

**PRINCIPLES OF COMPOUND FORMULATIONS IN AYURVEDA**

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**ABSTRACT**

Ayurvedic system of medicine is as old as the Vedic age. Now-a-days people give preference to the Ayurvedic medicines as the allopathic medicines are costlier and have side effects. Thus Ayurvedic medicines/drugs are becoming popular day-by-day and demand for its usage is increasing not only in the country but also worldwide. The inherent quality of Ayurvedic treatment of having negligible side/after effects has made great potential for its production. These formulations are taken from the ancient Vedic text or Vedas (books of Ayurveda), the ancient religious and philosophical texts that are the oldest surviving literature in the world, which makes Ayurvedic medicine the oldest surviving healing system. These medicines are present in traditional Ayurvedic text books such as Charaka Samhita, Sushruta Samhita etc. The manufacturing company follows the same formula and prepares medicine.

**KEYWORDS:** Ayurveda, Polyherbal formulation, Veda, Treatment.

**INTRODUCTION**

Formulations containing two or more than two herbs are called compounds or polyherbal formulations. Uses of herbs in Ayurveda are based on two principles:

1. Used as a single herb. E.g. Agrya prakaran (ch.su. 25)<sup>[1]</sup>
2. Use of more than one herb, known as polyherbal formulation or compound formulation. E.g. Mahakashya (ch.su.4)<sup>[2]</sup>

Even though single herb formulation have been well established, but due to their active phytoconstituents, which usually present in minute amount sometimes they are insufficient to achieve the desirable therapeutic effects.<sup>[3]</sup> Scientific studies have revealed that herbs of varying potency when combined they can produce a greater result, as compared to individual use of the plant and also the sum of their individual effect. As we know that no disease has just one single symptom. Also in the pathogenesis of a disease many different factors work. So, when it comes to herbal formulations there is strength in number. The power of a single herb can be

greatly potentiated when combined with other herbs that share similar actions.

Herbal compounding is not unique to Ayurveda, but Ayurveda's theoretical framework provides a valuable tool for choosing herbs appropriately. There are number of principles to consider when creating any herbal compound.

**MATERIAL AND METHOD**

Different Ayurvedic classical books, research papers and journals were referred to fulfil this part.

**DISCUSSION****Practical reasons for the use of compound herbs:<sup>[4]</sup>**

- (1) The first reason for compounded herbs concerns the extent of the imbalance of the humor; that is, there is no single herb with enough force to restore balance, it is compounded with others that are stronger (or weaker) in the component desired.
- (2) The strength and acuteness of the illness may be such that no single herb is sufficient against it. The

herbs are compounded so that the ingredients have a synergistic action and effect.

- (3) Some herbs have such strength that they have toxic or poisonous side effects themselves. In such cases, a compound is devised that annuls the toxic effects.
- (4) The affected organ may be far from the site of administration, and herbs are added into the compound that speed the herb to the site of action.
- (5) Distasteful herbs are compounded with those that improve their flavor.
- (6) Excessive strength of an herb may be reduced by compounding with herbs of opposite effect.
- (7) An herb may be added to prevent harm from the treating herb, as in adding peppermint to senna to prevent cramping.
- (8) Additional herbs may be added to enhance or extend the time of action of the treating herb.
- (9) There is always a difference between herbs and their doses and usages. Sometimes the effects of both may be desired.

The various plants in a polyherbal medicine may increase the effectivity and potency of the formulation, reduce unwanted effects, make the formulation more palatable, and increase its life-span.

#### **Principle of compound formulation-**

“Sarvda Sarv Bhavanama Samanyam Viriddhikarnam. Hrashtetu Visheshach Pravritirubhasyatu.” (Ch. Su. 1/44)

One of the basic principles of Ayurvedic medicine is the concept of samanya (similarity) and vishesh (contrast or dissimilarity). Substances or dravya are always increased or enhanced by consuming similar or same things. By the fundamental rule of Samanya (similarity) and Vishesh (dissimilarity), a drug used in rational manner strengthens the humours that have become feeble (due to Samanya) and reduce the humours that increase out of proportion to create the dis-equilibrium (due to Vishesh).

A practical application of Samanya (similarity) and Vishesh (dissimilarity) principle is an important component in selecting an effective ingredient of formulation. This is actually the basic criteria for developing an Ayurvedic formulation and it is the basic principle which should be considered while preparing a compound formulation.

#### **Development of formulation as per classical texts-**

Acharya Charaka among physicians who knows application for external as well as internal actions, combinations and rational administration of herbs-

**500 drugs and 50 Mahakashayas-** in which Acharya had arranged all the drugs according to similar action (karmatmkavargikaran) and he coined the term kashya for single herb, when in combination it was called mahakashya. So concept of compounding was already present in charak Samhita.<sup>[5]</sup>

Acharya had also told that the wise physician should eliminate the drug if it is not appropriate even if enumerated in the group and should add the appropriate one if it is unmentioned. So if this kind of situation arises, a group may be combined with another or several other groups based on reasoning. (Chsu4/28).<sup>[6]</sup>

Acharya Susuruta has described 37 Gana i.e. group of medicinal drugs, known as the Salasaradi, consists of Salasara, Ajakarna, Khadira, Kadara, Kalaskandha, Kramuka, Bhurjja, Meshashringi, Tinisha, Chandana, Kuchandana, Shinshapa, Shirisha, Asana, Dhava, Arjuna, Tala, Shaka, Naktamala, PutikaAshvakarna, Aguru and Kaliyaka.<sup>[7]</sup>

This group of drugs destroys the Kushtha, absorbs the excessive fat and Kapham and proves beneficial in morbid discharges from the urethra (Meha), also helpful in Pandu. This is an excellent example of making compound formulation.<sup>[8]</sup>

Acharya Sarangdhar, in the Ayurvedic literature “Sarangdhar Samhita” dated centuries ago in 1300 A. D. has highlighted the concept of polyherbalism in this ancient medicinal system.<sup>[9]</sup>

In the traditional system of Indian medicine, plant formulations and combined extracts of plants are chosen rather than individual ones.

#### **Basic consideration for the formulation<sup>[10]</sup>**

There are a number of principles to consider when creating any herbal compound-

##### **(1) Tridosha Sidhanta (Theory of balance) and Panchmahabhuta sidhanta**

Ayurveda is based on peculiar fundamental principles like Tridosha (three humors vata, pitta and kapha) theory, and Panmahabhuta (ether, air, fire, water and earth) theory. Imbalance of the three humors is considered to be the root cause of the disease.

##### **(2) Concept of Shadrasa**

Science of Ayurvedic formulation is not different from principle of Tridosha (basic principle) and Shadrasa (taste). It starts from Tridosha and taken consideration in to status of Tridosha in the body and effects of Shadrasa on these Doshas, an Ayurvedic formulation can be prepared. E.g.- Madhur, Amla, Lavan rasa pacifies Vata, Madhur, Tikta, Kashaya ras, pacifies Pitta, Katu, Tikta, Kashaya rasa pacifies Kapha. Drugs with these Rasas are used in preparing a formulation according to status of Doshas in body.

##### **(3) Concept of Viruddha**

In the formulation of polyherbal preparations, it is crucial to note that herbs are sometimes considered to be incompatible (viruddha) and thus should not be taken together. Firstly drugs to be used should not be incompatible to each other. Otherwise they may create

some harm to the body instead of benefits. Incompatibility types according to Charak which should be taken under consideration while deciding compatible and incompatible drugs.<sup>[10]</sup>

#### (4) Karma Viruddha (Action incompatibility)

While selecting drugs for a disease, care should be taken that they are not of opposite actions. If they are to be used then they should be added in that ratio that they only produce desirable effects and no side effects.

E.g. excessive amount of arsenic with Guggulu (Commiphora mukul) is contra indicated as it causes scrapping of body by increasing roughness and dryness in body and aggravates Vata instead of pacifying it.

#### (5) Sanskar

It is done to produce special effects in a drug. E.g. purification of Parad (mercury) and Gandhak (Sulphur) is done to remove their toxic effects and then Siddha makardhwaj is prepared by Kupipakva rasayan method.

#### (6) Yojna (plan)

The method which removes the bad effects and produces the desirable effects. E.g. while using nishoth (Operculina turpenthum Linn.), Shunthi (Zingiber officinale Roscoe) is also used to remove tenesmus produced by Nishoth.

#### (7) Samyog

Mixing of drugs to prepare a formulation. It is done to produce specific features in a formulation like-

- **To produce a limited check on speedy effects of drugs-** mixing of honey and ghee. For this purpose Pichchhil, Snigdha, Manda drugs are used.
- **To act as catalyst-** to increase the diuretic action of Badarpashan, decoction of Panchtrina is used along with it.
- **To act as preservatives-** e.g. salt etc.
- **To produce desirable taste-** e.g. due to black colour and weird taste of Aaragvadha (Cassia fistula Linn.), sugar and honey is mixed
- **To produce good smell-** Karpura, ela etc. are added in formulations.

**On the basis of above points there are a number of principles to consider when creating any herbal compound which are as follows<sup>[11]</sup>**

#### (1) Principle of synergy

It arises from the idea that combining herbs with similar actions enhances their therapeutic effects. There is usually a main herb, and herbs possessing similar properties are added to support it. A single herb often has many different properties, so the overall action of a compound depends primarily upon the similarity of the herbs used in it.

E.g. – if the formula is going to be directed at the liver and blood, then herbs such as Guduchi may be chosen

as the main herb, and herbs like milk thistle or neem could be used as supports.

#### (2) Principle of assisting herbs

They can be added to target secondary symptoms and complaints. E.g., if there is an inflammatory skin condition like psoriasis, then herbs that help to calm itching, like turmeric or manjistha, which also have an affinity to liver and blood can be added to the formula.

#### (3) Principle of Carrying herb/Assimilating herbs

Stimulant and carminative herbs can be mixed into act as carrying herbs to enhance the digestion, absorption and assimilation of the compound. Carrying herbs are typically heating and used in smaller amounts than the main herbs. E.g. Trikatu, the ayurvedic compound Trikatu, which contains black pepper, ginger and pippali is often used for this purpose. Such herbs are especially important when a compound contains several nutritive tonic herbs, which often have sweet, heavy and cooling qualities that can decrease the power of Agni and promote the accumulation of Ama.

#### (4) Principle of opposition

Another important principle to consider in compounding is that of opposition. When the quality of a particular formula are too strong, other herbs can be added to create a counter-balancing or antagonising effect. E. g.

- (a) When a compound contains several bitter herbs, it can cause cold and dry qualities to accumulate, which may eventually weaken the digestive fire and deplete bodily tissues. So, here warming herbs like ginger, or cinnamon can minimize these cold qualities and demulcent herbs like liquorice which are moistening, can prevent dryness.
- (b) Adding a small amount of elementary herbs helps to prevent the build-up of toxin, caused either by certain herbs.

For such purpose diuretic and laxative herbs are used to cleanse waste by large intestine and urinary tract. With this in mind Ayurvedic compound Triphala is used in many formulations.

#### Example of a compound formulation with above said principles<sup>[12]</sup>

Vasavleha is prepared with juice of Vasa (Adhatoda vasica Nees), Sita, pippali (Piper longum Linn.), Goghrita and honey.

- **Vasa** is the main drug in Vasavaleha,
- **Pippali** plays synergistic role
- **Ghrita** alleviates the non-unctuousness of vasa so that vata may not aggravate
- **Madhu** dominates over kapha
- **Sita** along with water provide proper shape to avlehakalpa.

#### Principles of constitutional formulation<sup>[14]</sup>

Creating constitutional formulas follows much of the same principles as making compounds. The basic

strategy is to choose several herbs with properties that address key aspect of the individual case, such as-

- The main Doshic imbalance
- Symptoms
- Quality of digestion and elimination
- Tissue, organs and channels involved.

Single herb can have many properties; herbs can choose to address more than one particular element of the overall treatment. This can help keep the total number of herbs in a formula to a minimum, and it also keeps the focus of the formula from becoming too general.

With this in mind it is important to follow a few fundamental principles of constitutional formulation, which are rooted in Ayurvedic theory-

1. First, the main herb or herbs are selected for a formula should be "Dosha Pratyanka" which means specific to the predominant Dosha of the constitution or the causative Dosha in the Diseases process.
2. Next come herbs which are Vyadhi-Pratyanka i.e. specific to the nature of the disease or disorders.
3. Herbs can be added to address Lakshan or specific sign and symptoms, whether Physical, mental or emotional.
4. Further more herbs can be selected to balance and maintain the normal function of Agni i.e. digestion and elimination, as well as the health of the organs and channels involved.

So a well-balanced formula can serve as a good foundation and help to reduce the number of traditional or potent compound for treatment.

#### Basis of nomenclature of herbal drugs<sup>[13]</sup>

- **On the basis of First user:** Chyawanprash
- **Major ingredient:** Dhatri avleha, Dadimaadi ghrita
- **Creator:** Ardhnarishwar ras created by lord Shiva, Vishnu tail- created by lord Vishnu.
- **Creator and Major ingredient:** Agastya haritki, Sayambhuv guggulu- guggulu is major ingredient and Sayambhuv is name of Lord Brahma.
- **Time of its preparation:** Pushyanug churna prepared in Pushyanug nakshtra.
- **Specific effects:** Phala ghrita- Santanotpatti result.
- **Upma:** Sudarshan churna- relieves the diseases just like lord Krishna's Sudarshan chakra, Narayan churna- as lord Vishnu takes all the sins of persons just like that Narayan churna relieves group of diseases.
- **Based on morphology:** Rasa parpati
- **Based on dosage:** Shatpal ghrita, Ksheer shatpal ghrita, Shadbindu tail.
- **Based on number of contents:** Tryodashang guggulu, Dashang lepa, Dadimashtak churna, Hingvashtak churna, Navayas lauh.

- **Based on their effect on those diseases:** Shothari lauh, Amlapittantak lauh, Ajirna kantik ras, Krimighni gutika, Aamvatari ras, Smritisagar ras.
- **Based on processing:** Shatdhaut ghrita, Shatputi abhrahk bhasma.

**Compound formulations as per AFI-** Ayurvedic formulary of India provides monographs on the preparation of Ayurvedic polyherbal formulations, thus aided in standardizing the preparation of Ayurvedic polyherbal formulations.

#### CONCLUSION

Various specific preparations are made with the combination of potentially active drugs. There is main drug among formulation along with some synergistic and poisoning drugs. Synergistic drugs are helpful in the effect of main drug while poisoning drugs eliminate the forthcoming doshas. Some of the drugs in formulation are assisting in providing specific form and taste to the preparation. Thus the main purpose of formulations of drugs for particular disease is using the herbs with similar potencies but with proper care and processing.

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