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Diploma in Pharmacy 1st Year Pharmacognosy Chapter 7 : Traditional System of Medicine & Ayurvedic Preparations	
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Traditional System of Medicine & Ayurvedic Preparations

- These alternative systems of medicines are referred to as traditional systems of medicines, which are still in use by about 80% of the world population.
- The traditional Chinese medicine system, Unani system, Ayurvedic system, Amachi, and Homoeopathy are the traditional systems of medicine which in ancient times were practiced only in China, Greece, India, Tibet, and Germany, respectively; but at the present time worldwide population rely on them.
- The major systems of medicines that are used alternatively are as follows:
 1. Ayurveda system,
 2. Unani system,
 3. Siddha system, and
 4. Homeopathy system

Ayurveda System of Medicine

- Ayurvedic medicine system was established by the Hindus in India several thousand years ago.
- The Vedic period started with the Aryans.
- The four holy books (written in Sanskrit) invented with divine inspiration were included in the Vedas, which means wisdom.
- These Vedas were initially conveyed to the students by their teachers in a verbal manner.
- But during the period of 2500-1500 BC ' the Vedas were available in written forms on birch bark.
- Later, they were even available written on papers.
- Rig Veda (the oldest Veda) has drugs and diseases mentioned in it. Atharva Veda (the fourth Veda) has ideologies for maintaining health and the medicinal effects of health mentioned in it.

History of Ayurveda

- ✚ Ayurveda is attributed to **Dhanvantari**, the physician to the gods in Hindu mythology, who received it from **Brahma**.
- ✚ Its earliest concepts were set out in the portion of the Vedas known as the **Atharvaveda** (c. 2nd millennium BCE).
- ✚ The period of Vedic medicine lasted until about 800 BCE.
- ✚ The Vedas are rich in magical practices for the treatment of diseases and in charms for the expulsion of the demons traditionally supposed to cause diseases.
- ✚ The chief conditions mentioned are fever (*takman*), cough, consumption, diarrhea, dropsy (generalized edema), abscesses, seizures, tumours, and skin diseases (including leprosy).
- ✚ The herbs recommended for treatment are numerous.
- ✚ The golden age of Indian medicine, from 800 BCE until about 1000 CE, was marked especially by the production of the medical treatises known as the Caraka-samhita and Susruta-samhita, attributed respectively to Caraka, a physician, and Susruta, a surgeon.

- ✚ Estimates place the Caraka-samhita in its present form as dating from the 1st century CE, although there were earlier versions.
- ✚ The Susruta-samhita probably originated in the last centuries BCE and had become fixed in its present form by the 7th century CE. of somewhat lesser importance are the treatises attributed to Vagbhata.
- ✚ All later writings on Indian medicine were based on these works, which analyze the human body in terms of earth, water, fire, air, and ether as well as the three bodily humours (vata, pitta, and kapha).

Basic Principles Involved

- The development of Ayurvedic medicine system is based on the following 5 pharmacological principles of drug, i.e., Panchsheel
1. **Rasa** : It denotes the drug's taste (i.e., Dravya), action, and properties.
 2. **Guna** : It denotes the drug's physical propertie
 3. **Virya** : It denotes the drug's potency and shows two intrinsic properties
 4. **Vipaka** : It denotes the end product of digestion
 5. **Prabhava** : It denotes the drug's power

Five Elements

- Akasha (space),
 - Vayu (air),
 - Agni (fire),
 - Jala (water), and
 - Prithvi (earth).
- **Akasha** : It denotes the spaces within the body. i.e., mouth. nostrils. abdomen, etc.
 - **Vayu** : It denotes the muscular movement.
 - **Tejas or Agni** : It denotes the functions of enzymes, i.e., intelligence, digestion, and metabolism.
 - **Apa or Jala** : It denotes the body fluids, i.e., plasma, saliva, and digestive juices.
 - **Prithvi** : It denotes the body structure, i.e., bones, teeth. flesh. and hair)

Doshas

- It is believed that all the processes occurring within a body are governed by a balance of the 3 types of doshas. The dosha which dominates a person's behaviour and body is called his constitution type.
1. **Vata** : It is composed of air and space. All the movements in the mind and body are controlled by it, thus should be maintained in a good balance.
 2. **Pitta** : It is composed of fire and water. All heat, metabolism, and transformation within the mind and body are controlled by pitta
 3. **Kapha** : It is composed of earth and water. It cements the elements in the body, providing the material for physical structure. It maintains resistance of the body. It causes joint lubrication, provides moisture to the skin, helps in wound healing, fills the spaces in body, provides biological strength, vigour and stability, supports memory retention. provides energy to heart and lungs, and maintains immunity

Unani System of Medicine

- Unani (or Yunani or Unani-tibb) is a traditional medicine system practiced in India and Indian subcontinent.
- It refers to practice of Graeco-Arabic medicine, which relies on the teachings of Hippocrates and Galen (physicians of Greece and Rome, respectively).
- The Unani medicine was developed into an elaborate medical system by Rhazes (Arab and Persian physicians)
- The base of Unani medicine system is formed by the concepts of four humours, Phlegm (Balgham), Blood (dam), Yellow bile (safra), and Black bile (sauda)

Basic principle involved

- The principles of Hippocrates formed the base of unani medicine system.
- Hippocrates laid the facts that disease is a nature process, symptoms are the reaction that body produces towards the diseases and physicians role is to help the natural forces of the body.
- He introduced the method of checking patients medical history He also bought the Humoral theory Which is his most essential contribution towards the medical kingdom
- The components whose loss in human body can cause a disease or even death are as follows:
 1. Al-Arkan (Element),
 2. Al-Mizaj (body fluids),
 3. Al-Akhalt (Body Fluid),
 4. Al-A'za' (Organ),
 5. Al-Arwah (pneuma)
 6. Al-Quwa (Power),
 7. Al-At'al (Function)

Siddha System of Medicine

- Siddha medicine system was founded by the Dravidian culture of the pre-Vedic period.
- It is the oldest medicine system, which utilises drugs obtained from vegetables.
- Siddha medicine system deals with the human body as well as with the inner soul.
- This medication system should not be used for earning money as it is a divine art based on truth.

Basic Principles Involved

- The universe is made up of matter and energy (two essential entities). The Siddhas call them Siva (male) and Shakti (female, creation). Matter cannot exist without energy in-built in it and vice versa. Matter and energy co-exist and cannot be separated. There are 5 primitive elements (bhutas), i.e., munn (solid), neer (fluid), thee (radiance), vayu (gas), andaakasam (ether). These elements should not be confused with modern chemistry. Different proportions of them are present in every substance. Earth, water, fire, air, and ether are the manifestations of these elements.

- The human body is made up of different combinations of these elements. There are 3 substances (dravyas), i.e., vatham, pitham, and karpam which facilitate the body's physiological functions.
- Tridoshas According to Siddha Medicine All the body functions (physical, mental, and emotional) are controlled by the tridoshas:

1) Vatham

- It is dry, light, cold, and motile.
- It is formed by aakasam and vayu.
- It controls the nervous actions (movement, activity, sensation, etc.).
- It predominates in the bone.
- It dominates in first one-third phase of life when activities like growth, sharpness of function of sense are greater.

2) Pitham

- It indicates heat.
- It is formed by thee.
- It controls the metabolic activity of the body, digestion, assimilation, warmth, luster, intellect, etc.
- It predominates in the tissue blood.
- It dominates in the second one-third phase of life.

3) Karpam

- It is smooth, firm, viscid, and heavy.
- It is formed by munn and neer.
- It controls the stability of body such as strength, potency, and smooth working of joints.
- It predominates in other tissues.
- It dominates in the last one-third phase of life.

Given below are the 7 dhatus:

1. Rasa (lymph),
2. Kurudhi (blood),
3. Tasai (muscle),
4. Kozhuppu (adipose tissue),
5. Elumbu (bone),
6. Majjai (marrow), and
7. Sukkilam and artavam (male and female hormones).

Homeopathy System of Medicine

- Homeopathic medication are prepared by successive dilutions with forcefully shaking and striking (succession).
- It was believed by the Homeopaths that after each dilution the effect of medication is enhanced : and this preparation process was named potentisation.
- Dilution is carried on till the original substance completely fades away.
- Before recommending any medicine, the Homeopaths ask the patients about their symptoms, physical and psychological state

Basic Principles Involved

- Every science guides the whole system by their some specific basic principles. Similarly, Homoeopathy being a science of medical treatment has its own philosophy, and its therapeutics relies on certain principles which are much different from those of other school of medical science.
- **Hahnemann discussed these fundamental principles in different sections of his medicine and philosophy as follows :**
 1. **Law of Similia :** Homoeopathy medicine system relies on the therapeutic law, Simillia Similibus Curentur, which means 'let likes be cured by likes'. In this healing system, the patient is given such a medicine which will produce the same symptoms (as found in the patient) if given to a healthy person also. Thus, the symptoms of the patient are matched with the pathogenesis of the medicine; and the medicines which show greater degree of similarity, viz. Simillimum are selected and administered to cure the patient.
 2. **Law of Simplex :** As per this law, simple and single drugs should be prescribed at a particular time. Thus, medicines act on healthy human beings individually and in simple form without the addition of any other substance.
 3. **Law of Minimum :** As per this law, drugs are administered in minimum quantity because of hypersensitivity in disease. The drug action is always directed towards normal as a result of altered receptivity

Methods of preparation of Ayurvedic Formulations

- Indian medicine comes from Ayurveda which is said to be the science of life and was originated by Brahma.
- Ayurveda contains knowledge of medicines and the healing art.
- Ayurvedic medicine system from the ancient era utilises many pharmaceutical dosage forms which are even practiced at the present time.
- These dosage forms are derived from vegetable drugs
- Nowadays Allopathic and modern system of medicine is in general practice· however the pharmacists should be aware of the prevailing Ayurvedic dosages forms and their process of manufacturing.

- The preparation and standardisation of the following Ayurvedic formulations are discussed below.
1. Arishta,
 2. Asava,
 3. Gutika,
 4. Taila,
 5. Churna,
 6. Lehya, and
 7. Bhasma.

Arishta

- Arishtas are prepared by the process of fermentation for a specific time period after boiling the main decoction substance and adding other ingredients.
- Arishta is an ancient medicinal preparation mentioned in the Vedas, having Ayurvedic medicines.

Method of Preparation

- The drug is coarsely powdered (javkut) to prepare kasaya, which is strained and transferred to the fermentation vessel.
- Required amount of sugar, jaggery, or honey are dissolved, boiled, and then added to the mixture obtained after straining the kasaya.
- For the fermentation process, the temperature has to be kept constant; this can be achieved by placing the container in a special room, in an underground cellar, or in a heap of paddy.
- The jar is uncovered (lid is removed) after a prescribed time and the contents are inspected to determine whether or not complete fermentation has occurred.
- The fluid in the jar is decanted followed by straining after 2-3 days only when the fine suspended particles has settled at the bottom.
- The liquid obtained after straining is the product which is filtered and the filtrate is stored in a bottle.
- This filtered Arishta has a characteristic aromatic and alcoholic odour.

Asavas

- Asavas are a famous ancient medicinal preparation mentioned in the Vedas.
- Asavas are prepared by the process of fermentation for a prescribed time after mixing all the specified ingredients with required quantity of unboiled water.

Method of Preparation

- The drug is soaked in the form of a decoction in a solution of either sugar or jaggery for a prolonged duration.
- There after the mouth of the vessel is covered with a lid and edges are sealed with clay.

- During this time period, fermentation of Asava takes place; and as a result alcohol is produced which acts as a preservative.
- The product is filtered and the filtrate is stored in a bottle.
- The filtered Asava should be clear and free of froth at the top.
- It should have a characteristic, aromatic, and alcoholic odour. It should not be sour. Asavas can be stored for a long duration in well stoppered bottles or jars

Examples Kumaryasava, Madhukasava, Vasakasava, Arvindasava, Punarnavasava, etc.

Difference between Arishtas and Asavas

- The preparation method of Arishtas is decoction and that of Asavas is infusion.
- The fermentation time duration of Arishtas is much smaller than that of Asavas.

Gutika

- Gutikas are available as medicated pills, prepared by combining the vegetables, mineral or animal drugs together.
- Gutikas should be consumed within two years.
- The pill forms of Gutikas having mineral ingredients can be used for life long.

Method of Preparation

- Drugs obtained from plants are separately dried and finely powdered.
- The minerals are made into bhasmas or sindura.
- When parada (mercury) and gandhaka (sulphur) are stated, kajjali is made first and added with other drugs one at a time as given in the formula.
- This mixture is grounded properly in khalva to yield a soft paste containing the prescribed fluids.
- The mass after reaching a condition that it can be casted as pills is again grounded with added sugandha dravyas (flavouring agents) like kasturi and karpura.
- The mass obtained should not stick upon rolling between the fingers. The mass is shaped into many pills, which are dried in shade or in sun.
- If sugar or jaggery is added, paka is vigorously mixed.
- In warm state, vatakas should be rolled and shade dried.
- Pills of plant origin are stored in air-tight containers and should be consumed within two years.
- Pills of mineral origin can be used indefinitely.
- Gutikas should retain their original colour, odour, and taste after formulation.
- Gutikas containing salt or sugar should be prevented from moisture

Examples Lasunadi gutika, Marma gutika, Pranda gutika, Bilvadi gutika, Marma gutika, Mritsanjivni gutika, etc.

Taila

- Tailas are called sneha kalpa/paka and prepared by cooking oil with the juice or the decoction and paste of drugs.
- Paste of the drug should be 1/4th part of the oil and the liquid (drava) should be four times of oil.
- If no liquid is specified in the recipe, water should be used.

Method of Preparation

- There are three essential components for preparation of tailas:
 - Dravya (Liquid).
 - Kalika (thin paste of drug).
 - Snehadravya (Ghee or tail).
- Kalika is taken one part by weight, Snehadravya should be four parts, and Dravya should be sixteen parts.
- Kalika and Dravya are mixed together, Snehadravya is added and boiled and stirred well continuously so that Kalika does not adhere to the vessel.
- When all Dravyas have been evaporated, the moisture in Kalika will also start evaporating.
- At this stage, it should be stirred more often and carefully to ensure that kalika does not stick to the bottom of the vessel.
- The kalika tested from time to time to know the condition and stage of preparation.
- In Snehadravya, sarkara (sugar, if present) is added to the final product when cooled.
- Wherever lavans (salt) and ksharas (alkali) are used in this preparation, they are added to Sneha and then strained.
- Tailas will have the colour, odour and taste of the drugs used and has consistency of oil.
- When considerable quantity of milk is used in preparation the oil becomes thick due to Ghrita, and in cold season may condense further.
- Tailas can be used internally and topically. They retain potency for about sixteen months.
- They are taken internally with warm water or warm milk.

Example : Asanabilvadi Talia, Aswagandhabalalakshadi Taila, Bhringgamalaka Taila, Bramhi Taila, etc

Churna

- Churnas are finely powdered drug(s).
- Drugs stated in patha are first cleaned, dried, pulverised, and then sieved.
- Churnas are stored in air-tight containers to maintain their potency and free flowing nature for a year.

Method of Preparation

- The drug prescribed in the yoga is cleaned, dried, finely powdered, and sieved.
- In case of many drugs, each drug is separately powdered, sieved, and weighed, followed by mixing together all the resultant powder.
- For large scale production, all the drugs are cleaned, dried, powdered together in disintegrators, and then screened through mechanical sifters.
- The powder should be made fine enough to pass through 80 mesh sieve.
- The powder particles should not adhere or become moist.
- The therapeutic efficacy of fine powder is comparatively better.

Example : Ashwandhadi Churna, Eladi Churna, Haritaki Churna, etc

Lehya

- Lehyas (also known as aveleha or leha) is a Semisolid drug product prepared by adding sugar, Jaggery (gur), or sugar candy to the drug and further boiling with drug juice or decoction.

Method of Preparation

- Lehyas are prepared by dissolving jaggery or sugar candy in liquid, followed by moderate boiling and straining the obtained mixture to remove impurities.
- Boiling is stopped when the paka (phanita) becomes thready on pressing between two fingers or if it sinks in water without getting dissolved.
- Small quantities of the fine powdered drugs are added and stirred in a constant and vigorous manner to yield a homogeneous mass.
- The hot preparation is added and properly mixed with ghee or oil (if required); while if honey is to be added the preparation should be first cooled.
- Lehyas have the following components:
 - Kasaya or other liquids,
 - Jaggery, sugar, or sugar candy,
 - Powders or pulps of certain drugs,
 - Ghee or oil, and
 - Honey.

Examples : Kutajavaleha, Draksavaleha, VasavaJeha, Sumavaleha, etc.

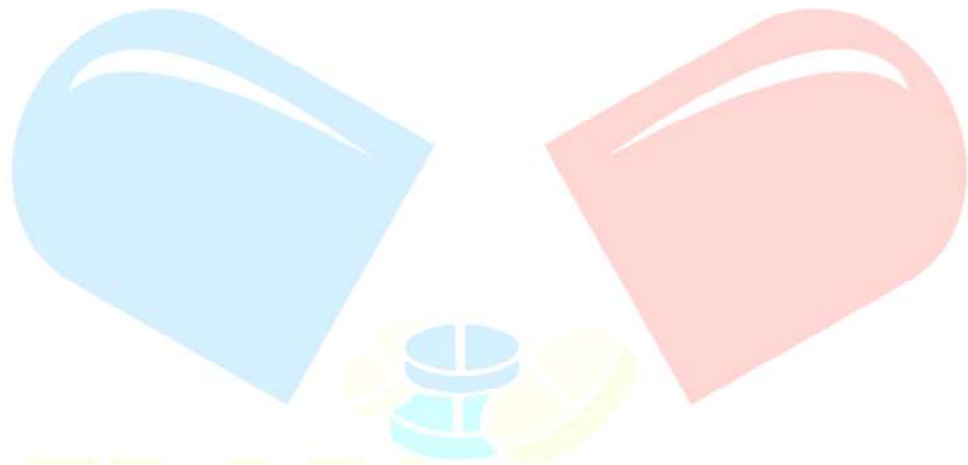
Bhasma

- Bhasmas are grey, Whitish, yellowish, or black coloured powdered from of substance.
- These can be obtained from metals, minerals, or animals sources by a process named calcinations carried out in closed crucibles or in pits covered with cow drug cakes (puta).
- They are typically stored in glass container.
- Bhasmas are stable and retain their potency for a long time.

Method of Preparation

- Bhasmas are prepared in two steps, namely sodhana and marana.
- These are time-consuming processes and require attention:
- **First Stage (Sodhana):**
 - Bhasmas, as already known are obtained from minerals, metals, marine, and animal products. Sodhana is a purification process which is of the following two types:
 1. **Samanya Sodhana:** In this method, thin metal sheets are heated and immersed in taila, takra, gomutra, etc. This method can be used for large number of metals or minerals.
 2. **Visesa Sodhana:** This method can be used for some drugs and preparations.
- **Second Stage (Marana):**
 - This second stage of bhasma preparation occurs in the following steps:
 - The purified drug is grounded for a specified time with juices of particular plants or kasayas of drugs (stated for a specific mineral or metal) in a stone mortar and pestle (khalva).
 - Small cakes (cakrikas) are prepared from the obtained mixture.
 - These cakes are sun dried and arranged in a shallow earthen plate (sarava) as a single layer.
 - Thereafter, the plate is closed with another plate, edges are sealed by winding clay smeared cloth in seven consecutive layers, and then it is dried.
 - A pit is formed in an open space, and filled with cow dung cakes up to the half level.
 - The sealed earthen container (iv) is kept in the pit and more cow dung cakes are added to fill up the remaining space.
 - All the four sides and the middle of the pit are put on fire.
 - After complete burning, the pit is cooled, the earthen container is taken out, opened, and its contents are removed.
 - The content if required is again grounded with juice in a khalva to yield a fine powder, from which cakes are made, and putas are obtained.
- Bhasmas are yellowish, black, dark, White, grey, red, or reddish black in colour, as per the major drug and the other drugs in the process of marana

Examples : Tamra basma, Godanti bhasma, Pravala bhasma, Mukta bhasma, Lauha bhasma, etc.



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