



AYURVEDIC APPROACH TO COVID-19

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ABSTRACT

Today the whole 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 more than 20.3 million confirmed cases and 2, 22000 deaths in India only as of May 4, 2021. Despite worldwide efforts, the pandemic is continuing to spread, and no system of medicine has any evidence-based treatment for COVID-19 as yet. The dimensions of pandemic require an urgent harnessing of all knowledge systems available globally. Drawing attention on the *Ayurveda* classics, contemporary scientific studies, and experiential knowledge on similar clinical settings, depending on the stage of infection among individuals, in a population, *Ayurveda* system of medicine requires immediate implementation. It will facilitate learning, generate evidence and shall be a way forward.

Keywords: COVID-19, Pandemic, SARS-CoV-2, *Ayurveda*, Immunity

INTRODUCTION

The coronavirus disease 19 (COVID-19) pandemic is unique and unprecedented in several aspects and has challenged almost all the health care systems. At pre-

sent, the global momentum is unabated and requires call for better approaches and strategies in public health and medical care. The SARS-CoV-2 virus has

mutated over time, resulting in genetic variation in the population of circulating viral strains over the course of the COVID-19 pandemic. There is a change in the genetic sequence of the SARS-CoV-2 virus when compared with a reference sequence such as Wuhan-Hu1 (the first genetic sequence identified) or USA-WA1/2020 (the first identified in the United States). A new variant (virus variant or genetic variant) of SARS-CoV-2 may have one or more mutations that differentiate it from the reference sequence or predominant virus variants already circulating in the population. Variants of SARS-CoV-2 can have different characteristics. For example, some may spread more easily or show signs of resistance to existing treatment options and some may have no impact when compared with previous and currently circulating virus. There are some risk factors that make people susceptible. People with older age, presence of comorbidities such as diabetes, hypertension and cardiovascular disease, males, anorexia and presentation without fever are more susceptible. Reduced peripheral capillary oxygen saturation (SpO₂) below 90% is also a risk indicator in apparently mild cases^[1]. Conventional mainstream medicine is at the forefront when it comes to curing this menace, especially at the critical care stage. The prophylactic and therapeutic potential of traditional and complementary medicine systems such as *Ayurveda* and *Yoga* is not really being considered during this crisis but they can be used as an add-on therapy and may support patients of COVID-19 by improving the quality of standard care. *Ayurveda*, the ancient system of medicine deals with the prevention of the disease by paying particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of medicine. *Ayurveda*'s extensive knowledge based upon preventive care derives from the concepts of "dinacharya" - daily regimes and "ritucharya" - seasonal regimes to maintain healthy life.^[2] In *Charaka Samhita* the classic of *Ayurveda*, both epidemics and pandemics are clearly described together with what preventive measures should be taken. Epidemics are defined as sudden, unexpected outbreaks of a disease within a fairly local area. Pandemics, in contrast, refer

to a very widespread disease that affects an entire nation or the world. In *Ayurveda* epidemics are called *aupasargikaroga* and pandemics are *janapadodhvan-saroga*^[3]. Coronavirus is an example of the latter. *Janapadodhvansa* literally means "annihilation of society". According to WHO the eyes, nose, and mouth are main portals of entry of droplets carrying the SARS-COV-2. Prior to the final attachment of the COVID-19 virus to the respiratory tract cells in the lungs, the virus gains access to the throat region and stays for some hours. The fatty acid coat of the virus adheres to the moist mucosal layers, which helps it gain entry into the cells by binding to specific cell receptors. *Ayurveda* classics mention several interventions that are likely to target these entry portals. This may help to improve the innate immunologic response of the mucus membranes and may thus inhibit the virus transmission to the lungs. These measures may hence function as "physiological masks" barricading the viral invasion.

The immune system refers to a collection of cells, chemicals and processes that function to protect the skin, respiratory passages, intestinal tract and other tissues from foreign antigens, such as microbes (organisms such as bacteria, fungi, and parasites), viruses, cancer cells, and toxins. The immune system is broadly divided into two types: innate immunity and acquired (adaptive) immunity. In *Ayurveda*, the concept of immunity (*Bala* or strength) is defined as the ability to prevent disease and arrest its progress to maintain homeostasis. Similar to innate and acquired immunity, *Bala* is classified as natural (*Sahaja*), chronobiologic (*Kalaja*), and acquired (*Yuktikrut*)^[4]. The holistic approach of *Ayurveda* toward promoting health (*Swasthavritta*) includes personalized interventions based on host and environmental factors. So, enhancing the body's natural defence system i.e. immunity plays an important role in maintaining optimum health.

Innate immunity represents the first line of defence to an intruding pathogen present by birth. It is an antigen-independent (non-specific) defence mechanism that is used by the host immediately or within hours of encountering an antigen.

Acquired immunity, on the other hand, is antigen-dependent and antigen-specific and, therefore, involves a lag time between exposure to the antigen and maximal response. Human beings require both of these mechanisms to operate efficiently and in synergy in order to protect against COVID-19.

So how can we improve our immune system?

The intended purpose of herbal medicines in the context of COVID-19 treatment and prevention is to enhance or boost the human immune system, however there are no scientifically proven direct links between herbs alone and enhanced immune function.

The best line of defence is to choose a healthy lifestyle. Following general good-health guidelines is the single best step you can take toward naturally keeping your immune system strong and healthy. Every part of your body, including your immune system, functions better when protected from environmental assaults and bolstered by healthy-living strategies such as these:

- Minimizing stress
- Eat a healthy diet high in grain, fruits and vegetables.
- Exercise regularly.
- Maintain a healthy weight.
- Get adequate sleep.
- Maintain full hygiene such as washing hands frequently
- Don't smoke and drink.
- Use of herbal medicines in combination with all of the above

Regarding the last point, those who are not vaccinated yet for COVID-19, it will be good to take preventive measures which will boost our immunity during this time.

Some Common measures to be used for self-care and recommended by Ministry of AYUSH in daily regime:

1. Drinking hot or warm water is a popular remedy for many ailments.
2. Daily practice of *Yogasana*, *Pranayama* and meditation for at least 30 minutes.
3. Several spices popularly used in the kitchen can be added as single or in multiples to the boiling

water and consumed as medication throughout the day. These spices include dry ginger (*Zingiber officinale*), Liquorice (*Glycyrrhiza glabra*), and nutgrass (*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.^[5]

4. Warm liquids and oils are used as gargles (*gandusha*) or mouth rinses (*kavala*) to cleanse the mouth and throat thoroughly. This can also have a systemic as well as local effect.^[6]

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^[7]. Turmeric (*Curcuma longa*) rhizome, 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.

5. *Ayurveda* recommends the application of medicated oils made from butter oil (*Ghee*) and vegetable oils such as sesame or coconut in the nostrils. This may protect the respiratory tract from pathogen entry. This procedure known as *nasya*^[8] is well described in *Ayurveda*. Application of pure sesame oil was found to be effective for the treatment of dry nasal mucosa. Similar to gargles and mouth rinses; nasal oil application possibly forms a biofilm and can help as a barrier to the entry of the virus particles.
6. Steam inhalation and hot fomentation (with aromatic oils such as menthol) provide satisfactory clinical relief in nasal and throat congestion, broncho-constriction, headache, and sinusitis. Its role in improving nasal conditioning, improving nasal mucus velocity, and reducing congestion and inflammation has been reported.
7. Several studies have endorsed the role of *Yoga* breathing techniques like *pranayama*, *asanas*, and

yogic kriya procedures helps in improving lung health and exercise tolerance.^[9]

DISCUSSION

Modern medical system along with other health systems is still searching for the effective management of COVID-19. However, there are several gaps. As people are overstressed by the compulsions of social distancing and physical barriers (masks), they are trying to find comfort and support in the deeply rooted traditional practices that may protect them from the infection and debilitating conditions associated with it. The Ministry of AYUSH, Government of India, keeps on issuing useful advisory in this context from time to time. These interventions have the advantages of simplicity, affordability, acceptability and appear quite promising to fulfil the aim of *Ayurveda* as well as the basic principle of medicine that “prevention is better than cure.” *Ayurveda*, *Yoga*, and meditation have a potential role to engage the community in creating a more positive health environment. As the second wave of Covid -19 hits India badly so it is the time to explore the potential of traditional medicine systems and adopting integrative approaches in the search of solutions for the COVID 19.

CONCLUSION

In this time of crisis when we are still far more away for any solution to Covid -19, so it is high time to embrace integration with an open mind though there is need for more research. Till then the use of above said traditional methods along with integrated medicine for prevention from COVID-19 should be practiced.

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