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 can prevent absorption which leads to it not being effective.
2. How could the presence of food in the stomach affect the rate of absorption? Having food in the stomach can delay gastric emptying time.

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 person has a less then normal cardiac output it can reduce the absorption level of oral medications.

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 a person is not eating enough their metabolic rate will decrease, as if a person is feeding themselves their metabolic rate will increase.

5. What factors influence the rate of medication metabolism?_Some factors that can influence the rate of medication metabolism are genetics, age, renal disorders, body weight

   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?_ Many old people are taking a lot of

medications and tend to sometimes have trouble urinating, if they are not secreting enough all of their medication buildups in their kidneys can lead to toxicity.

7. How can the nurse assess kidney function? The nurse can assess kidney function by doing urine tests or blood tests