a routine checkup. Lab tests show a decline in the client's renal function. Which is a priority concern for the nurse based on the lab results?

1. Digoxin causing the decrease in renal function.
2. Digoxin is interfering with the accuracy of the renal function test.
3. Increased likelihood of toxicity due to the inability to excrete digoxin.
4. Diminished response to digoxin due to alterations in pharmacodynamics.
Correct Answer: 3

Rationale 1: Digoxin does not cause decreases in renal function.
Rationale 2: Digoxin does not interfere with laboratory tests of renal function.
Rationale 3: Digoxin is largely eliminated by the kidneys. Serious toxicity can occur if the dose is not adjusted after a decline in renal function.
Rationale 4: Changes in renal function do not affect the pharmacodynamics of digoxin.

Cognitive Level: Analyzing
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Assessment
Learning Outcome:6-9 Discuss the nursing and pharmacological implications associated with each of the following developmental age groups: prenatal, infancy, toddlerhood, preschool, school age, adolescence, young adulthood, middle adulthood, and older adulthood.

Question 33
Type: MCSA
What is the age-related change in the gastrointestinal tract that can affect medication administration?
1. Decreased motility
2. Reduced intestinal transit time
3. Increased absorption of medications and nutrients
4. Increased gastric acid production
Correct Answer: 1

Rationale 1: Decreased motility of the GI tract is a common change seen with aging.
Rationale 2: Intestinal transit time increases with aging. It does not decrease.
Rationale 3: Absorption of medications and nutrients decreases with aging.
Rationale 4: Gastric acid production decreases with aging.

Cognitive Level: Remembering
Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Diagnosis
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 34
Type: MCSA
Which rationale explains why anticonvulsants and antidepressants have an exaggerated effect in older adult clients?
1. Increased binding to plasma proteins such as albumin
2. Increased rate of hepatic metabolism
3. Reduced intestinal transit time
4. Declining efficiency of the blood–brain barrier
Correct Answer: 4

Rationale 1: Binding to plasma proteins such as albumin is typically decreased, not increased, with age. Additionally, an increase in protein binding would result in diminished, not exaggerated, effects.
Rationale 2: Hepatic metabolism is typically decreased, not increased, with age. Additionally, an increase in metabolism would result in diminished, not exaggerated, effects.

Rationale 3: Intestinal transit time is increased due to the decrease seen in gastrointestinal motility. Additionally, the increase in intestinal transit time would diminish, not exaggerate, the effect of medications.
Rationale 4: Declining efficiency of the blood–brain barrier could explain an increase in the effects of drugs that work in the brain such as anticonvulsants or antidepressants.

Cognitive Level: Understanding
Client Need: Health Promotion and Maintenance
Client Need Sub:
Nursing/Integrated Concepts: Nursing Process: Diagnosis
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 35
Type: MCMA
The nurse is not surprised when a health care provider orders a lower than normal dose of a drug excreted by the kidneys for an older adult client. Which normal effects of the aging process decrease the ability to excrete drugs?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Decrease in renal blood flow.
2. Decrease in the number of functioning nephrons.
3. Decrease in the ability to excrete waste products effectively.
4. Decrease in gastric pH, causing delayed absorption.
5. Decrease of fat storage, causing delayed absorption.
Correct Answer: 1,2,3

Rationale 1: Older adults have a decrease in blood flow to kidneys. This may affect excretion of drugs.
Rationale 2: Older adults have a decreased number of nephrons resulting in a decreased number of functioning nephrons. This may affect excretion of drugs.
Rationale 3: Because of age-related changes to the kidneys, the older adult may have difficulty excreting waste products, which may affect excretion of drugs.
Rationale 4: Delayed absorption does not affect the excretion of drugs.
Rationale 5: The elderly have an increase in fat storage, but that does not affect the excretion of drugs.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 36
Type: MCMA
An older adult client complains to the nurse that a medication is causing significant nausea and vomiting. Which responses by the nurse are appropriate?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. "A normal consequence of aging is decreased blood flow to the stomach. This could result in the medication staying in your stomach longer, causing nausea and vomiting."
2. "A normal consequence of aging is slowed emptying of stomach contents. This can cause nausea and vomiting."
3. "A normal consequence of aging is slower absorption of medications, resulting in nausea and vomiting."
4. "A normal consequence of aging is an increase in liver size, which can result in nausea and vomiting."
5. "A normal consequence of aging is decreased carbohydrate metabolism, which can result in nausea and vomiting."
Correct Answer: 1,2,3

Rationale 1: Decreased blood flow to and from the stomach may delay absorption, resulting in nausea and vomiting.
Rationale 2: Slowed emptying of stomach contents may allow drugs to remain longer in the gastrointestinal tract, resulting in nausea and vomiting.
Rationale 3: When absorption time is decreased, drugs may remain longer in the stomach, resulting in nausea and vomiting.
Rationale 4: The size of the liver does not cause risk for nausea or vomiting.
Rationale 5: Carbohydrate metabolism does not cause risk for nausea or vomiting.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 37
Type: MCMA
Which interventions would the nurse perform before administering the next dose of gentamicin to an older adult client?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. Monitor for peak and trough for toxicity.
2. Check the health care provider's orders for periodic lab draws.
3. Contact the health care provider if serum concentration is not within therapeutic range.

4. Check that this drug is prescribed with short intervals between doses.
5. Assess client for reduced cognitive function or confusion.
Correct Answer: 1,2,3

Rationale 1: Age-related changes result in a decrease in total body water in the older adult. Because gentamicin is water soluble, this could result in higher concentration of the drug, causing toxicity.
Rationale 2: To prevent toxicity of gentamicin, periodic lab work for peak and trough must be checked.
Rationale 3: If the serum concentration is not within therapeutic range, the dose may need to be adjusted.
Rationale 4: Drugs with a long half-life have the potential to accumulate in the tissues. These drugs should be prescribed with longer intervals between doses.
Rationale 5: Gentamicin toxicity symptoms include impaired hearing, not reduced cognitive function or confusion.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.

Question 38
Type: MCMA
An older adult client brought to the emergency department for bloody stools has been taking warfarin (Coumadin) post stroke. Initial diagnostic lab work reveals warfarin to be within therapeutic range. The daughter asks why the client has bloody stools if the lab work is normal. Which responses by the nurse are appropriate?
Note: Credit will be given only if all correct choices and no incorrect choices are selected.
Standard Text: Select all that apply.

1. “Liver function declines during the aging process.”
2. “Decreased liver function results in decreased plasma proteins.”
3. “Decreased plasma proteins result in more free drug circulating.”
4. “Decreased plasma proteins lead to more binding sites, resulting in lower concentrations of drugs such as this one.”
5. “Higher levels of this drug are able to enter the blood–brain barrier, resulting in the toxic effects of bleeding.”
Correct Answer: 1,2,3

Rationale 1: Liver function declines during the aging process.
Rationale 2: As liver function declines, so does the production of plasma proteins.
Rationale 3: As the production of plasma proteins declines, an increase in highly protein-bound drugs results in higher concentrations of free drug.

Rationale 4: Decreased plasma proteins lead to fewer binding sites, resulting in higher, not lower, concentrations of free drug.
Rationale 5: The decrease in liver function and plasma proteins may cause the adverse effects of bleeding and bloody stools. It does not have anything to do with the blood–brain barrier.

Cognitive Level: Applying
Client Need: Physiological Integrity
Client Need Sub: Pharmacological and Parenteral Therapies
Nursing/Integrated Concepts: Nursing Process: Implementation
Learning Outcome: 6-8 Describe physiological and biochemical changes that occur in the older adult, and how these affect pharmacotherapy.