

the concomitant use of fruit juices and interacting medications, especially cardiovascular drugs and Agents with a narrow therapeutic index.( Gareth E Lim, *et al.* . 2003).

Bioavailability is a backbone pharmacokinetic indicator that Cross bond with the clinical effect of most drugs. So a pharmacokinetic study must be conducted in order to evaluate the effect of the beverages used on the drug. interactions associated with treatment failure result from a reduced bioavailability in the fed state. This occurs due to physiological response to intake, for example, gastric acid secretion, may reduce or increase the bioavailability of certain drugs.( Rabia Bushra, *et al...* 2011; Ayo JA, *et al.*. 2005).

### **1.7.1. Drug-Drug interaction:**

The pharmacologic or clinical response to the administration of a drug combination different from that anticipated from the known effects of the two agents when given alone.(Tatro DS *et al.*. 1992).

#### **1.7.1.1 Types of Drug Interaction Mechanisms**

##### **Pharmacokinetic Interactions**

What the body does with the drug and how does a given drug alters the availability (absorption, distribution, metabolism or excretion) of another drug.

Usually (but not always) mediated by cytochrome P450 (Ruiz-Garcia A, *et al.*. 2008.; Scott R. Penzak, *et al.*. 2010).