CONCEPT OF RASAYANA IN AYURVEDIC LITERATURE

Dr. Ketan Rathwa*1 and Dr. Rakesh Salve2

1Final Year Post Graduate Scholar, Department of Rasa Shashtra & Bhaishajya Kalpana, Parul University, Parul Institute of Ayurved, Limda, Vadodara, Gujarat, India.
2Associate Professor, Department of Rasa Shashtra & Bhaishajya Kalpana, Parul University, Parul Institute of Ayurved, Limda, Vadodara, Gujarat, India.

ABSTRACT

The journey of man to live longer periods and remain healthy as large as a lives, has rested to an obsessive search for mixtures or materials that may produce the wanted results. To achieve the best health, with delayed aging system is also a most desirable thing, even within in the life span set by the genetic configuration. For this goal a quantity of materials and formulas, most of ‘Rasayana’ are mentioned in Ayurveda. The current study has been planned as a step in updating the Ayurvedic pharmaceutical methods to cop up with the requirements of modern era. Rasayana or Jara Cikitsa is one amongst the eight branches of Ayurveda; practiced extensively and effectively since ages. Acharya Charaka has quoted as Jaraa-Chikitsa where as Acharya Sushruta has mentioned it as Rasayana-Tantra.

KEYWORDS: Rasayana, Vaya, Ayu, Medha, Balakar, Amalaki.

INTRODUCTION

Historical Background

Vedic Kala

No direct references can be observed in any of Vedic literatures. But, one can Get a number of references regarding the beneficial effects of Rasayana such as prolonging the life span, maintaining or establishing the youthfulness and also delaying the ageing process.

In Rgveda, there are hymns saluting Aswinis for their effective approach in the equilibrium of Tridhatus and prolonging the life span.[1]
Aswinis, known as *Devanam Bhisajau*, were experts in the field of *Rasayana*.

Their deeds concerned with *Rasayana* are as follows:

- Turned Kaksivan young from old.\(^2\)
- Kali was turned into a young subject.\(^3\)
- Cyavana became younger and his life span got increased.\(^4\)
- Citizens of Jahnu were endowed with strength and longer life span.\(^5\)
- Ghosa who was diseased, old and unmarried was turned into a healthy and young lady who later got married.\(^6\)
- Injured Syava was treated effectively and his life span lengthened.\(^7\)
- Old sage Vandana was converted into a youth.\(^8\)
- The life span of Somaka, the son of Sahadeva, got lengthened.\(^9\)
- Devas became *Ajaramara* by consuming the elixir which was originated during *Samudramathana* and so are the seven great sages.

In *Yajurveda* also, one can notice the chants increasing the life span and beneficial effects of *Rasayana* such as improving the status of *Indriyas*.

जीवेमशरद्शतम is the prayer to Almighty God frequently seen to increase the life span of an individual.\(^10\)

*Atharvaveda*, to which *Ayurveda* is closely related, gives more references of *Rasayana*. Some of them are listed below:

अप्स्वन्तरमप्ससुभेषजम\(^11\)

Ap (water) is considered as the best medicine in the universe and it is the best *Rasayana Dravya*.

देवस्यपश्यकत्वायममार, नजीयति\(^12\)

*Devas* (Gods) neither become old nor they become a victim of death.

आपोहिण्ठामयोभुवास्तानउजेदधातन\(^13\)

Ap increases the *Urja* (strength) of the body.
The individuals will be devoid of gray hair and mental instability, having strong teeth and body and perfect body activities.

*Soma*, the king of medicines, was given due importance in all *Vedas, Brahmana Granthas, Upanisads, Puranas* and later in *Samhitas*. Similarly, *Upanisads, Puranas* and other post *Vedic* treatises have highlighted the practice of *Rasayana*.

*Caraka* has dedicated the first chapter for *Rasayana* in *Cikitsasthana* and divided into four *Padas*. *Rasayana* has been given first preference because it not only maintains the healthy state of an individual but also cured ailments, the two faces of *Cikitsa*.

*Susruta* also dealt *Rasayana* in four separate chapters but he has pushed the *rasayana* concept back to the end chapters i.e. 27-29 of *chikitsasthana*. And *Vagbhatas* have described in only one chapter in *Uttaratantra*. This reflects on the declining impact of *Rasayana* therapy in *Samhita* period itself.

Later combinatory works like *Bhavaprakasa, Sarngadhara Samhita, Yogaratnakara* have also dealt *Rasayana* in a separate chapter which followed *Vagbhata*.

**Etymology**

The word *Rasayana* is formed from two words viz. Rasa and Ayana.

- The word 'Rasa' is formed from 'Ras Gatau' Dhatu and 'Ac' Pratyaya. Acaryas have given various meanings for Rasa at different contexts. Some of the common are -
  1. Rasa is one that is experienced by *Rasanendriya*.
  2. The one that nourishes *Rasa, Rakta*, etc. *Dhatus* (continuously) daily is called *Rasa*.
  3. The essence of the digested foodstuff is known as *Rasa*.
  4. The one that traverses throughout the body due to its liquidity is termed as *Rasa*.
  5. Rasa is one that moves all over the body continuously.
The word Ayana has various meanings as given in Shabda Kalpa Druma and Vacaspatyam. They are pathway, movement, road, place, site, abode, a way of entrance, an entrance etc.

In total, Rasayana is meant as -
रसस्यअयनप्राप्तारसायनम्[14]

Rasayana means the pathway for essence of foodstuffs towards all body tissue elements so as to nourish and replenish them.

V.S. Apte, famous grammarian, in his Sanskrit English Dictionary, states that Rasayana is
- an elixir of life (elixir vitae)
- any medicines supposed to prolong life and prevent old age
- serving as an elixir vitae i.e., that which gratifies or regales.

The classics have given the synonym Rasayani for Srotasa which means channels which carry nutrients for different body tissues.

**Definition**

- रसारसरक्तादयईयन्तेप्राप्सयन्तेअनेततरसायनम्[15]

It means Rasayana is that by which Rasa, Rakta etc Dhaatus are obtained.

- Acharya Charaka has elaborated the meaning of Rasayana and quoted that :

लाभोपायोहिष्टानांरसादीनांरसायनम्[16]

It means the measures by which one can get excellence of Rasa etc Dhaatus are called Rasayana.

- रसानांरसरक्तादीनांअयनमाप्सयायनंरसायनं,……अथवारसानांरसवीयविपाकादीनां

आयुःप्रमृतिकारणामायनविशिष्टलाभोपायःरसायनं.….[17]

In addition to this later he described that the one which nourishes, Rasa, Rakta etc. Dhaatus or the one which stabilises youthfulness and prolongs life with activities through its Rasa, Virya etc. is called Rasayana.[18]

- Arundatta has described that Rasayana is one by which Rasa, Raktadi Dhaatus get benefitted through proper nourishment.[19]
The 'Kairali' commentary of Astanga Hrdaya defines Rasayana as one that causes increase in the Dhatus from Rasa to Sukra.

- रसायनंचतज्ज्ज्जराव्याधधनाशनम[20]  
  Rasayana is one which wards off Jara as well as Vyadhi.

- The one which cures Jara and Vyadhi, stabilises youthfulness; increases acuity of Caksu etc. Indriyas; nourishes the whole body and aphrodisiac is known as Rasayana. The same was adopted in Vaidya Kaustubha.
- Gangadhara has described that Rasayana is one which causes continuous nourishment to Rasa, etc. Dhatus, thereby replenishing them.[21]
- According to Harita, Rasayana is that process by which there will be stability of body, all types of sensory and motor organs; and no graying of hair, wrinkling and baldness.[22]

Classification of Rasayana

- Two types of Rasayana have been mentioned by Acharya Charaka.[23]
  i Kutipravesika
  ii Vatatapika

This classification is based on the mode of administration. Kutipravesika is one in which Rasayana is given with person staying inside a closed Kuti whereas Vatatapika is that in which Rasayana is administered with patient exposed to Vata and Atapa. In other words, Kutipravesika is an indoor administration while Vatatapika is an outdoor administration of Rasayana.
Dronipravesika is similar to Kutipravesika with slight modification wherein the individual is made to stay in a Droni (made out of Palasa) for six months consuming milk diet.\[24]\n
- Three types of Rasayana by Dalhana. It is probably based on the utility of Rasayana.
  1. Kamya
  2. Naimittika
  3. Ajasrika
  - Kamya Rasayana is subdivided into Pranakamiya, Srikamiya and Medhakamiya Rasayanas. i.e., to increase the life span, to prolong the life span and to increase the cognitive abilities of mind respectively.
  - Naimittika type of Rasayana is nothing but Rasayana specific to a disease.

"Naimittikam Vyadhinimittam"
- Ajasrika Rasayana deals with daily intake of milk, ghee, etc. Rasayana so as to promote the body immunity.

"Ajasrikam Ksiraghrtabhyasadikam"
- Another two types of Rasayana mentioned by Dalhana based on their mode of action.
  - Samsodhana - 'Dosasya Samsodhanadi Samsodhanam'
  - Samsamana - 'Samsamanam Nagabaladi Prayogadikam'

Samsodhana and Samsamana, both are curative in nature. Samsodhana type of Rasayana expels the aggravated Dosas whereas Samsamana type pacifies the accumulated ones.

- Susruta has classified Rasayana into four types
  - Sarvopaghata Samaniya
  - Medhayuskamiya
  - Svabhavavadydi Pratisedhaniya
  - Nivrtta Santapiya.

Sarvopaghata Samaniya deals with Rasayana to counteract the disease process. Medhayuskamiya is one by which an individual can increase his intellect and prolong his life. Svabhavavadydi Pratisedhaniya is one which delays the onset of Svabhavika Vyadhis like Ksut, Jara, Pipasa, Mrtyu, etc. and Nivrtta Santapiya Rasayana rebuilds the physical and mental faculties following their Disturbance due to disease process.
It can be further classified into five types based on their benefits (Ca.Su.4)

- Dirghayuskara - Jivaniya and Brmhaniya
- Tarunyakara - Vayahsthapana
- Balakara - Balya
- Medhakara - Medhya
- Rogahara - Roganut (specific to disease)

One more Rasayana variety has been mentioned by Acharya Charakai.e., Acara Rasayana\textsuperscript{[25]} or Nitya Rasayana where in an individual follows Sadvrtta and Swasthavrtta strictly and gets the beneficial effects. Persons who are truthful and free from anger, alcohol and sexual indulgence; who do not indulge in violence and over exercise; who are peaceful and pleasing in speech, who practice Japa, Tapa, cleanliness, charity; who are stable and steady; who regularly offer prayers to Gods, cows, brahmanas, teachers, preceptors and aged people; who are compassionate and merciful; who go to sleep and awake at regular time; who habitually take ghee and milk; who are experts in the knowledge of rationality; who are free from ego; whose conduct is good; who are not narrow minded; who love spiritual knowledge; who have excellent sense organs, respect for elders; who believe in the existence of Gods; who have self-control and who regularly study Dharmasastras will get best out of rejuvenation therapy. If persons endowed with these qualities practise rejuvenation therapy, they get all the rejuvenation effects described above. In Manusmrti, it has been stated that - 

आचारालयभवेत्यायुः आचारदीप्तिसतः प्रजाः। 
आचाराद्धनमऺय्यमाचारोहन्त्यऱऺणम्॥

Following an Acara makes the individual live a long and happy life. By Acara Rasayana one can keep away the occurrence of ailments and prevent the onset of many fearsome diseases arising due to Prajnaparadha, Asatmyendriyartha Samyoga and Parinama.

Utility of Rasayana\textsuperscript{[26]}

An ideal Rasayana prolongs life, improves memory and intellect, promotes health, and provides immunity against diseases thereby helps an individual to lead an energetic life. It improves lustre and complexion of the body, tones the voice and speech, and increases the acuity of all the sensory and motor organs, vitality and vigour.

नजरानचदौबयल्यंनातुयंतनधनं

Rasayana keeps away Jara; removes Daurbalya; cures diseases and overcomes even Mrtyu and person lives for thousand years. The individual not only gets his life span prolonged but also attains salvation.

In Astanga Samgraha and later classics, instead of Pranati, Vrṣata was mentioned i.e., Rasayana can also impart Vṛṣya properties.[27]

By Rasayana, the Syama (dark) complexion can be turned into Gaura (fair) complexion and its withdrawal causes the other way.

Rasayana words off old age, cures diseases, prolongs life span, gives strength to Caksuradi Indriyas, improves immunity against diseases and acts also as Vṛṣya. With the help of Rasayana, Japa, Tapa and Yoga, one can overcome even death.

Rasayana, Tapa etc. will cure, with their Prabhava etc., the diseases which are considered incurable.

The diseases which had shown even the imminent signs of death can be superseded by the administration of Rasayana or by performing Japa, Tapa etc.

By undergoing Rasayana, the ailments arising as a result of Viruddhasanacan be overcome.

While explaining Janapadoddhwamsa Vyadhis, Caraka has given that by Rasayana, one can prevent the onset of Maraka Vyadhis.[28]

In Charaka Samhita, benefits of Rasayana described as Balya, Jivaniya, Brmhaniya and Vayahsthapan.[29]

Dalhana has define Vardhakaas which increases, Sthapakaas which stabilises and Apraptaprapakaas which gives additional endowments.[30]
So, here Vardhaka is nothing but Ayurvardhaka i.e., prolongation of lifespan. Sthapaka stabilises the youth of an individual by improving healthy status and increasing body immunity against ailments. Apraptaprapaka means fulfilling the nourishment needed thereby increasing body tissue elements resulting in increased immunity and person will be endowed with additional features. All these three here serve the purpose of Swasthyaraksana. Most of the Rasayana Dravyas have either Madhura Rasa or Madhura Vipaka (Ca. Su. 26/43-1). Such drugs when used give benefits to the body in the form of:

- Increasing Rasa, Rudhira, Mamsa, Meda, Asthi, Majja, Ojas and Sukra.
- Increasing longevity.
- Soothens six sense organs
- Promotes strength and complexion
- Improves the integument
- Promotes healthy hairs
- Improves voice
- Increase strength
- Soothens
- Invigorates
- Nourishes
- Promotes body mass
- Gives stability to the body.

From the foregoing lines, it is observed that majority of Rasayana Dravyas has prophylactic property improving the immunity of the body and in turn lengthening the life span. One can get ample references regarding curative effects of Rasayana in the classics along with their health promoting effects. Some of them are Aindra Rasayana, Pippali Rasayana, Bhallataka Rasayana (in Kustha, Arsas), Ayo Rasayana (in Mahakustha), Tuvaraka Rasayana (in Madhumeha), Somaraji Kalpa\(^{[31]}\) (in Kustha), Lasuna Kalpa (in Vatavyadhi), Guggulu Kalpa, Silajatu Kalpa, Vrddhadaru Kalpa, Sarpirguda (in Ksataksina), Yogaraja (in Pandu), etc.

**When to start Rasayana?**

Acarya Caraka did not specify to whom or at what age Rasayana should be administered to an individual. But, Susruta, Vagbhata and later Acaryas have considered this factor. Susruta and
followers have mentioned that Rasayana should be given either in Purva Vayās or in Madhya Vayās.

पूर्ववयसिमध्येवापुरुषस्यसाधनम[32]

Arunadatta commenting on the same quotation mentioned by Vagbhata says that – पुरुषस्याध्यवयसिअतिवाल्यातिक्रान्तमात्रे[33] i.e., the period after crossing the phase of childhood.

'Kairali' commentary of Astanga Hṛdaya opines that -

पूर्ववयसिआध्यवयसि, अतिवाल्यातिक्रान्तइत्यथ…..वाअथवामध्येवायवसियौवने, बाल्येवाद्धयक्ययोऽतलिशेषत्यदितिभाव:……

Purva Vayās means the stage that appears after childhood and Madhya Vayās is early adulthood and he says that in Bālya and Vardhaṇya, Rasayana is not advised.

Sivadasasena opines in his commentary that

पूर्वाइत्यादौपूर्वाइततयौवनप्रवेशेएवमध्येइततयौवनशेषे[34]

Purva Vayās is not Bālyavastha, but that phase of life wherein an individual reaches or enters Yauvana (youth) and Madhya Vayās is the remaining period of Yauvana.

Yauvana, according to Susruta lies between twenty and thirty years of life.[35] Cakrapani, commenting on this says that 'Yauvane Managvardhamanata' i.e., there will be little or slow growth of the body. Caraka also agrees with this by saying that total growth and development will be incomplete up to thirty years. So, Rasayana administered during the earlier phase of Yauvana can increase the nourishment to all Dhatus thereby improving the defence system of body.

'Yauvane Sese' is considered to be Madhya Vayās. This phase of life is endowed with complete growth and development of all body tissues as well as total functioning of mental faculties. The individual will be having good strength and there will be no deterioration of tissue elements. In such a stage, Rasayana administrated can boost the immune system and delay the ageing process.
Whether Rasayana is Contraindicated to Bala and Vrddha?

In Bala, all Dhatus will be in developing stage and Bala will be Sukumara (tender), Aklesasaha (cannot bear any stress), Asampurna Bala (less body strength). Ajatavyanjana (unestablished body functions). The quantity of food and dose of medicine were increased yearly so as to make the child's digestive system adapt to normal adult quantity / dosage. If Rasayana is given to children, then they will not be in a position to cope with the potency of drug.

Rasayana will be of no use in old aged persons because of deterioration of body tissue. This was fully supported by Susruta i.e.,

सएवअन्नरसोवृद्धानांजराऩक्वशरीरत्वातनप्रीणनोभवतत[36]

Dalhana commenting on this says that nourishment to Dhatus will be minimum in old age and it just supports the life. No Acaryas have told that Rasayana should not be given in Vrddhavastha. But it is clearly understood that Vrddhavastha is not the proper age for the administration of Rasayana because after sixty years naturally there occurs the declination of body functions. As a result, the assimilation, absorption and movement of essence to all Dhatus get diminished leading to incomplete achievement of the desired effect. Moreover, the definition "Yajjaravyadhividhwamsi", where Jara means not Kalaja Jara, but Akalaja Jara. In Akalaja Jara, one can revert the process by Rasayana which is clearly told by our Acaryas. But no reference is found that Rasayana stops Kalaja Jara. (It is similar to the concept that administration of growth hormone does not cause further growth after the closure of epiphyseal ends of bones). Once Kalaja Jara which is Svabhavika (natural phenomenon) sets in, then there is no question of stopping or reversing it because catabolic rate already has taken the upper hand. Hence, Vrddhavastha does not get the fruitful effects of Rasayana. Then one may question how the Sage Cyavana was turned from old to young. Sivadasasena once again clarified it by saying that effect was not only because of Rasayana but also because of continuous penance along with Rasayana. Another factor which can be the cause for minimal effect of Rasayana is the presence of Virodhaka Bhava and because of these, in old age, Rasayana Dravya does not render the essence necessary for all Dhatus thereby reduces the formation of Prasasta Dhatu.

Sodhana is generally conducted before the administration of Rasayana in all individuals. All Acaryas agree with the point that Sodhana is contraindicated in Balaas well as in Vrddha,
because Sodhana results in Ksaya of Dhatus, Agni and Deha Bala which is usually restored by Samsarjana Krama. In almost all occasions, Sodhana is performed using the drugs having properties like Katu - Tikta Rasa, Usna Virya, Usna - Laghu Guna and Usna Vipaka. Balyavastha, dominated by Kapha, most essential for the anabolic activity or Dhatu Vrddhi, is having the properties exactly opposite to those mentioned above. So, they counteract the activity of Kapha thereby slows down the process of anabolism. On the other hand, Vrddhavastha, dominated by Vata is having the properties similar to the above mentioned ones. So, they catalyse the activity of Vata resulting in increase in the process of catabolism. In Balyavastha, there will be development of Dhatus and Agni will not be functioning to its optimum. So, Sodhana leads to destabilization of whole body functions and derangement in Agni, eventually hampering Dhatu Vrddhi or Upacaya of Dhatus. Once Upacaya of Dhatus gets stopped or reduced, then complete development of whole body cannot be expected. In Vrddhavastha, all Dhatus will deteriorate progressively. Naturally, there will be less strength and there is dominance of Vata as well. Administration of Sodhana leads to further decrease in Dhatus and Vata gets increased which in turn, affects the Dhatus further as Vata contributes largely for the occurrence of Dhatu Ksaya. Hence, in Balya and Vrddhavastha, Rasayana given to the individuals after Sodhana will not definitely give the desired effects.

**Rasayana Vidhi**

Two varieties of Rasayana have been mentioned based on the mode of administration. They are

(a) Kutipravesika

(b) Vatatapika

Kutipravesika is done with persons taking Rasayana inside a specially constructed Kuti\[^{37}\] and Vatatapika is administered with individuals exposed to Vata and Atapa.

Before Rasayana, person should be administered with Samsodhana and Samsarjana Krama.\[^{38}\]

Administration of selected Rasayana to the particular person is the unique concept of Ayurveda considering each and every factors of an individual i.e. Vayas, Prakruti, Agni, Satmya etc. And some Rasayanas are used in particular way like Vardhamana Pippali Rasayana – in this Rasayana individual should start with single Pippali and in next 10
consecutive days he has to increase one Pippali each day and after 10 days he has to decrease one Pippali in same manner. Same method is to be followed for Bhallataka rasayana. Another example of different method to intake Rasayana is Ritu-Haritaki. In this Rasayana, haritaki is to be taken with different adjuvants according to the season. Acharya Charaka has mentioned four Medhya Rasayana\textsuperscript{39} in chikitsasthana i.e. Swarasa of Mandukantri and Guduchi, Yashtimadhu Churna, Shankhapushpi kalka also showing that particular part of the drug having specific action.

Acharya Sharangdhara has mentioned loss of impact desired effect in each decade of life and he has described Rasayana drugs for each of them i.e.

<table>
<thead>
<tr>
<th>Decade of life</th>
<th>Loss of impact desired effect</th>
<th>Desirable Rasayanas</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st}</td>
<td>Balya</td>
<td>Vacha, Swarna</td>
</tr>
<tr>
<td>2\textsuperscript{nd}</td>
<td>Vruddhi</td>
<td>Kashmari, Bala</td>
</tr>
<tr>
<td>3\textsuperscript{rd}</td>
<td>Chhabi</td>
<td>Amalaki, Lauha</td>
</tr>
<tr>
<td>4\textsuperscript{th}</td>
<td>Medha</td>
<td>Shankhapushpi</td>
</tr>
<tr>
<td>5\textsuperscript{th}</td>
<td>Tvak</td>
<td>Jyotishmati</td>
</tr>
<tr>
<td>6\textsuperscript{th}</td>
<td>Drashti</td>
<td>Jyotishmati</td>
</tr>
<tr>
<td>7\textsuperscript{th}</td>
<td>Shukra</td>
<td>Atmagupta, Aswagandha</td>
</tr>
<tr>
<td>8\textsuperscript{th}</td>
<td>Vikrama</td>
<td>Rasayana may not be effective</td>
</tr>
<tr>
<td>9\textsuperscript{th}</td>
<td>Buddh</td>
<td>Rasayana may not be effective</td>
</tr>
</tbody>
</table>

**Why Sodhana is must prior to Rasayana?**

If Rasayana is administered without Sodhana then it will be of no use just like colouring a garment which is unclean or stained cannot be appreciated.

\begin{quote}
नाविशुद्धशरीरश्युक्तोरासायनोवविधि: \\
नभातितवसिकिलप्पेंगयोगांगियाहितः\textsuperscript{40}
\end{quote}

**Factors to be avoided during Rasayana\textsuperscript{41}**

*Ahara*

- Substandard diet
- Sour, salty, pungent and alkali
- Dry vegetables and meat
- Derivatives of Sesame
- Germinated cereals and pulses, freshly harvested
- Contradictory, unwholesome, dry, Abhisyandi food
- Softened, heavy, putrid and stale food
• Irregular food intake and food taken before the digestion of earlier food
• Alcoholic drinks

**Viharaja**
• Day sleep
• Regular sexual intercourse
• Irregular and excessive exercise

**Manasika**
• Excess fear, anger, grief, greed and infatuation.

If these were followed, then the muscles become flabby, joints become loose, blood becomes afflicted and fat gets liquefied. In such persons, marrow does not remain intact inside the bones, there occurs impairment in the ejaculation of semen and *Ojas* gets diminished. In such circumstances, person feels exhausted, languid and falls victim to excess sleep, drowsiness and laziness. He loses enthusiasm, incapable of physical and mental work. He loses memory, intellect and complexion and becomes an abode of diseases. Thus, he fails to enjoy the full span of his life.

**Contra Indications for Rasayana**
*Rasayana* should not be administered to following seven persons.

• Intemperate
• Lazy
• Poor
• Careless
• Immoral
• Sinful
• Who disregard medicines

If administered, *Rasayana* will give no beneficial effect because of following respective reasons. They are -

• Ignorance
• Non commencement of the treatment
• Poverty
• Instability of the mind
• Depending on others
• Non righteous deeds
• Inability to secure the genuine drug.

Probable Mode of Action

Action on Rasa
Action on Agni
Action on Srotasa

Action on Rasa-dhatu is mentioned by definition of Rasayana that by Rasayana, a person can get maximum essence of all Dhatus by proper circulation of Rasa to all Dhatus.

Agni plays a vital role in procuring the desired effects of Rasayana. Caraka\(^ {43} \) says that Jatharagni (Dehagni) is the base for Ayu (longevity), Varna(complexion), Bala (strength), Arogya (positive health), Prana (elan vital), Utsaaha(enthusiasm), Upacaya (anabolism), Prabha (lustre), Agnis (Dhatvagnis), Ojas and Tejas (energy). He further stated that if Agni becomes destroyed then the individual loses all the mentioned features; if normal, lives longer without any ailment and if impaired (either of Manda, Visama, and Tiksna) then becomes diseased. Hence, everything is dependent on Agni. The same has been quoted in Sutrasthana as -

बलमारोग्यायुश्चप्राणाश्चाग्नौप्रततप्ताः \(^ {44} \)

Though Ahara is the root for every living being, it still depends on Agni. Any substance, either Ahara or Ausadha passes through the same stages of Avasthapaka. They first come in contact with Jatharagni and then with respective Bhutagnis and Dhatvagnis. The digestion of food by Jathargani results in the breakdown of food into five distinct physico-chemical groups viz. Parthiva, Apya, Taijasa, Vayaviya and Nabhasa. Jatharagni is stated to ignite the Agni present in each of these and the respective Agni digests the substances of that group.\(^ {45} \) This renders food substances fit for being assimilated into the substances present in the Dhatus after they have been subjected to the action of Dhatvagnis. Caraka has quoted in Sutrasthana 28/3 that wholesome foodstuff ingested in four fold manner, having been digested by Antaragni, is followed by further Pakas under the influence of Bhutagni. They are subjected to further Pakas, by Dhatvagnis, subject to the condition that Dhatusma, Dhatuvaha Srotamsi and Maruta are not impaired and Dhatu Paka is proceeded with
inexorable Kala. Dhatvaharas thus formed confer upon the organism strength, complexion, happiness, longevity and provide energy to Dhatus. Commenting on this Cakrapani says that Rasadi Dhatus which are always destroyed are being replaced by Dhatvaharas, derived from the four kinds of nutrition ingested. In his view, the Rasadi Dhatus are lost in catabolic processes and such losses are made good by anabolic events. He further stated that Sarira Dhatus which are destroyed by their own Agnis are replenished by four kinds of food ingested.

Foregoing lines showed how Agni is responsible for everything. All the positive aspects of life are endowed only when Agni functions normally. Because of Samagni, digestion takes place properly forming Sara and Kitta. Saramsa nourishes all Dhatus and Pancendriya Dravyas while Kittamsa, all Malas like Sveda, Mutra, Purisa, Vata, Pitta, Kapha etc. This Sara Kitta Vibhajana and further, nourishment has been explained in the form of three different Nyayas by our Acaryas such as Ksira Dadhi (Sarvatma Parinama), Kedara Kulya and Khale Kapota Nyayas.

Thus, Jatharagni renders support to Bhutagnis and Dhatvagnis to carry out their action properly. Hence, Agnis (all the thirteen) should function normally so as to get maximum benefits of either Ahara Rasa or Bhaisajya like Rasayana Dravyas.

Srotas, the body channel which carries the metabolites to different tissues of the body also provide much to the effects of Rasayana. In childhood, whole body structures including tissue elements are not fully formed and Srotas are not fully distinct. So, the essence of ingested substances may not reach their minutest targets. In Jaravastha, all the tissue elements including Srotas become weak functionally. Formation of atheromatous plaque within and hardening of Srotas in old age is quite common resulting in reduction in elasticity. Due to this, Sara will not be propelled further towards the tissue elements depriving them of their requirements. To sum up, the whole Sarira of an individual will not get the effects of Rasayana to its optimum in Balyavastha and Jaravastha for the aforesaid views and maximum benefits can be observed in Madhyamavastha.

Modern Explanation regarding Pharmacological Activities of Rasayanadrugs: In the light of the modern medical science, many scientists are trying to find out the logics for the possible explanation regarding the pharmacology of Rasayana drugs. On the basis of various researches following mode of action can be reconsidered for the explanation of Rasayana effect of herbal drugs.
Free radicals are fundamental to any biochemical process and represent an essential part of aerobic life and our metabolism. They are continuously produced by the body's normal use of oxygen such as respiration and some cell-mediated immune functions. They are also found or generated through radiation—Radiotherapy. However, the amount of these protective antioxidant principles present under the normal physiological conditions is sufficient only to cope with the physiological rate of free radical generation. It is obvious, therefore, that any additional burden of free radicals either from Radiotherapy like external cause or produced within the body can lead imbalance in the free radical (pro-oxidant) and anti-free-radical (antioxidant) leading to oxidative stress, which may result in tissue injury and subsequent adverse condition. Research in the recent past has accumulated growing body of evidences to show that enrichment of body systems with natural antioxidant principles may correct the vitiated homeostasis [Tiwari AK et al., 1999; Keaney et al., 1999; Ley et al., 1987]. Flavonoids as antioxidant having multiple properties of these phytochemicals made them more attractive, as they can modulate various aspects of disease like lipid peroxidation involved in cytokinase release in normal cell with use of chemotherapeutic agents in cancer management. Flavonoids release H$_2$O$_2$ by donating a hydrogen atom from their pyrogallol or catechol structure to oxygen level of enzymatic antioxidants like catalyze and other H$_2$O$_2$ removing enzymes. The preventive role of flavonoids is due to a variety of constituents including numerous photochemical including flavonoids. Thus it is possible that flavonoids also contribute to the cyto-protective effect to normal cell. The holistic therapeutic effect of medical antioxidants which can be given through oral route may be observed as they can display their first antioxidant defense in digestive tract by limiting reactive oxygen species formation and scavenging them and may impart anti-ulcer activity [Tarnawski et al., 2000]. Further once absorbed, either as aglycons or glycosides [Hollmanp et al., 1998] or to a larger extent as phenolic acids, they continue to exert antioxidant effect along with other systemic activities. One of the main purposes of antioxidant therapy is to reduce target site inflammation induced by oxidative stress.
Antioxidants are ubiquitous in natural medicinal plants. The great variation in their magnitude as well as multitude at activities may even become more important for protective effects in situations. Whereas free radical species are not directly involved in the disease process, but may participate or foster the secondary events.

**Adaptogen**

The concept of 'Adaptogen' was coined in 1947 by a Russian Scientist, Lazarev. He defined them as "substances meant to put the organism into a state of nonspecific heightened resistance in order to resist stresses and adapt to extraordinary challenges".

In general, adaptogens are a group of medically effective substances that normalise body functions, strengthen systems and functions compromised by stress and have a protective effect against a wide variety of environmental and emotional stresses.

General Adaptive Syndrome (GAS), formulated by Selye is a consistent, nonspecific response of the organism to stressful influences of totally diverse types, the adaptive reaction enables the body to heighten its power or resistance towards stresses, and to adapt to external conditions.

Though difficult to differentiate adaptogenic effect from other remedies of related action, there are number of criteria which allow a formal arrangement of these other drugs in immunostimulants, nootropics, anabolics, tonics and geriatric acids. Rasayana is certainly having any one or more of these activities. Immune stimulants are substances which bring about a heightened resistance through the stimulation of non specific defensive processes which are largely independent of antigens.

*Nootropics (cognition enhances)* are effective psychopharmacological agents which are said to improve the higher integrative brain functions, such as memory, learning, understanding, thinking and the capacity for concentration. No specific mechanisms are known. It is assumed that nootropics stimulate existing neural synapses to optimum performance (adaptive capacity) and also for damaging influences, such as disturbances of the energy and neurotransmitter metabolism or ischaemia (protective capacity).

*Anabolics* are substances which activate the anabolic metabolism. They promote the synthesis of nucleic acids and protein metabolism, thereby in general, growth.
Tonics and geriatric remedies fall into the category of wellness enhances. Though a precise conceptual definition can not be given for both, tonics are defined in a very generalized way as substances which mitigate conditions of weakness or lack of tone within the entire organism, or in particular organs. Being adaptogenic, like all the others, generally, adaptogens raise one's capacity, therefore may also be included by the group of tonics.

Geriatric remedies are substances serving as a preventive treatment of old age diseases. Stiffness and age conditioned rigidity are possibly the outer manifestations of diminished or lacking ability to adapt.

Brekhman, in 1958, summarised the concept adaptogen as follows:

- It must show a nonspecific effect (raising the power of resistance to toxins of a physical, chemical or biological nature).
- It is to normalise, independent of the type of pathological condition.
- It must be harmless and disturb the body functions as little as possible.

Accordingly, adaptogens are to strengthen the nonspecific powers of resistance to noninfectious stresses, raise the general performance capacity during stress situations and thereby prevent diseases that could develop due to overstressing the organism.

It is seen as characteristic of adaptogens that their antistress effect towards stresses of a noninfectious variety, always stands in the foreground. Although in so-called adaptogens, immune stimulating, nootropic or metabolic effects have also been proved.

By going through the aforesaid pages, it is certain that adaptogens show the similar qualities of Rasayana i.e., Dhatuvrdhidhikara, Medhya, Pustikara, Balada, Dehendriya Drdhikarana, Brmhaniya, Jivaniya, etc. and thus help improve body's defense system.

**Immuno modulator**

Immuno-modulation or immuno potentiation is a phenomenon in which enhancement of the resistance against the invading organisms responsible for diseases are seen. Immunomodulatory substances of varying chemical structures and molecular sized in Rasayana drugs, which exert that effect by modulating several facts of the immune system such as activation of macrophages for enhanced generation, oxygen radical and stimulation of cytotoxic activity and phagocytosis, proliferation or lymphocytes leading to production and cytotoxic induction of T helper and natural killer cell and activation of complement.
pathway Immuno-stimulant after promise inenhcencing antigen specific and nonspecific immune response in normal cell injury during radiotherapy or cytotoxic chemotherapeutic medication andpotentiating the efficacy of drugs immuno compromised host much morecould been achieved by Indian scientist in the field of Rasayana therapy.

CONCLUSION
रसायनतंत्रनामवयःस्थापनमायुर्मधाबलकरंरोगपहरणसमयवच ॥

Rasayana Tantra is one which deals with delaying of ageing process, increasing of intellect and strength, prolongation of life and curing of disorders.

Though chiefly concerned with improving the healthy status, Rasayana is used as curative. Thus, it serves the dual purpose of eradicating the ailments and keeping them away thereby promoting and prolonging the life span. As quoted by Acharya Charaka in first chapter of Chikitsa Sthana.

It means the therapy which is useful to improve the healthy status of an individual and also to eradicate the diseased condition is called Vrushya and Rasayana chikitsa.

REFERENCES
1. Rg. 1-34-6 and 1-34-11.
5. Rg. 1-116-19.
13. Atharvaveda 1/5/1.
18. Dalhana on Su. Ci. 27/1-2.
23. Ch. Chi. 1/1/16.
26. Ch Chi : 1/1/7-8.
28. Ch. Vi. 3/12-18.
30. Dalhan on Su. Ci. 27/1-2.
32. Su. Chi. 27/3.
34. Tattvacandrika on Cakradatta.
35. Su. Su. 35/29.
36. Su. su. 14/19.
40. Su.Chi. 27/3-4.
42. Su. Chi. 30/4.
43. Ch. Chi. 15/3.
44. Ch. Su. 27/342.
45. Ch. Chi. 15/13.
46. Ch. Chi. 15/3-4.