

## CONCEPT OF DESIGNING AN AYURVEDIC AUSHADHA YOGA (MEDICINAL FORMULATION) IN CLINICAL PERSPECTIVE

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### ABSTRACT

**Introduction:** Ayurveda has unique comprehensive way of diagnosis and treatment which warrants an altered way of prescription writing in many aspects in comparison with conventional prescriptions. Ayurvedic way of examination considers many factors like *desa, dushya, bala, kala, prakruti, vaya, ahara, vihara*, etc., and each factor has potential role in the determination of certain medicaments for the patient. Uniqueness of our *shastra* is the individualistic consideration in the treatment. The mechanization, urbanization etc. in the society also changed the existing system of prescription writing in Ayurveda in which bottled kashaya took upper hand over *veppukashayayogas*. In this perspective, an attempt was made to analyze the logic behind

designing an *Ayurvedic aushadhayogas*. **Methodology:** Study was conducted in three arms conceptual, literary review and a survey. A survey was conducted using semi-structured questionnaire among 30 Ayurveda doctors to analyze the usage of *veppukashaya* in routine practice. Data analysis was done by descriptive statistics. **Result:** The efficacy of the treatment is the driving factor for all the practitioners. Consideration of *aushashakalpana, aushadhasevanakala, anupana*, and different *veppukashayayogas* in current practices are discussed in this article. **Conclusion:** Ayurveda pharmacology is still evolving. Large number of combinations were added later on to our pharmacopoeia by our predecessors. Still this effort is going on to make more specificity to our treatment strategy.

**KEYWORDS:** Ayurveda, ayushadhayoga, aushadhakalpana, aushadhakala, anupana. research.

## INTRODUCTION

Ayurveda has its own comprehensive way of diagnosis and treatment which warrants an altered way of prescription writing in many aspects in comparison with conventional prescriptions. Ayurvedic way of examination considers many factors like *Desha*, *Dhushya*, *Bala*, *Kala*, *Prakruti*, *Vaya*, *Ahara*, *Vihara*, etc. and each factor has potential role in the determination of certain medicaments for the patient. Personalized treatment practice is the speciality of Ayurveda science. In extreme ancient times, before evolution of pharmacy, physicians prepared special medicinal formulations considering the needs of individual patients. Advancement in the pharmaceutical industries confined many physicians to prescribe bottled kashaya yogas and that restricted the usage of individually focused formulated kashaya yoga in practice. But in this era where Ayurveda is facing the problem of cost effectiveness and scarcity of medicinal plants again gave great momentum to the preparation of effective aushadhayogas from cost effective available medicinal plants. This article aims to address the logic behind using permutation and combinations of different drugs to formulate an effective formulation.

### Designing a formulation

Ayurveda ShastRa is a repository of a copious amount of yogas, which includes yogas which were used in the extreme past by the acharyas to the yogas which are newly designed by the pharmaceutical companies. The supreme action of each particular yoga is by rasapanchaka of the drug included in the yoga. Since times *vijnana* (knowledge), *karmaparicaya* (practical knowledge), *yukti* (logic) are the basic formulation for designing an yoga.

### Selection of dravya

Dravya is the prime factor of a yoga which determines the effectiveness. Every aushadha yoga includes two sets of drugs, *pradhanadravya* (main drug) and *sahakaridravya* (supporting drugs). *Pradhanadravya* does the main action. In many formulation *pradhanadravya* decides the site of action of the drug. Many yogas viz; *Guduchi* in *guduchyadikashaya* yoga, *Rasna* in *rasnadi* yoga, *Kushmanda* in *kushmandarasayana*.

*Sahakaridravya* are supporting drugs. It supports the *pradhanadravya* by enhancing the property of drugs; *padmaka* and *raktachandana* supports *guduci* in *guduchyadikashaya*. Some decreases the side effects; *patha* controls potency of *patola*, in *taleesapatradi churna* *subha* controls potency *Devadaru* in *vidaryadigana* controls seethe property. Some others acts as antidote egs; in *vettumaran gutika*, *borax* acts as antidote to *vatsanabha*. Some others does the

purification eggs; anupana ginger of vettumaran purifies hingula. Some others increases the bio-availability eggs; sunti in kashaya, Tippali in lehya; Lavana and honey in vasthi.

Useful part of a plant: Parts of plant that can be taken for preparation of an aushadha are patra, puspa, phala, toya, twak, ksheera, sara, niryasa, kanda, mula etc.<sup>[1]</sup> In some yogas specific part of the plant is mentioned example in vilwadigutika, vilwamoola, surasapuspa, karanjaphalam etc. This specification is because, all part of plant may not possess expected therapeutic potential.egs:*Centellaasiatica* (Linn) ‘Mandookparni’ and *Tinosporacordifolia* (Thunb) Miers ‘Guduci’ swarasa should be used for ‘Rasayana’ effect and *Convolvulus pleuricaulis* Chois-‘Shankhpushpi’ should only be used in the form of kalka.<sup>[2]</sup>

### Action of a yoga

Specific action of a formulation is either by avayavaprabhava or samudayaprabhava. Among the two samudayaprabhava overpowers avayavaprabhava.<sup>[3]</sup> Therefore an action of an aushadha yoga is the cumulative effect of the individual medicine. This is known as synergism in modern pharmacology.<sup>[4]</sup>

Other factors which enhance the drug productivity include method of processing, time of administration, anupana of the drug.

### Aushadhakalpana<sup>[5]</sup>

Large number of kalpana (dosageforms) are designed in ayurveda, this targets at isolation of active principles from the crude drug. Among them five types of aushadhakalpanas are swarasa, kalka, srita, sita, and phanta are the commonest.

### Clinical importance of panchavidhakashayakalpana

**Swarasakalpana:** swarasakalpana is the most potent among the five and have rapid action. It is advised in the condition where roga and rogibala is good and to the patient with good digestive fire as it is heavy to digest. Commonly used swarasakalpana are: vasa swarasa with honey for kasa. Brahmiswarasa as medhya. Sundiswasa-sula and admana, muyalcheviyan swarasa for galasundika. Clinically it is used as anupana of many medicinal yogasegs; ardraka swarasa for vettumaran, jambeeraswarasa for rasna, tulasiswarasa with wasakutara rasa etc. selection of drug of swarasakalpana is by the virtue of its vyadhipratyanikatwam.

**Kalka kalpana:** Kalka kalpanas are less in practice as it is not palatable. Many physicians are prescribing it as an aharakalpana in which it is processed with some food stuffs. Eg.

kalashakalka for cholesterol, lasunakalka for cholesterol, dhanyaka leaf kalka for pittadhikya condition.

**Srithakalpana:** It is the commonly used kalpana as it is easy to administer. Kashayakalpana should not be prescribed in the patient with less agni, in such cases we can prescribe kashaya which is having pacana action. Eg. shigrumulakashaya for mutrashmari and punarnavamulakashaya for shopha condition.

**Himakalpana:** Can be used in pittadhikya condition and are instant source of energy. The active principles of the drugs are diffused into water. The extraction is aided by the reduced particle size of drug and the continuous contact of water. Here heat labile constituents will not be lost as no heat is applied during the processing. Eg. Dhanyakahima-daha, pittadhikya condition.

**Phantakalpana:** Is used in kaphadhikya condition. In phantakalpana 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 panchavidhakashayakalpana. Eg; drakshadihima for srama.

### **Importance of aushadasevanakala**<sup>[6][7][8]</sup>

**Anannam** (empty stomach) – kapharoga

The drug administered during this time will be highly potent as there is no contact with food. Therefore the veerya of the drug remain intact. Also during this time there will not be any udriktakapha in kosta, so digestion will be proper during this time. The kalpanas which are heavy to digest (guru) are administered during this time. For disease occurs due to utklishtakapha and pitta for apatarpana and lekhanardhakriyas annanakala is the suitable time for medicine intake. This beshajakala is indicated when rogi is balavan and roga is strong.

**Annadau** (before food) – apanavata

When medicine is administered just before the food intake, medicine will get digested easily without hampering the strength of the person and there will not be any mechanical expulsion of medicine as food follows the medicine. Beshaja comes in contact with agni directly without interacting with food and eradicates the vitiated dosa in ama-pakwashaya.

It is indicated in diseases caused by apanavaigunyaegs; mutravaha-malavaha-shukravahastrotasas, pakvashayagatavyadhi, Arsha, Gudabhransha, and weakness of lower part of the body.

**Madhyamabhakta** (between meals)– samana

When medicine is administered in between mean it will stimulate samanavayu which is situated near jadaragni. It acts locally on sthanikadosa. This time of administration of medicine corrects samanavayu the function of samanavayu is to help in gastrointestinal motility by contraction and relaxation of muscle and to helps in digestion of food by coordinated with pachaka pitta. Therefore stimulated samanavayu corrects the functioning of pacaka pitta. Samanavayu and pacaka pitta together maintain proper digestion and metabolism. Hence this is indicated in kostagatavyadhis. This is the time of administration of medicine for kostagatavyadhis, grahani, sula, gulma and pakvasayagatavyadhi, mandagni

**Paschatbhakta:** (After morning meals) – vyana

Its main indication is *VyanaVataVikruti*. The main function of vyanavayu is to maintain the praspandana of hridaya (rhythmic contraction and relaxation of heart) and to pump the rasa dhatu (nutrients) all over the body. Medicine is administered in the morning so that it will reaches circulation and provides sufficient energy for praspandana of hridaya. Clinical studies report most of the drugs seem to have a higher rate or extent of bioavailability when they are taken in the morning than when they are taken in the evening particularly in relation to cardiovascular active drugs, non-steroidal anti-inflammatory drugs.<sup>[8]</sup> Medicine to stimulate vyanavata is also administered after food to activate the formation of rasa (nutrients) from the food and to stimulate it to carry the rasadhathu thus formed all over the body. Indicated in diseases of upper part of body especially chest, throat and head.

**Sayambhakta** –after evening meals

Udanavayu is activated after evening meals and this facilitates the urdhvagati of Bsheshaja, in turn strengthen the upper parts of body especially the sense organs. Studies also reported that anti-psychotic drugs: Chlorpromazine produces maximum sedative effect when administered at midnight and maximum anti-psychotic effect when administered immediately after awakening.<sup>[9]</sup>

**Antarabhakta** (after digestion of meal in the noon)

This kala is pittakala, and agni is ignited and bshhaja gets metabolized easily. This time is indicated for vyanavayu vikaras and diptagni vikaras and gives strength to mind and hrudaya.

**Grasegrasantha:** Between bowls –pranavata

*Annapravesh* (deglutition) is the function of *PranaVata*. The *Aushadha* administered with each *Grasa* will come in contact with pranavata which is situated in kanda, nasika, much, ura etc and corrects the disease related with this sites. It is indicated in pranavayu kopavikara, for vajeekarana, agnisandeepanardham. *Churna*, leha and vataka are administered in grasakala and vamaniyadhupana is administered in grasantara.

**Muhurmuhur:** Intermittent – kasaswasa

Medicine is frequently administered irrespective of food intake. This initiates sublingual absorption and provides faster relief and also increases the bioavailability. It subsides the vitiated doshas in their Sanchaya & Vegavastha. It is indicated in, Pranavaha strotogataVyadhi like Shvasa, Kasa, Hikka, Udakavaha strotogata Vyadhi like Trushna and AnnavaastrotogataVyadhi like Chhardi, Visha.

**Sabhaktam:** Food is processed with *Aushadha* and given. In this kala medicine is taken along with food, so when food is digested the medicine also gets digested and circulated all over body through urdwadho and tiryakgati. Thus medicated rasa reaches all over the body and decreases the diseases. It is indicated in sarvanga samsritha vyadhis. As the *Teekshnata*, strong odour, bad taste of *Aushadha* are reduced, it is used for administration in women, children, aged, persons with less strength,

**Samudgam** – medicine is administered before and after food. It is indicatedhidhma and akshepaka It helps in correcting the gativikruti of Vatadosha by promoting anulomana of Vatadosha.

**Nisi:** Bedtime – urdwajatrulikara. Selective action of the Bshhaja towards the urdhvajatrugata parts because the Adharagati of drug is prevented by food.

**Importance of anupana**<sup>[10]</sup>

Whatever which reduces the ailment by augmenting action of medicine, when taken along with it is known as anupana. Anupanadravya enhances the action of original dravya with which it is administered and thereby achieves the desired effect quickly by carrying the

oushadhadravya to the target site and thereby increases its bioavailability and facilitates easy absorption. In some formulation, sarkara, guda, saindava etc are added as anupana, instead of adding directly in the formulation, this is because some of those ingredients may lose their heat labile contents while boiling. Alkaloids will not be normally extracted in decoction as they are not water soluble.

**Mode of action of anupana:** it acts by increasing the bio availability of formulations, all by synergizing the action or by acting antagonistically.

Chiravilwadi with saindhava is administered when vata is vitiated where aulomanam is needed to reduce the ruksata of kasaya.

**Based on dosaavastha:** same yoga with different anupana acts on different dosavastha. Astachurna with gritam is administered in Vatadhikya and with takram in kaphadhikya.

**Based on roga:** Vettumaran with ardrakaswarasa is indicated in jwara. Vettumaran is administered with jeerakachurna in udavarta, kacchura in chardi, with tender coconut water in Mutrakrucchram and with LashunaSwarasain in adhmana.

## RESEARCHES

### **Influencing expression of dosage form on pharmacological activity<sup>[11]</sup>**

In a study on Yastimadhu (*Glycyrrhizaglabra* Linn) was administered in three dosage forms and subjected to comparative evaluation. Yastichurna, Yastighrita and YastiSarkaraa - each containing same quantity of the Yasti were evaluated for anti-ulcer activity. Significant decrease in ulcer index was observed in Yastighrita administered group. In other two groups only moderate and statistically non-significant decrease was observed. The result shows that for attenuating the stress ulcers test drug given in the form of ghrita is good.

### **Influence of drug processing during preparation<sup>[12]</sup>**

A study carried out to compare the pharmacology of panchatiktakaghrita prepared by three methods. The samples were: A-Panchatiktakaghrita prepared after ghrita murchana (a purificatory process) and using triphala kalka; B. prepared by using ghrita subjected to murchana without kalka; C prepared only with plain ghrita without subjecting it to murchana and without using kalka. Samples B and C produced significant potentiation of anti-body formation against Sheep Red Blood Cells (SRBC) in rats, whereas Sample-A produced only

a weak and non-significant effect. This indicates drug preparation and processing methods can influence expression of pharmacological activity.

### **Influence of adjuvant or vehicle on the expression of pharmacological activity<sup>[13]</sup>**

A study was conducted with three samples of guduchi ghritas were prepared using cow ghee (ghrita) obtained from three different regions and the samples were evaluated for different pharmacological activities. Result showed that only the sample prepared by using Solapur go-ghrita produced significant anti-stress activity while other two samples did not produce similar effect. This shows that adjuvant itself may influence the expression of pharmacological activity.

**Design of yoga opposite to samprapthi:** Inthuppukaanam churna (a powder formulation) where inthuppu is kaphavilayana, ajamoja is vaataanuloma, pippali is deepana-paachana, aamahara and hareetaki is virechana. This yoga satisfies srotovisudhi, agnideepana and malasodhana and thus helps to remove disease from the root level.

**Design of yoga opposite to nidana:** Eg. Kaasaroga. Kaasaroga occurs due to kapha rodhana. In agasthya rasaayana, Pippali curna is kaphaharatwam, Hareetaki is virechana and rasaayana Dasamoola is vaataanulomanam, Swayamgupta is brumhana, Ghritaguda is kaphaklinnata.

**Desinging a yoga according to symptomatology;** Eg. Chardinigrahagana: Jambu, aamrapallava, matulunga, badara, dadima, yava, shashtika, useera, mrit, laja are the components in chardiharadravya.

Gandharvahastadikashaya indicated for agnimandya and vitsanga as it is indicated for vahnibala and malashodhana.

### **CONCLUSION**

The success of the treatment is based on the yukthi of the Vaidya. It is possible for us to variations in a yoga if we have complete knowledge of the dravya, ausshadhakalpana, aushadhasevanakala, anupana and yukti which promises high quality person centered treatment.



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