WELCOME

TO

This is an Education Platform

We Provide PDF Notes for Pharmacy Students

Web Site http://www.fdspharmacy.in/

You tube https://www.youtube.com/c/FDSpharmacy

Telegram https://t.me/Fdspharmacy

App https://play.google.com/store/apps/details?id=com.FDSPharmacyMedia.FDSPharmacy

E-mail fdspharmacyinfo@gmail.com

PHARMACEUTICS – I

UNIT 1

TOPIC :

- **Posology :** Definition, Factors affecting posology. Pediatric dose calculations based on age, body weight and body surface area.

POSOLOGY

→ The word posology is derived from the Greek words 'posos' meaning how much and 'logos meaning science.

→ So posology is a branch of medical science which deals with dose or quantity of drugs which can be administered to a patient to get the desired pharmacological actions.

Factors Affecting Posology

- **Age :** The dose of drugs is given according to age of patient
  - Eg : Children's want less doses as compared to adult if children take high dose then it have harmful effect so it play an important role.
- **Sex :** It is also dependent or affected by sex because males and females have different criteria for doses and In female at the time of pregnancy, menstruation and lactation. Doses will be given carefully.
- **Body size :** It influences the concentration of drug in the body Heavy weight person want and more high doses drugs (medicines) and small person (patients) want less doses.
  - Eg : Dose of child = Body surface arsa (m^2) / 1.73m^2 x Av. Adult dose
- **Route of administration :** The drugs amount is depended on route of administration of drug I,e. in case of intravenous injection, have less dose or mg. or in orally larger dose.
- **Presence of disease :** If the patient have any diseases already in the body that affect the dose of drugs.
  - Eg : In gastrointestinal disease like achlorhydria (reduce secretion of Hcl acid in the stomach). the absorption of asprin decrease.
- **Time of administration :** The presence of food in the stomach delays the absorption of drugs. The drugs are more rapidly absorbed from the

empty stomach So the amount of drug which is very effective when taken before a meal may not be that much effective when taken during or after meals The irritating drugs are better tolerated if administered after meals for example iron, arsenic and cod-liver oil should always be given after meals.

- **Tolerance :** Some time higher dose of a drug is required to produce a normal response It is may be due to habit forming drug.

Formulae used in Calculations of Pediatric Dose

Based on Age

- **Young's formula:** Used for calculating dose of child from 1-12 years of age.
  - Child dose = Age in years/Age + 12 x Adult dose
- **Dilling's formula:** Used for calculating dose of child from 12-20 years of age.
  - Child's dose = Age in years /20 x Adult dose
- **Cowling's formula :** Child's dose = Age at next birthday/24 x Adult dose
- **Fried's formula :** Used for calculating dose of an infant upto 24 months of age.
  - Child dose = Age in months/150 x Adult dose

Based on Weight

- **Clark's formula :**
  - Child's dose = weight in (kg)/70 x Adult dose

Based on Body Surface Area

- **Child's dose :** body surface area of the child/1.73 sq m x Adult dose