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(Special Issue)

“Impact and approach to pandemic covid-19 on various sectors”

## Ayurvedic pathophysiology and probable mode of management in covid-19

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### Abstract

Entire humanity is struggling from the Covid-19 pandemic and till date, no medicine or therapy has demonstrated promising results in either preventing the disease or improving its prognosis. The concept of *Janpadodhwamsa* of Acharya Charak is helpful to explain the Pathogenesis of Covid-19. In Ayurveda there is a very broad concept to understand consecutive stages of pathophysiology of the disease, which is helpful to conclude the severity of disease and its management. The ayurvedic diagnosis process is based on the definition of the inborn constitutional health state of the patient termed *Prakriti*. Through *Prakriti* assessment patient can achieve and maintain his ideal healthy state. At any stage of Covid-19 by proper assessment of pathophysiology and *prakriti* of the patient one can easily manage the disease by using different ayurvedic formulations.

**Keywords:** Ayurvedic pathophysiology, covid-19, *Prakriti* assessment patient

### Introduction

The world is facing a huge health and wealth crises in the form of a new virus by the name of coronavirus disease 2019, which is an infectious disease caused by severe acute respiratory syndrome coronavirus-2. General symptoms include fever, cough, fatigue, shortness of breath and there are varying percentages of symptomatic and asymptomatic patients. In Ayurveda there is a chapter in Charak Samhita named *Janpadodhwans*, in which it is mentioned that when the environment become *Tamopradhan*, whenever *tamshik* environment increase in the nature then this uproar of the nature happens. This means whenever the human acts imbalance the nature then the infectious disease in the form of pandemic or epidemic occurs to balance it.

In Charak Samhita chikitsas than third chapter it is said that the aggravated dosha circulate through the channels carrying rasa and spread all over the body and get stagnated, causes *Santat jwar*. This *santat jwar* is extremely difficult to treat and manifests its symptoms very quickly. In this type the patient either gets cured or killed on the 10<sup>th</sup>, 12<sup>th</sup>, or 7<sup>th</sup> day. Therefore we can correlate covid-19 with *santat jwar*. *Santat jwar* is type of *visham jwar* and according to Charak all *visham jwar* are *tridoshaj*. In covid-19 initially we see the symptoms of *vata-kafaj jwar* and on later stage it involves *pitta dosha* also. In the prevention and management of covid-19 scientists are proposing need of Ayurveda. For prevention of the disease there are many medicines which enhances our immune system as *Guduchi*, *Aswagandha*, *Amalaki* etc. There are so many medicines such as *Ayush64*, *Ayush kwath*, *Swashkas chintamani*, *Vyoshadi vati*, *Shirishadi kwath* etc have very good effect on diseased persons.

### a) Pathophysiology

In Ayurveda evaluation tools for any disease is *NIDAN PANCHAK*. It can be explained under the following headings:

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In Charak sutrasthan first chapter it is said that erroneous use, avoidance and excessive use of *Kala, Budhi, Indriyarth* is the three causes of all disease.

In Shusrut nidan fifth chapter the term *Aupsargikaroga* is used for the communicating diseases. Different modes of transmission from one to another include *Prasang* [mutual contact], *Gatrasansparsha* [skin to skin touch], *Nihashwas* [exhaled air], *Sahabhajana* [sharing food], *Sahashaiya* [bed sharing], *Asana* [sitting close to each other], *Vastra* [using cloths], *Malya* [sharing ornaments] and *Anulepana* [sharing bodypack].

Covid-19 is caused by coronavirus constitute the subfamily Orthocoronavirinae, in the family Coronaviridae. They are enveloped viruses with a positive-sense single-standed RNA genome and a nucleocapsid of helical symmetry.

**b) Purvaroop [prodromal symptoms]**

There are many premonitory signs and symptoms in the 4<sup>th</sup> stage of kriyakala. In Charak Samhita purvaroop are given for many disease. Some purvaroop are relatable with covid-19 prodromal symptoms as follows:

Jwar: *Aalasya* [Lassitude], *nayane sasre* [watering eye], *Gaurav* [heaviness], *avipak* [dyspepsia], *aasya vairasya* [dysgeusia], *hani bala varnyo*

Shwas: *Pranasya vilomatvama* [breathlessness]

Kasa: *Shookpurna galasyata* [pharyngitis], *kantha andu*

**c) Roop sign and symptoms**

In Ayurveda, jwar is specifically pronounced as sarvarogagraj and shwas as prannashu by Aacharya Charak. In Charak chikitsa chapter third the following points are described to explain the different stages of jwar . These are very helpful to understand the pathophysiology of jwar according to Ayurveda;

**d) Upsaya relieving factors**

Medicines, diets and regimens that bring about relief either by acting directly on the disease itself or by producing such effects indirectly are termed upashaya [pacifying agents or factor].

**e) Amprapti [pathogenesis]:**

Samprapti, jati, and agati are synonyms of Pathogenesis of the disease

**Samprapti Ghatak**

Dosha- Tridosha[V-K Pradhan]

Dushya- Sravdhatu[Rasadhatu Pradhan]

Agnidusti-Agnimandata

Srotus- Rasavaha and Swedavaha

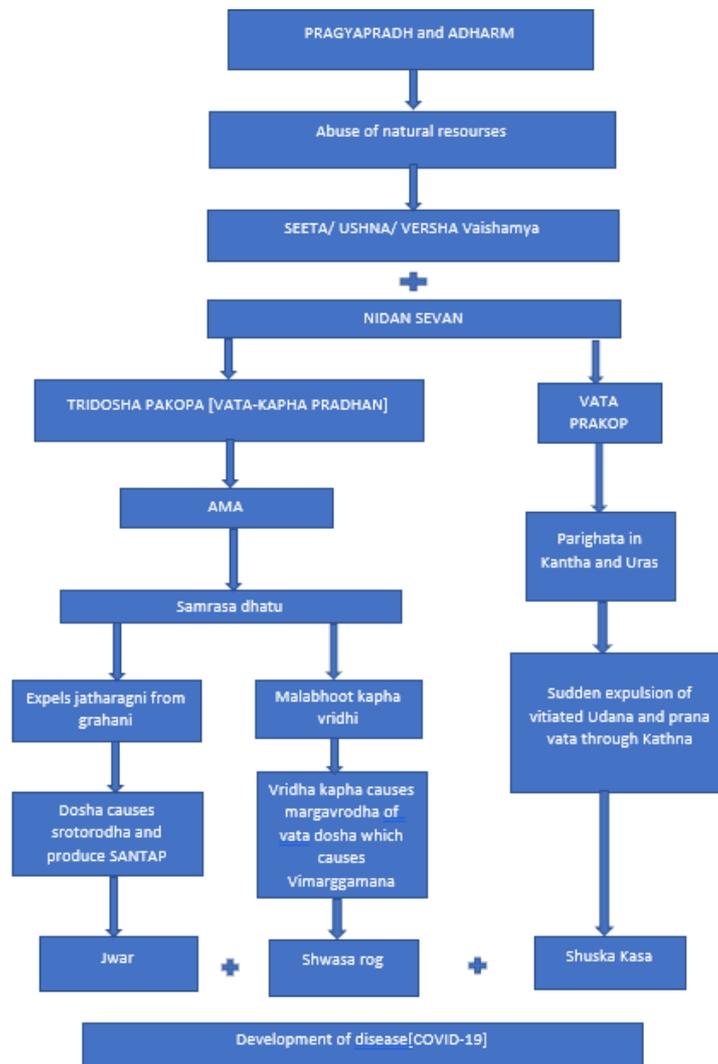
Srotodusti-Sang

Adhithan-Sarir and Mana

Rogmarg- Bahya and Abhyanta

Sadhyaasadhya- Sadhya,Kastasadhya,Asadhya

**Samprapti chakra [Flowchart of pathogenesis of covid-19]**



**Pathogenesis**

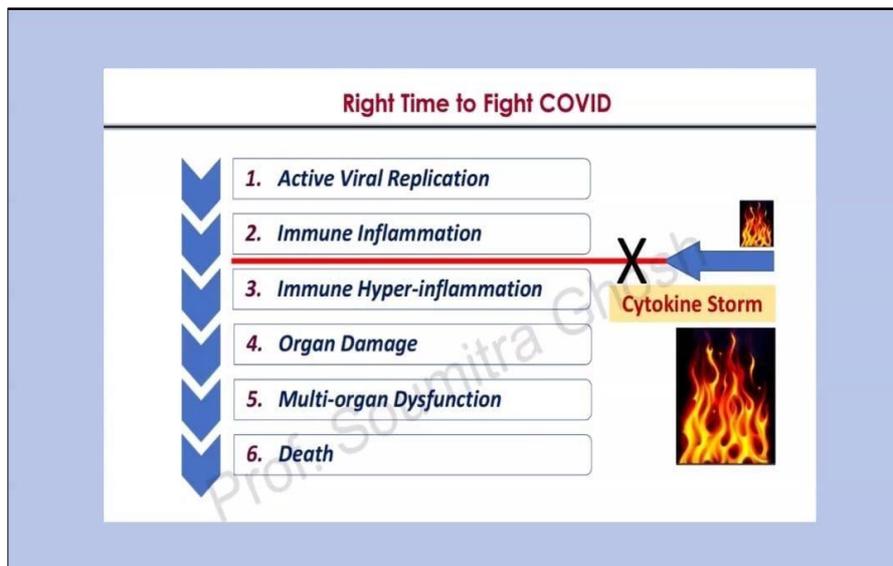
Covid-19 is not a lung disease primarily rather a Systemic Thrombo Hyper-inflammatory vasculitis  
 Viraemia phase- 9days  
 Pulmonary phase  
 Hyperinflammation phase  
 Multiple organ failure

**Management**

Ayurveda, one of the world’s renowned Indian traditional medicines, aims holistic management of health and disease since antiquity. Further, Ayurveda emphasizes on PREVENTION first. The major preventive approaches for maintaining and improving quality of life i.e. *Dhatusamyas*[state of equilibrium] includes individualized specific measures like *Dincharya*, *Ratricharya*, *Hita-aahara*, *Sadavruit palan*, *Achar rasayana* etc. Furthermore

Ayurveda mentions several immunity-boosting measures such as Rasayana and Vajikarana, practice of Yoga, time to time Panchkarma.

For the prevention of Covid-19 herbal decoctions, consumptions of hot water, gargling with medicated water and steam inhalation should be prescribed. Immunomodulatory drugs such as Turmeric, *Tinospora cordifolia*, cinnamon, kirattikta have been validated by researches. Nasya karma with ANU TAIL shows also very good effect. Prevention encourages hand washing, avoiding of touching face, wearing of masks, avoiding crowds and close contact with ill individuals and social distancing. Shatakriyakala was described by Aacharya Sushruta, in this he explained the consecutive stages of manifestation of disease and suggest appropriate time period for treatment to avoid the severity of disease.



Taking Covid-19 as a model, we can portray the threefold treatment method prescribed in Ayurveda for the management of any disease:

- a) Daivavyapashraya Chikitsa [A modality of treatment based on past deeds and pleasing of God]
- b) Yuktivyapashraya Chikitsa [Rational therapy based on dosha-dushya concept] and
- c) Sattvavajaya Chikitsa [Psychotherapy]

In Charak Samhita chikitsa stahn Jwarchikitsadhyay, Daivavyapashraya Chikitsa in the contest of vishama jwara.

In which, worship of higher beings is prescribed [such as worship of Matrugana alongwith Shankara, Ashwini kumar, Indra etc]. Also *Mantra chikitsa* has been suggested such as Vishnu Sahastranaam recitation. Mantra chikitsa should be implemented in the current time in the Quarantine centres. Other measures such as *Yagya* specifically in the name of Lord Shiva and Lord Vishnu should be implemented. *Dhupana* with a number of drugs such as Neem, Vacha, Guggulu etc may be used. Aacharya Charak described Palankashadi Dhoop for Vishama jwar.



In the context of Yuktivyapashraya Chikitsa; Prakriti [Dashavidha atur pariksha] of patient, sign and symptoms of the disease are the basis of the treatment. In Charaka vimansthan third chapter [Janpadodhwansiyavimanaadhya] use of Rasayana has been mentioned alongwith the use of Nidan-Viparita ausadhi.

Broadly Covid-19 patient can be classified into three categories on basis of symptoms for ease of management:

- a) Asymptomatic or Mild-85%
- b) Symptomatic or Moderate-10%
- c) Critical-5%

**There fore Death rate of the Covid-19 is 1% and 99% patient of Covid-19 will survive.**

- a) **Mild Symptoms:** Sansamani Vati, Sudarshanghana Vati, Shatyadi kwath, Ayush kwath, Godanti, Sitopaladi churna, Talishadi churna, Abhrak bhasma, Laxmi vilas rasa, Tribhuvankirti rasa, Agastya haritaki etc.
- b) **Moderate Symptoms:** Suvarn laxmi vilas rasa, Suvarn basant malati rasa, Shwas kuthar rasa, Shwas kasa Chintamani, Godanti, Tribhuvankirti rasa, Chandramrit rasa etc.
- c) **Severe Symptoms:** Vrihat kasturi bhairav rasa, Trailokyachintamani rasa, Sameerpanag rasa, satputi or sahastraputi Abharak bhasma, Jaimangal rasa, Vishama jwarantaka louha, Mahasudarshan kwath [if used in high dose then it causes loose motion], Chushast prahari pippali etc.

The Satvavajaya Chikitsa should be implemented in the current situation of lockdown and restricted activities. Increasing number of cases and deaths along with the decreasing economic and social stability in the society might give rise to anxiety disorder, depression, insomnia, dementia and stress. These disorders can be avoided and treated by psychospiritual therapy. This chikitsa helps in controlling Manas [mind] away from Ahita Artha. Mainly focusing on the intelligence, consciousness, memory, and spiritual aspects of the affected individuals, Satvavajaya Chikitsa aims at stimulating consciousness, altering, and discriminating the maladaptive thoughts/actions.

**Conclusion**

The most crucial aspect of our body in combating the Covid-19 in the IMMUNE SYSTEM. When the immune system is strong, the body barely feels the effects of Covid-19, and this is where ONLY AYURVEDA can play a crucial role. It also proposes management guidelines using Ahara [nutritional principles] and Oushadha [Medication] for different stages and subsets of patients. Therefore Ayurveda has immense potential to contribute for both prevention and management of Covid-19.

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