



RESEARCH ARTICLE

RASAYANA AS A PUBLIC HEALTH TOOL TO DEVELOP IMMUNITY

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ABSTRACT

The urge to live, the fear of death, the desire to youth and the quest for rejuvenation have always attracted mankind from antiquity to modern times. The average life span of humans are found to be decreasing gradually in recent times. It is a result of decreased immunity, caused by so many public health issues. The focus of public health intervention is to improve health and quality of life through prevention and treatment of disease and other physical and mental health conditions, through surveillance of cases and health indicators, and through the promotion of healthy behavior. *Rasayana* is one of the 8 branches of Ayurveda. *Rasa* nourishes our body, boosts immunity and helps to keep the body and mind in best of health. The *Rasayana* therapy enhances the qualities of *Rasa*. In *Ayurveda*, immunity is referred by the word *Vyadhikshamatwa*. Immunity is also considered as '*Bala*'. Among the 3 types of *Bala*, *Yukthikrita bala* represents Acquired Immunity, in which disease can be defended against by *Satmya*, *Vyayama*(exercise) and *Rasayana*(rejuvenative). *Rasayana* is capable of promoting the whole physiology, producing resistance against disease, both physically and mentally. This paper highlights the current issues of public health and role of *rasayana* for developing immunity and thereby intervene the public health issues which are increasing day by day.

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INTRODUCTION

From antiquity to modern times, mankind shows a natural instinct for persuading life, youthfulness and rejuvenation. Continuous exposure to environment makes people vulnerable to several diseases. Aging is a progressive and irreversible process which may lead to gradual deterioration of body and thus produces different health issues. In this era, we face dangerous public health issues due to life style, food habits, stress, occupational health hazards etc. Due to many factors immunity is found to be diminished so that people are easily exposed to infectious diseases. Now a day, communicable diseases, metabolic disorders, genetic disorders are increasing than earlier. Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private communities and individuals. The focus of public health intervention is to improve health and quality of life. It can be done through the prevention and treatment of diseases and other physical and mental health conditions, through surveillance of cases and health indicators, and through the promotion of healthy behaviors. *Ayurvedic* system of medicine has suggested means to increase the body's natural immunity to defend diseases. *Rasayana Chikitsa* is a branch of

Ayurveda which deals with rejuvenation and revitalization. *Rasayana* therapy strives to improve physical, mental and moral qualities. It prevents old age, restores youthfulness, improves the complexion and the voice, increases the physical strength and immunity and it also strengthens the memory and intelligence (Gupta, 2005). Human life is uncertain in today's fast and stressful world with significant impact on the immune response involving reaction of mind and body. Immunodeficiency disorders are increasing day by day. Immunology is one of the promising developing field to tackle with disorders of immune system. In *Ayurveda* the principles of immunology have been emphasized under the heading of *Vyadhi Kshamatwa*. Most diseases associated with the human aging process are known to have a strong oxidative stress component and the antioxidant defense generally reduces with age. Antioxidants are attributed for their beneficial role in many disorders and age-related cognition decline.

A number of medicinal plants individually or in combinations have been claimed to possess immuno-modulatory activity. The single drugs and certain combination of drugs which are described in *Rasayana chikitsa* in the classical text books of *Ayurveda* like *Haritaki*, *Amalaki*, *Pippali*, *Aswagandha*, *Rasayana*, *Brahma Rasayana* etc. possess the immuno-modulatory and antioxidant effect. *Rasayana* is capable of promoting the whole physiology, producing resistance against disease both physically and mentally. To understand the concept

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of *Rasayana* and to establish its role with scientific correlation for attaining healthy life in the present era. The objectives are;

- To review the role of *Rasayana* as a public health tool.
- To review the role of *Rasayana* for developing immunity from various authentic sources.

MATERIALS AND METHODS

The classical methodology of *Rasayana* is reviewed and the available research data from different authentic sources have been collected and presented. Relevant data related to *Rasayana* are collected from classical text books and some of the information are gathered from research articles and online journals.

RESULTS

Role of rasayana for developing immunity

Rasayana is a specific therapy described in *Ayurveda* for the balance of the macro and micro elements of the body, for the prevention of diseases, for positive health, for preservation of health and happiness and also for the longevity (Gupta, 2005). The word *Rasayana* is a combination of two words '*Rasa*' and '*Ayana*'. 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 dhathu*, the basic plasma tissue. '*Ayana*' is the method by which *Rasa* is carried to all the body tissues for biochemical metamorphosis. The concept of *Rasayana* is based on these two principles of conservation and transmutation of energy.

Rasayana is beneficial in improving immunity and advised during the regenerative phase of life, in both sexes. Due to this unique property of *Rasayana* number of medicinal herbs belonging to the category have been scientifically studied and validated for their effect on the immune system, endocrinological benefits, antioxidant properties, memory and learning behavior improvement.

Important herbs for *Rasayana* therapy in ayurveda (Gupta, 2005)

1. *Aindri* (*Citrus holocynthis*)
2. *Soma* (*Ephedra gerardiana*)
3. *Amalaki* (*Embilia officinalis*)
4. *Brahmi* (*Bacopa monnieri*)
5. *Neela* (*Neela amani*)
6. *Shilajit* (*Asphaltum*)
7. *Shatavari* (*Asparagus recemosus*)
8. *Padma* (*Nelumbo nucifera*)
9. *Gambhari* (*Gmelina arborea*)
10. *Vidari* (*Puraria tuberosa*)
11. *Aswagandha* (*Withania somnifera*)
12. *Sweta bakuchi* (*Psoralea corylifolia*)
13. *Payasya* (*Peuraria tuberosa*)
14. *Gokshura* (*Tribulus terrestris*)
15. *Lashuna* (*Allium sativum*)
16. *Jeevanti* (*Leptadenia reticulata*)
17. *Pippali* (*Piper lomgum*)
18. *Palandu* (*Allium cepa*)
19. *Vacha* (*Acorus calamus*)
20. *Mandukaparni* (*Centella asiatica*)

21. *Haritaki* (*Terminalia chebula*)
22. *Meda* (*Polygonatum verticillate*)
23. *Dronapushpi* (*Leucas cephalotus*)
24. *Bibheetaka* (*Terminalia bellerica*)
25. *Mahameda* (*Poligonatum speci*)
26. *Shankhapushpi* (*Convolvulus pluricaulis*)
27. *Kapikachu* (*Mucuna prurita*)
28. *Punarnava* (*Boerhavia dihhusa*)
29. *Chitraka* (*Plumbago zyelanica*)
30. *Nagabala* (*Sida veronicaefolia*)
31. *Bhallathaka* (*Semicarpus anacardium*)
32. *Bala* (*Sida cordifolia*)
33. *Yashtimadhu* (*Glycyrrhiza glabra*)
34. *Sthira* (*Uraria picta*)

Oxidative damage caused by free radicals plays an important role in the causation and progression of many diseases, including aging. Free radical damage is countered by many mechanisms, including both active antioxidant enzymatic activity in our body and passive antioxidants. Antioxidant response of our body can accommodate increased oxidative damage in diseased states to a level, but beyond that level, additional antioxidants are required to combat the increased stress. Apart from the regular dietary sources of antioxidants, many traditional herbal medicines demonstrate a potential to boost antioxidant activity (Shukla et al., 2012). The herbs described in *Rasayana chikitsa* have a property of stimulating intrinsic antioxidant responses in humans. Antioxidant stress is a major, if not primary mechanism linking obesity and metabolic disorders, especially in insulin resistance or diabetes in animal models and alleviation of many symptoms are being reported in many studies by regular consumption of antioxidants.

Rasayana and antioxidants

As antioxidants protects body from various illnesses, aging and degeneration through neutralizing free radicals, *Rasayana* also behaves in the same manner along with some more benefits. *Rasayana* is responsible for promoting the stability and strength of the whole organs, it also promotes the formation of *Ojus*, which represents vitality, vigor and capacity to resist decay and diseases, which can be correlated as immunity and resistance. The lymph (*Rasa*) and Lymphocytes are responsible for specific immunity. *Rasayana* is also responsible to form antibody. The *Rasayana* therapy is a unique approach of *Ayurveda*, it comprises not only certain drugs, but it includes specific diet and specific life style (social and personal conducts). There are various formulation and preparation written in *Ayurveda* for every person living either in *Anoopa Desha* or in *Jangala Desha*. *Amalaki Kalpa*, *Rasona Kalpa*, *Shatavari Kalpa*, *Pippali Kalpa* are some of the examples for *Rasayana Kalpas*. *Guduchi* stimulates Macrophage and causes secretion of cytokinin, helps to increase body defense mechanism. The role of antioxidants in reducing the risk of wide range of chronic diseases and degenerative conditions are similar to *Rasayana*. Thus the use of *Rasayana* including *Achara Rasayana* help for prevention as well as preservation of health. (Gupta, 2005)

Achara rasayana

Rules and regulations for positive physical and mental health, has been very widely described in *Ayurveda*, as *Ritucharya*,

Table 1. For specific tissues, certain herbs and foods function as Rasayanas

Dhatu (tissue)	Herbs or rasayana having specific function
Rasa	Draksha, Shatavari, Dates
Rakta	Amalaki, Dhatri Lauha, Bhringaraja, Swarna makshika Bhasma
Mamsa	Masha, Aswagandha, Bala, Nux vomica, Silver Bhasma
Meda	Guggulu, Shilajeet, Haritaki, Guduchi, Garlic
Asthi	Shukti Bhasma, Kukkutanda twak Bhasma, Vamsalochana
Majja	Shankhapushpi, Loha bhasma, Swarna Bhasma, Makaradhwaja
Shukra	Kapikacchu, Vidarikanda, Shatavari, Ashwagandha, Swarna bhasma, Ghee, Cow milk

Table 2. Rasayana for different channel systems (srothas)

Channels (srothas)	Rasayana or herbs having specific effects
Pranavaha	Chyavanaprasa, Vardhamana pippali
Udakavaha	Fresh ginger, Cyperus, Cardamom
Annavaha	Long pepper, Bhallataki, Haritaki
Rasavaha	Draksha, Shatavari, Dates
Raktavaha	Amalaki, Dhatri Lauha, Bhringaraja, Swarna makshika bhasma
Mamsavaha	Masha, Aswagandha, Bala, Nux vomica, Rajata bhasma
Medovaha	Guggulu, Silajit, Haritaki, Guduchi, Garlic
Asthivaha	Shukti bhasma, Kukkutanda twak bhasma, Vamsalochana
Majjavaha	Aswagandha, Shankhapushpi, Loha bhasma
Shukravaha	Aswagandha, Kapikacchu, Sweta musali, Shatavari, Vidarikanda, Swarna bhasma, Ghee, Cow milk
Mutravaha	Punarnava, Gokshura
Pureeshavaha	Kutaja, Vidanga, Triphala
Artavavaha	Ashoka, Lodhra, Satavari
Swedavaha	Basil, Nux vomica

Table 3. Rasayana for senses and other organs

Senses and other organs	Rasayana having specific action
Eye	Triphala, Madhuka, Shatavari
Nose	Nasya with Anuthaila
Skin	Tuvaraka, Catechu, Bakuchi
Brain	Calamus
Heart	Guggulu, Swarna bhasma
Neuromuscular system	Bala, Nagabala, Garlic, Guggulu

Table 4. Rasayana according to constitution

Dosha	Specific rasayana
Vata	Bala, Aswagandha
Pitta	Amalaki, Shatavari, Guduchi
Kapha	Bhallataki, Guggulu, Long pepper, Garlic

Dinacharya, Ratricharya, good conducts, moral duties, soft behavior etc., are very effective in society. These simple tips are known as *Achara Rasayana* or *Sadvritta*.

Some specific rasayana (Gupta, 2005)

1. *Samshodhana Rasayana*- i.e. *Haritaki, Amalaki, Shilajeet, Guggulu*.
2. *Samshamana Rasayana*- i.e. *Ardraka, Giloya, Chitraka, Jeeraka, Kuchila, Bhallataka, Bhanga*.
3. *Kamya Rasayana*- i.e. for specific purpose as *Makaradhwaja* as aphrodisiac, *Bhringaraj* for aging and *Vatavyadhi*.
4. *Naimittika Rasayana*- for both health and disease state as example *Bhallataka Kalpa, Parpati kalpa, Brahmi Kalpa*.
5. *Ajasrika Rasayana*- when curd only, or a specific fruit is used as therapy for a long period, along with *Rasayana* known as *Ajasrik*.
6. *Kalpa Vidhi*- It is secret science of *Rasayana* therapy which is unique and specific, needs lot of research to establish and revive because at present this science is very limited and less practiced.

Rasayana strengthens all the tissues, so as to achieve ideal health. *Rasayana* increases '*Ojus*' (primary vitality) and improves *Satva* (mental clarity) and thereby increases the

resistance of the body. Some of the herbs shows specific effect on different *Dhatu, Srothas* and have specific effect on different body constitution. It has been shown in the tables below. *Rasayana* mentioned for different *Dhatu*s (tissue), *Srothas*, different organs and *Rasayana* suitable for specific body constitutions are depicted in Table 1-4. (Maharshi Charaka Ayurveda. E-Journal, 2014)

DISCUSSION AND CONCLUSION

Health is a state of complete physical, mental and social well being and not merely an absence of disease or infirmity to lead a socially and economically productive life. (Park, 21st edition) The reasons for the health problems we are facing now a days can be listed out like that, the new life style and food habits, pollution, decreased immunity, stress and strain, physical inactivity and sedentary life, decreased moral values and certainly the unnatural ways of living. As far as the people are keeping away from nature and they are going behind the lure of easier way to get anything, it leads to a sedentary life. As change is inevitable in life, diligent searches have to be done to cope up with the ill effects produced by such changes. Several respiratory disorders, immunodeficiency disorders, allergic disorders, gynecologic disorders are increasing recently. The importance of *Achara Rasayana* depicted in

Ayurvedic classics comes here. Rules and regulations for positive physical and mental health has been very widely described in *Ayurveda*, as *Rithucharya*, *Dinacharya*, *Rathricharya*, good conducts, moral duties, soft behaviors etc. These simple tips are known as *Achara Rasayana* or *Sadvritta*. (Gupta, 2005) Oxidative stress arises when the antioxidant defense system of the human body is not entirely efficient. In the traditional treatment of *Ayurveda*, *Rasayana* is the branch which deals with immunology. There are many herbs mentioned in *Rasayana* which possesses phyto-constituents which can modulate the immune response of living system.

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