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Editorial

A Brief Note on Pharmacokinetics

Haruhisa Inoue*

Department of Pharmacy Management, Hampton University School of Pharmacy, Hampton, USA

DESCRIPTION

The term pharmacokinetics is derived from the ancient Greek words "pharmakon" and "kinetikos". This means "drug" or "start moving". It is one of the major areas of pharmacology and refers to the way the body reacts and influences medicines in the body. From the moment the drug enters the body, the body recognizes it and processes it in a unique way, depending on the individual characteristics of the drug. Pharmacokinetics is the study of how the body responds to the presence of drugs. This information can be used to improve drug delivery and use.

Pharmacokinetics has four major components: release, absorption, distribution, metabolism, and excretion (LADME). These are used to describe the different properties of different drugs in the body. They are described in detail below.

Release is the process by which a drug is released from the dispensed formulation. This must be done before the drug is absorbed by the body.

Absorption is the process by which a drug enters the body's bloodstream. The pharmacokinetic parameters for absorption are:

- Absorption price regular: absorption rate/amount of drugfinal to be absorbed
- Bioavailability: quantity of drug absorbed /drug dose

Distribution is the process by which a drug moves through fluids and tissues in the body. The pharmacokinetic parameters of the distribution are:

- Apparent volume of distribution: Drug amount in the body/drug concentration in plasma
- Unbound fraction: Unbound drug concentration in plasma/total drug concentration in plasma

Metabolism is the next process. Drugs are converted in the body into other substances called metabolites. The pharmacokinetic parameters of metabolism are:

- Renal clearance: Renal excretion rate/drug concentration in plasma
- Fraction excreted unchanged: Renal excretion rate/drug excretion rate

Other pharmacokinetics of all excretion methods (both metabolism and excretion) the parameters are:

- Excretion rate: renal excretion and extrarenal excretion
- Clearance drug excretion rate/drug plasma concentration or excretion constant multiplied by apparent distribution volume
- Constant excretion rate drug excretion rate/drug amount in drug body or Clearance / Distribution Volume
- Biological half-life of primary excretion: 0.693/Excretion rate constant

There are several formulas that can be graphed to represent each pH model a pharmacokinetic component.

- Acid dissociation constant (pKa)
- Bioavailability
- Solubility
- Absorption capacity

Pharmacokinetic studies are typically conducted on healthy volunteers or patients and interact with the body in the general population. To study and evaluate. The data obtained from the pharmacokinetic study is very helpful as it provides pharmacologists with information to help them make decisions about the proper design and administration of each drug.

Research in pharmacokinetics is normally finished in healthful volunteers or sufferers, to research and estimate the interaction between drugs and the body within the standard populace.

Correspondence to: Haruhisa Inoue, Department of Pharmacy Management, Hampt on Univer sity School of Pharmacy, Hamptan, USA, E-mail: haruinoue@gmail.edu

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The information received from pharmacokinetic research is very useful, because it offers information for pharmacologists to make choices about the proper layout and administration of each drug.

Clinical Pharmacokinetics uses this information and applies it to clinical practice to promote the safest and most effective therapeutic use of medicines for each individual patient.