Exp: 4: Preparation of Ibuprofen Capsule.

Principle:

Capsules are gelatin shells filled with the ingredients that make up an individual dose. Dry powders, semi-solids, and liquids that do not dissolve gelatin may be encapsulated. Capsules account for about 20% of all prescriptions dispensed.

 **Capsules have several advantages as pharmaceutical dosage forms:**

1. They may be used to mask the unpleasant tastes, aromas, or appearance of a drug.

2. They allow powders to be dispensed in an uncompressed form, thus allowing for quicker dissolution and absorption of the drug following oral dosing (as compared with tablets).

3. They offer the pharmacist versatility to prepare any dose desired for a variety of administration routes (e.g. oral, inhalation, rectal, or to be diluted for vaginal, rectal, oral or topical use).

4. They may be easier than tablets for some people to swallow.

5. They can be make to alter the release rate of the drug.

**Their disadvantages or limitations include the following**:

1. They are easily tampered with (although techniques exist for preventing this).
2. They are subject to the effects of relative humidity and to microbial contamination.
3. They may be difficult for some people to swallow.
4. More expensive (commercially).

**Hard Gelatin Capsules:**

 The hard gelatin capsule consists of a base or body and a shorter cap, which fits firmly over the base of the capsule. For human use, eight sizes of capsules are available. The capacity of each size varies according to the

combination of drugs and their apparent densities. Capsules are available as clear gelatin capsules or in a variety of colors. The pharmacist can use the different colored capsules to distinguish two capsule formulations for the same patient, or to encapsulate unattractive ingredients.

|  |  |  |  |
| --- | --- | --- | --- |
| **Capsule Size** | **Volume ( ml)** | **Mg of Lactose** | **Mg of Aspirin** |
| 000 | 1.37 | 1340 | 1000 |
| 00 | 0.95 | 929 | 600 |
| 0 | 0.68 | 665 | 500 |
| 1 | 0.50 | 489 | 300 |
| 2 | 0.37 | 362 | 250 |
| 3 | 0.30 | 293 | 200 |
| 4 | 0.20 | 195 | 125 |
| 5 | 0.13 | 127 | 60 |

* **Preparation of Ibuprofen Capsules**

###  Rx

 Ibuprofen 0.500 g.

 Lactose q.s

**Apparatus and reagents:**

1. Manual Capsule filling machine

2. Analytical Balance

3. Ibuprofen

4. Lactose

5. Empty Capsule shell

6. Mixing bowl.

**Use :** treatment of severe pain.

Procedure :

1. Weigh the powders and triturated intimately and mixed
2. Take O size empty capsule shell.
3. By using manual capsule filling machine fill the content to the empty shell.
4. Each filled capsule is weighed using empty capsule as counterpoise, powder is added or removed until the correct weight is obtained .
5. Finally the capsule is cleaned to remove any trace of powder trapped on the surface

**Result:**

**Precaution:**