

ARE RASAPANCHAKA PHYSICAL EFFECTS OR PHARMACOLOGICAL EFFECTS- A DETAIL REVIEW

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ABSTRACT

The study of natural drugs comes under the main branch of *Ayurveda-Dravyaguna*: - which deals with the knowledge of *dravya*-. Each *dravya* consists of five properties- *Rasapanchaka*. *Rasa*-Taste, *Guna*-Predicament, *Vipaka*- Post –digestive taste, *Virya*- Potency, *Prabhava*- *Achintaya* (which is unexplainable). Out of five, the four properties- *rasa*, *guna*, *vipaka* and *virya* (*rasachatushtaya*) are the perceptible property of a *dravya*. All these days *rasapanchaka* is intended at explaining pharmacological activity. The properties which

are present in *rasapanchaka* are mostly physical in nature as they are made up of the physical entities i.e. *panchamahabhuta*. The thing which is physical in nature is bound to be perceived through our *indriyas*. So anything which is made up of *panchabhutas* is perceivable through *indriyas* (senses). In this study an effort is attempted to explain that *rasapanchakas* are physical effects and have pharmacological effects as well.

KEYWORDS: *rasa*, *guna*, *vipaka*, *virya*, *prabhava*, *indriya grahya*, *panchamahabhuta* etc.

INTRODUCTION

Dravyaguna is the main branch of *Ayurveda* deals with the knowledge of the *dravya* on the basis of *nama* (nomenclature), *Rupa* (morphology) and *guna* (properties), it is more a pharmacotherapeutics.

Dravya – Yatrashritah karmgunah karanam samvayi yat tadravyam.^[1] -where *karma* and *guna* resides with inseparable relationship.

The *rasapanchaka* are the five components of *dravya* called as *guna* of a *dravya*. The classical definitions of *rasapanchaka* are as follows:-

Rasa (taste) - *Raso nipaate dravyanam.*^[2] when a substance is brought into touch with the *Rasanendriya* (or tongue), then the taste will be known.

Guna (predicament) - *Samvayi tu nischesta karanam gunah.*^[3] i.e, *guna* as the character or property which will remain in a *dravya* with inherent relationship and is devoid of action.

Vipaka (post-digestive taste) - *Vishistha jarananishtha kale rasa visheshasaya pakah pradurbhavah vipakah.*^[4] The end product of a *dravya* which is the outcome of digestion is known as *Vipaka*. *Vipaka* is the bio-transformative phase of *rasa*.

Virya (potency) - *Vishishtha samrathya sampanna guna*, i.e, Potent and efficient most factor which is called as *virya* that is bio- energy.^[5]

Prabhava - *Rasavirya vipakanam samnayam yatra lakshyate. Visheshah karmanam chaiv prabhavastasaya sa smritah.*^[6]

It is called as *Achintaya* i.e., which is unexplainable on the logic of *Bhutas*.

The *RASAPANCHAKA* is a unique theory where properties of the drug are used to explain their pharmacological effect in the body. The pharmacological actions exhibited by *rasapanchaka* i.e *gunaprabhava*, is almost identical to the properties existing in the human body system.

Na tu kewalam gunaprabhavadev dravyani karmukani bhavanti;

Dravyani hi dravyaprabhavad gunaprabhavad dravyagunaprabhavaccha.^[7]

In above quotation the first kind of effect namely “*guna parabhava*,” is explained by *Rasa*, *guna*, *vipaka* and *virya* (*rasachatushtaya*) which are perceptible properties (*guna*) of a *dravya*.

80-90% of total drugs’ action can be explained logically with the help of their properties. Such physical linkage is seldom seen in other pharmacological sciences.

The *rasapanchaka* are the physical properties of a *dravya*. Physical properties can be identified by any level of intelligence (i.e. *Indriya grahya*). The knowledge of physical properties is original information.

Physical properties indicate the totality of the drug in pharmacological action. These physical properties have been identified in the human body.

AIMS AND OBJECTIVES

1. To understand that *Rasapanchaka* are physical effects.
2. To evaluate that *rasapanchaka* present in a *dravya* have pharmacological effects.

MATERIALS AND METHODS

Classical texts and commentaries were studied to understand *rasapanchaka* as physical effects (perceivable through senses or *indriya grahya*) as well as pharmacological effects present in a *dravya*.

CONCEPT OF RASAPANCHAKA AS PHYSICAL EFFECTS

A *dravya* is divided into *karana* and *karya dravya*:

Karna dravyas are nine- “*Khadinyatma manokalo dishashch dravya sangraha*”^[8]

Karya dravyas are all the manifestations of these nine *karna dravyas*.

As “*Sarva dravyam panchbhautikasminnarthe*”⁽⁹⁾ i.e all *karya dravya* are the manifested forms of *pancha mahabhutas*. How these *panchamahabhutas* can be perceived???

Five pentads of senses i.e *panch indriya* (five senses), *panch indriya dravya* (five sense material), *panch indriya adhisthana* (five sense organs), *panch indriya artha* (five sense objects), *panch indriya buddhi* (five sense perception) shows a relation of these *mahabhutas* with their respective *indriya*. And these *indriyas* are particular for its *mahabhutas* due to *tulyayonitva*.

The *rasapanchaka* are the five components of *dravya* called as *guna* of a *dravya* and these are: *Rasa, Guna, Virya, Vipaka, Prabhava*

1. RASA-

Rasa are six in number.

Table no.1. Rasa and its bhoutika composition

Sr.no.	Rasa	Bhoutika composition
1.	Madhura	Prithvi+jala
2.	Amla	Prithvi+Agni
3.	Lavana	Jala+agni
4.	Katu	Vayu+agni
5.	Tikta	Vayu+aakasha
6.	Kashaya	Vayu+prithvi

“Rasanartha rasastasya”.^[10] i.e *rasa* is perceived via *rasanendriya*. It is totally a physical effect. Six *rasas* are identified due to six types of combinations of *panchabhutas* by which they become perceptible through tongue in six ways.

Each *rasa* is attributed with three *gunas*. These *gunas* are termed as “Anugunas”- coined by Dr. M Pramkusha Rao. The relation of *rasa* and *gunas* is as follows^[11]

Table no. 2. Rasa and Guna relation

Sr.No.	Rasa	Guna
1	Madhura	Snigdha, Sheeta, Guru
2	Amla	Laghu, Ushna, Snigdha
3	Lavana	Na ati guru, Snigdha Ushna
4	Katu	Laghu, Ushna, Ruksha
5	Tikta	Ruksha, Sheeta, Laghu
6	Kashaya	Ruksha, Sheeta, Guru

These *anugunas* present in each *rasas* also have physical effects, can be assessed by the tongue because among *panchindriyas* – *sparshendriya* is the only *indriya* which pervades all over the body (and is in inherent relation with *manas*.^[12], so it pervades over tongue also. This means tongue performs two sensory functions: - one is sensing taste of the substances and another is sensing the properties of the taste substances.

e.g. if a person is having hot tea, the tongue is perceiving two things simultaneously, one taste of the tea and another hotness of the tea. Similarly if a person is having a sweet (for instance rasagulla) he perceives sweetness and aniontness (i.e. *snighdata*), coolness (i.e. *sheetata*) as well in the mouth.

Thus, tongue: - the *rasendriya* performs two functions- one is identifying the taste of the *dravya* and another *guna* present in the *dravya*.

2. GUNA-

There are totally 41 *gunas* accepted by the *Ayurveda Acharayas* commonly. They are:

<i>Adhyatma gunas</i>	-	6
<i>Gurvadi gunas</i>	-	20
<i>Paradi gunas</i>	-	10
<i>Visishtha gunas</i>	-	5
Total	=	<u>41 gunas</u>

Out of 41 *gunas*, 20 *gurvadi gunas* are significant, out of which eight *gunas* are more significant and they are termed as *utkrishta gunas*

Acharaya Susruta.^[13] has given the physical identification (*indriya grahya*) of these following *gunas*:-

Table no. 3. Identification of Gunas

Sr.no.	Guna	Bhautika Composition	Indriya grahyatwa
1.	Guru	Jala+ Prithvi	-
2.	Laghu	Vayu+ Akasha+ Agni	-
3.	Sheeta	Jala	Sparsha
4.	Ushna	Agni	Sparsha
5.	Snigdha	Prithvi+ jala	Chakshu
6.	Ruksha	Vayu	Chakshu
7.	Mridu	Jala+Akasha	Sparsha
8.	Tikshna	Agni	Rasna

3. VIRYA-

Virya are the most potent *gunas* present in a *dravya*. The *ashta utkrishta gunas* are termed as *virya*. *Virya* can be perceived from *rasnendriya* to upto its presence in body.

Viryam yavadadhivaasanipaataacchoplabyate.^[14]

Hence *virya* can be perceived via. Two ways

Nipate- rasnendriya

Adhivaase-through actions

i.e. Nipaate and Adhivaase both.

e.g. *katu dravyas* are sensible through skin (causes burning sensation *i.e. ushnata*) and its action (burning sensation) can be inferred by the systemic response also.

4. VIPAKA-

“*vishistha jarananishtha kale rasa visheshasaya pakah pradurbhavah vipakah*”.^[4]

Paka is of two types' i.e *peelu paka* and *peethar paka*

- *Peelu paka* (chemical changes)
- *Peethar paka* (physical changes)

If *paka* is at physical level then it may be perceived through *indriya* for example a fruit is changed from its *apakwa* stage to *pakawa* stage and its changing colour, taste, smell according to *kala* can be noticed through *indriya* (*chakshuindriya* for color, *rasendriya* for taste, *ghranindriya* for smell)

If *paka* is at chemical level it cannot be perceived through *indriya* but is to be known by its actions on body (the pharmacological effect). *Viapakah karmnishtheya*⁽¹⁵⁾

For example if *srishta vina mutra* and *kaphotklesha* are seen then that *dravya* will be consider as having *madhura vipaka*.

THE PHARMACOLOGICAL EFFECTS OF RASAPANCHAKA

The pharmacological actions exhibit by *rasapanchaka* depends upon the *panchabhoutika* composition of it. The main treatment principle of *Ayurveda* is to increase the decreased *bhavas* in body and decrease the increased *bhavas* in the body; accordingly the contents of *rasapanchaka* are chosen to treat the body.

RASA

MADHURA RASA: some of its pharmacological effects are listed below^[16].

Effect on *doshas*: *vata-pitta shamaka* and *kapha prakopaka*

Actions: *indriyaprasadana*, *ojo vardhaka*, *dhatu vardhana*, *trishna prashamana*, *daha prashamana*, *kesmaya*, *kanthya*, *brihmanaya* etc.

Indications: *vata rogas*, *murcha*, *asthi bhagna*, *rakta -pitta* etc.

AMLA RASA: some of its pharmacological effects are listed below^[17]

Effect on *doshas*: *pitta-kapha vardhaka*, *vatanulomana*.

Actions: *dipana*, *brihmana*, *hridya*, *prinana* etc.

Indications: *agnimandya*, *vata rogas* etc.

LAVANA RASA: some of its pharmacological effects are listed below^[18]

Effect on *doshas*: *vata-shamaka, pitta-kapha vardhaka*.

Actions: *deepana-pachana, sroto-shodhaka, dhatu –shaithilyakara, ruchya* etc.

Indications: *vata rogas, agni mandya, sula* etc.

KATU RASA: some of its pharmacological effects are listed below^[19]

Effect on *doshas*: *kapha-shamaka, vata-pitta vardhaka*.

Actions: *mukha-shodhaka, agnideepana, indriya dourbalya, kanduhara, vrana ropna, krimi hara, sroto vivarana* etc.

Indications: *kandu, vrana, agnimandya* etc.

TIKTA RASA: some of its pharmacological effects are listed below^[20]

Effect on *doshas*: *pitta-kapha shamaka, vata-var dhaka*

Actions: *visha hara, krimihara, kanduhara, lekhana, stanya shodhana* etc

Indications: *amla-pitta, ama vata, krimi roga, medo roga* etc.

KASAYA RASA: some of its pharmacological effects are listed below^[21]

Effect on *doshas*: *pitta- kapha hara, vata- vardhaka* etc.

Actions: *sangrahi, sandhana kara, ropana, soshana, sthambhana, rakta prasamana, lekhana, twachaya, vishtambhi* etc.

Indications: *atisara, twaka vikara, medoroga* etc.

GUNA

There 20 *gurvadi gunas* which are also called as ‘*sharirika gunas*’ because of the similarity of the building constituents of *gunas* with the body building constituents.

These *gunas* are arranged in 10 pairs opposite to each other. Out of 20, 8 *gunas* are the most prominent *gunas* (*utkrishta gunas*) as they are therapeutically more potent. Opposite *gunas* are selected in order to enhance the *dhatu samyata* in the body.

The pharmacological actions of these *gunas* are listed below^[22]:

Guru – brikhmana

Laghu- langhana

Sheeta- sthambhna

Ushna- swedana

Snigdha- snehana

Ruksha- shoshana

Mridu- shaman

Tikshana- shodhana

VIRYA: the most potent and efficient factor in a drug, which is time bound, depends upon the good storage conditions of the drug. The *ashta utkrishta gunas* are termed as *virya* which are categorised into two:

Table no.4. Action of virya on doshas

VIRYA	PANCHABHOUTIKA COMPOSITION	ACTION
<i>Sheeta</i>	<i>Prithvi +Jala</i>	<i>Pitta shamaka</i>
<i>Ushna</i>	<i>Agni+ Vayu+Akasha</i>	<i>Kapha shamaka</i>

VIPAKA: *Vipaka* is the post –digestive phase of *Rasa* through the action of *Jatharagni* (digestive juices).

Bhadanta Nagarjuna mentioned this transformation as the characteristic feature of *Vipaka*:

“*Parinamalakshano vipakah*”^[23]

i.e., *Vipaka* possesses change as its characteristics which are brought by digestion and assimilation.

“*Gunah praadhanah*”^[24]

“*Vipakakarantvaat*”^[25]

According to *Bhadanta Nagarjuna* the *guna* importance is established with a logic says that “*Gunas are important*”, as *Guna* causes *Vipaka*. So as *vipaka* depends on *guna* (*laghu* or *guru*).

Vipaka is of three types^[26]

Table no. 5. Action of vipaka on dosha, dhatu and mala

Vipaka	Action on dosha	Action on dhatu	Action on mala
<i>Madhura (guru)</i>	<i>Kapha kara</i>	<i>Shukrala</i>	<i>Srishtavinmutra</i>
<i>Amla (laghu)</i>	<i>Pitta kara</i>	<i>Shukranashana</i>	<i>Srishtavinmutra</i>
<i>Katu (laghu)</i>	<i>Vatala</i>	<i>Shukraha</i>	<i>Badhavinmutra</i>

PRABHAVA

It is a specific action of a drug can't be explained on the basis of *rasa*, *guna*, *vipaka* and *virya* or *bhoutika* composition of drug.

Acharaya Susruta has said that “*amimansayanyachintyaani prasiddhani swabhavatah. Aagamenopyojyani bheshajani vichakshaneh*”... *sahasrenapi hetunam nambhashatadirechayte*”^[27]

i.e. some drugs don't seek any explanation about how does they act, they act by virtue of their *swabhava* which results in *prabhava* :- a specific action. So one should follow the instructions of great seers how to use such drugs and should not get into reasoning and explanations because thousands logics have not proved that why *ambshathadi* drugs exerts *virechaniya* property.

DISCUSSION AND CONCLUSION

The above postulates depicts that a *dravya* is made up of *panchamahabhuta* by which a *dravya* is perceivable through *indriyas*. The *gunas* of *dravya* are *rasapanchaka* which are again composed of *panchamahabhuta*. Among *rasapanchaka* some (not all) of the properties are perceivable through *indriyas* which means they are physical effects. *Guna* and *karma* both reside with inherent relation in a *dravya*. So a *dravya* is responsible for *karma* i.e. responsible for actions, by virtue of its *gunas* which are nothing but *rasapanchaka* (*rasa, guna, vipaka, virya* and *prabhava*) which depicts that *rasapanchaka* exhibit pharmacological application also.

Hence *rasapanchaka* are both physical effects and pharmacological effects as well.

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