

**POST-COVID REHABILITATION THROUGH REJUVENATION THERAPY
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**ABSTRACT**

The covid 19 has become a global pandemic and spread to more than 201 countries. Coronavirus infects respiratory tracts of Humans with symptoms that vary from Mild to Severe, and appear within 2 to 14days after the infection, usually lasting for 6 to 41 days depending on the patients' health. Even after the recovery some symptoms like fatigue, anxiety, breathing difficulties persist and affects the quality of life. There is no such clear data about the long-term effects or future health issues that can be happened because of this dreadful covid19. All these post covid symptoms are due to *Dhatukshaya* in terms of Ayurveda. To overcome this *Rasayana* therapy can be utilised. *Rasayana* or rejuvenation therapy is a sole concept of Ayurveda providing overall nourishment to the body by *Dhatu poshana*. This study aimed to establish the effects of *Rasayana* therapy in post covid complications.

Keywords: Covid 19, Post Covid 19 complications, Rasayana

INTRODUCTION

Coronavirus or SARS-CoV-2 is a virus causing severe acute respiratory syndrome belonging to coronaviridae family. This virus spread primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes. Most people infected with the covid 19 virus will experience fever, dry cough & tiredness. As per the WHO report on 12/02/2021, it is around 10783825 confirmed cases, and 2373398 confirmed deaths have been reported due to Covid 19^[1]. As per a recent US study, only 65% of those who recovered from Covid 19 returned to their pre-Covid health status after 14 to 21 days^[2].

Even amongst patients who recovered from mild Covid 19, symptoms like cough, fatigue, anxiety persists for the long term.

Rasayana is a unique concept of Ayurveda and can be used to fulfil the prime aim of Ayurveda ie, *swasthasya swasthya rakshana and athurasya Vikara prasamana* (Maintaining the health of the healthy & curing the diseased)^[3]. It is having *Brimhana* properties and hence one will get the excellency of *Rasadi dhatu*^[4]. Post CoVid cases usually may pass through *Dhatu kshaya aavastha* and required more care. Term Rasayana means (Rasa+Ayana), rasa stands for nourishment and ayana stands for circulation, By the administration of Rasayana micro and macrocirculation get improved and nourishment to every dhatu become easy.

AIM AND OBJECTIVES:

To establish the role of *Rasayana* in the rehabilitation of post-Covid patients

MATERIALS AND METHODOLOGY

All the available literature related to Rasayana in Ayurveda and covid 19. also, the latest updates on Covid19

REHABILITATION

Rehabilitation is defined as a set of interventions designed to reduce disability and optimize functioning in individuals with health conditions in interaction with their environment. it is a key strategy to reduce the impact of Covid 19 on health^[5]. A patient who has severe covid 19 will go through multiple phases

of care-acute, post-acute and long-term care. In the post-acute phase and long-term phase, rehabilitation has a great impact.

POST-COVID COMPLICATIONS

The clinical spectrum of Covid -19 varies from asymptomatic to clinical conditions characterised by respiratory failure that necessitate the support of the intensive care unit. As cases rise quickly worldwide it is becoming clear that covid 19 affects different people in different ways, most people recover without any hospitalisation, but the symptoms persist for many weeks to months in many cases. people who have recovering from severe illness, or who have long COVID, may require rehabilitation to manage the aftereffects of covid 19, post covid complications may vary from muscle pain, anxiety to lung or myocardial damage. These include Fatigue, anxiety, stress, depression joint pain, cognitive impairment, and lung and heart damages due to inflammatory changes^[6].

RASAYANA

Therapeutics is of two types one that promotes strength and immunity in the healthy and the other that alleviate the disorders⁷The one which promotes strength and immunity mostly included *Vrsya (Aphrodisiacs) and Rasayana* (Promotive treatment)^[8]. The word Rasayana (Rasa+Ayana) refers to nutrition and its transportation in the body. By the Rasayana therapy, one will get excellence of *Rasadi dhatu* (Enriches rasa with nutrients) Through this one can attain longevity, memory, intelligence freedom from diseases, youthful age, excellence of posture, complexion and voice, optimum strength of physique and sense organs, successful words, respectability and brilliance^[9].

TYPES OF RASAYANA

Rejuvenation therapy is of two kinds, *Kutipravesika* and *Vatatapika*^[10] or broadly classified into 3 by *Dalhana* acharya, *Kamya Rasayana*, *Naimittika*, and *Ajasrika Rasayana*.

1) **KAMYA RASAYANA:** The drugs which improve the health and vigour of a healthy person are kanta

rasayana, Chyavanaprasha is commonly used for this purpose.

2) **NAIMITTIKA RASAYANA:** To increase the strength of diseased personae known as Naimittika rasayana. May be used as a supportive treatment to specific medical treatment of a particular disease, so that the disease can be easily cured.

3) **AJASRIKA RASAYANA:** Rules of conduct, practice, usage can also be considered as rasayanas, which are known as Ajasrika rasayana.

MEDHYA RASAYA: All the rasayanas also improve the mental faculties, but the *medhya rasayanas* has a specific effect on mental performance

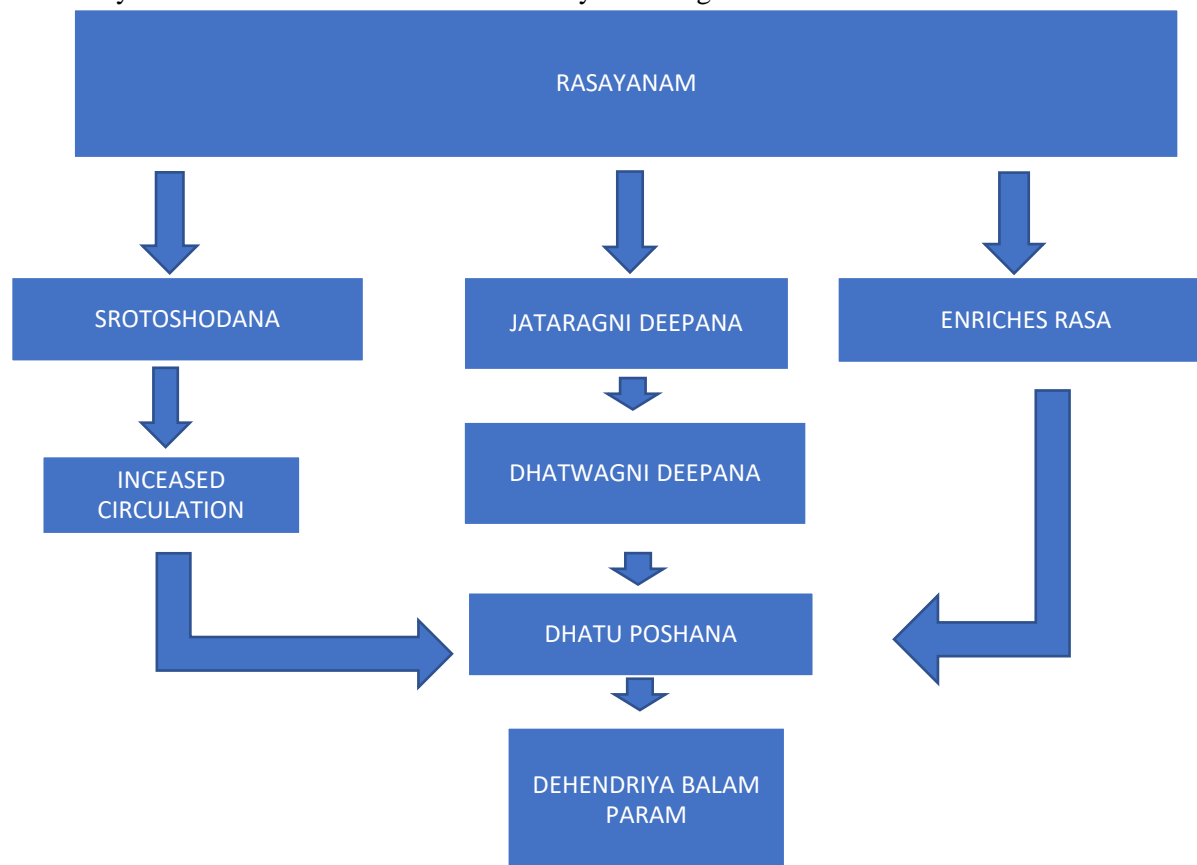
GENERAL MODE OF ACTION OF RASAYANA

Rasayana drugs act at different levels^[11],

1. **Action on Jataragni:** Most of the Rasayana drugs are those having ushna virya. This enhances jataragni (digestive fire) and leads to dhatwagni deepana results in dhatu poshana. As per the sloka *Dosha dhatu mala moolam saada dehasya*, dhatus are the base of deha, hence Dhathu poshana will ultimately result in *Dehendriyabalamparam*.

2. **Action on srotas (Cleansing of minute circulatory pathways):** *Srotas* are the micro and macro circulatory channels, which enables the circulation of nutrients all over the body. Sometimes this process can be obstructed due to srotodushti (sanga, atiprasanga, sirogranthi, vimarga gaman). Rasayana drugs are highly efficient in srotoshodhana. Thereby clearing the channels and making circulation very easy.

3. Rasayana itself enriches the Rasadi dhatus by enriching nutritional values.



FREE RADICALS AND ANTIOXIDANT THEORY

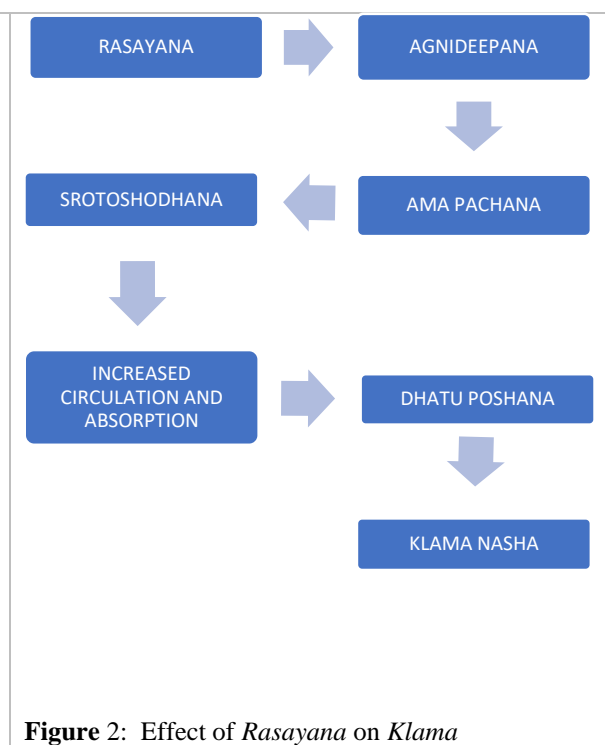
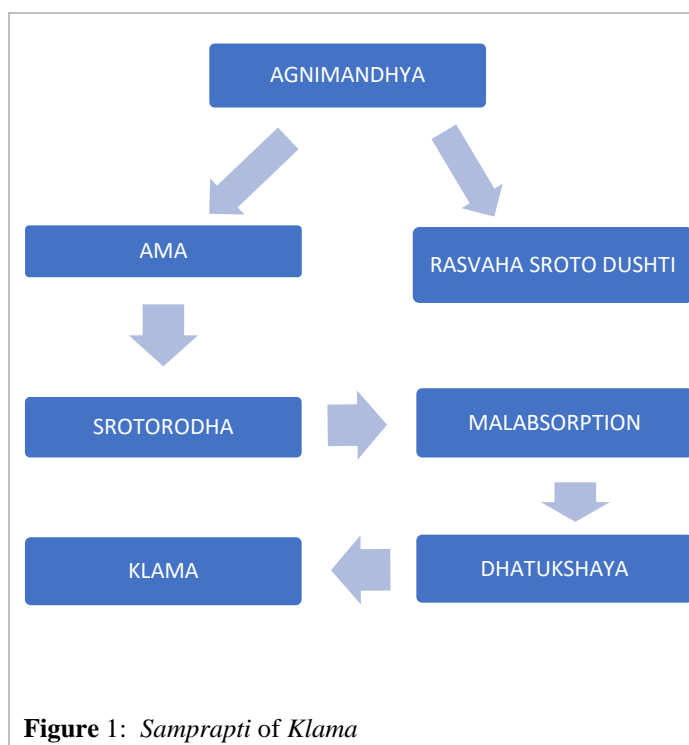
A free radical is an atom or molecule that contains one or more unpaired electrons, it tries to seek stability either by donating electrons to other molecules or acquiring electrons from adjacent molecules. When a cell uses oxygen for generating energy free radicals are created. These by-products are reactive oxygen species (ROS) and Reactive Nitrogen Species (RNA). These are toxic but in low concentration, these help our body to generate energy and fight infection. But in high concentration, they generate oxidative stress and damage [12]. This plays an important role in the causation and progression of many diseases like Neurodegenerative diseases, Chronic inflammatory diseases [13] etc. The cell of the human body to counteract this oxidative stress has some mechanism by producing active antioxidant enzymatic activity and passive antioxidants, which act as free radical scavengers. Antioxidants are stable molecules enough to donate an electron to a free radical and thus neutralize it. These antioxidants can be supplied externally

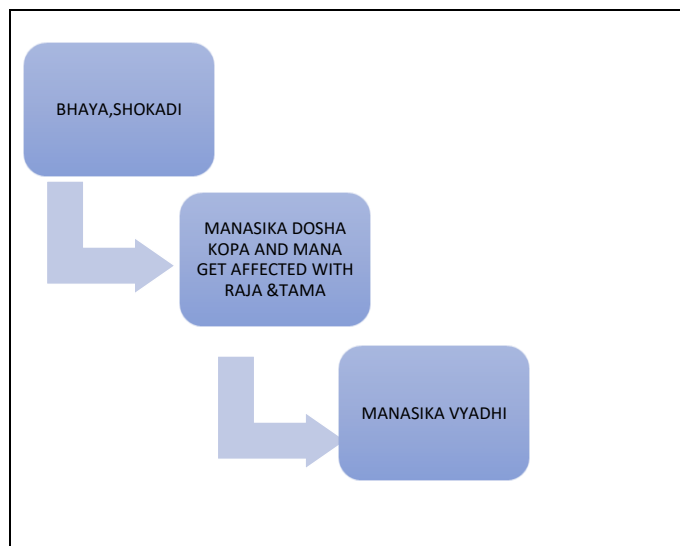
through food and /or supplements, apart from the regular dietary source of antioxidants many traditional herbal medicines demonstrate a potential to boost antioxidant activity. Various studies have been shown that many of the *Rasayana* drugs have antioxidant activity [14,15].

DISCUSSION

Vyadhi can be classified into four *Saririk*, *Manasik*, *Agantu* and *Swabhavik*. Covid 19 can be considered as an *agantuja vyadhi* in Ayurveda [16]. Some studies concluded that Covid 19 is a *Vata kapha dominant sannipata jwara of agantu origin with Pittanubandha* [17]. The main post covid19 complications can be concluded as Fatigue, Weakness, Breathing difficulties, stress, anxiety and insomnia.

FATIGUE: One of the most common post covid symptom, the term fatigue is generally used to describe the feeling of tiredness or weakness. In Ayurveda fatigue can be correlated to *Klama*, it is the weakness or tiredness that happens without doing any hardworking and is not associated with dyspnoea [18].





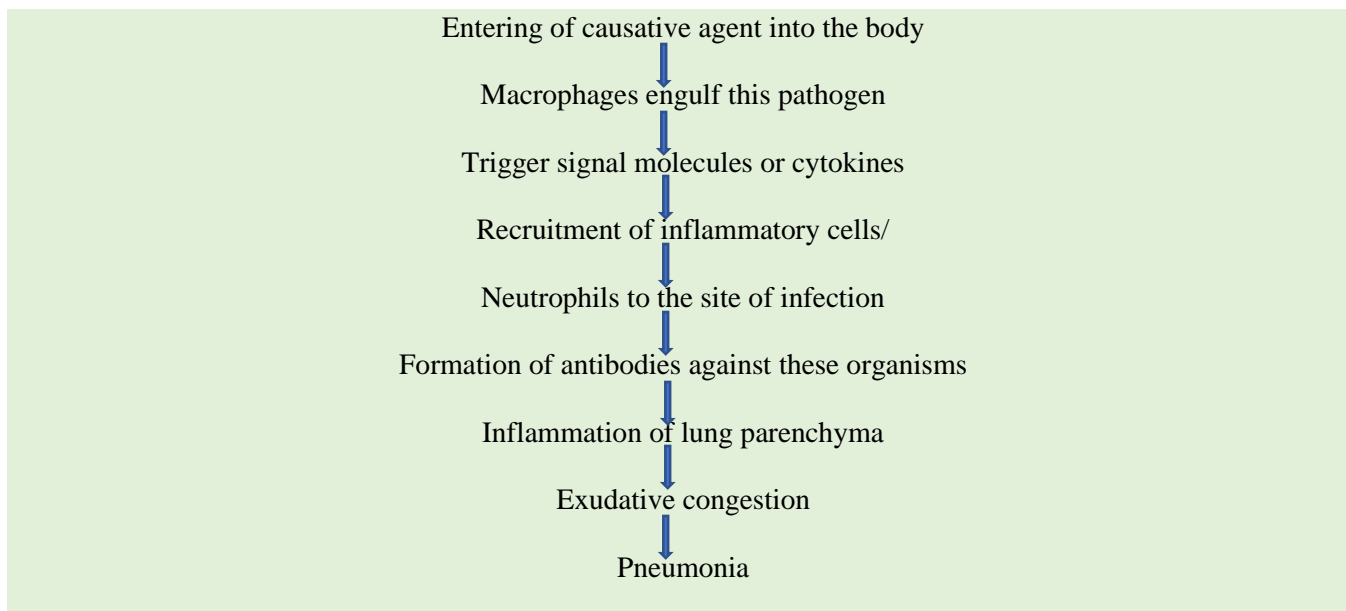
DEPRESSION, ANXIETY, STRESS:

Every *Rasayana* is having some effect on mental faculties, especially *Medhya rasayana*. The drugs of *medhya rasayana* improve mental and intellectual properties by *prabhav*^[19] Medya rasayana is a group of 4 drugs, *Sankhpushpi*, *Guduchi*, *yashtimadhu* and *Mandukaparni*^[20] By various studies is already prov-

en the nootropic effect of the same drugs. Therefore, *Medhya rasayana* by its *prabhav* cure this symptom.

BREATHING DIFFICULTIES

Infection with Covid 19 starts when the respiratory droplets containing the virus enter the respiratory tract, then infection progress to the lungs.



Accumulation of fluid and damaged cells build up in the lungs and finally leads to symptoms like coughing and shortness of breath^[21]. In severe cases results in lung damage or any other tissue damage wherever the infection goes. Lungs can be considered as moola

sthana of *Pranavaha srotas* (hridaya includes the whole chest cage as per various studies). In Ayurveda breathing difficulty can be correlated to *Shwasa*, it is prana vaha srotoduhti vikara. *Sanga* of *Pranavaha srotas* and *Urdhwagati of vayu* results in *Shwasa*.

Brimhana therapy is the treatment principle for *Pra-navaha sroto vikara*, in that way we can say that *rasayana* will be useful in such conditions.

Any tissue damage or any organ damage there will be an associated dhatu kshaya avastha because dhatus are the building structure of our body (*dosha dhatu mala moolam sada dehasya*^[22]) so definitely we can say that *rasayana* will work on dhatukshaya happened to the lungs as per the above concepts.

CONCLUSION

As Covid 19 cases continue to rise worldwide, it is known that this deadly respiratory virus has long-lasting side effects. The most common Covid 19 complications can be concluded as Fatigue, Stress, Anxiety, and Breathing difficulties. Hence it is clearly understood that this SARS-COV2 virus affects one's quality of life even after the recovery from infection. In order to bring back the person to normal life/healthy life *Rasayana* therapy can be used as a strategy. By *srotoshodhana* (Cleansing) and *Brimhana* (Nourishing), enriching *rasa*, activities *Dhatu poshana* can be attained and thereby one will get *dheergha ayu*, *smriti*, *medha*, *arogya*, *dehendriya* *balam* etc This can replace the quality of life. So *Rasayana* therapy can be used as a strategy for curing Post Covid Complications.

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