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Role of *Rasayana* in communicable diseases with special reference to Covid-19: A Review

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ABSTRACT

Communicable diseases continue to be prevalent and pose serious problems for public health. Recently, COVID 19 emerged out as one of the communicable diseases which was declared as a pandemic. COVID-19 pandemic has left its imprints on various health systems globally and caused immense social and economic disruptions. The scientific community across the globe is expecting potential leads from traditional systems of healthcare. *Rasayana* (rejuvenation therapy) is one of the comprehensive disciplines of *Ayurveda* which includes various approaches like use of herbs, food articles, herbo-mineral formulations, dietary and lifestyle changes. It strengthens the body's immune system by improving health of body tissues and promoting a balanced state of body. *Rasayana* essentially imparts nutrition to the body at all levels from macro to micro-cellular level. *Rasayana* therapy replenishes the vital fluids of the body and it enhances the *Ojas* (vital force of life) resulting in increased energy and balanced mental and emotional health. *Rasayana* therapy is particularly helpful in management of such disorders where immunity and infections are playing central role like COVID-19. The therapy is helpful to increase the immunity of a person and hence protects from communicable diseases like COVID-19. As COVID 19 is still active, so *Rasayana* therapy can play a vital role to combat with the disease.

Key words: *Ayurveda, Covid-19, Rasayana, Pandemic*

INTRODUCTION

Rasayana are substances or herbs that aid in the immune system's ability to produce immune cells, recognize antigens, and get rid of infectious organisms.^[1] *Rasayana* are highly effective for the prevention and control of viral infections. They are also effective in the conditions where vaccination and

conventional medium are not available. Covid-19 is now one of the viral infections emerged recently and no permanent remedy has been established till date, so prevention is the best defense against illness. *Rasayana* played a vital role to combat this condition.

It is an *Ayurvedic* rejuvenation therapy that helps in the maintenance and promotion of health. *Rasayana* therapy prevents a number of infectious diseases by acting as an immunomodulator. *Rasayana* is a specialized treatment that infuses the *Dhatus, Agni,* and *Srotas* which are fundamental aspects of body and thus resulting in an overall improvement in the person and they help in the resistance of diseases and slow down the effect of ageing and thus, *Rasayana* aids in the physical and mental well-being of a person. There are many drugs mentioned in *ayurveda* that are used as *Rasayana* like *Amalaki, Ashwagandha, Yashtimadhu, Brahmi,* etc.

The immunity of humans is gradually declining these days. Worldwide, a number of novel and terminal

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illnesses are emerging; COVID-19 is one such virus-related illness. At this time, COVID-19 is not treatable with effective antiviral medications or vaccinations. The greatest way to handle it is to prevent it. Therefore, boosting the immunity is required to combat with the disease. With *Rasayana Chikitsa* (rejuvenating therapy), it is possible. *Rasayana* has a significant impact in enhancing immunity to combat and prevent COVID-19. This review attempts to investigate the role of *Rasayana* as indicated in Ayurveda, in COVID-19 prevention.

The infectious pandemic disease known as Corona virus disease 2019 (COVID-19) is brought on by the corona virus that was most recently identified. A vast family of viruses known as corona viruses (CoV) is responsible for illnesses ranging from the common cold to more serious conditions including severe acute respiratory syndrome (SARS-CoV) and Middle East Respiratory Syndrome (MERS-CoV).^[2] Under the categories of *Janapadodhwnasa* (Global epidemic), *Aupasargic Vyadhi* (communicable diseases), and *Anukta Vyadhi* (undescribed diseases), COVID-19 is a novel disease entity for Ayurveda; the term *Anukta* refers to something that is unspoken, unsaid, and unheard of. This article is a humble attempt to explore the role of *Rasayana* in communicable diseases with special reference to COVID-19 as an *Anukta vyadhi* (undescribed disease).

AIM AND OBJECTIVES

To explore the role of *Rasayana* therapy in communicable diseases with special reference to Covid-19.

MATERIALS AND METHODS

Conceptual references are drawn from *Ayurvedic Samhitas*, contemporary medical textbooks, research studies and relevant websites. An attempt is made to reach a conclusion based on review, observation, and discussion after studying the relevant concepts and critical analysis.

DISCUSSION

Rasayana is made up of two words: *Rasa* and *Ayana*. *Rasa* basically refers to the seven important vital

tissues or *Saptadhatu* (*Rasa, Rakta, Mamsa, Meda, Asthi, Majja, and Sukra*). *Ayana* signifies the route or channels. Thus, *Rasayanas* are those who facilitate the appropriate absorption, development, and enhancement of fundamental *Saptadhatu*.^[3] *Rasayana* therapy is one that helps to cure illnesses and postpones *Jara* (old age). *Rasayana* is therefore employed for the purpose of promoting strength in the healthy individual by disease prevention and treatment, and thus fulfills the *Prayojana* of *Ayurveda*.^[4] *Satmya Ahara, Nidra* (regular proper sleep) and *Bramhacharya* needs to be followed to boost up the *Vyadhiksamatwa* (Immunity).

Immunity in Ayurveda (*Vyadhiksamatwa*)

Vyadhi means disease and *Kshamatva* means resistance. According to *Acharya Chakrapani*, *Vyadhi-Kshamatva* mentions 2 main functions: (1) *Vyadhi Bala Virodhitwa* i.e., reducing the strength of already manifested disease, (2) *Vyadhyutpada Pratibandhakatwa* i.e., prevention of the unmanifested disease.^[5] *Vyadhikshamatva*, then, refers to the element that restrains pathogenesis and counteracts the intensity of illness. The existence of *Bala* or *Oja* in the body is necessary for *Vyadhikshamatva*. Thus, elements that build and preserve the *Oja*, leading to boost the immunity, include *Rasayana Sevan* (rejuvenation therapy), *Vyayama* (exercise), and *Satmya Aahara* (appropriate nutrition). Drugs that have a *Rasayana* effect on *Oja* raises *Sharir Bala*. *Rasayana Sevan* is an excellent choice in the event of a corona pandemic to strengthen and support immunity. An important aspect of *Ayurveda* is the use of *Rasayana* to strengthen the body's general resistance against common illnesses and pathogens. It strengthens immunity by resisting the illness on a mental and physical level.^[6]

Rasayana, who expresses concern regarding the immune booster. With *Rasayana* therapy, the body's components are primed to adjust to a program of targeted tissue endowment. According to current scientific theories, this idea refers to the improvement of an organism's immune response to infections through the non-specific activation of the immune

system by the use of immunomodulatory substances derived from plants. *Rasayana* enhances a person's host resistance, assisting in the prevention of aging and illness. *Rasayana Chikitsa*, also known as rejuvenation therapy, aids in the promotion and maintenance of lifespan by inducing health in healthy individual and the treatment of illness in the affected ones. *Rasayana* helps to protect the patient from opportunistic infections by boosting his immunity. Immunomodulatory function, antioxidant activity, antiaging action, neuro-protective action, hemopoietic effect, etc., are some potential modern-day interpretations of the processes by which *Rasayana* works.^[7]

Types of Rasayana

There are two different kinds of *Rasayana*: *Dravyabhuta Rasayana* and *Adravyabhuta Rasayana* (*Achara Rasayana*). *Rasayana* is separated into two categories based on how it is administered: *Vatatapika Rasayana* (outside rejuvenate regimen) and *Kutipraveshika Rasayana* (intensive indoor rejuvenate regimen). On the basis of diet and lifestyle, it is divided into three categories: *Aushadha Rasayana* (drug-based *Rasayana*), *Ahara Rasayana* (dietary *Rasayana*), and *Achara Rasayana* (lifestyle *Rasayana*). Depending upon the objective, there are three different varieties of *Rasayana*: *Kamyā*, *Ajasrika*, and *Naimittika*. The kind of *Rasayana* therapy employed for particular curative purposes is called *Naimittika Rasayana*. It quickens the healing process from common illnesses. *Ajasrika Rasayana* is utilized to maintain a healthy lifestyle, nutrition, and exercise routine. It entails maintaining a disciplined lifestyle in the use of substances like milk, ghee, and honey. *Kamyā Rasayana* is employed to enhance a desired function.^[8]

Achara Rasayana

Achara Rasayana is a special concept in *Ayurveda* that denotes moral, ethical and charitable behavior. These include truthfulness, nonviolence, cleanliness of oneself and others, mental and personal hygiene, dedication, compassion, and a *Yogic* way of life. The body-mind system is rejuvenated by these practices.

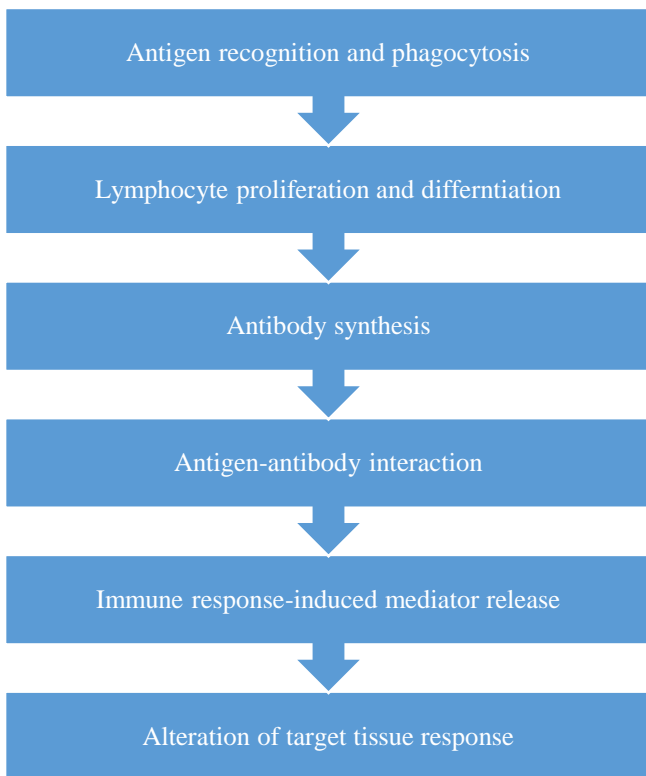
While this type of behavior can be used either in isolation or in conjunction with material substance *Rasayana* therapy. It provides all the advantages of *Rasayana* therapy without requiring the physical consumption of any *Rasayana* medicine or recipe. The idea behind *Achara Rasayana* is to modify our actions in order to maintain balance and stop the disease process.

People who are honest and unaffected by anger, who abstain from alcohol and sexual pleasure, who do not engage in violence (*Himsa*) or exhaustion, who are calm and pleasant in their speech, who clean up after themselves, who are stable and steady, who regularly engage in charitable giving and *tapas* (penance); who regularly offer prayers to the God, teachers, preceptors, and the elderly; who are completely free from barbarous acts; who are compassionate, whose periods of waking and sleeping are regular, who drink milk and ghee on a daily basis, who are familiar with the measurement of (things appropriate to) the nation and the time, who are experts in the knowledge of rationality, who are free from ego, whose conduct is good, who are not narrow-minded, who have a strong love for spiritual knowledge, excellent sense organs, respect for elders, self-control, and regular scripture study, get the best out of rejuvenation therapy. These are the attribute one should possess to get the proper benefit of *Rasayana* under *Achara Rasayana*.^[9]

Immunomodulatory Action of Rasayana Dravyas

A material that has the ability to specifically or nonspecifically affect any immune system component or function, including the innate and adaptive arms of the immune response, is known as an immunomodulator. They are a wide range of natural and manmade recombinant compounds, frequently cytokines. Certain medicinal plants, such *Ocimum sanctum*, *Tinospora cordifolia*, and *Terminalia arjuna*, either boost the immune system or decrease the immunological response when they alter the immune mechanism.

The following processes are primarily responsible for mechanisms of immunomodulation activity:



Plant phytochemical study reveals that the active ingredients in herbal *Rasayana* drugs-polyphenols, tocopherol, tannic acid, ascorbate, carotenoids, flavonoids, etc. have potent immunomodulatory effects. The immunomodulatory qualities of the herbs included in Indian traditional medicine's formulation may promote immunomodulation, which is likely to have a synergistic effect. This theory and the fact that they are non-toxic may be crucial to comprehending both their historical and contemporary uses. *Rasayana Dravaya* functions as an antioxidant, immunostimulant, immunomodulator, and antistressor. The immunostimulant, immunoadjuvant, and immunosuppressive qualities of the *Rasayana* herbs work by altering the immune response.^[10]

Some *Rasayana* Examples

Guduchi (Tinospora cordifolia)

Its alkaloid constituents, which include magnoflorine, choline, tinosporin, tetrahydropalmatine, and palmatine, provide a protective effect against nephrotoxicity caused by aflatoxin. Their wide range of positive effects contribute significantly to strengthening our immune system's ability to combat infectious infections.^[11]

Amalaki (Emblca officinalis)

The best natural antioxidant and source of vitamin C is *Amalaki*, often known as Indian gooseberry. Gallic acid, tannin, vitamin C, and antioxidants are all present. Since *Amalaki* has been stored in *Kashaghna Varga* in *Charak Samhita*, it is helpful for recurrent respiratory tract infections, primarily tonsillitis, sinusitis, sore throat, and seasonal cough and cold.^[12] The antitussive action of *Emblca officinalis* dry extract is attributed to its effect on mucus secretion in the airways as well as its antiphlogistic, antispasmodic, and antioxidant efficacious effects. The immune-stimulating ability of *Emblca officinalis* is a useful defense against newly developing infectious illnesses.^[13]

Ashwagandha (Withania somnifera)

The primary phytochemical components of *Ashwagandha* are withanolides, which are a class of compounds that include cuscohygrine, alkaloids, steroidal lactones, triterpenelactones (withanolides), withaferin A and D, and tropine. Withanone lessens the electrostatic component by binding free energies of the ACE2-RBD complex, which inhibits or blocks COVID-19 entrance and subsequent infectivity. It has also been discovered that SARS-CoV-2 used its spike protein, Receptor-Binding Domain (RBD), to entrap the human body's ACE 2 host cells. In essence, it prevents interactions between the host proteins. This combination indirectly strengthens defense against COVID-19 infection.^[14,15]

Probable mode of action of *Rasayana*

Rasayana aids in enhancing metabolism, digestion, and microcirculations, enabling the acquisition of all *Dhatus'* finest attributes. *Rasayana* works on the seven *chakras*, enhancing *Oja*, which strengthens the body's defense against illness. The body receives protection from this *Oja* in two ways: Specifically, through B lymphocytes, which fight bacterial and viral infections, and nonspecifically through neutrophils and monocytes. Humoral mediation by B lymphocytes results in the production of plasma cells and immunoglobulin, which eliminates antigens. Majority of *Rasayana* medicines improve the functions of many different organs by obtaining *Vyadhikshamatva*, which

has features that are appetizing, digesting, enhancing cognitive, antioxidant, adaptogenic, and immunomodulatory.^[16]

Ayurveda & COVID-19

New conditions are emerging due to inevitable changes in lifestyle and surroundings; therefore, they can be treated using the *Tridosha* theory as outlined in Ayurvedic classics. *Aupasargika Rogas*, or communicable and contagious disorders that can be spread by touching or breathing, have been described by *Acharya Sushruta*.^[17] According to *Tavakoli* (2020),^[18] the most common ways for human corona viruses to transmit among individuals are by surface contact, coughing, or sneezing. *Ayurveda* refers to this process as *Srotas*, which is a channel or conduit that carries vital nutrients to various organs and is important in the pathophysiology of ailments. One of the mechanisms in the pathophysiology of disease is obstruction in the *Srotas*. The primary purpose of the *Pranavaha Srotas* (Respiratory system) is the translocation and movement of *Pranavayu*. This *Pranavaha Srotas* becomes vitiated due to multiple factors such as dust particles (which contain viruses), smoke particulates (which contain air pollutants), and cold environment (*Sheetasthana*). When these particles enter through the nose and mouth, it causes illness.^[19]

Prevention and management of COVID-19 through Rasayana

Pranavaha Srotas carries *Pranavayu* in relation to the heart (*Hruday*) and *Dasha dhamanis* (*Moolasthna*). The respiratory system is primarily impacted by COVID-19, as seen by symptoms such as dyspnea, coughing, and cold. Here, medications that support and strengthen the respiratory system's functions may be helpful. The best *Rasayanas* for preventing coronavirus are *Tulsi* (*Ocimum sanctum*), *Agastya* (*Sesbania grandiflora*), and *Pippali* (*Piper longum*), which all strengthen the respiratory system (*Pranvaha Srotasa*).

In order to conduct a socially and economically productive life, one must be in a state of total physical, mental, and social well-being, which goes beyond simply being free from illness or infirmity (Park,

2011).^[20] Immuno-compromised illnesses such as acquired immune deficiency syndrome (AIDS), tuberculosis, and cancer can be efficiently managed with the help of *Ayurveda*. The rejuvenation therapy, also known as *Rasayana* therapy, makes it feasible with its amazing benefits for immunity, health, lifespan, and the body's ability to regenerate cells and tissues. Perhaps the only medication that can be taken safely for an extended length of time even in a healthy state without any particular conflicts is *Rasayana's* immunomodulator herbs. Many of the *Rasayana* formulations that extend longevity are reported by *Acharya Sushruta*, who calls them *Ayuskara Rasayana* therapy benefits our body in many ways, including the enhancement of immunity, body tissues, and the alleviation of illnesses. It also strengthens our body. Immunomodulators adjust the way the immune system operates.

CONCLUSION

Rasayanas are useful for boosting the body's immunity. *Rasayana's* effects on the respiratory system increase the organs' ability to operate and lessen the signs and symptoms of respiratory diseases. An essential component in prevention of illness is enhanced immunity. As *Rasayana* therapy fulfills all these criteria, hence it may be said that *Rasayana Chikitsa* can be useful in both preventing COVID-19 and lessening its symptoms.

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