

ROLE OF AYURVEDA AND YOGA FOR COVID-19

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ABSTRACT

The outbreak of Corona virus disease (COVID-19) has been recently declared as Public Health Emergency of International Concern (PHEIC) by World Health Organization and the virus has now spread beyond the boundaries of countries and continents. At present, no specific antiviral treatment or vaccine is available or recommended to counter the COVID-19, and the potential therapy is still symptomatic. The outbreak of the Corona virus was begun in Wuhan, China in December 2019. The most common symptoms are fever, tiredness and dry cough. Some individuals also develop aches and pains, nasal congestion, runny nose, sore throat, or diarrhea. It was reported that traditional remedies may alleviate the symptoms of COVID19. *Ayurveda* is the world's oldest medical system that can manage any disease without side effects. *Ayurveda* is equipped with varieties of treatment modalities to handle with any type of deadly diseases. However, a major drawback is a lack of adequate scientific basis. In recent time, a branch of modern medical science has developed and is known as Psycho- Neuro -Immunology. It deals with the phenomenon of how our thoughts and emotions can affect our immune system. Stress, fear and negative emotions are known to weaken our immune system while *Yoga* (including meditation), mindfulness, positive emotions, and relaxation strengthen it. *Yoga* plays an important role to strengthen our immune system.

Keyword: *Yoga*, COVID-19, Pandemic, *Ayurveda*.

INTRODUCTION

The corona virus disease 19 (COVID-19) pandemic is unique and unprecedented in several aspects and has challenged health care systems. At present, the global momentum is unabated, and a second wave is anticipated¹. The experience and lessons learnt from the earlier severe acute respiratory syndrome (SARS) epidemics appear inadequate and call for better approaches and strategies in public health and medical care. The current prophylactic measures are insufficient, and suggested options such as hydroxychloroquine (HCQ) are still under investigation^{2,3}.

The prophylactic and therapeutic potential of traditional and complementary medicine systems such as *Ayurveda* and *Yoga* is not really being considered during this crisis and global hunt for effective preventive and treatment measures.

In this commentary, we have attempted to highlight the knowledge from *Ayurveda* and *Yoga* that might be effectively utilized in the prophylaxis and adjuvant therapy of COVID-19. *Ayurveda* and *Yoga* as an add-on therapy that support patients of COVID-19 by improving the quality of standard care.

Research and therapeutic strategies for COVID-19 have focused on agents to attack the virus or immunize against it. This leaves aside the consideration of the host—one of the most important factors in disease dynamics. *Ayurveda* pays particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of medicine. *Charaka Samhita*⁴ the classic of *Ayurveda*, describes epidemic management and defines immunity as the ability to prevent disease and arrest its progress to maintain homeostasis. The concept of building strength of mind and body to cope with various stressors, including infection, is a corner stone of *Ayurveda* practice. Similar to innate and acquired immunity, the *Ayurveda* concept of immunity (*Bala* or strength) is classified as natural (*Sahaja*), (*Kalaja*), and acquired (*Yuktikrut*). The holistic approach of *Ayurveda* toward promoting health (*Swasthavritta*) includes personalized interventions based on host and environmental factors. Local⁵ and systemic⁶ interventions to boost the immune system have been advocated to manage respiratory ill-

nesses. The choice of specific *Ayurveda* therapeutic agents and practices is based on certain individual genetic characteristics known as *Dosha Prakriti* types (*Vata*, *Pitta*, and *Kapha*)⁷ In our opinion, several general measures described below may be useful to reduce the risk of SARS-COV-2 infection and complement therapeutic management as add-on treatment.

Local Prophylaxis

The eyes, nose, and mouth are the main portals of entry of droplets carrying the SARS-COV-2. Prior to the final assault 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 portals⁸. 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 general measures for respiratory illnesses described in *Ayurvedic* texts⁹. Such as consumption of hot water, hot food, and herbal decoctions, gargling with medicated water, steam inhalation, and local applications may be helpful for symptomatic relief in mild cases.

Medicated water

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 infections¹⁰. 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 - Khus* (*Vetiveria zizanioides*) and Indian sarsaparilla (*Hemidesmus indicus*) roots; coriander (*Cori-*

andrum sativum) and fennel (*Cuminum cyminum*) seeds; and cinnamon (*Cinnamomum verum*) and catechu (*Acacia catechu*) barks¹¹.

Mouth rinse and gargle

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 effect¹². 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 immune modulatory, antioxidant, and antimicrobial benefits¹³. 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. Gargles with these medicated decoctions have demonstrated beneficial effects in xerostomia (dry mouth), post-operative sore throat, oral ulcers, gingivitis, and bacterial growth^{14,15}. 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 penetration¹⁶. *Yoga* texts recommend cleansing of the nasal passage with salt water (*Jala Neti*)¹⁷. The efficacy of salt water in upper respiratory infections has been reported in randomized controlled trials (RCTs), although more conclusive evidence is needed¹⁸.

Nasal oil application

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* is well described in *Ayurveda*¹⁹. Application of pure sesame oil was found to be effective for the treatment of dry nasal mucosa²⁰. 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. Researchers of Traditional Chinese Medicine have already proposed the use of nasal oil application for preventing SARS-COV-2 infection²¹.

Steam inhalation

Steam inhalation and hot fomentation (with aromatic oils such as menthol) provide satisfactory clinical relief in nasal and throat congestion, bronchoconstriction, headache, and sinusitis. Its role in improving nasal conditioning, improving nasal mucus velocity, and reducing congestion and inflammation has been reported in several clinical studies^{22,23,24}.

Systemic Prophylaxis

Ayurveda advocates several non-pharmacological measures that are critical to overall health, including diet, sleep, mental relaxation, lifestyle behavior, and *Yoga*. Several studies have endorsed the role of *Yoga* breathing techniques (*Pranayama*), postures (*Asanas*), and procedures (*Yogic Kriya*) in improving lung health and exercise tolerance^{25,26}. The recommended daily diet²⁷ includes fresh hot soups of vegetables (radish, trigonella leaves, drum stick vegetable pods) and pulses (lentils, green gram/mung beans, chick-peas) seasoned with spices such as Ginger (*Zingiber officinale*), Garlic (*Allium sativum*), Cumin seeds (*Cuminum cyminum*), and Mustard (*Brassica nigra*) seeds (black whole mustard).

Yoga for Mental Health

Poor mental health conditions, including stress and depression, are known to increase the risk of acute respiratory infections²⁸. Rising numbers of COVID-19 cases and deaths possibly raise stress and anxiety, while loneliness and depressive feelings are likely due to mandatory social distancing measures. Consideration of the mind is another distinction of *Ayurveda* and *Yoga*. Several measures for mental health are described, including *Pranayama* and *Meditation*. *Pranayama* is known to improve lung function²⁹. *Meditation* is found to reduce inflammation markers and influence markers of virus-specific immune response³⁰. *Yoga* including meditation could be a simple and useful home-based practice for the prevention and post-recovery management of COVID-19.

DISCUSSION

Modern medical care and health systems are being tested to the hilt for effective management of COVID-19. However, there are several gaps. We must remem-

ber 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 and information brochures for public distribution and display at prominent locations. The Ministry of *AYUSH*, Government of India, has already issued a very useful advisory in this context³¹. 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 practices that may protect them from the infection and its associated debilitating conditions. Noticeably, these interventions have the advantages of simplicity, affordability, and acceptability and appear promising as feasible measures for large-scale implementation. *Ayurveda*, *Yoga*, and meditation have a potential role to engage the community in creating a more positive health environment. Admittedly, there is need for more research. It was welcome news to learn that the United States National Institutes of Health, National Center for Complementary and Integrative Health has engaged a stress-related initiative and is reportedly considering others³². Another timely initiative is the launch of the traditional, complementary, and integrative health and medicine COVID-19 support registry to document practices and products³³. The evidence presented here should draw the attention of stakeholders, including the World Health Organization, to the unexplored potential of traditional medicine systems and adopting integrative approaches in the search for solutions for the COVID 19 crisis. It is high time to embrace integration with an open mind.

CONCLUSION

By adding healthy diet and applying *Ayurveda* and *Yoga* as an add-on therapy we can improve the quality of standard care.

The practice of *Yoga* as therapeutic tool during the COVID-19 pandemic may help ensure better physical and mental health among the public. Proper training of *Yoga* by a skilled teacher and a 30-minute practice every day will maximize the benefit of this ancient

health ritual. Health care providers play a crucial role in encouraging patients to maintain performing *Yoga* during this challenging time.

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