

RASA YANA THERAPY IN CLASSICAL LITERATURE OF AYURVEDA - A REVIEW

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ABSTRACT

Rasayana is one of the unique branches of Ayurveda & it is suggested to increase ojas. Modern scientific observation's on Rasayana shows that rejuvenating drugs can protect the body against detrimental effects of the atmosphere in which we survive, by augmenting the individual's capability to fight against disease-carrying organism through stimulating the immune system. The Rasayana therapy improves the merits of rasa, build up to it with nutrients so one can attain prolonged existence, memories, intellect, freedom from diseases, quality in lustre, complexion and voice, optimal improvement of physique and all sense organs. Rasayana is very useful to increase the immunity of the person to keep him away from disease. Rasayana herbs have antioxidant properties which prevent the damage caused by free radicals. According to Ayurveda, Rasayana brings about proper nourishment, growth & enhanced function of all seven dhatus (tissues). Rejuvenation therapy affects body & mind at the same time it checks the effect of early ageing on both, and enhance the body's resistance to disease.

INTRODUCTION

Rasayana means to increase the essence of each dhatu, which starts from Rasa dhatu. The immunity of a person is increased and keeps him away from diseases due to regular use of Rasayana. The person becomes healthy and strong. Thus Rasayana helps in obtaining the optimum nourishment to the dhatus. With the help of Rasayana, one can attain longevity, returns to youthfulness, strength, & gets sharp memory, mental power & freedom from disease. According to Ayurveda, Rasayana therapy affects the body & mind and brings balance between the physical & psychic wellbeing. Rasayana averts the effect of early ageing, develops intelligence & boosts the body resistance against the diseases (1,2).

Rasayana is a select branch of management controlling the primary aspect of the body viz. dhatus, agni and srotas. Rasayana therapy boosts the immune system. The adjective Ojaswi is used to portray those people who maintain their immunity and keep themselves healthy in every season and all phases of life. Rasayan imparts a bright look, sharp memory, high performance (6). Hence in this paper author has attempted to highlight the concept of Rasayana described in Ayurveda and understand its importance in preventing the infectious diseases and ageing process & improving the immunity. In the present era, there is a gradual decrease in immunity in most human beings. Many new diseases are spreading worldwide nowadays. It is necessary to prevent such diseases with the help of Rasayana therapy.

Definition of Rasayana

Rasayana is defined as the way of achieving brilliant rasadi seven dhatus. Ahara, vihara & aushadhi dravyas which promotes rasadi seven dhatus (3,4).

Classification of Rasayana

Rasayana is classified into two types based on needs,

- Kanya Rasayana- which promotes natural health. It increases the energy level, immunity & general health. Pranakanya, medhakanya and srikanya are examples of kanya Rasayana, which are promoters of vitality and longevity, intelligence and complexion.
- 2. Naimittika Rasayana- which helps to fight against a specific disease. On the basis of place of therapy, Rasayana is again divided into Kutipravesika Rasayana & Vatatipik Rasayana.

Mechanism of action of Rasayana

Rasayana promotes nutrition through enhancement of the nutritional quality of rasa, means nutritional enhancement (quality of rasa dhatu) by subsequent nourishment of succeeding dhatus, also improving Agni (dhatwagni means on enzyme level) promoting improve metabolism & increasing microcirculation through channels (srotas) in the body Various researches suggest that the Rasayana drugs are strong rejuvenators, provide additional nutritional supplements & possess high antioxidant activity. They also show antagonistic actions on the oxidative stressors, which used mainly in ageing and other chronic disorders (5).The ojas plays a significant role in maintaining good health & vitality. It is the ultimate product of digestion &

nutrition of all seven dhatus (tissues), as well as it is prime energy reserve of the entire body. Ojas shows the overall condition or state of the body as a whole. Immunity, longevity, strength and resistance depend on the quality & quantity of ojas. Diseases & loss of immunity arises from depletion ojas. All rejuvenation therapy is targeted at improving the ojas of the body (7).

Rasayana not only rejuvenates the body & mind, but it also prevents the diseases. There are various drugs explained which are having qualities of maintaining health, preventing diseases & increasing the life span of individuals. They all are group as Rasayana. Rasayana drugs affecting ojas, improving immunity & resistance to the diseases. In Ayurveda, ojas has been explained as an essence of all dhatus & considered to be an excellent body element. Therefore, the excellence of body & mind depends upon the quality of ojas. Therefore, resistance to the disease of the body depends on the quality & quantity of ojas (8,9).

Rasayana Drugs for Specific System

Respiratory system- Chayavanprash, Vardhaman Pippli Rasayana.

Digestive system - Pippali, Bhallataka, Haritaki.

Circulatory system - Amalaki, Bhringaraj.

Muscular system - Ashwagandha, Bala.

Nervous system - Ashwagandha, Shankhpushpi, Brahmi, Vacha.

Reproductive system - Ashwagandha, Kapikacchu, Satavari, Vidarikanda.

Urinary system- Punarnava, Shwadransta.

Excretory system - Krimighna, Kutaja, Vara.

Rasayana suggested for different age groups

One to ten years ----Balya (Childhood) ----
-Vacha, Suvarna Bhasma.

Eleven to twenty years ----Vridhhi (Growth) ----
Ashwagandha, Bala.

Twenty-one to thirty years ---- Chhavi (Beauty) ----
Amalaki, Loha Bhasma.

Thirty-one to Forty years----Medha (Intellect) ----
Shankhpushpi, Brahmi.

Forty-one to Fifty -- 50 years ---- Tvak (nourishment of Skin) --
Maka, Priyal

Fifty-one to Sixty years ---- Drishti (Vision) --
Triphala, Shatavari,

Sixty-one to Seventy years ---- Shukra (Semen) ----
Ashvagandha, Kappikacchu.

Seventy-one to Eighty years ----Vikrama (Physical) ----
Bala, Amalaki.

Eighty-one to ninety years----Buddhi (Wisdom) ----
Brahmi, Shankhpushpi.

Ninety-one to Hundred years---- Karmendriya ----
Ashwagandha, Bala.
Single Rasayana Drugs

1. Amalaki.
2. Guduchi.
3. Ashwagandha.
4. Brahmi.

Compound Formulations

1. Brahmi Rasayan.
2. Amalaka Rasayan.
3. Triphala Rasayan.
4. Chavyanprash.
5. Brahma Rasayan.

In vivo study on *Tinospora cordifolia* suggests that the Rasayana (particular Madhur vipaki) primarily activate immune cells, leading to secretion of cytokines, which in turn act on multiple target organs to produce the numerous effect attributed to these treatments (10). Rasayana is enhancing the natural killer cell activity in the normal cell as well as tumour-bearing animals. Ashwagandha Rasayana & Brahma Rasayana found to activate antibody-dependent

cytotoxicity & activates macrophages. The Rasayana herbs seem to exert their effect through immunosuppressant, immunostimulant & immunoadjuvant activities or by affecting the effector arm of the immune response. Rasayana drugs act as potent antioxidants & neuroendocrine immunomodulators considering the grave situation of COVID-19 where effective medicine is yet to be invented. One should develop a healthy immune system for survival in such conditions. There are some vitamins & trace elements which are vital for the regular functioning of the immune system. Besides, supplementation of these has shown encouraging impact in enhancing immunity in viral infections. Balanced Table : 1

nutrition which can help in maintaining immunity is essential for the prevention & management of viral. The disease preventive & health promotive approach of Ayurveda, which takes into consideration the whole body, mind & spirit while dealing with the maintenance of health, promotion of health & treating ailments in a holistic way & increasing acceptability in the world (11,12). COVID-19 like infections are an example of Prakriti-prakopa by man and lessons should be learnt to avoid the same in future by adopting these Ayurveda preventive measures such as Ritucharya Dincharya, Rasayana therapy and safe lifestyle.

Pharmacological Properties	Plants
Radioprotective	<i>Emblica officinalis, Terminalia chebula, Terminalia bellerica, Asparagus racemosus, Tinospora cordifolia, Ocimum sanctum, Curcuma longa, Zingiber officinale, Agele marmelos, Phyllanthus niruri, Boerhaavia diffusa, Adhatoda vasica, Sesamum indicum, Cinnamomum zeylanica, Centella asiatica, Acorus calamus, Glycyrrhiza glabra, Embelia ribes, Hemidesmus indicus, Cuminum cuminum, Aloe barbidensis, Syzygium cumini, Mentha piperita, Mentha arvensis, and Podophyllum hexandrum</i> ¹
Free radical scavenging	<i>Emblica officinalis, Withania somnifera, Terminalia chebula, Terminalia bellerica, Asparagus racemosus, Tinospora cordifolia, Ocimum sanctum, Curcuma longa, Zingiber officinale, Agele marmelos, Oroxyllum indicum, Sida cordifolia, Tribulus terrestris, Phyllanthus niruri, Vitis vinifera, Ellettaria cardamomum, Cinnamom cassia, Cyperus rotundus, Boerhaavia diffusa, Santalum album, Adhatoda vasica, Sesamum indicum, Cinnamomum zeylanica, Glycyrrhiza glabra, Centella asiatica, Acorus calamus, Glycyrrhiza glabra, Embelia ribes, Hemidesmus indicus, Cuminum cuminum, and Aloe barbidensis</i> ^{3,4,6,7,16,30-32}
Antioxidant	<i>Asparagus racemosus, Ocimum sanctum, Podophyllum hexandrum, Tinospora cordifolia, Hippophae rhamnoides, Zingiber officinalis, Centella asiatica, Syzygium cumini, Ligusticum wallichii, Vitis vinifera</i> ^{3,4,6,7,16,30-32}
Anti-inflammatory	<i>Glycyrrhiza glabra, Allium sativum, Aloe vera, Tinospora cordifolia, Hippophae rhamnoides, Curcuma longa, Centella asiatica, Syzygium cumini, Ocimum sanctum, Moringa oleifera, Zingiber officinale, Eleutherococcus senticosus</i> ⁴
Antimutagenic and prevention of DNA damage	<i>Triphala, Chyavanaprasha, Ocimum sanctum, Curcuma longa, Zingiber officinale, Agele marmelos, Phyllanthus niruri, Tinospora cordifolia, Emblica officinalis, Terminalia chebula, and Terminalia bellerica</i> ⁴
Immune modulatory and adoptogenic activities	<i>Emblica officinalis, Withania somnifera, Viscum album, Ocimum sanctum, Tinospora cordifolia</i> ^{3,4,30,33,34}

Scientific studies carried in the recent past have shown that the Rasayana drugs Chyavanprasha, Triphala, Brahma Rasayana, Ashwagandha Rasayana, Narasimha Rasayana, and Amritaprasham are effective in preventing the toxic effects of ionizing radiation and physiologically attainable nontoxic doses. A combination of factors such as free radical scavenging, prevention of lipid peroxidation, inhibition of DNA damage, protection and rapid regeneration of bone marrow progenitors after cytotoxic therapy, and increase in or restoration of glutathione and antioxidant status of enzymes would have contributed to the radioprotective effects. With regard to radiation protection, all published studies with these Rasayana drugs have been carried out with animals and human studies are required. With regard to the use of these individual rasayans in clinics as radioprotective agent, it is hypothesized that the organ-specific Brahma Rasayana and Triphala would be useful in brain and gastrointestinal cancers, whereas Amritaprasham, Ashwagandha Rasayana, Chyavanprasha, and Narasimha Rasayana would be useful in improving the overall health of the patient. However, for these use in cancer treatment their selective radioprotective effects needs to be investigated. Suitable studies with tumor-bearing animals of different histological and metastatic potentiality are warranted as only then it will be of use in clinics. Studies are also required to understand the pharmacokinetic (14), pharmacodynamic, and safety issues of Rasayana at various doses and also the effects when administered for prolonged

periods of time. Additionally, mechanistic studies with cultured mammalian cells (normal and neoplastic) are also required for understanding the effect of these drugs, the principal plants, and phytochemicals at molecular level. Furthermore, Rasayana formulations are polyherbal and their biological actions depend on the presence of bioactive compounds. It is a well known fact that the concentration of the bioactive compounds varies from place to place and the way in which the plants have been processed postharvesting in the preparation of Rasayana and that this affects the pharmacological action. In view of these observations, it is imperative to validate the uniformity of the herbal mixing and also the proportion by using standards and internationally accepted assays such as high-performance thin layer chromatography, ultra-highperformance liquid chromatography/ultraviolet spectroscopy/mass spectrometry, and reversed phase high-performance liquid chromatography. Rasayana drugs have been consumed by the habitants in the Indian subcontinent since time immemorial and this gives it an advantage over the synthetic drugs. The nontoxic nature of Rasayana drugs gives immense advantage as they can be easily recommended for human trials and at lesser costs when compared with their synthetic counterparts. Apart from applications in the clinics as an adjuvant in radiotherapy(15,16), Rasayana drugs can also be used as a radiation countermeasure agent in the management of nuclear incidents, for example, for the protection of defense personnel from nuclear weapon

radiations, for protecting reactor workers and rescue crew, and protection of astronauts from cosmic rays against radiation-induced genomic instability and carcinogenesis. As there are no existing safe and effective synthetic radioprotectors(17,18), these studies are useful. Pilot studies should be initiated with personnel continuously exposed to low doses of radiation such as flight attendants and radiotherapy/nuclear medicine staff and technicians. Such study will give valuable information on the radioprotective effects of Rasayana drugs in humans and on the maximal permissible dose for optimal radioprotective effects(19). These Rasayana drugs are of use in the treatment, prevention, and improvement of the quality of life of both healthy and diseased individuals, and their regular consumption may benefit humans against other age-related diseases and ailments. Most of these Rasayanas can be used regularly as a food for maintaining balanced mental and physical health. They may be used either alone or along with other modalities of treatment as an adjuvant. Their free radical scavenging, antioxidant, anti-inflammatory, chemoprotective, chemopreventive, and immunomodulatory effects will also be of immense use in maintaining a healthy lifestyle and a disease free life (20)

CONCLUSIONS

Rasayana does nourishment of all dhatus (tissues & cells), thus improving resistance against the infectious disease by strengthening immunity. Rasayana, through its effect, causes effective

elimination of malas (waste products) from the body thus causes the balance between the metabolism & excretion. It prevents muscles & tissue damage, thus delays the ageing process(21). Thus, Rasayana not only rejuvenates the body & mind, but it also prevents infections & diseases.

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