

## TOPIC

### PHARMACEUTICAL DOSAGES FORM: -

In pharmaceutical science, main purpose involved to make medicines with high bioavailability.

For enhancement of rate of drug reaches to systemic circulation as well on site of action various routes and types of dosage form required to give beneficial biological response and less adverse effect to mankind.

A Medicine is defined as a substance used for diagnosis, cure, prevention and treatment of diseases.

A dosage form of a drug is a product suited for administration to the patient by various routes for diagnosis or treatment of diseases.

Suitable dosage forms are required for protection of the drug from destructive influences of the atmospheric gases like oxygen or moisture, for protection of drug from destruction from gastric acid present in the stomach on oral administration, to mask bitter taste and foul odor and also to provide extended drug action through controlled release mechanism etc.

There are some agents used with the drug in the suitable dosage form such as:-

- **Vehicles:-** basically used in purpose to dissolve or suspend drugs. They are also used to reduce the bitter taste of the drug.
- **Colouring Agents:-** harmless substances used for the lending color to medicines make it more acceptable to patients.
- **Sweetening Agents:-** like aspartame, sucrose and sugarcane are usually used for Syrups and Elixirs. Saccharin, about 500 times sweeter than sugar, is non-caloric and may be used by diabetics or obese patients to restrict.
- **Flavouring Agents:-** 'Flavour' refers to a mixed sensation of taste, touch, smell, sight and sound. The four primary tastes are sweet, sour, bitter and saline. Flavouring agents are of two types as well natural and synthetic. Proper selection of flavour to make bitter or sour drug to acceptable for patients.

Dosage forms are classified into solid, semi-solid, liquid and gases.

#### **Liquid Dosages forms:-**

Aqueous Solutions contain one or more drugs dissolved in water. There are categories into:

1. Solutions for oral
2. Solutions for Injection

which are sterile liquids or suspension packed in suitable containers. The aqueous vehicles mostly used for preparing injections are water for injection and Sodium Chloride Injection. Injections are available in sealed glass ampoules or vials.

Aqueous suspensions contain one or more chemical substances dispersed in water by means of harmless suspending agents. These are preparations of fine and undissolved drugs dispersed in liquids. Suspensions for oral use are:

**1. Emulsion:-** fats or oils in water or water in oil with aid of an emulsifying agent. The oil particles are coated with the emulsifying agent so that they do not coalesce as the interfacial tension between the oil and water is lowerer to produce a stable acceptable form.

**2. Gel:-** are colloidal aqueous suspensions of hydrated inorganic substances.

**3. Mixture:-** are preparations between drug or drug in solution or suspension meant for oral administration.

### **Solid Dosage Forms:-**

Some commonly used solid dosage forms are:

**1. Powder:-** These are medicinal substances in a dried and finely divided form used both way internally and externally. Effervescent powders made by dissolving in water liberate carbon dioxide which makes the preparation more palatable.

**2. Capsules:-** are small containers usually made of gelatin. Capsules are one of the most popular form for oral use of powder, oil and liquids. capsule are defined into two types soft and hard gelatin capsules.

Capsules may be coated with substances that resist the action of gastric juice and do not disintegrate in the stomach but on reaching the intestines they dissolve in alkaline juices and release the drug. On occasions, capsules may be administered rectally or vaginally.

**3. Tablets:-** are solid dosage forms containing granulated or powdered drugs that are compressed or molded into round or other shapes. It also involve pellets and pills. Tablets are greatly in size, shape and weight. Tablets have additive substances such as a diluent, a binder, a disintegrator and a lubricant.

Diluents are used when the amount of the active ingredient is small.

The lubricant keeps the tablet from sticking to the machine.

Disintegrator like starch swells up the tablet to split readily in the stomach, as starch swells upon contact with moisture.

Tablets also coated for accepting and attractive easy for children and old age patients take-up.

### **Other Dosage Forms for External Uses:-**

**1. Liniments:-** are liquid dispersion or suspension preparation applied to the skin by rubbing. They usually contain an anodyne (to relieve pain) or rubefacient (to redeem the skin).

**2. Lotions:-** are liquid formulations used externally on the skin without rubbing. Lotions can be protective, emollient, cooling, cleansing, astringent depending on their ingredients pharmaceutical aids.

**3. Ointments:-** are semi solid greasy substances intended for local action on the skin or mucous membranes. Ophthalmic ointments are sterile medicated ointments use for eye.

**4. Pastes:-** are ointments like product have one or more medicaments and some adhesive material. They are applied to oozing surfaces and afford greater protection and more absorptive action than ointments.

**5. Suppositories:-** are mixtures of drugs with a firm base that can be molded in shapes suitable for Insertion into a body cavity.

**6. Sprays:-** are a solution of one or more drugs in oil or water, administered by atomizers.

**7. Inhalants:-** are gases form formulation in which drugs reached through high vapour pressure into the nasal passages with the inhaled air.