

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?
__When someone has diarrhea, the drug might pass through the digestive system too quickly allowing the drug to not be absorbed properly.

2. How could the presence of food in the stomach affect the rate of absorption?
_Food being present in the stomach can slow down the rate of absorption since that food have to be digested first, which can delay absorption of the drug.

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 less than normal cardiac output that means blood is not pumping how it should which could result in delay of the medication circulating through bloodstream to reach targeted tissues and organs.

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 can affect metabolism in the body, if client doesn't have the proper nutrients in their diet that can cause their metabolism to slow down. _____

5. What factors influence the rate of medication metabolism? __Age, increase in some medication metabolizing enzymes, nutritional status, and metabolic pathways.

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 a nurse for signs and symptoms of drug toxicity? _ They need to be closely monitored because their bodies may metabolize medication differently due to their age.

7. How can the nurse assess kidney function? __The nurse can assess kidney function by conducting urine tests and checking creatine levels.