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 a patient is experiencing diarrhea and takes an oral drug it affects absorption since it speeds up the passage of substances through the digestive tract and that is what causes the reduction of drug absorption. ____
2. How could the presence of food in the stomach affect the rate of absorption? The presence of food in the stomach affects the rate of absorption by delaying gastric emptying stimulating bile flow and it physically does interact with the drug and that affects 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? _The distribution of the oral medication affected if a client has less than normal output is that the medication will not get out to the circulatory system as effectively. ___

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 affects metabolism due to their being a balance between nutrition and metabolism. An example when your body does not get it enough nutrients that affects our metabolism rate. _____
5. What factors influence the rate of medication metabolism? Factors that influence the rate of medication is age. Genetics, hormones, diet etc…

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? Young and old clients need to be closely monitored by nurse for signs and symptoms of drug toxicity due to the issue of overdose and some patient can be nonverbal, so it is important to check on them and see they are responding well with the medication.
7. How can the nurse assess kidney function? Nurse can assess kidney function by urinalysis, or even simpler by having a blood test, one of the two is able to detect kidney function. __