

OVERVIEW ON AYURVEDIC & HERBAL FORMULATION IN INDIA

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ABSTRACT

Herbal formulations means a dosage form consisting of one or more herbs or processed herbs in specified quantities to provide specific nutritional, cosmetic benefits meant for use to diagnose, treat, mitigate diseases of human beings or animals, alter the structure or physiology of human beings or animals. Therapeutic system of Indian Herbal medicine utilizes various types of dosage involving Vati, Kwatha, Arishta, kalka , Avaleha and churna having different health benefits through different route of administration like; oral, topical and nasal etc. Herbal formulations are obtained by different process such as extraction, distillation, expression, fractionation, purification, concentration or fermentation. standardization of Ayurvedic & Herbal formulation is necessary to confirm its identity and to determine its quality, purity safety, effectiveness, and acceptability of the product that carried out by determination of Ash value, Extractive value, LOD, physical parameters which include Hardness, Friability, Disintegration time, dissolution time and HPTLC fingerprinting. This holistic approach useful for restore health by understanding the underlying cause of disease . Present study explore the different types of ayurvedic formulation with their diversified importance.

Keywords: Ayurvedic , Importance, Arishta, Churna.

1. INTRODUCTION

Herbal formulations defined as those formulation that contain an active substance or herbal substance or herbal preparation or herbal substance in combination with one or more herbal preparations that are prepared by various treatments such as extraction, distillation, expression, fractionation, purification, concentration or fermentation include comminuted or powdered. In another words, Herbal substances are precisely defined by the plant part used and the botanical name according to the binomial system (genus, species, and variety). Various herbal formulations are tinctures, extracts, essential oils, expressed juices and processed exudates.

Ayurveda, the “science of life,” or longevity, is more than 5,000 years old holistic alternative science from India. Ayurveda often called Mother of all Healing and is aimed at the physical, mental and spiritual wellbeing of human beings. According to tradition, Ayurveda is one of the great gifts of the sages of ancient India to mankind. it is combination of ayur (life) and veda (science or knowledge), which means “the science of life mainly focusing on bringing harmony and all areas of life including spirit, mind and body.” Ayurveda is based on Panchamahabhutas or the five elements: Vayu (air), Teja (fire), Aap (water), Prithvi (earth) and Akasha (aether) which build up the living microcosm (human beings) and the macrocosm (external universe). When pooled collectively in pairs, the Panchamahabhutas form Tridosha or the three humors, namely Vata (responsible for body movement), Pitta (responsible for bodily chemical reactions such as metabolism and temperature) and Kapha (responsible for growth, protection, and lubrication).²

Markers are chemically defined constituents or groups of constituents of a herbal substance, a herbal preparation or a herbal medicinal product which are of interest for control purpose independent of whether they possess any therapeutic activity. Markers serve to calculate the quantity of herbal substance or herbal preparation in the herbal formulations if the markers have been quantitatively determined in the herbal substance or herbal preparations. Characterization of herbal formulations which includes are design and development, pharmacopoeial tests and acceptance criteria, periodic testing, release, shelf-life acceptance criteria, in-process tests, alternative procedures, evolving technologies, reference standard and statistical concepts.³

Classification of Herbal & Ayurvedic Formulation Formulation :

1. Asava & Arishta
2. Avaleha
3. Churnas
4. Lepas
5. Bhamas
6. Tailas

7. Traditional Herbal Formulation

1. Asava and arishtas:

Asava defined as ayurvedic preparations that are prepared with natural fermentation using sugar water and herb, while arishta defined as ayurvedic preparations that are prepared by herbal decoctions. These preparations have longer shelf life.

The main difference between two is involvement of heat. Asava and arishta are unique liquid dosage forms that contain self-generated alcohol. Former is made with decoctions of herbs in boiling water while later is prepared by directly using fresh herbal juices or decoction to undergo fermentations. Arishtas are classical Ayurvedic preparations typically used as digestive and cardiotonic. The arishta (fermented decoction) and asava (fermented infusion) are considered as a unique and valuable therapeutics in ayurveda, due to their medicinal value, sweet taste and easy availability.

Asava–Arishta formulations are better known as hydro-alcoholic formulations, self generated alcohol during this biomedical fermentation process can reach in between 4–12% v/v, and due to its improved aromatic properties and palatability, these formulations have better patient acceptability. These traditionally fermented formulations have several merits over other Ayurvedic medicines, such as

- A. contain self generated alcohol
- B. has better preservation quality.
- C. has better patient acceptability
- D. have improved aromatic properties and palatability
- E. Self-generated alcohol gives pleasing organoleptic properties
- F. facilitate faster and even distribution of drug in body
- G. improves bioavailability drug molecules
- H. Microbial transformation may reduce toxicity of phyto ingredients.
- I. Microbial transformation increases chemical diversity in the formulation, which is crucial for its clinical action over the raw drug.
- J. Biochemical transformation makes the drug available in its metabolized or activated form, which translates into quick action.⁴

In the preparation of Asava, the drug is coarsely powdered and added to water, add prescribed quantities of honey, jaggery/sugar . It contains dilute solutions of the readily soluble constituents of crude drugs.

In the preparation of Arista, soaking the drugs in water for a period of time (8 hours) before decoction, which facilitates the better extraction of active principles into kasaya (decoction) and thereby increase in potency boiling of crude drugs in a specified volume of water for a defined time period. Then it is allowed to cool and filter. This decoction is called “quath” or “kwatha”. The ratio of crude drug to water is generally 1:4 or 1:16. During boiling the volume is reduced to one fourth of its original volume. Then, the concentrated extract is filtered transferred to Sandhana patra and sugar, jaggery or honey is added to it followed by fermentative agent and Prakshepa dravya.

Uses :

- A. Mainly used for boosting immunity by improving digestion.
- B. Recommended for treating constipation in children.
- C. Useful in thirst and dysentery.
- D. Widely used for support metabolism
- E. Assist for improving Gut Health⁵

2. Avaleha or Lehya:

Avaleha or Lehya defined as semisolid preparation of drugs that are prepared by the addition of jaggery or sugar candy and boiled with prescribed drug juices decoction. Honey, if required, is added when the preparation is cold and mixed well. Ghee or oil is added when preparation is hot. The Lehya should neither be hard nor a thick fluid. When pulp of the drugs is added and ghee or oil is present in the preparation, this can be rolled between the fingers.⁶

These preparations generally have:

1. Kasaya or other liquids,
2. Madhur Dravya (sweetening agents) like jaggery, sugar, sugar candy and honey
3. Prakshepa Dravyas (additives): These are herbals added to the Avaleha to increase its potency, palatability or to improve organoleptic properties.
4. Powders or pulps of certain drugs,

5. Sneh Dravyas (fats) like ghee, oil.

Method of Preparation :

1. Jaggery, sugar or sugar-candy is dissolved in the liquid and strained to remove the foreign particles and boiled over a moderate fire.
2. It should be removed from fire, when pressed between fingers it becomes thready (Tantuvat), or when it sinks in water without getting easily dissolved.
3. Powdered drugs are then added in small quantities and stirred continuously to form a homogeneous mixture.
4. Ghee or oil is added and mixed well.
5. Finally, honey is added when the preparation becomes cool and mixed well.

Examples: Dashamulaharitaki, Bilvadileha, Vasavaleha, Citraka Haritaki, Chyavanaprasa, Kusmandaka Rasayana, Vyaghri Haritaki, Kalyanaka Guda, Ashvagandhadi Lehya, etc.⁷

Uses :

- A. Used for treating various digestive problem like loss of appetite and bloating.
- B. Helps to relieve cough and soothe the throat
- C. Assist to support Breathing
- D. Also used to treat respiratory condition like Asthma and chronic rhinitis
- E. Used for supporting immunity

3. Churnas :

Churna is defined as a Ayurvedic fine powder of drug that should be cleaned properly, dried thoroughly, pulverized and then sieved and should be preserved in airtight containers.

The Churna consisting of fine powder of herbs in appropriate ratio was subjected to standardization by means of various physical, chemical and microbiological methods.

Preparation: Dry ingredients are allowed to powdered by using crusher of grinder type blended together in stainless steel cone blender After testing these are filled in glass/plastic containers.

Examples: Hingwashtaka Churna, Talisadi Churna, Dashamoola kashaya Churna, Sarshapadi Churna, Ajamodadi Churna

Uses :

- A. Churnas can be used for various indigestion, fever, cough, bronchitis, vomiting, consumption.
- B. Used to treat various common digestive problems like acidity , bloating, Indigestion and Diarrhoea.
- C. Churnas not only helps to overcome gas problem but also support digestion.
- D. Also used in the Ayurvedic treatment of cough, chronic respiratory conditions like bronchitis and asthma, Oligospermia, anti aging treatment.
- E. Used to treat Urinary Tract infection.⁸

4. Lepas:

Lepas defined as semisolid preparation that are intended for external application to the skin or certain mucous membranes for emollient, protective, therapeutic or prophylactic purposes where a degree of occlusion is desired.

Lepa word can mean smearing, plastering, anointing, on body. Medication used in the form of paste for external application is called as Lepa. Lepa can be prepared using wet drugs or dry drugs with added water. These drugs can be of herbal, mineral or animal origin. Lepa should be applied in the direction opposite to hair follicle. Lepa Kalpana is prominent amongst the Bahiparimarjan chikitsa and is prescribed widely at OPD as well as IPD levels, in the conventional form or in neo dosage forms like ointments, creams, lotions, gels etc

They usually consist of solutions or dispersions of one or more medicaments in suitable bases. Base should have following properties :

- The base should not produce irritation or sensitization of the skin, nor should it retard wound healing
- it should be smooth, inert, odorless, physically and chemically stable and
- It should be compatible with the skin and with incorporated medicaments.
- The proportions of the base ingredients should be such that the ointment is not too soft or too hard for convenient use.
- The consistency should be such that the ointment spreads and softens when stress is applied.⁹

Examples: Dosaghna Lepa, Dasanga Lepa, Sinduradi Lepa and Pathyadi Lepa.

5. The Bhasmas :

Bhasmas defined as ayurvedic preparations which are the powder of substances obtained by calcinations. A 'Bhasma' means a form of substance which is obtained after incineration. In general, these are physically transformed metallic nanoparticles which are transformed in form of bhasma by calcination of substances after treatment with herbal decoctions, natural compounds.

Bhasma is said to maintain the optimum alkalinity, neutralize and breakdown the harmful heavy metals and radicals in body. The alleviation of a disease depends upon the quality of Bhasma prepared through standard procedures. The standardization of Bhasma is almost necessary to confirm its identity and to determine its quality, purity safety, effectiveness, and acceptability of the product.¹⁰

The preparation of Bhasmas include following stages:

A. Shodhana (Purification) : Raw metals for the bhasma are obtained from ores, which generally contain unwanted impurities. The impurities are removed by the process of shodhana. The resultant product can be subjected to undergo the process of bhasmikarana.i.e.,Marana.

B. Bhasmikarana : It is the process to eliminate the toxicity or undesired effect of the specific material. This process develops the biocompatible qualities in substance following the purification processes. The substance develops the desired physical and medical properties i.e., palatability, bioavailability, microscopic particle size etc.

C. Maran (Powdering) : Maran is the process which transforms the metals into a suitable and desired biocompatible form for assimilation of phytochemicals in next phase.

D. Chalana (Stirring) : The Chalana is the process of heating the powdered metal and stirring. The stirring is carried out with iron rod or stick of specific plant continuously. The quality and therapeutic efficacy of end product may be enhanced by the help of the phyto-chemicals of plant stick.

E. Dhavana (Washing) : The shodhana or marana phase co-agents are removed by the process of dhawana by water. These residuals can impact the quality of final products.

F. Galana (Filtering) : The material is sieved through a fine sized mesh sieves or cloth. The galena process helps to separate the residual material particles of larger size.

G. Puta (Heating): The pure product of bhasmiakarna is heated on high temperature to incinerate in process of puta. These are the general steps used in preparation of a bhasma. The standard procedures and co-agents can be different for a specific substance to produce bhasma.¹¹

6. Tailas :

Tailas are also known as medicated oils forming a group of drugs in ayurvedic system of medicine with the principle is to extract the therapeutic compounds into oil.

Preparation:

The method of preparation requires heating of oil with prescribed kashayas (decoction) and Kalkas (powdered drugs) according to formula. They are generally used for Abhyanga (external application). It consists of:

1. Drava [any liquid medium as prescribed in the composition]
2. Kalka [fine paste of the specified drug]
3. Sneha Dravya [tailas]
4. Gandha Dravya [perfuming agents]

The medicated Tailas will have the odour, color and taste of the drugs used in the process. If a considerable amount of milk is used in the preparation, the Tailas will become thick and may solidify in cold seasons. Tailas are preserved in good quality of glass, steel or polythene containers. These medicated preparations retain the therapeutic efficacy for sixteen months. Examples: Mahanarayana taila, Ksheerabala taila, Dhanwantaram tailam, Maharaja Parsarini Taila, Bhringaraja Taila, Anu-taila.¹²

2. TRADITIONAL HERBAL FORMULATIONS

Tinctures

Tinctures are normally alcohol and water extracts of plant materials dissolve more easily in a mixture of alcohol and water than in pure water. Most commercially produced tinctures have a minimum alcohol content of 25% v/v recommended for water-soluble constituents like tannins, mucilage and certain flavonoids and some saponins, while an alcohol concentration of 45–60% v/v is required for alkaloids, essential oils, some glycosides and most saponins, and 90% v/v alcohol for resins and oleoresins. The use of the right ethanol concentration is important in maximizing the quality of the herbal preparations. When kept properly, most tinctures have a shelf life of around five years.¹⁴

Infusion

Infusion is the process of extracting chemical compounds or flavors from plant material in a solvent such as water, oil or alcohol, by allowing the material to remain suspended in the solvent over time. Fresh infusions are prepared by

macerating the crude drug for a short period of time with cold or boiling water. These are dilute solutions of the readily soluble constituents of crude drugs.

Decoctions

These preparations are prepared by boiling the herb in water for specific time to extract soluble constituents out of it. The process mainly done with hard plant materials like bark and roots. The water decoction of a mixture of 2–12 herbal materials is the commonest traditional herbal dosage form. Decoctions are normally intended for immediate use, ideally within a 24-hour period, with about a 72-hour maximum limit if stored in a very cool place.¹⁵

Powders

Powders are finely divided powders that contain one or more plant drugs or dried extracts with or without auxilliary substances including, where specified, flavouring and coloring agents.¹³

3. CONCLUSION

The present review literature has envisaged on various types of Ayurvedic and herbal formulation like Asava & Arishta , Avaleha, Churnas , Lepas ,Bhamas ,Tailas and Traditional Herbal Formulation that are prepared by different standard process. These herbal formulation are used for boosting immunity , to treat various common digestive problems , used in the treatment of cough, chronic respiratory conditions like bronchitis and asthma, Oligospermia, anti aging treatment , and used to treat Urinary Tract infection.

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