



## COVID 19: AN AYURVEDIC REVIEW (PART 1)

### Ayurveda

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### KEYWORDS

#### INTRODUCTION

Three coronaviruses have caused disastrous outbreaks of Pneumonia in human beings since the beginning of the 21<sup>st</sup> century: Severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002–03 and Middle-East respiratory syndrome coronavirus (MERS-CoV) in 2012 (civljak et al., 2020). The ongoing Covid-19 (Coronavirus disease 2019) is the third coronavirus epidemic of zoonotic origin to occur in the present century (Sun et al., 2020). Coronavirus disease 2019 (COVID-19), is related to an RNA virus of the coronavirus family, severe acute respiratory syndrome coronavirus (SARS-CoV), which is renamed as SARS-CoV-2. The severity of COVID-19 infection is quite variable and the manifestations varies from asymptomatic disease to severe acute respiratory infection. World Health Organization declares that although all age groups are at risk of COVID-19, older people face significant risk of developing severe illness, due to physiological changes, especially in immune system, associated with ageing and presence of chronic diseases.

The causative agent of Covid-19 was tentatively named as 2019 n-CoV (2019 novel coronavirus) by WHO on 12th January 2020 (Sun et al., 2020). On 11th February 2020, it was officially named as SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2) by the International Committee on Taxonomy of Viruses (Gautret et al., 2020; Rasmussen et al., 2020)

#### EPIDEMIOLOGY

The initial cases were strongly associated with the Huanan seafood market, in which exotic animals were sold for food. According to Lu et al, the virus (termed SARS-CoV-2) shares 88% sequence identity to two coronaviruses found in bats, bat-SLCoVZC45 and bat-SL-CoVZXC21, 79% identity with the SARS coronavirus and 50% identity with MERS coronavirus. According to Chan et al, SARS-CoV-2 is thought to be transmitted via contaminated hands, surfaces and aerosolized droplets, and extensive human-to-human transmission is evident.

According to Li et al, the average incubation period is 5 days but is highly variable and can last up to 2 weeks

#### CLINICAL SYMPTOMS

The clinical features of COVID-19 are varied, ranging from asymptomatic state to acute respiratory distress syndrome and multi organ dysfunction.

The common clinical features include fever (not in all), cough, sore throat, headache, fatigue, myalgia and breathlessness. Thus, they are indistinguishable from other respiratory infections. In a subset of patients, by the end of the first week the disease can progress to Pneumonia, Respiratory failure and Death.

#### DIAGNOSIS

As COVID-19 has been declared a pandemic, every case presenting with any of the symptoms discussed earlier or a travel history to any of the affected countries or a history of any contact with infected persons should raise a suspicion of infection with SARS-CoV-2. The WHO recommends sample collection in the form of expectorated sputum, endotracheal aspirate, or bronchoalveolar lavage. Real-time-polymerase chain reaction (RT-PCR) test is used for the detection of viral RNA. Sometimes, if the test is negative but a strong suspicion of COVID-19 is present, then the test has to be repeated for confirmation.

#### THE CONCEPT OF PANDEMIC DISEASES IN AYURVEDA

Outbreaks, epidemics and pandemics of highly communicable diseases have afflicted mankind since the beginning of human history and were very well known to the ancient Ayurvedic scholars. In the Charaka samhita (one of the principle textbooks of Ayurveda) both epidemics and pandemics are clearly described together with preventive measures description. Epidemics are defined as sudden, unexpected outbreaks of a disease within a local area. Pandemics, in contrast, refer to a very widespread disease that affects an entire nation or the world. In Ayurveda, epidemics and pandemics are called as 'Aupasargikarogas' (infectious diseases), as well as pandemics are called as 'Janapadodhvarsarogas'. Coronavirus is an example of the Aupasargikarogas as well as Janapadodhvarsarogas.

#### MODES OF TRANSMISSION (Ayurvedic Perspective)

According to Ayurveda, all pandemics spread via one of the following factors - all of which are capable of affecting the mass population: Vayu (Atmosphere), Udaka (Water), Desha (Land) or Kala (Season). More specifically, pandemics and outbreaks were observed to be transmitted by any of the following modes described by Sushruta Acharya in Nidanasthana of Sushruta Samhita (one of the principle textbooks of Ayurveda):

- Prasanagat (incidences related to)
- Gatra samsparshat (physical contact with diseased individuals)
- Nishwasa (inhalation of infected respiratory droplets)
- Sahabhojanat (sharing food)
- Sahashayya (sleeping together)
- Asana (sitting closed)
- Vastra (sharing the same clothing, handkerchief and towels etc.)
- Malya (sharing the same flowers and ornaments etc.)

Understanding the Origin and Pathology of Coronavirus through Ayurveda

#### SAMPRAPTI GHATAKAS (ETIOPATHOGENESIS)

**Dosha:** Predominantly Kapha, with both Vata and Pitta secondarily affected to varying degrees

**Dushya:** Dushita Rasa dhatu (after effect of poor digestion).

**Agni:** Mandagni

**Aama:** Samaroga, affecting digestion and metabolism.

**Strotasa:** Pranavahastrotta and Rasavahastrotta (different channels in the body)

**Strotodushti prakaras:** Atipravritti (excessive flow) and Sanga (obstruction)

**Sthana:** Agantuja Roga (related to virus)

**Vyakta:** Manifests in the upper body primarily related to Kapha regions (can correlate to sinuses, lungs and blood)

#### TREATMENT STRATEGIES IN AYURVEDA

As transmission of Corona virus is affected by multiple factors, including environmental factor, host behavior, host defense mechanisms and virus infectivity. All these factors should be taken into consideration while deciding prevention & treatment plan of conditions. Among them, only host behavior and host defense mechanisms lie within boundaries of human efforts. Three types of strategies i.e. Daivavyapashraya, Yuktivyapashraya & Satvavajaya are advised by Ancient Acharyas for management of such communicable diseases under their different components. However, it is noteworthy thing that most strategies among them are preventive in nature.

As prevention is the single option to fight with this dreadful situation & less immunity of the individual at present, it plays key role in this fight. Some strategies can be adopted in prevention of this disease, one of which is described as follows.

### Dhoopana with Rakshoghna Gana

Brihatatrayi consists of a variety of Dhoopana Kalpanas aimed at deriving health, combating diseases and even purifying environment. These formulations have been used widely since a longer period. The Dhoopana Dravyas mentioned in the Brihatatrayi have a lot of potential to manage environment to help in purifying homes and hospitals where the person or the patient stays. Also, it helps in sterilizing in an economical and eco-friendly way without developing any side effects.

### Dhoopana Vidhi

It is the use of medicated fumes. Powdered herbal dravyas which have antimicrobial properties are sprinkled over burning flame in a pan. After effects of the fumes produced by this Dhoopana vidhi are used to purify the homes and hospitals.

### Dhoopana Dravyas in Charaka Samhita

S.No	References	Purpose for	Ingredients
1	Sha. 8/6	Disinfection of bed, clothes etc.	Yava, Sarshapa, Hingu, Guggulu, Vacha, Chor-pushpi, Brahmi, Durva, Jatamansi, Ashoka, Kutki.
2	Chi 23/98	Removal of toxins from bed, clothes and rooms etc.	Sarshapa, Shweta Chandan and Ghruta.

### Dhoopana Dravyas in Sushruta Samhita

S.No	Reference	Purpose for	Ingredients
1	Su. 19/28	Fumigation of Room	Sarshapa, Nimba, Ghruta & Lavana
2	Ka. 3/17	Air purification	Laksha, Haridra, Ativisha, Abhaya, Musta, Ela, Tagara, Kushtha & Priyangu

### Dhoopana Dravyas in Ashtanga Hrudaya

S.No	Reference	Purpose for	Ingredients
1	Chi.1/162	Air Purification	Guggulu, Nimba, Vacha, Kushtha, Haritaki, Sarshapa, Yava, Ghruta.

Thus, Ayurvedic herbal dhoopa is natural and biocompatible. It can potentially aid in internal environment cleansing and sustainable conservation without causing any harm to the environment like various chemicals and aerosols. Ayurvedic methods of sterilization can be alternative for modern sterilization which is cost effective and have a great medicinal value.

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