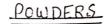
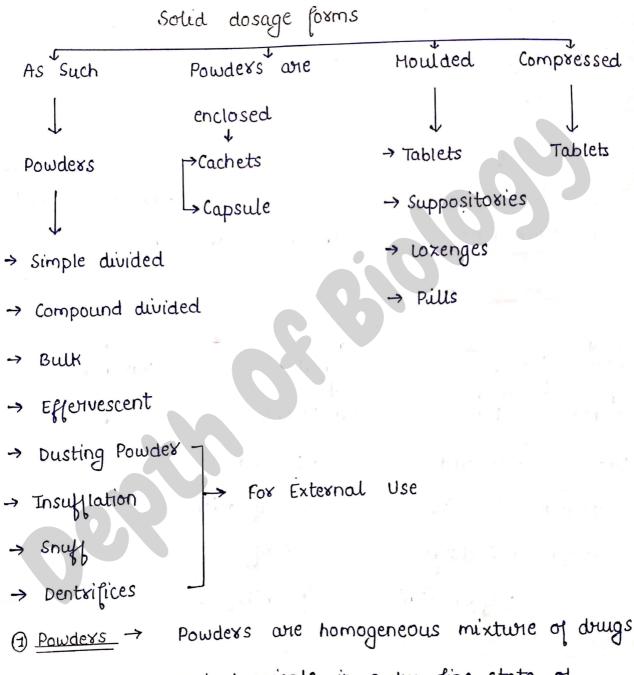
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- ② Powders → Powders are homogeneous mixture of drugs and chemicals in a drug fine state of subdivision.
- > These are solid dosage form of medicament which are meant for internal and external use.

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* Character of good Powders :-

- 1 Anest state of Subdivision
- 1 A perfectly homogenous preparation
- 3 Small Porticle Size
- (9) large surface area
- ⑤ Absorption capacity neq. for → Antacid, Antidiarnhoeal and other used for local treatment on skin.
- * <u>Classification</u> of <u>Powders</u>:

Internal [oval] External Parentral

Divided Bulk Powder

- · Simple · Antaud
- · Dusting
- · Compound · Lexative
- · Insuffration
- · Enclosed · Dietory
- · Snuffs
- · Effervescent
- · Dentrifices

* Advantages of Powders

- ① one of the oldest dosage form and one used both internally and externally.
- @ More stable than liquid and semi solid dosage form.
- 3 chances of incompatibility are less as compare to liquid dosage form.

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- 1) Onset of action of powdered drug is rapid due to smaller particle size.
- (5) More easy to carry than lig. dosage form.
- (6) Small children and elderly patient easily take the powdered drug as such or in water or other liquid.
- Hore economical as compared to other solid dosage form.
 - * Disadvantage of Powders :-
 - ① Drug having bitter, nauseous and unpleasant taste cannot be dispensed in powdered form.
- ② Drug which get affected by atmosheric condition are not suitable in powder form.
- 3 Time Consuming
- 1 Inaccuracy of dose, particularly bulk powders.
- [A] <u>Divided Powders</u> \rightarrow They are dispensed in the form of individual doses.
 - * Following steps are involved in preparation :-
- ① <u>Size Reduction</u> → Truitwration
 - → Pulverization
 - → Levigation

- → Spatulation (2) Mixing of Powders
 - Truituration
 - Geometric dilution
 - sifting
 - → Tumbling

- 3 Dividing
- 4 Packing and Labelling
- <u>Simple Powder</u> → It contains only one ingredient either in crystalline or amorphous form.
 - Eg -> Dispense six powder of "aspirin", each powder contain 300 mg of aspirin.

Rx

Aspirin

300 mg

Make Powder

Direction -> One powder to be taken ofter every eight hows.

(b) Compound Powder → It contain two or more than two substance which are mixed together and then divided into desired no of individual doses

which are dispensed into powder paper.

Example -> Dispense eight Powder of A, P, C

Rx

Aspivin 300 mg

iso mg Paracetamol

Caffeine 50 mg

Make a powder

<u>Direction</u> \rightarrow One powder to be taken when need wrise.

- © Powder Enclosed in Cachets -> Cachets are solid unit dosage form.
- > They are moulded ruce flows capsule (Powder) container are formed by sealing two concave disk of water sheat.

Advantages :-

- @ For administration of nauseating and unpleasant taste drug.
- (b) large dose can be enclosed than tablet or a capsule.

Types of Cachets [0.2-29]

Dry Seal — Wet Seal

No moisture for sealing water is used to seal.

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그는 병원이 보고 그 사람들이 다음하다. 붉다!

Administration of Cachets

Before intake, a cachets should be immetsed in water for

a few seconds. U

Placed on toungue. 11.

Swallowed with a draught of water

Bulk Powder for internal Use:-

Powder are dispensed in bulk, when accuracy of dosage is not important.

- => supplied in wide mouthed container.
- ⇒ Non-potent substances like antacids, lexatives etc.
 one dispensed as bulk powders.
- @ <u>Effexverscent Powders</u> → They are the form of medication for internal use.
- => In presence of water, and and base neact to liberate

 CO2 and producing efferivescence.
- ⇒ They are dissolved in water and taken immediately after efferiverscence subside.
- Advantage: (1) CO2 hastens absorption, stimulates
 flow of gastric juice.

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- \Rightarrow co2 acts as a carminative.
- # Prieparation Methods

 Wet Method \rightarrow Dry or fusion Method

· Wet Method :-

- >> Powder each ingredients and mix them.
- ⇒ Bind the powder mass by moistening the non-solvent usually alcoholic mixture and prepare dough like mass.
- ⇒ Passed through a 8 sieve and granules are dried at temperature not exceeding 60°C.
- => branche are again passed through sieve and packaged in air tight containers.

· Dry / Fusion Method :-

- ⇒ Ingredient except citric acid are drued and passed through a sieve 60.
- => Powders are mixed and freshly powdered citric acid
 is added last.
- ⇒ ruixture is spread in shallow dish (Porcelin dish) and placed on water bath (95° (- 100° c) without stirring.
 ⇒ A pestry mass is soon formed.

> Granulation, drying and regranulation are then carried out

BUK Powder for external use :-

Bulk powder meant for external use one non-potent substance supplied in cardboard, glass or plastic containers.

Example → Dusting Powder

- → Insufflation → into body cavities, ear nose
- → Snuffs → Inhaled into nostrils
- → Dentsifices → for cleaning teeth
- <u>Dusting Pounder</u> → Meant for external use to the skin and
 generally applied in a every fine state
 of Subdivision to avoid local invitation.

It should be passed through sieve no. 80 to enhance their effectiveness.

· Types => @ Medical

6 Surgical

Medical dusting powder wie used mainly for superficial skin condition.

on major wounds and unbilical cords of infants.

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- >> Must be stoule bejore use.
- ⇒ Dusting powder are generally prepared by mixing two or more ingredient. 11.

Talc and Kaolin are more commonly used because they are chemically inert.

Sterilised by dry heat method [160° for 2 hrs] before use.

<u>Use</u> > Antiseptic, Astrigent, absorbent, antipromitic action.

Example -> Dispense so gm of dusting powder

_ Rx

Purified tale, sterilised 50 gm

Starch in Powder 25 gm

Zno in powder 20 gm

Salicytic acid in powder 5 gm

Make a powder

- <u>Direction</u> -> Applied on affected part two or three times a time day.
- # Method > Powdered all the ingredient.
- > weigh the required quantity of purified tale, starch, zno and salicylic acid
- > Mix them in ascending order of their weight.
- => Pass through a seive no. 85.

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- ⇒ Again mix tightly. U Totansfer the powder in soften top container to protect it from atmospheric contamination.
- # Special Problems and Remedies Some prescription require special treatment to permit their proper dispensing.
- (3) Hygnoscopic and reliquescent:
- > Powder containing hygroscopic and deliquescent ingredient
- => substance absorb moisture from the air [hygroscopic] and liquely forming a solution [Deliquescent]
- Example > Ammonium Bromide, Sodium Bromide, Calcium Bromide, Sodium Todide, Pepsin, Potassium citrate.

Remedies :-

- @ Dispense in granular jorm.
- 1 Do not reduce to a very fine powder
- @ use double wrapped or cellophane envelopes.
- @ Use of light magnesium oxide as absorbent.
- ② <u>Efflorescent</u> → Powder containing efflorescent ingredient.
- => substance liberate their water and crystallisation one said to be efforescent.
- > Due to liberation of water powder becomes pasty or tends Juquify.

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Example: Alum, sodium Acetate, sodium Carbonate, Atropine Sulphate, Caffeine, Citric acid.

· Remedies :-

- a use corresponding anhydrous salt and double wrapped to prevent absorption of moisture from the air.
- 3 <u>Futectic Mixture</u> → when two or more substance are mixed together !

They liquely due to formation of a new compound which has a low melting point than moom temperature.

Such substance are called entectic substance.

Example -> Menthol, camphor, Phenol, Aspirin, tymor.

· Remedies :-

- when entectic mixture is present in small proportion and other solid ingredient one present liquefiable substance first should be tolerate forming entectic.
- (b) Au other siguid are added and other substance in the form of fine powder are gradually incorporated.
- © Eutectic mixture substance is diluted the equal volume of absorbent [mg0] in divided powder.

Geometric Dilution -> This method is used when potent substance one to mixed with a large amount of diluent.

- ⇒ The potent drug is placed upon an approximately equal volume of dilutent in a mortan and slightly mixed by titration.
- ⇒ A second portion of diluent equal in volume to powder mixture in mortar is added and tituration is repeated.
- Process in continued, adding diment equal in volume to mixture in mortar in each step until all diment incorporate.

for example -> If 100 mg of Potent drug is required to be mixed the 900 mg of tactose.

100 mg of potent drug + 10 mg of lactose = 200 mg mixture

200 mg of mixture + 200 mg of lactose = 400 mg mixture

400 mg of mixture + 400 mg of lactose = 800 mg mixture

800 mg of mixture + remaining postion = 1000 mg mixture

of lactose