

PHARMACODYNAMICS OF AYURVEDIC DRUGS - A PERSPECTIVE VIEW

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ABSTRACT

Introduction: Medical science is a branch of science which is refined according to the current scenario and condition and characteristics of disease prevailing in the society. Attaining and preserving of good health is the prime objective of any health science. Ayurvedic science is the traditional medical science of India which not only deals with the diagnosing a disease and its treatment but also provide a guideline to lead an appropriate life style and to remain healthy. Considering the aim of curing the disease and long term perseverance of good health, the practitioner is given all privileges to adopt suitable treatment methodology. The principles of Ayurvedic science is strictly based on Vaisheshika or Sankhya philosophy. The fundamental theory of Ayurveda is based on principles of Panchamahabhuta and Tridosha. Drug based Ayurvedic clinical practice is therefore based on these fundamental principles. **Materials and Methods:** The present work is an appraisal on the therapeutic behavior of Ayurvedic drugs which may be administered alone or in formulations. The pharmacological action of Ayurvedic drugs or formulation may be explained based on theories of Panchamahabhuta and Tridosha. **Result and Discussion:** The action of drug in body thus depends on any one or whole of Rasadi Panchaka, namely Rasa, Guna Virya, Vipaka Prabhava. The initial four general factors together with Prabhava may influence the Sareera in the view of Dosha Prasamana, Dathu Pradooshana and Swasthahitha. These four factors are configured based on Pancha mahabhuta theory and therefore their action may be inferred without bias. The first four factors are in turn counted to number, but based on the Tara-Tama (Superiority or inferiority) theory, their strength may vary. Based on this comparative superiority and inferiority the factor for therapeutic action is selected and exhibited. On the other hand, Prabhava is more or less a single word hypothesis where an unexplainable pharmacological action is justified. In fact Prabhava is the innate action of a particular drug, which is irrespective of other four logical factor. **Conclusion:** Pharmacology of Ayurvedic drugs could be well explained through the principles of Panchamahabhuta and Rasaadi Panchaka, after superimposing with Samanya (general) and Vishesha (Specific) Karma. Accepting Rasaadi Panchaka as the pharmacological tools our acharyas has very well postulated the treatment principles. This tools are applicable for all treatment modalities. A wise Vaidhya should accurately apprehend these tools to explain the action of individual drugs or formulations.

Keyword: Panchamahabhuta, Tridosha, Rasa, Guna Virya, Vipaka, Prabhava, Samanya, Vishesha

1. INTRODUCTION

The ultimate goal of health science is attaining and maintaining good health. Exposure to different factors in nature can either grand health or deteriorate health. This depends upon the placatory or invasive nature of those existing factors. While exploring the traditional system of Indian medicine, Ayurveda, it is well understood that as the epoch passes from primitive to modern, the fatality of disease increases, whereas the optimum level of health decreases. Ayurveda does not merely hold a strategy of an act of treatment to disease, but deals with different other factors like 'How', 'When', 'Where', 'Which' and 'Why' to choose the different life style methods depending on the external environment. It also deals with proper path to be followed in attaining a long and healthy life. Ayurveda strongly be certain of the supreme perception, "Yatha Pinde... Thatha Brahmande" which means "whatever exist in the microcosm (body), the same exists in macrocosm (nature / world)". The basic principle of Ayurveda include *Pancha Mahabhutha Siddhantha* and *Tridosha Siddhantha*. These are considered as the theories of structural and functional facet in relation to the existence and preservation of life in a corporeal frame. Interrelating these two theories the knowledge of well-being and illness can be understood. According to the descriptions in Ayurveda, for a disease to origin and to sustain in a living body, there are three basic factors namely *Dosha* (Humors), *Dooshya* (Tissues) and *Sthana* (Site). These three factors should be basically known and their knowledge constitute the minimal necessities to understand and treat a disease. Ayurveda describes five basic factors for understanding a disease namely, *Nidana*, *Purva Rupa*, *Rupa*, *Samprapti* and *Upasaya*, collectively known as *Nidana Panchaka* [1]. They may be considered as the breaking factors of disease origin and progression. After appropriately assessing these factors a well treatment plan should be proposed and executed. *Chikitsa* (Treatment) may be executed in two modalities, namely *Dravyabhuta* (using ideal substance as drug) and *Adravyabhuta* (without any ideal substance), which is actually derived from *Daiva Vyapasraya Chikitsa*, *Yukti Vyapasraya Chikitsa* and *Satwavyajaya Chikitsa* [2]. Among them the former is most extensively implemented. The medicinal substance thus selected after assessing *Nidana Panchaka*, is expected to exhibit a suitable action in the body to cure the pathology. *Aushadha Dravya* is generally considered as *Virya* predominant [3]. For any *Aushadha Dravya* acting either internally or externally should be acted upon by *Agni* whereby its action could be accurately exposed.

2. MATERIALS AND METHODS

Even though Ayurvedic science is rich with herbal, mineral and animal drugs and abundant formulations, the action of these drugs and formulations is difficult to interpret with respect to contemporary science. This requires an adequate knowledge of fundamental therapeutic factors. The present work is an appraisal on the therapeutic behavior of Ayurvedic drugs which may be administered alone or in formulations. Adopting *Panchamahabhuta Siddhantha* and the concepts of *Rasadi Panchaka* (namely *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava*) which constitute the inbuilt factors, a critical review on both the concepts has been made and superimposed to describe their therapeutic role in the living body.

2.1 Relevance of *Panchamahabhuta Siddhantha* and *Tridosha Siddhantha*

Mahabhutas are the fundamental building elements of all living and non-living matter in the universe. *Prithwi – Jala – Agni – Vayu – Akasha* together constitute the *Panchamahabhutas* [4]. Each *Mahabhuta* embraces a characteristic action. *Prithwi* owns *Samhanana Karma*, *Jala* owns *Kledana Karma*, *Agni* owns *Pachana Karma*, *Vayu* owns *Vibhajana Karma* and *Akasha* owns *Vivardhana Karma* [5]. This innate quality of *Mahabhutas* are responsible for the 'Creation' and 'Transformation' of matter in the nature. The same elements constitute the base of *Sareera*. Association of *Chetana* with the *Panchamahabhuta* bring about a living body [6]. Thus *Chetana* is the sign of life and absence of the same leads to the stage known as *Panchatwa* (the residual *Panchamahabhuta*). The ultimate efforts of optimum treatment must be either "Swasthasya Urjaskaram" (Preserving good health / Prevention of disease) or "Athurasya Vikaara Prashamanam" (Curing a disease) [7]. Ayurveda from its origin till now has been revised by different preceptors based on era and application. As per comprehensive availability, the reference books in Ayurveda commence from *Charaka Samhitha* followed by *Sushruta Samhitha* and *Ashtanga Hridaya*. They are collectively named as *Brihatrayees*. Later on, as a revised work of *Brihatrayees*, three other records were presented to Ayurvedic science which are *Madhava Nidana*, *Sharangadhara Samhitha* and *Bhava Prakasha*. They were collectively titled as 'Laghutrayees'. Apart

from this, other works *Chakradatta* of *Sri Chakrapani Datta*, *Vangasena Samhitha*, *Vrindha Madhava*, *Gada Nigraha* of *Sodala*, *Bhaishajya Ratnavali* of *Sri Govindas Sen*, *Yoga Ratnakara* are some of those important works.

Bhaishajya is considered as something that guarantees ideal health [8]. Based on these principle, *Chikitsa* can be classified as *Daiva Vyapasraya*, *Yukti Vyapasraya* and *Satwavajaya* [9]. Among *Chikitsa*, *Dravyabhutha Chikitsa* is expressed in the form of different *Karma*. *Dravya* is one among the six *Padartha* described in Ayurveda. *Dravya* may be defined as something which retain a *Guna* (quality) and *Karma* (action) [10] By means of *Karma* a *Dravya* may produce an impact on elsewhere. In fact *Dravya* remains the substratum for the existence of other *Padarthas* specifically *Guna* (quality), *Karma* (action), *Samanya* (concept of resemblance) *Vishesha* (concept of distinction), and *Samavaya* (universal inseparability) [11]. *Dravya* is also the substratum for *Rasa*, *Guna*, *Virya*, *Vipaka* and *Prabhava*, collectively known as *Rasadi Panchaka*. According to Acharya Charaka, a *Dravya* possibly will perform its role either through *Rasa* or *Virya* or *Guna* or *Vipaka* or *Prabhava* [12]. The term *Guna* even though holds different categories, based on *Dravyabhutha Chikitsa* it specifically denotes *Gurvaadi Guna*. They are also designated as *Samanya Guna* and are numbered as twenty in Ayurveda classics [13]. They may be coupled as one and its antagonist namely *Guru- Laghu*, *Seetha- Ushna*, *Snigdha - Ruksha*, *Mantha – Teekshna*, *Sthira- Sara*, *Mridu - Katina*, *Vishada- Pichila*, *Slakshana- Khara*, *Sthula- Sookshma*, *Sandra- Drava* [14]. According to Acharya Chakrapani, *Aushadha* is profound of *Virya* [15]. This enlightens the fact that *Virya* of drug remains prime in exhibiting the therapeutic effect. *Viryas* are in fact '*Bala Utkrishta Guna* [16] (*Most powerful Guna*) of a *Dravya*. This means those which have a dominance among *Gunas* set up as *Virya*. *Viryas* are generally classified as eight *Guru*, *Laghu*, *Sita*, *Ushna*, *Snigdha*, *Ruksha*, *Manda* and *Tikshna* [17]. In brief *Virya* can be classified into two, *Ushna* and *Sita* [18]. *Virya* is the mechanism of implying the quality of the tissue system.

On analysing the *Rasaadi Panchakas*, each of the factors can be superimposed with either of the other. eg. *Kashaya Rasa Madhura Rasa* and *Tikta Rasa* are *Sita* in *Virya*. *Amla Rasa*, *Katu Rasa* and *Lavana Rasa* are *Ushna* in *Virya*. Correspondingly each *Rasa* possess its innate *Guna*. Eg. *Madhura Rasa* holds *Snigdha* and *Guru Guna*, whereas *Katu Rasa* owns *Rooksha* and *Laghu Guna*. [19]. The characteristic *Gunas* of each *Rasa* is based on the equivalent *Panchamahabhuta* configuration. The *Panchamahabhuta* composition of *Madhura Rasa* is *Prithwi* and *Jala* while that of *Amla* is *Agni* and *Prithwi*. *Lavana Rasa* is composed of *Jala* and *Agni* while *Tikta Rasa* is composed of *Akasha* and *Vayu*. The composition of *Katu Rasa* is *Agni* and *Vayu* while that of *Kashaya Rasa* is *Prithwi* and *Vayu* [20]. This varied composition of *Panchamahabhutas* changes the characteristic features of a *Rasa*. The proportion of existence of each *Rasa* in turn highlights the proportional incidence of each *Mahabhuta*. *Vipaka* are three in number, namely *Madhura*, *Amla* and *Katu*. *Madhura Rasa* and *Lavana Rasa* are *Madhura* in *Vipaka*. *Amala Rasa* is *Amla* in *Vipaka*. *Katu Rasa*, *Tikta Rasa* and *Kashaya Rasa* are *Katu* in *Vipaka* [21]. *Prabhava* is the *Karma* of a *Dravya* which is not in relation with *Rasa*, *Guna*, *Virya*, and *Vipaka* [22]. This clarifies that *Prabhava* is an innate ability of any *dravya* which may be used in the treatment either alone or in *formulation*. *Prabhava* is free from the assumption of *Panchamahabhutha* theory. Just like an innate action exist in a *Panchamahabhuta*, an innate action exist in *Dravya*, which is known as *Prabhava*. In fact *Prabhava* is the identity of the drug and *Samanya* and *Vishesha* may be applied to a *Dravya* with respect to its application in treatment which in turn is an exhibition of *Karma*. *Samanya* may be elaborated as *Dravya Samanya*, *Guna Samanya* and *Karma Samanya* [23]. *Dravya Samanya* reveals the relationship and impact of Physical nature of substance in a *Sareera* eg. '*Mamsam Mamsavardhanam*' (Intake of meat can increase the muscle bulk in a living body). *Guna* implies the inert or acquired quality which is inbuilt with a *Karma* [24]. *Guna Samanya* hence implicit the association and influence of quality of a substance and living body pertaining to therapy. eg. *Ksheera* causes *Sukra Vriddhi* [25]. *Karma Samanya* involves the link and influence of intrinsic action of a substance in a living body with respect. eg. *Aasyakarma* causes *Kapha Vridhi*. [26]

Hence *Dravyabhutha Chikitsa* may be the more available method compared to other which may be splashed with spiritualistic approach. As a part of *Dravyabhutha Chikitsa*, *Bheshaja* (single or compound preparations) should be analysed based on their indications, which can be for a distinct or multiple disease or symptoms. The syndromes pointed out in these indications may perhaps be an outcome of

same *Dosha* vitiated in different zones (*Sthanas*).Based on the therapeutic action, the *Aushada Dravyas* may be classified as *Dosha Prashamana*, (pacify the vitiated *Doshas* etc) *Dhathu Pradooshana* (alter the characteristics of *Dathus*) or *Swasthahita* (prevent diseases and maintain optimum health)[27]. According to Vriddha Vagbhata, before administering a *Bheshaja* with an intention to cure or manage a disease, certain factors are to be clearly understood by the physician through a comprehensive case taking. These include *Desha Jaata* (Place where the patient was born), *Desha Samvridha* (place where the patients was broughtup), *Desha Vyadhita* (Place where the patient became disease affected. *Ahara Jata* (probable dietary cause), *Vihara Jata* (Probable causative activities) *Satwa* (Mental excellence of the patient), *Satmya* (adaptation of patient), *Bhakti* (Likes of patient) *Vyadhi Hita* (The do's with respect to disease) *Vyadhi Ahita* (The don'ts with respect to disease), status of *Dosha Prakopa*, whether single or two or all [28]. Acharya Sarangadhara describes characteristic pharmacological action with examples. These are *Dipana*, *Pachana*, *Sodhana*, *Samana*, *Anulomana*, *Sramsana*, *Bhedana*, *Rechana*, *Vamana*, *Chedana*, *Lekhana*, *Grahi*, *Sthambhana*, *Rasayana*, *Vajikarana*, *Sukrala*, *Sukrapravarthaka*, *Sukra rechaka*, *Sukrasoshaka*, *Sookshama*, *Vyavayi*, *Vikashi*, *Madakari*, *Pranahara*, *Pramadi*, *Abhishyandhi* [29].

The pharmacological actions presented here may exhibited by the specific to proportional composition of *Mahabhutas*, but it is better to conclude that these *Karmas* are elite. They may be present in a single drug which is mentioned as example and may not be inherited in the formulations which are prepared by such drugs. Eg. *Haritaki* which is mentioned as *Sukrasoshaka* [30], is the chief ingredient in *Brahma Rasayana*. (*Rasayana* is one which bestows wellness to all the *Dathus* including *Sukra Dathu*). Acharya Charaka through the *Upakramas* or treatment procedures, describes six therapeutic principles namely *Brimhana-Langhana*, *Svedhana-Stambhana*, *Snehana – Rookshana* [31]. These principle are antagonistic couples where one may be applied to counteract the other. The amplitude and duration of their application is based on the strength of the other. Such an application of drugs or formulation possessing these pharmacological action can thus be sited in *Vipareetha Chikitsa*. Acharya Vagbhata has further concised these *Upakramas* as *Santarpana* and *Apatarpana* [32]. They are also known as *Brimhana* and *Langhana* [33]. Here the *Upakramas* described by Acharya Charaka namely *Sthambhana* and *Snehana* are included in *Brimhana* by Vagbhata as they are restoration in accomplishment while *Svedana* and *Rookshana* are included in *Langhana* as they are depletion in action.

2.2 Pharmacological actions of metals and minerals in Ayurvedic literature

Explanation of minerals is widely seen in Ayurveda scriptures, even from period of *Samhita*. Acharyas Charaka, Susruta and Vagbhata have given judicious contribution of mineral drugs in the aspects of *Samana* and *Rasayana*. Later on Acharyas like Sarangadhara, Bhavamsira, Govinda Das Sen have given precise arrangement of Mineral based formulation in their works. But still a thorough pharmacological action of these drugs is yet to be scrutinized. In recent era books like *Rasatarangini*, Acharya Sadananda Sarma has specified in detail regarding the *Rasadi Panchaka* of mineral drugs. These descriptions helps us to track the influence and use of different mineral drugs in the aspect of treatment. It is to be noted that like herbal drugs, minerals also constitute *Rasaadi Panchaka* through which they may perform the *Samanya* and *Vishesha Karma*. In *Anandakandha*, while elaborating the process of *Dehavedha*, Acharya Bhairava describes certain *Rasa Dravyas* (which include metals and minerals) which should be done *Jaarana* (made digested) with *Parada* (Mercury). Such a mixture when administered to an individual is claimed to optimize the *Dhathus*. In fact this accounts the *Vishesha Karma* of these minerals in each *Dathu*. The following are the metals and mineral drugs with their special action

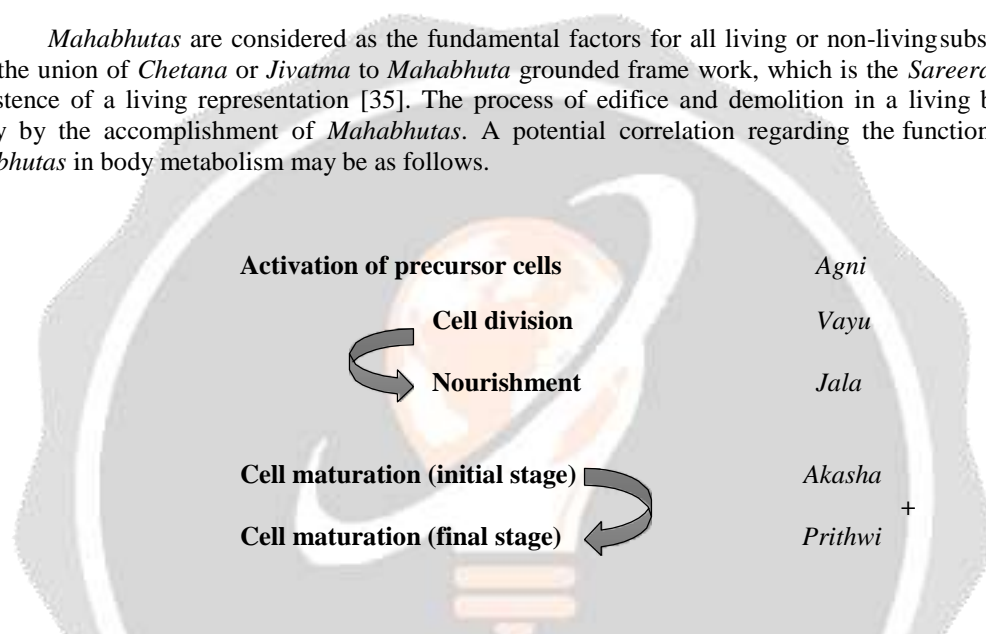
Table -1: The following are the metals and mineral drugs with their special action [34]

<i>Rasa dravyas</i>	<i>Sapthadathu</i>
<i>Kantha Lauha Jaritha Parada</i>	<i>Rasa Vedha</i>
<i>Tamra Lauha Jaritha Parada</i>	<i>Rakta Vedha</i>

<i>Tapyau Lauha Jaritha Parada</i>	<i>Mamsa Vedha</i>
<i>Rajatha Lauha Jaritha Parada</i>	<i>Meda Vedha</i>
<i>Swarna Lauha Jaritha Parada</i>	<i>Asthi Vedha</i>
<i>Abhraka Lauha Jaritha Parada</i>	<i>Majja Vedha</i>
<i>Vajra Lauha Jaritha Parada</i>	<i>Sukra Vedha</i>

3. DISCUSSION

Mahabhutas are considered as the fundamental factors for all living or non-living substances. After the union of *Chetana* or *Jivatma* to *Mahabhuta* grounded frame work, which is the *Sareera*, there is existence of a living representation [35]. The process of edifice and demolition in a living body is strictly by the accomplishment of *Mahabhutas*. A potential correlation regarding the functioning of *Mahabhutas* in body metabolism may be as follows.



When the action of a drug is reflected they may be of two types. General action and Specific action. General action involves the therapeutic influence of the drug on major sites of body. The specific action is be the innate action of the drug in the tissue system. While considering the action of drugs as single or combination based on *Rasadi Panchakas*, the factors *Rasa*, *Guna*, *Virya* and *Vipaka* must play a part in the general action while the *Prabhava* may take part in the specific action. *Prabhava*, which is the unsubstantiated effect of the drug is inbuilt in all the *Dravyas*, which determines it as the major or one among the ingredient in a composite formulation. Eg, *Gokhsura* has an innate effect on *Mutravaha Srotas*. *Brahmi* has an innate effect on *Samnjavaha Srotas*. The *guni* of *Mahabhutas* in the perspective of *Rasa*, *Guna*, *Virya* and *Vipaka* of a *Dravya* togetherwith its *Prabhava* contribute to its entire therapeutic use.

3.1 Pharmacodynamics of drug based on *Rasaadi Panchaka*

Based on the *Panchamahabhuta* composition, the following chemical action may be postulated for *Madhura Rasa*

Table -2: A hypothetical view of *Shadrasa* with respect to body metabolism

Rasa	Mahabhuta composition	Bio Chemical action
<i>Madhura</i>	<i>Prithwi + Jala</i>	Anabolism

<i>Amla</i>	<i>Agni + Prithwi</i>	Maturation, apoptosis, Maintenance of maturation, existing Tissue repair
<i>Lavana</i>	<i>Jala + Agni</i>	Anabolism by providing energy and nourishment , Apoptosis
<i>Tikta</i>	<i>Akasha + Vayu</i>	Cell division , Cell maturation
<i>Katu</i>	<i>Agni + Vayu</i>	Cell division , Apoptosis
<i>Kashaya</i>	<i>Prithwi + Vayu</i>	Cell division , Cell maturation

The same action is adopted in *Vipaka*, as it is the predominant *Rasa* of a drug after *Jadara Agni Samskara* of latter. *Vipaka* must therefore be considered as the 'sustained action' of a drug. Thus based on the quantitative and qualitative strength of *Rasaadi Panchakas* we may determine that which among them take part in the active therapeutic role. The action of *Rasa* starts from the beginning and after bio-transformation becomes more precise, in the form of *Vipaka*. The action of *Guna* commence from the beginning and becomes stronger on *Paka*, where it exhibits as *Virya*. Thus *Virya* exist in the beginning and during bio- transformation of the drug. *Virya* is thus the specific quality of the drug which remains till the end. The action of drug based on *Virya*, may thus be rapid and sustained compared to other factors. Based on the principle of 'Samudaaya Prabhava' by Vriddha Vagbhata [40], the therapeutic action of a drug based on *Rasaadi Panchaka* may be synergistic in nature if all the fundamental factors are analogous to each other. eg. A group of drugs with *Katu Rasa, Ushna Virya, Laghu, Ruksha Guna, Katu Vipaka* may exhibit a more stronger action than another drug with *Katu Rasa, Ushna Virya, Guru Snigdha Guna and Madhura Vipaka*. Such a varied configuration may exist in different drugs, whose elucidation is still uncertain. Or it can be stated as whichever therapeutic factor is strong may take into consideration for playing the key role in exhibiting the pharmacological action. If the different *Rasa* present in a dravya is equally powerful, then the therapeutic effect may be overridden by *Vipaka*. Now the dravya demonstrate the action based on *Vipaka*. If *Rasa* and *Vipaka* are of equal strength the *Virya* take over the therapeutic effect. *Virya* remains strong till the end, while the associated *Gunas* of the dravya which are fragile becomes quiescent by the *Paka*. Thus the General therapeutic influence of a drug to the body can be described through these four factors. *Prabhava*, which is the specific therapeutic property of the drug determines the site of action of drug. The site of drug action may be single or multiple. Thus the general action of the drug through its *Rasa – Guna – Virya – Vipaka* together with the specific action of the drug through *Prabhava* constitute the complete achievement of the same in a living system. It may either be *creation, preservation* or *destruction*. After an in-depth evaluation on these factors a brief protocol may be opted for a selecting a formulation either single or composite which would be beneficial for preventing or managing a disease. They are

1. Action of drug or formulation with respect to *Dosha*
2. Action of drug or formulation with respect to *Dathu*
3. Action of drug or formulation with respect to *Roga*

Table – Various level of action by *Rasadi panchakas*

<i>Dosha</i> Level action	<i>Dathu</i> level Action	<i>Roga</i> level Action
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1. <i>Vata</i>	1. <i>Rasa/Twak</i>	1. <i>Apabahuka</i>
2. <i>Pitta</i>	2. <i>Rakta</i>	2. <i>Vatarakta</i>
3. <i>Kapha</i>	3. <i>Mamas</i>	3. <i>Ardita</i>
	4. <i>Meda</i>	4. <i>Grahani</i>
	5. <i>Asthi</i>	5. <i>Atisaara</i>
	6. <i>Majja</i>	6. <i>Arshas</i>
	7. <i>Sukra</i>	7. <i>Udavartha</i>
		8. <i>Gulma etc.....</i>

Before selecting a formulation one should have a basic idea regarding the *Dosha – Dooshya – Dravya*. Each formulation is intended for some specific purposes in body. These purposes are considered to be the indications of that particular formulation. Indications can be classified as two

1. General indication
2. Specific indication.

General Indication include ‘*the action of drug with respect to Dosha*’. Eg. *Vata, Pitta, Kapha, Dwandwa* and *Sannipata*. Specific indication can either be the action of drug on single or multiple *Dathu* or the action of drug on single or multiple disease.

Pharmacodynamics of external therapeutics

External therapy like *Lepa Karma, Upanaha Karma, Swedana, Seka, Udwarthana, Avagaha* play their respective role in managing a *Roga* with respect to *Roga Stana*. *Bahya Roga Margas* are detailed as ‘*Shaakha Raktaadayastwak*’, and the main action of these sites include *Siramukha Vishodanam, Siramukha Vivaranam, Tarpana of Siramukha, Romakoopa, Dhamani, Tejana of Twaggatha Agni*. The action of these *Bahya chikitsa* are due to the *Paka* of *Aushadha Dravyas* used for the same by the *Brajaka Pitta* [36]. *Brajaka Pitta* is situated in the *Bahya twak* known as ‘*Avabhasini*’ [37]. This phenomenon may be similar to the *Paka* of *Abhyanthara Prayogya Dravya* by *Pachaka Pitta*. Unlike the drugs used in *Abhyanthara Chikitsa*, the action of *Rasa* and *Vipaka* should be omitted for the drugs used in *Bahya Chikitsa*. This is for the reason that only after *Paka Kriya (Digestion)* the *Bahya Prayogya Dravya* can exhibit their corresponding action. Hence only *Virya* and *Guna*, should be considered as the mode of their therapeutic action. Through these factors they can provide, a situation of *Santharpana* or *Apatharpana* on the substratum

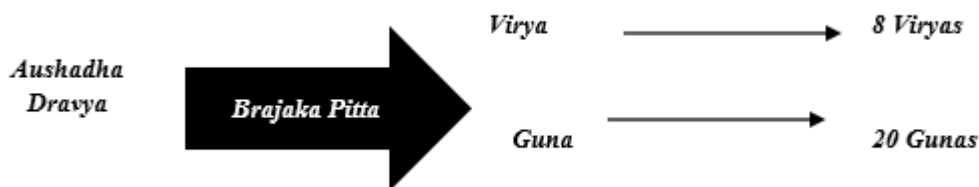


Fig -1: Action of *Bahya Prayoga Aushada*

Ayurveda through the concept of *Panchamahabhuthas* and *Tridoshas*, an ailment in the *Mahabhuta* conglomerated *Sareera* is corrected by the application of *Aushadha Dravyas* which have the same *Mahabhuta* constitution. Even then, by the virtue of altered proportion in *Mahabhutas* the therapeutic efficacy of these drugs are proved in clinical practice. These *Mahabhutas* constitute the primary pharmacological factors namely *Rasa, Guna, Virya, Vipaka*. The importance of *Agni* in clinical practice has been well established in Ayurvedic science. After the *Jarana* of *Aushada Dravya* by the *Pachaka Agni*, the *Aushadha Dravyas* may be dissociated into the *Prathama Rasa* forming a complex. The so formed *Rasa* are absorbed by the corresponding *Dathus* based on the predominance of *Mahabhutas*. The definite action of drugs are retained throughout the therapeutic action. This phenomenon explains the multiple indications of various formulations, involving different systems in the body. Considering the association between particular *Rasa Dravya* and *Sapta Deha Dathu* it can be established that these minerals have special effect on the *Dathus* apart from their therapeutic influence on *Dosha*. Following the principle of *Kedari Kulya Nyaya* [38], formulations containing *Loha* as the ingredient with *Parada* can be undeniably used for any disease affecting a particular, which on due course can rectify the abnormalities in successive *Dathus*. While accepting the theory of *Khale Kapota Nyaya* [39], specific *Rasadravya* can be opted and mixed into a particular formulation with *Parada* which can target on the corresponding *Dathus* and resolve the variance. In the case of multiple *Dathu* abnormality a combination of the prescribed *Rasa Dravyas* can be opted which possess specific influence on particular *Dathus* may be used.

4. CONCLUSION

Accepting the notion, 'what exist in the macrocosm, the same exists in the microcosm' treatment in Ayurvedic science is non-extraneous concept. Using the same fundamental substances to repair the defects in the body, Ayurvedic therapeutic effect seems to be tissue sociable. Using the innate characteristics of natural substances or altering them with suitable addition in properties or downgrading the non-essential properties *Aushada Dravyas* can act on the *Doshas* and *Dathus* to maintain their optima. But in the core of this merit, it should be noted that not all biological system will be easily accessible for all the *Aushadhis* to act on. Due to the factors like *Prakrithi, Desha, Kala, Roga* etc the selection of suitable *Aushadha Dravya* from the pool of *Dravya* is an art. In the contemporary science, the method of administration of drug molecules which are synthetic or a processed derivative from natural source is used. These drug molecules can voluntarily act on the biological fragments (Organs or organelles). With apparent understanding of the biological condition the drug molecule in suitable dosage form can be opted and administered. This may induce unwanted effect in other portions of biological system. Therefore knowing the merits and demerits of all the medicinal system and goal of preserving patient's health, suitable medicinal system can be opted alone or in combined without annoying one another.

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