

A Review On Upkalpana & Its Benefits In Ayurveda Science

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Abstract: Ayurvedic therapy always consider Aushadhi a very important tool for the management of human health. Aushadhi is used to maintain a good health as well as to cure disease. An unknown drug (Aushadhi) is just like a poison or a weapon. Bhaishajya Kalpana deals wide range about the preparation of different medicines. Panchavidh Kashaya Kalpana are the basic preparation of Bhaishajya Kalpana, namely Swarasa, Kalka, Kwatha, Hima, Phanta. A range of smaller preparations are explained in the Upkalpana. The five basic kalpana are known as primary formulations & all other kalpana like Churna, Vati, Avaleha, Taila, Arista, Asava etc, were derived from these basic formulations & these are known as secondary formulations. There are so many advantages of Upkalpana like easy to administration, longer shelf life, high therapeutic efficacy, agreeable taste etc. These dosage forms are mainly intended to increase shelf life, to alter potency & palatability. In Ayurvedic therapeutics, drugs in both forms are used internally & externally, crude as well as converted into different formulations. Due to importance of Upkalpana, it is accepted in contemporary era.

Keywords: Aushadhi, Upkalpana, Formulations, Preparations etc.

I. INTRODUCTION

Ayurveda is a life of science which explains about the different dosage forms, which is the physical form of a medication intended for administration. The different dosage forms can be prepared by the physician according to his *Yukti* (plan), considering *samyoga*, *visheshha*, *kala* and *samskara*. It has been explained based on considering all the aspects like *Desa* (land/soil), *Kala* (time), *Bala* (strength) etc. There are different dosage forms which have been explained. Ayurveda is mainly based on the *Trisutra*, *Hetu*, *Linga* and *Aushadhi*. Among these *Aushadhi* (medicine) plays a major role in the treatment. *Aushadhi* acts as an aid for the other branches in Ayurveda. *Aushadhi* is used to maintain a good health as well as to cure diseases in humans. It is mainly administered according to the condition and convenience of the patient. In *Bhaishajya kalpana* (Ayurved pharmaceuticals) there are many

types of *Kalpanas* (formulations) which helps the preparation of different types of medicines by different & important methods. Basic principles of *Bhaishajya kalpana* includes first & most "*Panchavidha kashaya kalpana*". The medicines, which we used to offer patient, is in different forms & those main forms in ayurvedic literature are called as "*Panchavidha kashaya kalpana*". This principle mainly contains those 5 basic varieties of drugs which are most commonly used. The importance of various dosage forms is to make it compatible, palatable and easy absorption. In order to do this the potency of a drug can also be increased or decreased.

II. MATERIALS AND METHODS

PANCHVIDH KASHAYA KALPANA: *Pancha vidha kashaya kalpanas* being the primary preparations and the most

widely used formulations as a starting dosage form as well as a base for many different dosage forms, the modification that can be done for these are a point of immense interest. In *Ayurveda* there is an explanation of different dosage forms or *kalpanas*. It is mainly classified into two types; *Aushadha kalpana* (medicinal formulations) and *Ahara kalpana* (dietary foods). *Aushadha kalpana* can be again classified into two; Primary kalpanas and Secondary kalpanas. Primary kalpana ie, the *Panchavidha kashaya kalpanas* are considered to be fundamental preparation in Ayurvedic pharmaceuticals which is having good therapeutic action and prepared for instant use.

SWARASA: (JUICE OF DRUGS): The fresh extracted juice of a plant is known as *swarasa*. It is one of the basic preparations in *Ayurveda* and one among the *pancavidha kashaya kalpana* and the most potent among them. ⁽¹⁾ There are different methods involved for the extraction of juice from herbal drugs. These methods are mainly based on nature of drugs. The different method involved for extraction are pounding for soft drugs for hard drugs adding 8 times of water and reducing it to ¼ parts and for fibrous drugs *putapaka* method is adopted. It is readily used as Anupana along with others forms of medication. It is also used as a *bhavana dravya* (Trituration) and as *shodhana dravya* (purification) in mineral preparation. It is mainly administered in the dose of ½ - 1 pala. eg.-*Tulasi swarasa, Vasa swarasa*..

KALKA (PASTE): A fresh drug or a dry drug is converted into a paste by rubbing it on a stone with little quantity of water. Fresh or dry drugs are first cleaned with water. In case of dry drug, it is powdered first and filtered with a cloth and mixed with appropriate quantity of water and then rubbed in pestle and mortar and made into a paste.

In case of fresh drugs, they are first chopped into fine pieces, pounded and macerated in mortar and pestle until the paste becomes fine. Kalka can be used both internally and externally. Kalka is also used in preparation of oils to add specific color, fragrance and medicinal properties. Dose for internal use is 5-10 gm.

Eg. Paste of Nimba (*Azadirachta indica*) can be prepared and administered in intestinal worm infestations.

KWATHA: (DECOCTION): *Kwatha* is prepared by boiling 1 part of herb with 16 parts of water in an open vessel on mild fire till it reduces to one-eighth of the original quantity. It is the another basic preparation where the coarse powder form of a drug is taken and it is boiled with different ratio of water. ⁽⁴⁾

*In case of soft drugs 4 parts of water is used.

*In case of medium and hard drugs 8 times of water is used.

*In case of very hard drugs 16 of water is used.

It is an important dosage form indicated solely in many of the disease conditions. It is used in preparation of many of the secondary preparation and widely used as *bhavana dravya* in many of the drug purification. It plays a major role in almost all the ophthalmic treatments & for *Vrana prakshalana* (for wound washing) these are considered appropriate.

HIMA: (COLD INFUSION): *Hima* is also one of the of the primary preparation mentioned in *Ayurveda*. In this method one part of drug is put in 6 part of cold water and kept overnight in an earthen pot. Next day the drug is taken and macerated well and filtered through a clean cloth, and the

formulation thus obtained is called as the *Hima kalpana*. It is also known as cold infusion. Infusion is a method employed for extraction of active principles from soft natured drugs with water soluble active principles. Here the water molecules easily penetrate into the soft drug tissue.

PHANTA (HOT INFUSION): *Phanta* is last preparation among the *pancavidha kashaya kalpana*. In this method the coarse powder of a drug is put into hot water. When it cools down to room temperature, then it should be rubbed with hands and filtered through a clean cloth. By this there is softening of the drugs takes place as the extraction of all the volatile principles from the drug to water. It is considered to be the least potent among the *panchavidha kashaya kalpana*. *Phanta* is the hot infusion of those herbs which are intended to be used for *Kapha* (cold) and *Vata* problems. Herbal teas are examples of *Phanta*. Eg. Ginger tea.

UPKALPANA

All *Upkalpana* were derived from five basic *Kalpana*. Due to extensive use of *Upkalpana* in comparison to *PanchaVidhya Kashaya Kalpana* these are mostly prescribed in present era. Due to easy administration, long shelf life, high therapeutic value, Palatability etc., *Upkalpana* are accepted by all age groups. The primary *kalpanas* of drugs which are further classified or divided into various “*Upkalpanas*” (secondary formulations) for proper fast absorption of medicine for more stability, increase shelf life of drug than *panchavidha kashaya kalpana*.

TYPES OF UPKALPANA

Swarasa kalpana has no *upkalpana* & few of the *upkalpanas* which can be listed out under basic *kalpanas* are as below-

Kalka kalpana	Kwatha kalpana	Hima kalpana	Phanta kalpana
Churna kalpana	Pramathya	Mantha kalpana	Arka kalpana
Vati kalpana	Laksha rasa	Udaka kalpana	Mantha kalpana
Varti kalpana	Ushnodaka	Paniya kalpana	(acco. to Sarangadhar)
	Mamsarasa	Panaka kalpana	
	Ksirapaka		
	Yavagu kalpana		

Table 1

VARIOUS TYPES OF UPKALPANA

✓ **CHURNA KALPANA (POWDER):** It is considered to be *upkalpana* of *kalka kalpana*. *Churna* is a powder of a single drug or a mixture of two or more drugs. Here the drugs are finely powdered and they are filtered through a cloth so that the powder is very fine which can be used internally as well as externally. This can be used for preparations like *Vati, Avalehya* etc however, all the drugs are cleaned, dried and powdered together by disintegrators. The powder which are used for internal use should be fine at least of 80 mesh sieves. Stability in powder is more when compared with other liquid preparations (liquids are more prone for chemical

reaction). Powders are easily absorbed and metabolized when compared with other solid dosage forms like tablets capsules etc leading to early onset of action. These are more economical also when compared with any other pharmaceutical preparation.

- ✓ **VATI & GUTIKA KALPANA (TABLETS):** It is solid preparation which is prepared by 2 methods. Either by cooking the powder of a drug with jaggery, sugar or guggulu or without cooking. Then macerating the powder with liquid like honey and guggulu and then rolled into pill forms.⁽¹²⁾ Vati Kalpana is one among the important secondary preparation in Ayurveda pharmaceuticals. This is the largely produced and sold dosage form in pharmaceutical worlds of both Modern science and Ayurveda science. Vati preparations can be swallowed easily as they are in dense compressed form with convenient shape & easy to pack and dispense.
- ✓ **VARTI KALPANA (SUPPOSITORY):** for the formation of *Varti* firstly grinding the fine powders of the drugs with the fluids in the formula & form a soft paste. This is then made into thin *Varti* of about 2 cm in length. *Varti* is dried in shade. [It is similar to *vati* but medicines are modified into a *yavakriti* form ie, along with tapering ends..eg.*Gudavarti* (rectal suppository).
- ✓ **PRAMATHYA KALPANA:** *Pramathya* is slightly different from *kwatha kalpana*. Drugs are added in coarse powder form for the preparation of decoction whereas the drugs are added in the form of *kalka* (paste) for *pramathya*. *Pramathya* is the decoction obtained by boiling 1 part of *kalka dravya* (paste) and 8 parts of water. Its dosage is *dwipala* which is same as that of decoction is not agreed by many commentators since its potency is expected to be more than decoction.
- ✓ **LAKSHA RASA:** It is water extract obtained by boiling *laksha* (resin of plant *laccifer lacca*) in *dolayantra* with 6 parts of water. *Pottali* having powdered *laksha* is kept suspended in water of *dolayantra*. Water is reduced to 1/4th and filtered through a clearcloth for 21 times. The filtrate is *laksha rasa*. Its dosage is two tola. It is indicated in *asrkdara*, *pradara*, *raktapitta* etc. it is a known *stambhaka* with shelf life of a day.
- ✓ **PANIYA KALPANA:** The drug are to be boiled with 64 parts of water and reduced to half quantity. Later it is filtered and used with suitable adjuvant. eg.-*Sadangapaniya*- where the coarse powder of all drugs is boiled with 64 parts of water and reduced to half. Later it is filtered and used. It is given in 2 pala quantity along with sugar, honey etc. It is useful in thirst & fever.
- ✓ **KSIRAPAKA KALPANA (MEDICATED MILK FORMULATION):** It is a unique preparation found in Ayurveda pharmacopoeia where milk is the media of administration. Usually the *tikshna* & *kasaya pradhan* (astringent) drugs are selected to prepare *ksirapaka*. Intention is to bring down the *tiksnata* & to mask the *kasayata* (astringent) of the drugs, with the help of *madhura ras* (sweet) & *mdhura vipaka* of milk.⁽¹⁷⁾ The ratio of drug:milk:water is different acco. to Acharyas-
 - Acco.to Sarangdhara-(1:8:32)
 - Acco.to Yadavji Trikamji- (1:15:15)
 - Acco. to bhaishajya ratnawali- (1:8:8)

- ✓ **USHNODAKA KALPANA (BOILED MEDICATED WATER):** Boiling of water certainly brings changes in its properties. Boiled water is good *amapachaka* (digestive) & *vatanulomaka*. Depending on its reduction the water is useful in different dosas.
 - if quarterpart is evaporated it will be *vatahara* (reducing gases).
 - if half part is evaporated it is *pittasamaka* (reducing bile).
 - if 3 parts of water is evaporated it turns *kaphahara* (reducing cold).
 - it is also very much *laghu* (light) for digestion & *sangrahi* (condenser) & *agnideepaka* (to increase hunger) properties.
- ✓ **MAMSA RASA (MEDICATED MEAT SOUP):** A soup prepared by boiling chopped meat with required quantity of water. Two, four, six or eight times water is added considering the nature of the meat [*jangala* (light) or *anupa* (heavy) *mamsa*] with the chopped meat & boiled over moderate fire to get it in desired consistency. If the plain meat soup is prepared without addition of any other ingredients it will be called as *akrta mamsarasa*. If it is added with needed quantity of oil, salt, pepper, ginger, cumin etc spicy drugs & processed it will be called as *krta mamsarasa*.
- ✓ **MANTHA KALPANA:** *Mantha kalpana* is an *Upkalpana* of *hima kalpana*. It is defined as the cold infusion prepared by churning one part of powdered drug and 4 part parts of cold water are taken in a mud pot/stainless steel pot & mixed properly. After then it is filtered by clean cloth in a pot. 8 tola dose should be taken. Powder of *deepan-pachan* (digestive) drugs are also added in *mantha* as per required.
- ✓ **PANAKA KALPANA (FRUIT JUICE):** It is an *Upkalpana* of *Hima kalpana*. It has no reference in classics of Ayurveda, but its mostly used in our tradition. It is called *panaka kalpana*. In general these preparations are prepared with any of *Amla* (sour) or *Anamla* (non-sour) fruits. The fruits usually in use are lemon, tamarind, mango, pineapple, grapes etc.
- ✓ **ARKA KALPANA (ESSENCE):** *Arka* is a unique preparation in which essential oils from herbal drugs are extracted through distillation method. It is a secondary preparation which is obtained by distillation of certain liquid or drugs soaked in water and extracted by an *arka yantra*. The method by which the volatile oil and active principles of the drug are collected is called as *Arka-Kalpana* and the compound prepared through this procedure is called as *Arka*. It is a suspension of the distillate in water having slight turbidity and colour according to the nature of the drugs used and smell of the predominant drug. Eg`-*Ajmodarka*, *Pudinarka*.

ADVANTAGES OF PANCHAVIDHA KASHAYA KALPANA

Pancha vidha kashaya kalpanas are the basic formulations in Ayurvedic pharmaceuticals from which various upakalpanas and secondary preparations are made. Kashaya is that which

irritates the throat and Kashaya kalpana irritate the disease condition and drove them away from the body.

DISADVANTAGES OF PANCHAVIDHA KASHAYA KALPANA

- ✓ The use of these kashaya kalpanas were very much reduced because of its short shelf life, lack of proper protocol for testing and practise of this medicine become difficult.
- ✓ The selection of Kashaya kalpanas for treatment purpose depends on various factors like rog/rogibala (patient conditions) etc.
- ✓ Swarasadi five basic kalpana throught to prepare and use within a day as their shelf life is very short.
- ✓ It is uncomfortable to physician to keep with him always fresh drugs to treat patients.
- ✓ All drugs cannot be available at all places.
- ✓ Other disadvantages of basic Kalpana like bitter and pungent taste/ large dose / longer duration for efficacy etc.

ADVANTAGES OF UPKALPANA IN AYURVEDA

Easily prepared, easily absorbable, with good taste & not irritating, same effective like panchvidh kasaya kalpana, longer shelf life, no harmful for the body, pure herbal drugs, no side effects.

ADVANTAGES OF UPKALPANA IN CONTEMPORARY ERA

Easy to administration, pleasant and agreeable taste, safe in use, high therapeutic efficacy, economic, accepted by all age groups, longer shelf life, it is new dosage form, safety, palatable, stable.

For e.g. -In *Arka* palatability is good.

- ✓ *Panaka & mantha* is accepted by almost all age groups because they are easy to swallow.
- ✓ Creams, ointments, lotions, dusting powders etc., are also described for external application.
- ✓ Tablets are easy for administration.

III. DISCUSSION

Thus these Upkalpana can be used easily in present era according to acceptability of the patients. In Ayurvedic therapeutics, drugs in both forms are used, crude as well as processed and converted into different formulations. It is necessary that the form of the drugs or formulations when ready for ingestion, should be not only effective but also easy to administer and agreeable to patient. There are the four basic requirements of a best drug dosage form: 1) Safety 2) Efficacy 3) Stability 4) Palatability. Thus these Upkalpana can be used easily in present era according to acceptance. Upkalpana has high therapeutic effectiveness. We see there are so many advantages of Upkalpana like Easy to administration, Pleasant and agreeable taste, Safe in use, High therapeutic efficacy, Accepted by all age groups, Longer shelf life.

IV. CONCLUSION

Thus 'Ayurvedic Bhaishajya Kalpana' encompasses a wide range of drug dosage forms which can be used by the health care provider in accordance with the patient requirements. All the difficulties which arise in basic Kalpana during their preparation, use, Palatability etc. are overcome by these new dosage forms. Upkalpana plays an important role in the field of Ayurvedic pharmaceuticals. All Upkalpana's of Kashaya kalpana are very important for the formation of Herbal formulations.

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