

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?
 - The GI tract needs to be fully functional, if the person takes the medicine but then soon after has a bowel movement, the meds may be excreted without being digested properly._
2. How could the presence of food in the stomach affect the rate of absorption?
 - It can slow the rate of absorption down. ____

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?
 - The medication will go through the bloodstream much slower than normal. ____

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?
 - If medication is taken with food, the medication may metabolize much slower than usual._
5. What factors influence the rate of medication metabolism?
 - Some factors can include age, weight, gender, culture, and developmental changes.___

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?
 - The metabolism rate is much slower for very young and old clients. ____
7. How can the nurse assess kidney function? _
 - The nurse can observe for adverse effects and long-lasting affects. There is also tests to check kidney function levels. ____