



ISSN:2456-9739

Available Online at <http://www.bjbr.org>

# BRITISH JOURNAL OF BIO-MEDICAL RESEARCH

Cross Ref DOI: <https://doi.org/10.24942/bjbr.2020.741> Volume 04, Issue 06, Nov - Dec 2020

## Review Article

### Role Of Ayurveda In Prevention And Management Of Covid-19

Lokesh<sup>1</sup> and Shaveta Sawhney<sup>2</sup>

<sup>1</sup>P.G. Scholar, Department of Kriya Sharir, Patanjali Bhartiya Ayurvedigyan Evam Anusandhan Sansthan, Haridwar, Uttarakhand, India.

<sup>2</sup>Associate Professor Department of Kriya Sharir, Patanjali Bhartiya Ayurvedigyan Evam Anusandhan Sansthan, Haridwar, Uttarakhand, India.

#### ARTICLE INFO

##### Article History:

Received on 14<sup>th</sup> Nov 2020  
Peer Reviewed on 29<sup>th</sup> Nov 2020  
Revised on 08<sup>th</sup> December 2020  
Published on 30<sup>th</sup> December 2020

##### Keywords:

Corona virus, Immunity,  
Janapadodhwamsa, Pranavaha  
Srotas

#### ABSTRACT

Ayurveda being science of life has the motto of maintain the health of healthy individual and cured the diseased one. Ayurveda is a way of life for many people. World community is facing an unprecedented pandemic of Novel Corona Virus Disease (COVID-19) caused by Severe Acute Respiratory Syndrome Corona virus -2 (SARS-COV- 2). The disease has spread globally with a very high rate. Ayurveda has given a detailed description of disease which spread through contact, droplet, and usage of objects of infected person known as Sansargajanya roga. Similar to present scenario of COVID-19 which explains spread of this virus. Another concept of Janapadodhwamsa, explains the origin of pandemic disease. As Ayurveda says, even-though the disease is affecting the whole world with its severity, one need not to be afraid of disease if physician is assured of proper medicaments for treatment. Considering this disease is mainly affecting Respiratory system and further involves other systems also, which can be correlated with vitiation of Pranavaha Srotas and Rasavaha Srotas in its pathogenesis. Today COVID-19 are more common and a major challenge to control them, so that we can follow some preventive aspects which are explain in Ayurveda and we could reduce COVID-19 burden across the globe. Charaka Samhita, the classic of Ayurveda, describes epidemic management and defines immunity as the ability to prevent disease and arrest its progress to maintain homeostasis.

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**Corresponding Author:** Dr. Lokesh, P.G. Scholar, Department of Kriya Sharir, Patanjali Bhartiya Ayurvedigyan Evam Anusandhan Sansthan, Haridwar, Uttarakhand, India.

## INTRODUCTION

Covid-19 is the disease caused by SARS-CoV-2, Corona viruses are actually a family of hundreds of viruses, most of which infect animals such as bats, chickens, camels and cats. Occasionally, viruses that infect one species can mutate in such a way that allows them to start infecting another species. This is called “cross-species transmission” or “spillover”. International committee on taxonomy of viruses (ICTV) announced “severe acute respiratory syndrome corona virus 2 (SARS-CoV-2)” as the name of the new virus on 11 February 2020. This name was chosen because the virus is genetically related to the corona virus responsible for the SARS outbreak of 2003.[1] While related, the two viruses are different, as the outbreak was first identified in December 2019 in Wuhan, China. The first confirmed death was in Wuhan on 9 January 2020. The first death outside of China occurred on

1 February in the Philippines, and the first death outside Asia was in France on 14 February. It then extended across the globe and was termed as a pandemic in 2020. The Corona virus disease 19 (COVID-19) pandemic is unique and unprecedented in several aspects and has challenged health care systems. While the disease is almost controlled in China, it is still widespread in Europe and US which have emerged as the new epicentres of the COVID-19. As of September 10, 2020, more than 27,688,740 cases of COVID-19 have been reported in more than 213 countries and territories, resulting in more than 899,315 deaths; and 20,162,405 people have recovered.[2]

## Mode of Infection

The virus is primarily spread between people in close proximity, most often via small droplets produced by coughing, sneezing, and talking. The droplets usually fall to the ground or on surfaces rather than travelling through air over long distances. However, the transmission may also occur through smaller droplets that are able to stay suspended in the air for longer periods of time in enclosed spaces, as typical for airborne diseases. Less commonly, people may become infected by touching a contaminated surface and then touching their face. It is most contagious during the first three days after the onset of symptoms, although spread is possible before symptoms appear, and from people who do not show symptoms. The virus can survive for hours on common surfaces outside the human body, and up to four days in human waste. The virus can survive at least for 24 hours on a plastic surface at room temperature and live for extended periods in the cold.[3]

## Sign and Symptoms

People with COVID-19 may have few to no symptoms, although some become severely ill and die. Symptoms can include

- Fever(Jwar)
- Cough (Kasa)
- Shortness of breath or difficulty breathing(Shwasa)
- Fatigue(Shrama, Klama)
- Muscle pain(Anga Marda)
- Headache (Shirshul)
- Sore throat(Kantha Shoola)
- Congestion or runny nose(Peenasa).
- Nausea(Hrullas)
- Vomiting (Chardi)
- Diarrhea(Drava Mala),
- Loss of smell or taste[4,5]

Stage of severity	Rough percentage of people with COVID - 19
Mild disease from which a person can recover	More than 80%
Severe disease, causing breathlessness and pneumonia	Around 14%
Critical disease, including septic shock, respiratory failure of more than one organ	About 5%
Fatal disease	2%

### Prevention of Covid-19 through ayurveda

Ayurveda pays particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of medicine.

1. Nidana parivarjana:- Discontinuing causative factors. Avoiding the causative factors responsible for vitiation of Doshas. Ayurveda gives more importance to the Etiological factors as the avoidance of these itself is part of the treatment. Nidana considers the disease causing factors like; diet, life style, environmental factors and injuries as sources of any diseases which overall leads to the imbalance of Doshas. In Ayurveda, Nidana parivarjana or “avoiding the cause” is considered as the first line of treatment in most of the diseases. Acharya Sushruta explains very well about the Rog Sankramana in Sushruta Samhita Nidana Sthana chapter 5 that spreading of disease occur due to frequent touching the body of the patient, inhaling his expired air, dining, sleeping, and sitting together, wearing dress, garlands used by patient the disease will spread.[6] By avoidance of these Nidana (etiology) the COVID-19 can be prevented. because currently there is no vaccine to prevent COVID-19. The best way to prevent COVID-19 multidisciplinary approach can be started which includes following:-

2. Patient education :-

Regarding Preventive Measure like

- While coughing and sneezing cover mouth and nose with flexed elbow or tissue.
- Clean hands with soap or hot water after coughing or sneezing and when caring for the sick.
- Avoid close contact with people and maintain social distancing.

- Stay at home when a person is sick.
- Wear clinical mask.[7]

3. Vyayama :- plays key role in the maintenance of health and prevention of disease. It takes major role in humanizing and regulating mechanism of all systems of human body. Ayurveda mentioned that proper physical activity, affects not only our body, but has a positive influence on Mana (mind), emotions, Indriyas (senses) and Aatma (spirit).[8] When muscles contract during exercise, they consume large amounts of O<sub>2</sub> and produce large amount of CO<sub>2</sub>. During vigorous exercise O<sub>2</sub> consumption and pulmonary ventilation both increases dramatically.[9]

4. Abhyanga:- Whole body massage by medicated oil. To avoid spread of infection which one gets from outside Abhyanga also strengthens skin by increasing blood flow. The sweating caused during massage helps to remove toxins from blood.[10]

5. Yoga and Pranayama:- The sign and symptoms which are produced by the COVID-19 indicated the direct involvement of Pranavaha Srotas. Pranayama is known to improve lung function with the help of Pranayama we can clean our Pranavaha Srotas and it will give us a boosting of energy so that we can keep away the virus. Along with pranayama another health supporting practice is to do some yogasana like Camel pose, Cobra pose, Cow pose, Bridge pose, Lion pose If a person is feeling difficulty to do with these poses they can do Surya Namaskar.[11]

6. Nasya karma:- Nasya karma includes the installation of medicated drops through the nostril it will helps to clean the nostrils and easy

breath because life starts with breath and ends with breathlessness so maintaining breathing properly in this pandemic disease is a big task. Application of Anu taila[12]/ sesame oil / coconut oil or Cow Ghee in both the nostrils (Pratimarsh Nasya) possibly forms a biofilm and can help as a barrier to the entry of the virus particles. Researchers of Traditional Chinese Medicine have already proposed the use of nasal oil application for preventing SARS-COV-2.[13]

7. Gandusha and Kavala:- Warm liquids and oils are used as gargles (gandusha) or mouth rinses (kavala) to cleanse the mouth and throat thoroughly.[14] This can also have a systemic effect. The oils or oily decoctions clean the oral cavity, pharynx, and tonsillar area and are likely to coat the mucosa as biofilm and induce additional immunomodulatory, antioxidant, and antimicrobial benefits. The paramount role of host mucosal immunity in controlling infectious agents is well known. Turmeric (*Curcuma longa*) rhizome, Yashtimadhu or liquorice (*Glycyrrhiza glabra*) stem, Neem (*Azadirachta indica*) and Catechu (*Acacia arabica*) barks, and natural salt may be used to prepare medicated water/solutions for gargles/mouth rinse. Cleansing effect on oral cavity as well as removing extra mucus. Coronaviruses are abundant in the nasal and mouth mucosa, removing them may decrease severity of SARS Glycyrrhizin, an active component in liquorice was found to be more effective than common antivirals in inhibiting the replication of SARS virus and inhibited its adsorption and penetration.[15]

8. Ushnodaka:- Drinking hot or warm water is a popular home remedy for many ailments. Ayurveda also advocates this as a measure for improving digestion of Ama, a proinflammatory product of impaired metabolic disorders. The presence of Ama is linked to increased susceptibility to infections. Traditionally, warm water is consumed in many parts of India for diverse disorders of fever, inflammation, metabolism, and allergy such as rhinitis and asthma. Several spices that are popularly used in the kitchen are added as

single or multiple agents to the boiling water and consumed as medication throughout the day. These spices include dry ginger (*Zingiber officinale*), yashtimadhu (*Glycyrrhiza glabra*), and nut-grass (*Cyperus rotundus*) rhizomes; khus (*Vetiveria zizanioides*) and Indian sarsaparilla (*Hemidesmus indicus*) roots; coriander (*Coriandrum sativum*) and fennel (*Cuminum cyminum*) seeds; and cinnamon (*Cinnamomum verum*) and catechu (*Acacia catechu*) barks.[16] In Ayurveda three Dosha i.e Vata, Pitta and Kapha are responsible for the maintenance of homeostasis in the body. Healthy state of a person is actually a state of equilibrium of these Tridoshas. Covid 19 shows symptoms where Pranavaha Srotorodha is present associated with vitiation of kapha dosha. In Sharangdhar Samhita Acharya Sharangdhar opines different Doshaghna properties of Ushnodaka as  $\frac{3}{4}$ th for Vataghana,  $\frac{1}{4}$ th for Pittaghana and  $\frac{1}{2}$  reduction for Kaphaghana work. Ushnodaka is wholesome (Hita) for those suffering from Jwara as it promotes Agni (Digestive fire), removes Srotorodha and expels Kapha Dosha.[17]

9. Lehan Karma and Rasayana:- In modern science, vaccination is done to produce immunity against a disease. But till now no vaccine are available for Covid19. In Ayurvedic classic Acharya Sushrut, Vagbhat, Kashyapa describe lehana for this purpose which ultimately enhance immunity. Lehan karma and Rasayana are done to enhance growth and development by providing sufficient nutrition and promoting health. Rasayana are rejuvenating agents which produce resistance against disease.[18] Rasayana therapy may have direct relevance to the prevention and management of SARS-COV-2 infection. The botanicals used in Rasayana therapy have been found to be effective in immunomodulation and restoration of immune haemostasis. Several Rasayana botanicals described in Ayurveda are used in clinical practice for strengthening immunity. Based on the research data, we find *Withania somnifera* (Ashwagandha), *Tinospora* (Guduchi),

Asparagus racemosus (Shatavari), Phyllanthus, embelica (Amalaki), and Glycyrrhiza glabra (Yashtimadhu) are potential immunomodulators.[7] Such Rasayana botanicals may be considered for COVID-19 prophylaxis and as an add-on treatment.[19]

## DISCUSSION

COVID-19 is challenges for all the system of medicine throughout the globe. We must remember the basic principle in medicine that "prevention is better than cure". The simple and feasible measures based on Ayurveda and Yoga could be quickly advertised in public- health campaigns through electronic and print media. People are overstressed by the compulsions of social distancing and physical barrier methods. They are likely to find comfort and support in some of the deeply rooted traditional practice that may protect them from the infection and its associated debilitating conditions. Ayurveda have a potential role to engage the community in creating a more positive health environment. Ayurveda literature has mentioned complete health dimensions and importance for healthy life. Ayurveda not only explained about the preventive measures but usage of several poly herbal compounds along with proper purification & dietary modification can help to control COVID- 19.

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**How to cite this article:**

**Lokesh and Shaveta Sawhney** *Role Of Ayurveda In Prevention And Management Of Covid-19* **Br J Bio Med Res** , Vol.04, Issue 06, Pg.1302 - 1307, November - December 2020. ISSN:2456-9739 Cross Ref DOI : <https://doi.org/10.24942/bjbmr.2020.741>

**Source of Support:** Nil

**Conflict of Interest:** None declared.

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