

1,2,3B,Pharm Students.
Guided By : Prof.Dusane Gayatri (Dept.of Pharmaceutics).
Nandkumar Shinde College Of Pharmacy¹, Vaijapur,Aurangabad,Maharashtra, INDIA

Abstract: The system of medicine which consider Indian origin . Or the system of medicine when comes under outside and got altimated in in India culture is also called as Indian system of medicine.such as yoga , Naturopathy,unani, Homeopathy,siddha. And Ayurveda. The ayurvedic system of medicine written is accepted in oldest system of medicine which is existing in 900 B.C it takes about holistic view of physical,mental, physiological, spiritual social aspect of human life.ayurveda is based on a panchmahabhutas, tridosha, saptdhatus balance between ayurvedic formulation like vati gutika Bhasma pills. Vati is polyharbominal preparation made up of one or more components Similarly in Ayurveda Pharmacy also several Acaryas has been added or modified the different formula is or preparations according to their own experiences from time to time without violating the basic principles…This review focus on a some herbal drug used as a diuretic helps to manage kidney stones due to its Vata-Kapha balancing and Mutral (diuretic) properties. It increases urine production and helps in easy passage of kidney stones. It's include in a herbal diuretic drug and it’s evolution parameters and standardization.the main object of in this review is to treat renal disease and disorder in minimum side effects with the from of harbal diuretic vati.

Keywords: Ayurveda, vati, diuretic, panchmahabhutas, gokhru,punarnava,AYUSH,etc.

Introduction
Ayurveda :
Ayurveda, according to Caraka, is knowledge which seeks to weigh life in the scales of wholesomeness and happiness against their opposites. Its main theme of health and disease, and recovery of health from disease take the stage against an inspiring background of intuitive philosophy, lofty idealism, and vivid compassion, which are the hallmarks of India’s cultural inheritance . Ayurveda literally means "the knowledge of life". In Sanskrit, the word Ayurveda consists of the words āyu, meaning "life" and veda, meaning “knowledge” or "science", The growth of science depends upon research and there is no denying the fact that the understanding of the health care personnel, scientists and researchers today, in any given stream of science is because of research. The fundamental purpose of research is to know the truth and to benefit the society. In terms of medical research, it aims at knowing or re establishing the new molecules / drugs which are good for our patients. Ayurvedic medicines, the Department of AYUSH, Government of India has set up the Ayurvedic Pharmacopoeia Committee.(1) MATERIAL AND METHOD: Various Ayurvedic classic texts have been used for this study as source materials. Main Ayurvedic books used are Charak Samhita, Susruta Samhita, Astanga Samgrah, Astanga Hridya, Bhav Prakash, sharngdhar samhita, Yogratanakr, Swasthavritta samuchchya and available commentaries on it. Apart this relevant modern medical science books, various research/ review articles and websites are also been used for this.(2)

Vati(herbal tablet):
Vati and Gutika are the herbo- mineral preparation in the form of tablets or pills made of one or more drugs of plant or mineral origin. Kutajghan vati is official in Ayurvedic formulary of India and is mainly indicated in the management of Atisar, Pravahika .It is a polyherbal preparation containing two ingredients namely Gokhru and punarnava.(3) Medicines in the form of pills are Known as vati or gutika. These are made up of One or more drugs of plants, animal and miner known as vati or gutika. These are made up of one or more drugs of plants, animal and mineral origin Fine powder of medicinal drugs when mixed with water, swaras, gomutra, godugdha and madhu etc. is prepared in various sizes called as Vati, Vatak or Gutika. Combination of semisolid kalka of one or more drugs by mechanical machines or by hand in the circular form is called as vati.

Synonym: The synonyms of Vati described by Sarangadhar are Gutika, Vati, Modaka, Vatika, Findi, Guda, Varti etc.(4)

Table No 1: Types of vatis based on size / shape

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Dosage forms</th>
<th>Shape</th>
<th>Example with use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gutika (pill)</td>
<td>Circular and flat</td>
<td>Eladi gutika, Used in various kidney ailments</td>
</tr>
<tr>
<td>2.</td>
<td>Vati</td>
<td>Circular mass</td>
<td>Sarpgandha vati, Used in hypertension</td>
</tr>
<tr>
<td>3.</td>
<td>Varti</td>
<td>Circular mass</td>
<td>Chandrodaya vati,</td>
</tr>
</tbody>
</table>
Use to treat contract growth of eye

4. Vataka Big circular mass Manasamitra vataka
   Used in psychosomatic illness

**History of vati:**
Vati (tablet dosage form) is an important drug delivery system in Ayurveda. Acharya Sharangadhar in 13th century AD was the 1st person who explained in detail about Bhaishajya kalpana (bhaishajya means medicine; Kalpana means dosage forms) in Sharangadhara Samhita. He explained various kalpanas and in one of these chapters he explained about vati. Vati kalpana is a pharmaceutical procedure in which the powder of raw drugs (herbal or herbo-minerals) triturated together with certain juices, infusions, decoctions or even honey and then are prepared in the form of vati or gutika.(5)

**Characteristics:** (6)
1. It must contain the specified dose within permissible limits.
2. It should be tough enough to resist normal handling from the time of manufacture to the time it reaches.
3. It should be disintegrated readily.
4. It is preferable to use micro fine powder for the preparation of Vati.

**Diuretics:** Diuretics are the drugs that increase the rate of urine flow and are used to adjust the volume and composition of body fluids in a variety of clinical situations including hypertension, heart failure, renal failure, nephrotic syndrome, glaucoma, hyperkalemia, bromide intoxication, anginal syndrome, epilepsy, migraine and cirrhosis.(7)

**Table No 2. Classification of Diuretics: (8)**

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Class</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Osmotic diuretics</td>
<td>Mannitol, urea</td>
</tr>
<tr>
<td>2.</td>
<td>Carbonic anhydrases inhibitors</td>
<td>Acetazolamide</td>
</tr>
<tr>
<td>3.</td>
<td>Loop diuretics</td>
<td>Furosemide, Torsemide, Bumetanide, Ethacrylic acid</td>
</tr>
<tr>
<td>4.</td>
<td>Thiazides - thiazide related agents</td>
<td>Chorothiazide, hydrochlorothiazide, , ,Bandroflumethiazide, Trichlormethiazide Indapamide, Quinethazone, metalzone, chlorthalidone</td>
</tr>
</tbody>
</table>

**Table No 3. Some herbal drug example is used as diuretics**

<table>
<thead>
<tr>
<th>Sr. no</th>
<th>Drug</th>
<th>Biological source</th>
<th>Chemical constituents</th>
<th>Medicinal uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td><strong>Punernava</strong>&lt;sup&gt;10&lt;/sup&gt;</td>
<td>Fresh or dried herb of Boerhaavia diffusa. Family: Nyctaginaceae</td>
<td>Punernavin, saponin, punernavosie, sterol, beta-sitosterol , alpha-2-sitosterol, palmatic acid, archidic acid, punernavoside, lignan.</td>
<td>As diuretics To support healthy heart, lungs and kidney function Reduce edema.</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Dandelion</strong>&lt;sup&gt;11&lt;/sup&gt;</td>
<td>is a flowering herbaceous perennial plant of the Taraxacum officinalin family: Asteraceae</td>
<td>potential bioactive components such as Sesquiterpene lactones, taraxasterol (TS), taraxerol, chlorogenic acid (CGA), and CRA</td>
<td>As diuretics antioxidant properties, Help to improve immune system, Reduce edema.</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Fennel</strong>&lt;sup&gt;12&lt;/sup&gt;</td>
<td>Dried ripe fruit of Foeniculum vulgare. Family: Umbellifera</td>
<td>Anethole, Limonene, fenchone, anisic acid, Estragol, volatile oils, curcumin, vitamin A and C,</td>
<td>Natural Diuretics, Stimulant, Rich in potassium,</td>
</tr>
</tbody>
</table>
6. **bottle gourd**

**Synonyms:** Dudhi, lauki, white-flowered gourd.

It is a Perennial, glossy-green grass leaves arising from underground rhizome of Lagenaria siceraria. **Family:** Cucurbitaceae

**Antioxidant.**

- Used as diuretic.
- Used to treat urinary tract infection.
- Used for the treatment of jaundice.
- Used as laxative.

7. **Nutgrass**

**Synonyms:** Lavhala, coco-grass.

It is a Perennial, glossy-green grass leaves arising from underground rhizome of Lagenaria siceraria. **Family:** Cucurbitaceae

**Diuretic as well as help in dysuria, helps in healing wounds and uterine contraction, Used to treat female disorder like premenstrual and breast cancer.**

8. **Garlic**

**Synonyms:** Lasan, Allium sativum.

It is consists of ripe bulbs of Allium sativum. **Family:** Liliaceae

**As a diuretic, Antihypertensive, Antioxidant, Expectorant, stimulant.**

9. **Elderberry**

**Synonyms:** European elder, black elder, Sambucus nigra L. **Family:** Caprifoliaceae

**Diuretic, Used to increase urination, Used to boosting the immune system, Helps to Protect heart.**

10. **Roselle**

**Synonyms:** rozelle, red sorrel, Hibiscus sabdariffa. **Family:** Malvaceae

**Diuretic, Antimicrobial agent, mild laxative.**

### General Procedure for vati (herbal tablet): (18)

- Take a dried plant of drug.
- Prepare finely power their made into bhasma.
- Power drug and bhasma are put into the mortar and grounded.
- Other power ingredient are added grounded to a soft paste with the prescribed fluids.
- In case more then are liquid they are use is succession.
- Vati are then made by its mixture by rolling the mixture on finger tips.
- To determine the final stage of the formulation.
- Before making pills it’s should not stick to the finger when rolled.
- Weight the pills are dried for handing and moisture removal.

### Standardization: (19)

1. **Organoleptic parameters** - colour, odour, Taste
2. **Total sugar**
3. **Reducing sugar test**
4. **Particle size**
5. **Identification -Microscopy, HPLC, TLC**
6. **Test for heavy metal and toxins**
7. **Microbial contamination**
8. **Pesticides residue.**
9. **Phytochemicals assessment**

### Physical Evaluation:

1. **pH** - Weigh about 10 g of powdered drug was dissolved into 100 ml distilled water and filtrate was used for determining of pH using pH meter.
2. **Ash value** - There are four different methods Which measure the ash.
   - **Total Ash:**
     - The ground drug (2g) is incinerated in a silica Crucible at a temperature not exceeding 450°C until Free from carbon. It is then cooled and weighed to Get the total ash content.
   - **Acid-Insoluble Ash:**
     - Ash is boiled with 25 ml dilute HCL for 5 min. The Insoluble matter collected on an ash less filter Paper, washed with hot water and ignited to constant Weight. The percentage Of acid-insoluble ash with reference to the Air-dried drug was calculated.
• **Water Soluble Ash**
  Ash is dissolved in distilled water and the insoluble part collected on an ash less filter paper and ignited at 450°C to a constant weight. By subtracting the Weight of insoluble part form that of the ash, the Weight of soluble part of ash is obtained.

3. **Determination of loss on drying**
   An accurately weighed 5g of powder was taken in a tarred evaporating dish. The crude drug was then heated at 105°C in an oven for 3 hours. The drying and weighing was continued at half an hour interval until difference between two successive weighing corresponded. The sample was calculated with reference to the air dried powdered drug material.

**Pharmaceutical parameters :**

1. **Friability test**
   A set of vati is weighed and placed in the apparatus, where they will be subjected to rolling and repeated shocks as they fall 6 inches in each rotation. The vati are weighed after 4 minutes of therapy or 100 revolutions, and the weight is compared to the initial weight.

2. **Determination uniformity in weight**
   To determine the uniformity of weight of vati, twenty vati are chosen at random and weighed separately in a Precision weighing balance. The average weight of each vati then calculating dividing the total weight of 20 vati by 20 in each group. The highest weight, Lowest weight and average weight of each group of vati are recorded.

3. **Disintegration Time Test**
   For vati the first important step towards drug dissolution is a breakdown of the vati into primary powder particles, a process known as disintegration. The apparatus consists of a basket-rack assembly containing six open-ended transparent tubes held vertically upon a 10-mesh stainless steel wire screen. During testing, a vati is placed in each of the basket’s six tubes, and through a mechanical device, the basket is raised and lowered in a bath of fluid at 30 to 32 cycles per minute for 15 minutes.

4. **Determination of Hardness**
   Hardness of a vati can be measured by using Monsanto or Pfizer tablet hardness testers. We have made the use of Monsanto hardness tester.

**Conclusion :**

The current review is provided on an overview of ayurvedic herbal drug or formulation are used as diuretic treatment of renal disease and disorder and knowledge of ayurvedic herbal diuretic drug in the form of herbal formulation. Harbal medicine are widely used as biological and medical activities as first line therapy of major disease. This review included in a history of Vati, chara, and vati. The current review is provided on an overview of ayurvedic herbal drug or formulation are used as diuretic treatment of renal disease.

**Reference:**

2. Dr. Dhanraj Nagar, Dr. Ramavtar Sharma and Jayant Nagar, “Role of ayurveda in public health: a research article,” wjr, Vol 8, Issue 9, 2019.