

Drug Tolerance

- Tolerance is defined as a person's diminished response to a drug that is the result of repeated use.
- People can develop tolerance to both illicit drugs and prescription medications.
- Tolerance is a physical effect of repeated use of a drug, not necessarily a sign of addiction.
- For example, patients with chronic pain frequently develop tolerance to some effects of prescription pain medications without developing an addiction to them.

Mechanism of Drug Tolerance

A. Pharmacokinetic Tolerance

- decreased quantity of the substance reaching the target area.
- may be caused by an increase in induction of the enzymes required for degradation of the drug (alcohol)

B. Pharmacodynamics Tolerance

- decreased response to the drug by the cellular mechanism.
- May be due to reduction in receptor

Dependence

- means that when a person stops using a drug, their body goes through “withdrawal: a group of physical and mental symptoms that can range from mild to life threatening.
- people who take a prescription medicine every day over a long period of time can become dependent; when they go off the drug, they need to do it gradually, to avoid withdrawal discomfort.
- But people who are dependent on a drug or medicine aren't necessarily addicted.

Psychological and Physical Dependence

- **Psychological Dependence**: it is said to have developed when the individual believes that optimal states of well being is achieved only through action of drugs.
- **Physical dependence**: altered physiological state produced by repeated administration of drug which necessitates the continued presence of the drug to maintain physiological equilibrium. (Opioids, barbiturates, benzodiazepines, alcohol)

Drug Abuse

- Use of drug by self medication in a manner and amount that deviates from the approved medical and social patterns in a given culture at a given time.
- Drug abuse refers to any use of illicit drugs.

Drug addiction

- It is characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving.
- Individuals can develop addictions to illicit drugs, prescription medications, and even activities such as gambling.
- The individual is likely to have developed [physical as well as psychological dependence](#)