Lacy Bayley

Pharmacokinetics Class Preparation

Nursing 101

GI SYSTEM*:* The oral medication reaches the systemic circulation through the GI system. As a result, numerous factors can affect the absorption of the pill.

Questions:

1. A client is experiencing diarrhea. How could this affect absorption of an oral drug?

   Diarrhea could affect the absorption by leaving the body too fast before peak absorption,_____

2. How could the presence of food in the stomach affect the rate of absorption? Certain foods do not react well with certain medicines in addition to slowing down the rate of absorption. _____

CARDIOVASCULAR SYSTEM: Once the pill is absorbed into the bloodstream, it is carried or delivered to the sites of pharmacologic action where the drug produces its effects.

Question:

3. How do you think the distribution of the oral medication affected if a client has less than normal cardiac output? _____If a client has below average cardiac output it will probably take longer to experience peak effects of the medication._____

LIVER: Most biotransformation takes place in the liver. Any decrease in the ability of the liver to metabolize medication could lead to an accumulation of the active drug in the bloodstream. This could put the client at risk for toxic effects and adverse reactions.

Questions:

4. How might nutritional status affect metabolism? _Nutritional status might affect metabolism because a person with more muscle mass and healthier diet tends to have a faster metabolism so could absorb medications more rapid than someone carrying more body fat and poor food choices._____
   _____

5. What factors influence the rate of medication metabolism?_____ _____Influence of the rate of medication metabolism are route of administration, presence of acute or chronic medical conditions, physiological changes that occur with age, and interference from other medications or foods._____

KIDNEYS: Drug excretion/elimination occurs mainly through the kidneys into the urine. If there is any impairment in kidney function, medications may not be excreted at the anticipated speed. Subsequent medication administration may lead to accumulation and potential toxicity.

Questions:

6. Why would very young and very old clients need to be closely monitored by nurse for signs and symptoms of drug toxicity?_At both of those ages kidney function is more likely to be hindered leaving a higher risk that medications are not leaving and just building up in their bodies._____
7. How can the nurse assess kidney function? _Nurses can assess kidney functions through lab tests._____