



**RESPONSIBILITY OF RASAYANA TREATMENT ON IMMUNOLOGICAL  
INSUFFICIENCY**

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**ABSTRACT**

Free radical oxidative stress has been implicated in the pathogenesis of a wide variety of clinical disorders, resulting usually from deficient natural antioxidant defenses. Potential antioxidant therapy should, therefore, include either natural free radical scavenging antioxidant enzymes or agents which are capable of augmenting the activity of these enzymes, which include SOD, CAT and GPX. If human disease is considered to result from an imbalance between oxidative stress and antioxidant defense, then it is conceivable that it may be possible to limit oxidative tissue damage and, hence, prevent or ameliorate disease progression, by supplementing antioxidant defence. By virtue of their properties and clinical use in Ayurveda, the Rasayana may provide potential therapeutic intervention against oxidative threats, both in health and disease.

**KEYWORDS:** Rasayana, Dhatu, Ojas, Amalaki.

**INTRODUCTION**

The word *Rasayana* is a combination of two separate words *Rasa* and *Ayana*. The word *Rasa* in this context means the first liquid tissue which nourishes all the tissues in the body and *Ayana* is its circulation. This means that if *Rasa Dhatu* is produced in optimum quality and quantity, then naturally all the tissues in the body will be nourished properly. The method by which *Rasa* is carried to all the body tissues for biochemical metamorphosis is called as *Rasakriya*. *Rasayana* also means the purification of all tissues from *Rasa* to *Shukra*. It also aims at giving strength to senses, mind and intellect. Hence, *Rasayana* or rejuvenation is such a form of treatment in which all the tissues are nourished and enhanced. The nourishment of vital tissues helps in stopping old age. Thus, it is useful for enhancement of qualities of life, span of life, increased intellect and enhanced physical strength. It also enhances the immunity of an individual leading to health.<sup>[1]</sup>

**History of rasayana**

In ancient time the word *Deha Siddhi* was used for *Rasayana*, this also means making body strong that will last forever. In alchemy or *Rasashastra*, the word *Dhatu Siddhi* was used for making higher metal like gold from cheaper metal such as iron. The concept is similar in both. In *Rig-Veda*, it has been mentioned that Gods were using *Rasayana* and the main substance was herb or preparation known as *Soma*. For making this preparation, *Soma* herb were taken and mixed with milk, ghee and honey. Then it was fermented and was consumed after

filtering it. It is stated that those who use this preparation can resist fire, water and various weapons.<sup>[1]</sup>

*Rasayana* is a special type of treatment containing various methods of rejuvenation. The literal meaning of *Rasa* is the essence of something. Anything ingested into the body in the form of food or medicine is first re-synthesized into *Rasa Dhatu*, the basic plasma tissue. *Ayana* is the method by which *Rasa* is carried to all the body tissues for biochemical metamorphosis (*Rasakriya*). The concept of *Rasayana* is based on these two principles of conservation and transmutation of energy. *Rasayana* therapy strives to improve physical, mental and moral Qualities. It prevents old age, restores youthfulness, improves the complexion and the voice, and increases physical strength and immunity. It strengthens memory and intelligence, gives happiness to oneself, and a life which is beneficial to others.<sup>[2]</sup>

**Rasayana-the science of rejuvenation**

*Ayurveda* has two main aims – one is to maintain health and the second is to cure disease. The branch of *Rasayana* or rejuvenation is one of the eight specialized branches of *Ayurveda* that primarily deals with the maintenance of health. *Rasayana* is defined as any herb, food, or activity which confers youthfulness and cures diseases. If taken in a proper way, the *Rasayana* prevents early aging and keeps you young and active both physically and mentally. The literal meaning of *Rasayana* is “augmentation of *Rasa*”, the vital fluid produced by the digestion of food. *Rasa*

provides nutrition, enhances the immunity, and sustains life. *Rasayana* is the method of treatment through which the *Rasa* is maintained in the body. The purpose of *Rasayana* is to give strength, immunity, *Ojas*, vitality, will power and determination, and to strengthen the sense faculties, so that you are not exposed to sickness and disease as long as you live.

**Types of Rejuvenation therapy:** Depending on the aim or result produced, *Rasayana* is of three types: *Naimittika rasayana*, *Ajasrikarasayana*, and *Kamya rasayana*.

***Naimittika Rasayana:*** (*Nimitt* – Sanskrit for “cause”) is given to combat or balance a specific cause, which is causing a disease in the body. Some examples of this *Rasayana* are *Dhatri Rasayana*, *Mandookaparni rasayana*, *Brahmi rasayana*, and *Triphala rasayana*.

***Ajasrika Rasayana:*** is used to maintain good health and improve the quality of life through a healthy lifestyle, diet, or exercise. It includes use of milk, ghee, honey and adopting the principles of proper sleep and celibacy.

***Kamya Rasayana:*** is used to fulfill a wish or desire or to serve a special purpose (*kama* - desire). It is of four types:

- *Prana Kamya*; used for achieving or maintaining the best quality of *Prana* (life energy) in the body.
- *Medha Kamya*; used for enhancing the memory and intellect.
- *Ayush Kamya*; used for increasing longevity.
- *Chakshu Kamya*; used for maintaining healthy eyes.

Depending on the method of administration, the *Rasayanas* are further classified into two types: *Kutipravesika* and *Vatatapika*. *Kutipravesika* (*kuti* – cottage, *pravesha* – enter) is a therapy in which the person lives in a specially prepared cottage for a long period while taking various *Rasayana* herbs. This *Rasayana* was practiced by the royal and wealthy families of ancient India. *Vatatapika*, on the other hand, does not bear stringent rules and can be practiced in your routine life. This is rightly indicated in the name “*Vatatapika*”, where “*Vata*” means air, and “*Atapa*” means heat or sun. So this is a method of taking *Rasayana*, while a person remains exposed to air and heat. *Vatatapika* method is good for people who are engaged in every day life activities. Some special formulas of this category include *Chyavanaprasha*, *Brahma rasayana*, *Shilajitu rasayana*, *Amalakirasayana*, *Haritaki rasayana*, *Pippali rasayana*, *Lohadi rasayana* and *Loha shilajitu rasayana*. A total of 63 combinations of various rejuvenation formulae are described in the *Charaka samhita*.

*Charaka Samhita* describes another interesting type of *Rasayana* known as the *Droni Praveshika Rasayana*. In this therapy, the person drinks the juices of special herbs prepared by the physician and subsequently enters

a special type of covered boat (*Droni*) designed for this purpose. At the end of this therapy, the person attains a healthy body and mind, sharp intellect, extra-powerful sense faculties, and a long lifespan.

Being a holistic science with equal focus on the body, mind, and soul, Ayurveda also describes a type of *Rasayana* for psychological and spiritual health. Called as “*Achara Rasayana*”, this type does not require internal administration of rejuvenating formulas. “*Achara*” literally means “discipline”.

Following the rules relating to eating, sleeping, and celibacy create rejuvenation in a person. In addition, following a *Sattvik* diet and life style, speaking the truth, practicing non-violence, living in harmony with the nature, following social ethics and conducts, are all included under this category of *Rasayana*. Following these principles leads to formation of high quality *Dhatus* (tissues) and increases the quantity and quality of *Ojas*, a vital factor for health and immunity. Hence, a person can get the same benefits as attained by internal administration of *Rasayana*.

All therapies in *Ayurveda* aim to provide complete health – physical, mental, and spiritual - so that people can engage in achieving the real goal of life—self-realization. The *Rasayana* therapy makes it easily possible with its remarkable benefits on health, immunity, and longevity.

#### **Role of panchakarma in rasayana**

*Rasayana* becomes more fruitful and effective if it is preceded with suitable *Panchakarma*. *Panchakarma* is a bio-cleansing regimen comprising of five main procedures that facilitates better bioavailability of the pharmacological therapies, helps to bring about homeostasis of body-humors, eliminates disease-causing complexes from the body and checks the recurrence and progression of disease. The five fold measures comprehended in this therapy are-*Vamana* (Therapeutic Emesis), *Virechana* (therapeutic Purgation), *Asthapana Vasti* (Therapeutic Decoction Enema), *Anuvasana Vasti* (Therapeutic oil Enema), *Nasya Karma* (Nasal administration of medicaments). *Panchakarma* procedures are preceded by *Snehana* (therapeutic Oleation) and *Swedana* (Sudation) applications to make the body system conducive for elimination of bio-toxins and cleansing of channels. This is effective in managing autoimmune, neurological, psychiatric and musculoskeletal diseases of chronic and metabolic origin.<sup>[8]</sup>

#### **Mechanism of action of rasayana**

*Rasayana* promotes nutrition by direct enrichment of the nutritional quality of *rasa* means nutritional blood, by promoting nutrition through improving *Agni* means digestion, metabolism and by promoting the competence of *Srotas* means microcirculatory channels in body.<sup>[4]</sup> It has been reported that the '*Rasayanas*' are rejuvenators, nutritional supplements and possess strong antioxidant

activity. They also have antagonistic actions on the oxidative stressors, which give rise to the formation of different free radicals. They are used mainly in ageing, atherosclerosis, cancer, diabetes, rheumatoid arthritis, autoimmune and Parkinson's disease. Their anti stress actions have made them therapeutically more important.<sup>[5]</sup> In order to investigate mechanism of action of the *Rasayana* i.e. *Tinospora cordifolia* studies are carried out on the proliferative fraction of the bone marrow of mice by flow cytometry and found that compared with normal mice, there was a significant increase in the proliferative fraction in the bone marrow in mice treated with the *Tinospora cordifolia*. Some *Rasayana* activate mononuclear cells to produce cytokines like GM-CSF and IL-1 in a dose dependent manner. These results indicate it is possible that the *Rasayana* (particularly those with *Madhur Vipaka* that are advocated as adaptogens in Ayurveda) primarily activate immune cells, leading to secretion of cytokines, which in turn act on multiple target organs to produce the myriad effects ascribed to these treatments.<sup>[6]</sup> Administration of herbal preparation, *Rasayana* has been found to be enhancing the natural killer cell activity in normal as well as in tumor bearing animals. *Brahma Rasayana* is found highly active. *Brahma Rasayana* and *Aswagandha Rasayana* were found to activate antibody dependent cytotoxicity significantly. *Aswagandha Rasayana* also found to activate macrophages. *Rasayana* are also found to stimulate antibody dependent complement mediate tumour cell lysis.<sup>[7]</sup> The *Rasayana* herbs seem to exert their effect through immunosuppressant, immune-stimulant and immune-adjuvant activities or by affecting the effect or arm of the immune response. It has been found that the nervous, endocrine and immune systems are all interrelated. Immune products like various cytokines have been found to stimulate the hypothalamus-pituitary-adrenal axis and corticotrophin release factor (CRF), which ultimately enhances the production of adrenal corticotropic hormone (ACTH) resulting into increased secretion of glucocorticoids which have an overall suppressive effect on the immune system. Stress also acts on the same axis and brings about changes in the immune status of the body. These *Rasayana* drugs probably reduce stress levels by affecting antioxidant levels. So these *Rasayana* drugs act as potent antioxidants and neuro-endocrine immune-modulators.<sup>[8]</sup>

### General rasayanas<sup>[2]</sup>

**Table No:1 For specific tissues, certain herbs and foods functions as *Rasayanas*.**

Plasma ( <i>Rasa</i> )	<i>Draksha, Shatavari, Dates</i>
Blood ( <i>Rakta</i> )	<i>Amalki, Dhatri lauha, Bhringaraj, Suvarnamakshik Bhasma</i>
Muscle ( <i>Mamsa</i> )	<i>Masha, Ashwagandha, Bala, Nux vomica, Silver Bhasma</i>
Fat ( <i>Meda</i> )	<i>Guggulu, Shilajit, Haritaki, Guduchi, Garlic</i>
Bone ( <i>Asthi</i> )	<i>Shukti (mother of pearl) Bhasma, Kukkutandatwak bhasma, Vamsharochana,</i>
Nerve ( <i>Majja</i> )	<i>Calamus, Gotukola, Shankhapushpi, Loha bhasma, Suvarna Bhasma, Makaradhwaaja</i>
Reproductive ( <i>Shukra</i> )	<i>Kapikacchu, Vidarikanda, Shatavari, Ashwagandha, Suvarna Bhasma, Ghruta and Godugdha.</i>

### Benefits of Rasayana<sup>[2]</sup>

1. To increase body tissues
2. To increase digestive power
3. To increase the metabolic process at a tissue level or to improve endocrine gland function
4. To remove waste products or to remove excess tissues in the body
5. To increase the functional capacity of the brain
6. To increase the strength and immunity of the body
7. To destroy disease and establish homeostasis of energy, which prevents early aging.

### *Rasayana* with specific purpose<sup>[2]</sup>

1. For improving longevity
2. For improving brain function
3. For improving action of the tissues
4. For improving action of the channel systems
5. For improving action of the senses

### The rejuvenative programs of ayurveda<sup>[2]</sup>

Rhythmic massages that relax each tendon. Medicated baths revitalize every nerve. Diets that restore you to sound health. The rejuvenation programs of Ayurveda are designed to improve your vitality, enhance immunity and increase longevity. Besides, good health goes a long way in bringing out the best in you. Adding a healthy glow to your skin, it will awaken the sleeping beauty within. Adding years to life, and life to your years.

### Rejuvenation therapy (*Rasayana Chikitsa*)<sup>[2]</sup>

Tones up the skin and rejuvenates & strengthens all the tissues, so as to achieve ideal health and longevity. Increases '*Ojas*' (primary vitality) and improves '*Sattva*' (mental clarity) and thereby increases the resistance of the body. Includes head and face massage with medicated oils and creams, body massage with herbal oil or powder, by hand, internal rejuvenative medicines and medicated steam bath. Herbal baths are also used.

### Body immunization and longevity treatment (*Kayakalpa Chikitsa*)<sup>[2]</sup>

Prime treatment for retarding the ageing process, arresting the degeneration of body cells and immunization of the system. Includes intake of *Rasayana* (special *Ayurvedic* medicines and diet) and comprehensive body care programs. Most effective for either sex if undertaken before the age of 50.

**RASAYANA FOR CHANNEL-SYSTEMS<sup>[2]</sup>****Table No: 2 Certain Herbs and Food functions as Rasayana in specific channel-systems (Srotas).**

Respiratory System	<i>Chyavanprash, Vardhaman pippli</i>
Water Metabolism System	Fresh ginger, Cyperus, Cardamom
Digestive System	Long pepper, <i>Bhallataka, Haritaki,</i>
Circulatory System (lymphatic portion)	<i>Draksha, Shatavari, Kharjura</i>
Circulatory System (blood portion)	<i>Amalki, Dhati lauha, Bhringaraj, Suvarnamakshik Bhasma</i>
Muscular System	<i>Masha, Ashwagandha, Bala, Nux vomica, Rajat bhasma</i>
Adipose System	<i>Guggulu, Shilajit, Haritaki, Guduchi, Garlic</i>
Skeletal System	<i>Shukti (mother of pearl) Bhasma, Kukkutandatwak bhasma, Vamsharochana,</i>
Nervous System	<i>Aswagandha, Calamus, Gotukola, Shankhapushpi, Loha bhasma, Gold bhasma, Makaradhwaja</i>
Reproductive System	<i>Aswagandha, Kapikacchu, Sweta Mushali, Shatavari, Vidarikanda, Gold Bhasma, Ghee and Cow milk.</i>
Urinary System	<i>Punarnava, Gokshura</i>
Excretory System	<i>Kutaj, Vidanga, Triphala</i>
Sweat System	<i>Basil, Nux vomica</i>
Menstrual System	<i>Ashoka, Lodhra, Shatavari</i>
Lactation System	<i>Shatavari, Jeeraka, Milk</i>

**Table No.3: Rasayana for senses and other organs.<sup>[2]</sup>**

Eye	<i>Triphala, Yasti, Shatavari</i>
Nose	<i>Nasya of Anu taila</i>
Skin	<i>Tuvarak, Khadira, Bakuchi</i>
Brain	<i>Gotu kola, calamus</i>
Heart	<i>Guggul, Elecampane, Gold bhasma</i>
Neuro-Muscular System	<i>Bala, Nagbala, Garlic, Guggul</i>

**Table No.: 4 Rasayana according to constitution.<sup>[2]</sup>**

<i>Vata</i>	<i>Bala, Ashwagandha</i>
<i>Pitta</i>	<i>Amalaki, Shatavari, Guduchi</i>
<i>Kapha</i>	<i>Bhallataka, Guggul, Long pepper, Garlic</i>

**Research conducted<sup>[9]</sup>**

In a clinical study of three months duration *Guduchi (Tinospora cordifolia)* and *Ashwagandha (Withania somnifera)* were found as antioxidants. *Guduchi* was found to be a more effective natural antioxidant over others. Clinical studies using a formulation of the aqueous extract of one of the *Rasayana*, namely *Tinospora cordifolia*, in immune suppressed patients is done. A 500 mg tablet was made and administered three times a day. And found benefits in obstructive jaundice, amelioration of side effects of chemotherapy and hastened recovery from tuberculosis<sup>9</sup>.

**DISCUSSION**

It is a treatment in complete alignment with the Ayurvedic philosophy of "Prevention is better than cure". With ageing, the body tissues undergo many changes. *Rasayana Chikitsa* aims at improving the health and the longevity of people by enhancing their metabolism, repairing the wear and tear of the body due to aging or diseases, removing waste products and toxins, improving the immunity and increasing tissue turnover. It boosts the 'Ojas' (vital force of life) and improves the 'Sattva' (mental clarity).

As a result, *Rasayana Chikitsa* rejuvenates and increases the lifespan, improves memory and intelligence, leads to better complexion, restores youthfulness, improves immunity, enhances endurance levels and leads to improved sensory perception abilities.

**CONCLUSION**

*Rasayana* is not just a drug therapy but it is a specialized procedure plasticized in the form of rejuvenative recipes, dietary regimen, and special health promoting conduct and behavior. Scientific studies have proven the efficacious role of *Rasayana* remedies in the management of chronic life style related diseases and degenerative changes. It has been reported that the '*Rasayanas*' are rejuvenators, nutritional supplements, possess strong antioxidant activity and antagonistic actions on the oxidative stressors. *Rasayana* is the preventive therapy described in Ayurveda which is helpful to maintain health, retard aging process and promote immune system to fight against infection. *Rasayana* is very helpful to maintain healthy body and mind in today's environmental condition and life style. It is require to give information to people and aware them for *Rasayana* and its use and also there are lot of opportunities to work on it.

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