



## A REVIEW ON YOGARAJ RASAYANA – AN AYURVEDIC FORMULATION

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## ABSTRACT

*Rasayana* is one of the panoramic realms of Ayurveda, which comprises specialized use of herbs, herbo-mineral formulations, diet and lifestyle along with behavioral code of conduct to achieve the optimum state of tissues and systems of the body so that there is least effect of external disease causing factors on the In other words, it can be stated that *Rasayana* is a way to achieve homeostasis and thus retard the process of tissue degeneration leading to prevention of diseases. In healthful condition, *Rasayana* may be understood as dietary dynamics for rejuvenation of frame and psyche. Among various types of *Rasayana* classification, *Naimittika Rasayana* is a disease-oriented therapy. A vast number of *Naimittik Rasayana* drugs and other poly herbal formulations have proven their efficacies in managing various diseases. One Such drug is *Yogaraj Rasayana*. It has many pharmaco - therapeutical applications. It is formulated with broad spectrum activity and is indicated in various diseases pertaining to *Sarvadhaturkshaya*. Despite great technological advancement in medical science, the management of immunological infections is still a great challenge. At this juncture, it becomes essential to explore and adopt different *Naimittik Rasayana* therapies hidden in classical texts of *Ayurveda* for their proper utilization. Thus, here is an attempt to

highlight the immune-modulative and rejuvenating effects of *Yogaraj Rasayana* in accordance with the classical and current literatures.

**Keywords:** *Ayurveda*, *Naimittik Rasayana*, immunomodulatory effect, *Yogaraj Rasayana*.

## INTRODUCTION

The term '*Rasayana*' denotes elixir or a medication to saves the vintage age and extends life<sup>[1]</sup> It is one of the eight specialties of *Ayurveda* that goals to maintain health. It aims at right nourishment and transportation of nutritive fluid (*Rasa*), blood (*Rakta*) etc <sup>[2]</sup>. The primary objectives of *Ayurveda* are preserving health and preventing diseases. *Rasayana* remedies are vital within the maintenance of health, prevention of diseases, rapid recovery, and rehabilitation from sickness. In current practices, antioxidant, immune-modulatory, adaptogenic, anabolic, nutraceuticals, anti-aging remedies are taken into consideration sorts of *Rasayana* therapy. *Ayurveda* advises body purification earlier than management of *Rasayana* remedy to reap optimum benefits. Classification of *Rasayana* based on the method of administration: *Kutipraveshika* and *Vataatapika*; based on effect: *Kamyā Rasayana*, *Naimittika Rasayana* and *Ajasrikam*; based on treatment principle: *Samsodhana* and *Sansamana*.

<sup>[3]</sup> Among these, *Naimittik Rasayana* is a disease-oriented therapy, which means that it aims to treat specific diseases. One such *Rasayana* drug is *Yogaraj Rasayana*. The term "*Yogaraj*" means the "the king of all formulations". The drug has been described in the age-old classical text *Charak Samhita* under *Pandu Chikitsa Adhyaya* and has been praised by the quote "*Rasayanam Idam Shrestham Sarvaroga Haram Shivam*" which means that it is the superior of all *Rasayana* formulations and there is no disease that cannot be cured by this *Rasayana*.<sup>[4]</sup> It is a classical compound containing drugs possessing immune-modulating qualities. Present review aimed to critically analyse the detailed mechanism of action of the drug. Literary resources have been used in this study. All the related information available in text and internet have been collected and analysed for making the decisive discussion.

## REVIEW OF DRUG

### Ingredients:

Drug	Botanical name	Rasa	Virya	Vipak
Amalaki	<i>Emblica officinalis</i>	Madhur, amla, katu, tikta, kashaya	Sheeta	Madhur
Vibhitaki	<i>Terminalia bellerica</i>	Kashaya	Ushna	Madhur
Haritaki	<i>Terminalia chebula</i>	Madhur, amla, katu, tikta, kashaya	Ushna	Madhur
Shunthi	<i>Zingiber officinale</i>	Katu	Ushna	Madhur
Pippali	<i>Piper longum</i>	Katu	Anushna sheeta	Madhur
Marich	<i>Piper nigrum</i>	Katu	ushna	Katu
Chitraka	<i>Plumbago zeylanica</i>	Katu	Ushna	Katu
Vidang	<i>Embelia ribes</i>	Katu, Kashaya	Ushna	Katu
Shudh Shilajit	<i>Asphaltum</i>	Tikta	ushna	Katu
Raupya	<i>Iron pyrite</i>	Tikta	Ushna	Madhur

<i>makshik</i>					
<i>Swarn makshik</i>	<i>Copper pyrite</i>	<i>Madhur,</i>	<i>tikta</i>	<i>Sheeta</i>	<i>Katu</i>
<i>Lauh bhasma</i>	Purified iron	<i>Tikta,</i> <i>Kashaya,</i> <i>madhur</i>		<i>Sheeta</i>	<i>Madhur</i>
<i>Mishri</i>	Sugar	<i>Madhur</i>		<i>Sheeta</i>	<i>Madhur</i>

### Method of preparation:

**Stage 1:** Firstly, 1 part each of *Triphala* (*Amalaki*, *Vibhitaki*, *Haritaki*), *Trikatu* (*Shunthi*, *Pippali*, *Marich*), *Chitrak* and *Vayavidang* is taken.

**Stage 2:** Now, 5 parts each of *Shudh Shilajit*, *Raupya Makshik Bhasma*, *Swarna Makshik Bhasma* and *Shudh Lauh Bhasma* is added.

**Stage 3:** Lastly, 8 parts of *Mishri* is added.

**Stage 4:** Then all the above-mentioned material together mortared into a fine powder.

**Stage 5:** The powdered *Bhasma* is then preserved and stored into a clean brace ware or glass bottle.

**Dose:** According to *Acharya Charaka*, it should be taken in a quantity equal to the fruit of *Udumbar* (cluster fig) or according to the power of digestion and desired food should be given only after the digestion of medicine.

**Apathya (Diet to be avoided):** *Kulatha* (horse gram), *Kakamachi* (*Solanum nigrum*) and Pigeon meat.

**Indications:** According to *Acharya Charaka*, the drug *Yogaraj* possesses qualities of ambrosia. It is an excellent rejuvenative recipe which cures all diseases and bestows auspiciousness. It specially cures *Pandu* (all types of anaemia), *Visha* (it alleviates the effect of all types of poison), *Kasa* (cough), *Yakshma* (tuberculosis), *Visham Jwara* (pyrexia), *Kustha* (skin disorders), *Ajeerna* (indigestion), *Meha* (urinary disorders/ diabetes like conditions), *Shosha* (emaciation due to tissue degeneration), *Shwaas* (asthma), *Arochak* (anorexia), *Apasmar* (epilepsy), *Kaamla* (jaundice), and *Gudroga* (anal disorders like haemorrhoids).

**Side effects:** So far, there are no reports regarding the adverse effect of this formulation. However, there should be some precautions as the product contains various minerals and heavy metals such as iron as an ingredient. If these components are not cleaned

properly, they can sometimes prove dangerous for self-medication. In addition, an overdose can have an intense toxic effect. It is necessary to strictly prevent pregnancy, lactating girls and children.

### PHARMACOLOGICAL Analysis

In *Charak Chikitsa* Chapter 1, *Acharya Charak* has categorized the drug into two – *Swasthasya Urjaskar* (which promotes strength and immunity in the healthy) and *Artasya Rognut* (which alleviates disorders). The *Swasthasya Urjaskar* drugs are further classified into *Vrishya* (aphrodisiac) and *Rasayana* (immune modulator and rejuvenator) drugs. Further eliciting the qualities of *Rasayana* drugs, the drug is said to be *Rasayana* when it fulfills the criteria by providing following *Dirghayu* (longevity), *Smriti* (memory), *Medha* (intelligence), *Arogya* (disease free state), *Tarun Vaya* (youthfulness), *Prabha* (excellence of lustre), *Varna* (excellence of complexion), *Swarodarya* (excellence in voice), *Deha – Indriya – Bala param* (optimum strength of physique and sense organ), and *Vaaksidhi* (excellence in deliberation), *Pranati* (adaptation), *Kanti* (promotes glow). *Rasayana* is the means of attaining excellent qualities of *Rasadi Dhatus* i.e., body cells and tissues.

According to modern science, the drugs intended for this purpose are currently explored under the various pharmacological contexts such as adaptogens, antioxidants, immunomodulators, cognitive enhancers and nootropic, anti-ageing, tissue regeneration etc.

**Adaptogen:** Adaptogens are conceptualized as "a new class of metabolic regulators that enhance the organism's ability to adapt to environmental factors." This endurance can be achieved by supporting the **optimal strength of the body and sense organs.**

**Antioxidants:** Antioxidants are compounds that inhibit oxidation, a chemical response that could produce loose radicals and chain reactions that can harm the cells of organisms. Research shows evidence that

**reducing oxidative damage can extend lifespan.**

Longevity is expected because of slower ageing.

**Immune-modulators:** Immune-modulators are a group of drugs that can regulate the immune system (stimulation, suppression or normalization of the immune response) of the organism by interfering with its function. Plants with a high proportion of phyto-constituents such as glycosides, flavonoids, coumarins, saponins, alkaloids, thiosulfates, volatile oils and terpenoids have been found to exhibit strong immune-modulatory activity.

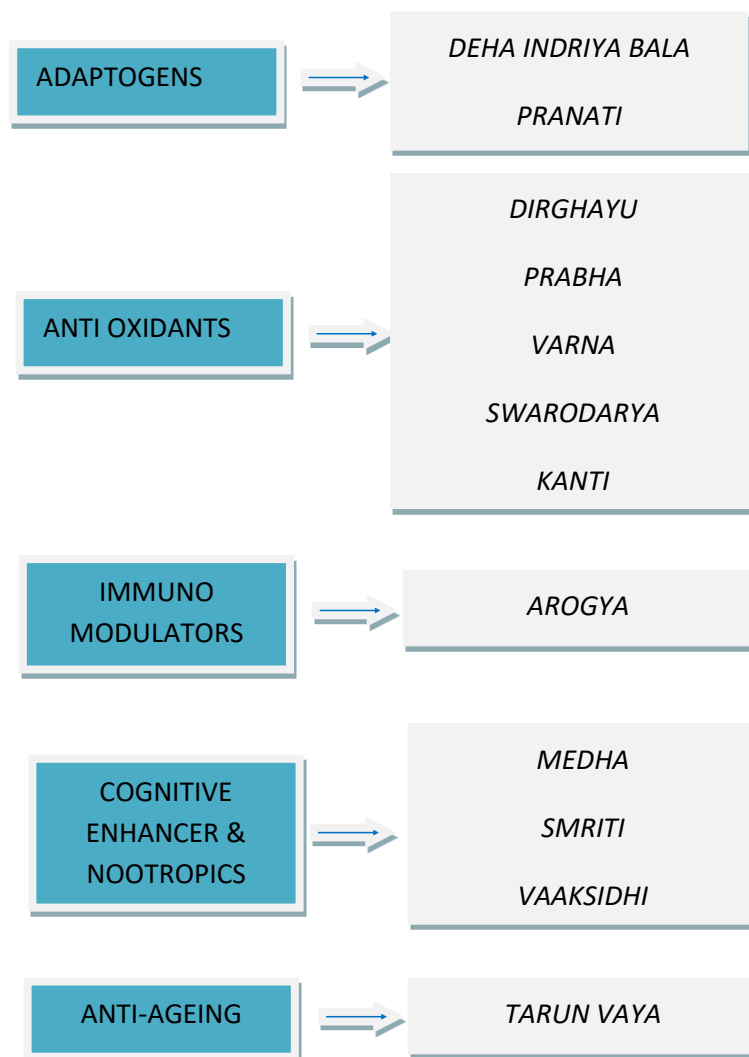
**Cognitive enhancer and Nootropics:** They work by altering the availability of the brain's supply of neu-

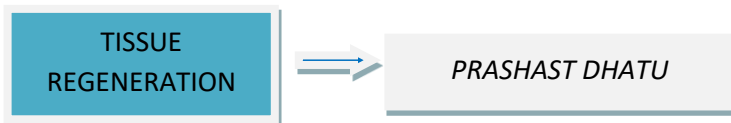
rochemicals (neurotransmitters, enzymes, and hormones), through enhancing the brain's oxygen supply, or through stimulating nerve growth. Thus, keeping the mind calm and cool reduce anxiety and apprehension producing sedation and tranquility.

**Anti-ageing:** Anti-aging intervention is aimed at slowing down the aging process in order to extend a person's functional life and not just its length. This in turn means that all physiological processes of specialized tissues can function in an integrated manner.

**Tissue Regeneration:** Tissue regeneration is the manner of renewal and boom to restore or update tissue this is broken or suffers from a disease.

Correlating the properties of *Rasayana* according to Ayurveda and modern literature, we conclude:





### Pharmacological analysis of *Yogaraj Rasyana*:

*Yogaraj Rasayana* is an ancient herbo-mineral formulation containing drugs having *Rasayana* properties (Rejuvenate & restorative properties). *Amalaki* consists of low molecular weight hydrolysable *Tanins* (*Emblicanin A and B*) so its miles one of the most powerful antioxidant herbs in *Ayurveda*. Its impact will increase each frontal cortical and striatal (rat brain) attention of loose radicals scavenging enzymes (superoxide dismutase, catalase etc.) with concomitant lower in lipid peroxidation in those mind areas. It has been confirmed that extracts of *E. officinalis* fruit have significant immune-modulatory action.<sup>[5]</sup> Free radical scavenging activity and antioxidant potential of acetone extract of *Bhibhitaki* (*T. bellerica*) fruit was determined by in-vitro assays. Acetone extract was subjected to partitioning with ethyl acetate and water. Ethyl acetate fraction was found to be more effective as compared to crude acetone extracts in all antioxidant assays i.e., DPPH,  $\beta$ -carotene bleaching inhibition and reducing power whereas for chelating ability on Fe+2 ion, crude acetone extract showed higher activity. It was concluded that poly-phenolic rich fractions were more effective than the crude extract.<sup>[6]</sup> Six extracts and four compounds of *Terminalia Chebula* (*Haritaki*) fruit exhibited antioxidant activity at different magnitudes of potency. Its fruit exerts antioxidant and radio-protective activity in rats. Protective consequences of an aqueous extract of *Terminalia Chebula* fruit at the tertbutyl hydroperoxide (t-BHP)-induced oxidative injury observed in cultured rat primary hepatocytes and rat liver have also been documented. It has more potent antioxidant interest than alpha-tocopherol; HPLC evaluation with diode array detection indicated the presence of hydroxybenzoic acid derivatives, hydroxycinnamic acid derivatives, flavonol aglycones and their glycosides, as foremost phenolic compounds.<sup>[7]</sup> *Shunthi* (Ginger) can be regarded as the storehouse of antioxidants. It has a first-rate assets of scavenging reactive oxygen

species (ROS), unfastened radicals, peroxides, and numerous different negative oxidants. The lively elements like gingerols, shogaols, zingerone, and so on found in ginger showcase antioxidant activity. It inhibits an enzyme, namely, xanthine oxidase, that's in particular worried within the technology of reactive oxygen species. Zingerone has been pronounced to guard in vitro DNA in opposition to stannous chloride precipitated ROS oxidative damage<sup>[8]</sup>. *Pippali* contains considerable amounts of phenolic compounds. Phenolic compounds are well known for their antioxidant properties i.e., protect the body from the free radical damage which contributes to aging and several degenerative processes.<sup>[9]</sup> Many scientific findings prove the great antioxidant potency of *Marich*. *Piperine* and *Marich* (*P. nigrum*) maintain superoxide dismutase, glutathione peroxidase, catalase, glutathione-s-transferase, glutathione levels and reduce high fat diet induced oxidative stress.<sup>[10]</sup> The antioxidant effects of *Chitrak* (*PZ*) and *plumbagin* include prevention of radical formation, scavenging of primary Antioxidant properties of *Plumbago zeylanica* and *plumbagin*. Components of *PZ*, rich in flavonoids and other phenolic compounds, also can significantly inhibit damage to biological molecules as studied by lipid peroxidation induced by pathophysiological systems. Mechanistic studies reveal *plumbagin* to be an unusual antioxidant.<sup>[11]</sup> A study reveals that the levels of pancreatic superoxide dismutase, catalase, and glutathione in streptozotocin (at a dose of 40 mg/kg, intravenously as a single dose) induced diabetic rats were significantly reduced by an aqueous extract of *Vayavidang* (*Embelia ribes*) administered orally at doses of 100 mg/kg and 200 mg/kg body weight. In streptozotocin-induced diabetic rats, its antioxidant activity protects the pancreatic cells from loss.<sup>[12]</sup> Treatment with *Swarna Makshika* and *Rajat Makshik Bhasma* significantly reversed the lipid peroxidation indicating antioxidant potential of the *Bhasma*. Reduction in the MDA level, increase in CAT and GSH represents good antioxidant activity of



them at the dose of 200 mg/kg. [13] *Shilajit* is provided by the significant levels of fulvic acids which is known by its strong antioxidant actions and likely has systemic effects as complement activator. The fulvic acid in *Shilajit* acts as carrier and catalyst to help effectively transfer nutrients and other compounds in human body. These actions help to promote the movement of other important minerals such as Ca, P, and Mg etc. into muscles tissues and bones. [14] The antioxidant activity of *Lauh bahsma* was evaluated by DPPH scavenging activity and Hydrogen peroxide scavenging activity, Ascorbic acid was used as standard antioxidant agent for comparative evaluation. The results show that the *Bhasma* have significant antioxidant activity i.e. more than 80% of that of standard ascorbic acid. [15] *Sita* possess aphrodisiac, diuretic, anti-cough, anti-asthma, Haemoptysis, and anti-pyretic properties.

## DISCUSSION

The aim of the study was to point out the immunomodulating and rejuvenating effects of *Yogaraj Rasayana* in accordance with classical and contemporary literature. It threw light on the primitive as well as the present aspect of *Rasayana*, its probable mode of action based on ancient and scientific parameters. *Rasayana* promotes nutrition by directly enriching the nutritional quality of rassa means nutritional blood, by promoting nutrition by improving Agni means digestion, metabolism and by promoting the competence of *Madhur Vipaka*. *Srotas* means microcirculatory channels in the body. "*Rasayanas*" have been reported to be rejuvenating agents, nutritional supplements and have strong antioxidant activity. They also have antagonistic effects on oxidative stressors that lead to the formation of various free radicals. The results of various studies suggest that it is possible that *Rasayanas* (especially those with *Madhur Vipaka* are advocated as adaptogens in *Ayurveda*) primarily activate immune cells, leading to the secretion of cytokines that then act on multiple target organs and produce the myriad of effects attributed to these treatments. Eight of the total thirteen contents in *Yogaraj Rasayana* are powerful adaptogens that con-

trol and they all have strong antioxidant activity. *Rasayana* is not just drug therapy, but a specialized procedure practiced in the form of rejuvenating recipes, dietary regimen, and special behaviors and health-promoting behaviors. Scientific studies have proven the effective role of *Rasayana* medicines in managing lifestyle-related chronic diseases and degenerative changes.

## CONCLUSION

*Yogaraj Rasayana* is an herbal mineral classic formulation with a wide range of indications and is especially effective in diseases with *Sarvadhatukshaya* pathogenesis. In clinical practice the *Yogaraj Rasayana* mentioned in the *Charak Samhita* is used as a *Rasayana* drug under the *Dhatukshayajanya Vikaras* developed in *Pandu*. It is also mentioned in AFI. It has many therapeutic functions. More research on the effects of *Rasayana* needs to be done.

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