



## YOGA AND COVID-19

## Medical Science

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## ABSTRACT

Yoga is one of the six Aastika Darshana, an art and science of healthy living, a discipline based on an extremely subtle science which leads to a perfect harmony between mind and body, individual consciousness and universal consciousness. In addition to the standard methods, it could be a simple, effective and useful practice for the prevention and post-recovery management of COVID-19 caused by SARS CoV-2.

## KEYWORDS

Yoga, COVID-19

## INTRODUCTION

Yoga, an applied science, a systematized discipline to bring harmony between man and the nature, is the most precious gift of the Indian culture to the world. Yoga is the union of the Individual soul (Jeevatma) with the Universal soul (Paramatma). According to Maharshi Patanjali, Yoga is “Chitta Vrutti Nirodha”, means the stoppage of mind fluctuations. This state is achieved by way of Abhyasa and Vairagya. For Abhyasa, Maharshi Patanjali suggested Ashtanga Yoga. According to the Bhagavad Gita, it is the calmness of mind, the art of performing an action and the destroyer of mystery. The ultimate aim of yoga is self realization, the Moksha.<sup>1</sup>

Resolution by United Nations General Assembly realized that yoga is a comprehensive and holistic approach to promote health and well-being.<sup>2</sup> The WHO's definition of health emphasis on 'well-being', 'being' and 'feeling' healthy. Principles of yoga will help individual to embrace a lifestyle which is effective in reducing stress and enhancing overall health and wellness of an individual during COVID-19 pandemic. It is the most perfect health and wellness science due to its comprehensive and holistic nature.<sup>1</sup>

## ROLE OF YOGA IN HEALTH

Application of yoga for the treatment of illness is known as Therapeutic Yoga. This includes teaching different yoga practices as therapy which may reduce or improve the health situations in terms of physical, mental or spiritual dimensions of health.<sup>1</sup> Yoga enhance and recover respiratory and cardiovascular function, increase muscle strength and flexibility of the body.<sup>13</sup> It is helpful in improving mental health, reduction of stress and anxiety and alleviates chronic pain. It improves overall quality of life and well-being of an individual.<sup>3</sup> Yoga therapy works through activation of the parasympathetic nervous system and its associate anti-stress mechanism. It activates the hypothalamic-pituitary-adrenal axis and recovers metabolic and psychological functions.<sup>4</sup>

## PROBLEM OF COVID-19

COVID-19 has created a global health crisis posing an unprecedented public health emergency. The number of deaths and people being infected are increasing daily throughout the globe. This circumstance is much more severe due to possible devastating situations because of several social and economic factors. SARS CoV-2 primarily affects the respiratory system, although other organ systems are also involved. The respiratory symptoms of COVID-19 are extremely heterogeneous, ranging from minimal symptoms to significant hypoxia with acute respiratory distress syndrome.<sup>8</sup> Along with the standard protocol of treatment; yoga will be useful in such situation. Poor mental health including stress and depression are known to increase the risk of acute infections of respiratory tract. Rise in number of COVID-19 cases and deaths possibly raise anxiety and stress, while isolation and depressive feelings are likely due to mandatory social distancing and lockdown. Yoga makes mind strong, balanced and happy. Thus will help to promote mental health of the patients as well as of the community.<sup>12</sup>

## ROLE OF YOGA IN PREVENTION AND CONTROL OF COVID-19

This pandemic is unique and unprecedented in several aspects and has challenged health care systems. The function of the immune system is critical in human response to COVID-19. The prophylactic measures

such as hydroxychloroquin, are under study as the prevailing measures are inadequate.<sup>5</sup> Evidence identifies stress as a co-factor in infectious disease susceptibility and outcome. So, the prophylactic and therapeutic potential of traditional and complementary systems such as yoga should be considered. Yoga can reduce stress and thus it will decrease susceptibility to SARS CoV-2. Yogic practices are useful in allaying fear and anxiety among patients and their family members. Several randomized controlled trials have shown the efficacy of yogic practices in the management of non-communicable diseases such as diabetes, hypertension, chronic obstructive pulmonary disease, chronic kidney disease, obesity. These can be co-morbidities in patients with COVID-19.

Many recovered patients are suffering from post COVID-19 complications like myocardial infarction, cerebrovascular accident and psychosocial problems. Yoga is useful in such situations and may play significant role in the psychosocial care and rehabilitation. The philosophy and practices of yoga can be effectively utilized in the prophylaxis and adjuvant therapy. It is useful to promote health in healthy population, to reduce COVID-19 susceptibility in high risk people and to boost the immunity.<sup>21</sup> It will also help asymptomatic patients to recover fast. Yoga is useful in vulnerable population such as children and aged people.

Research and therapeutic strategies have focused on agents to attack the SARS CoV-2 or immunize against it.<sup>3</sup> Host is less considered here, which is one of the most important factors in disease dynamics. Yogic therapy pays particular attention to the host and recommends measures for a healthy lifestyle rather than the mere prescription of the medicines. The concept of building strength of mind and body to cope with various stressors like novel corona virus infection is a cornerstone of yoga practice. It can improve respiratory and cardiac efficiency, reduce stress and anxiety, boost and enhance immunity to fight against SARS CoV-2.<sup>7,21</sup>

## YOGA PROTOCOL FOR PRIMARY PREVENTION OF COVID-19

Yoga practices daily for 45 minutes or as prescribed, are suggested by Department of AYUSH, Government of India, for primary prevention.<sup>7,10</sup> These include prayer like Gayatri Mantra for 1 minute, loosening practices like neck bending for 6 minutes, standing asana like Tadasana for 5 minutes, sitting asana like Simhasana, for 7 minutes, prone lying asana like Bhujangasana for 2 minutes, supine lying asana like Setubandhasana for 6 minutes, kriyas like Kapalabhati for 4 minutes, pranayama like Ujjayee for 8 minutes, Dhyan for 5 minutes and Shanti Patha for 1 minute. Pranayama is known to improve lung function.<sup>13</sup> Meditation is found to reduce inflammation markers and influence markers of virus-specific immune response.<sup>14</sup> Apart from these practices, thrice in a week Jala Neti kriya i.e. cleansing of the nasal passage with salt water<sup>16</sup>, everyday or alternate day steam inhalation and regularly gargling with lukewarm saline water will help in primary prevention.<sup>7</sup> The efficacy of salt water in upper respiratory infections has been reported in randomized controlled trials, although more conclusive evidence is needed.<sup>5,17</sup>

## YOGA PROTOCOL FOR POST COVID-19 CARE INCLUDING CARE FOR PATIENTS

After acute illness, recovered patients may continue to report wide

variety of symptoms and complications. A holistic and comprehensive approach is required for follow-up care and wellbeing of all such recovering patients. At the community level, such patients are advised to participate in group sessions of yoga and meditation while taking all due precautions like physical distancing.<sup>11</sup>

Yoga protocol for post care including care for patients contains daily mild and moderate practices as much as health permits or as prescribed.<sup>7,10</sup> The objectives are to improve pulmonary function and lung capacity, to relieve stress and anxiety and to improve mucociliary clearance. The yoga practices included in the morning session of 30 minutes are preparatory practices in sitting position like Sasakasana for 6 minutes, breathing practices for 6 minutes and pranayama like Bhramari for 12 minutes, meditation for awareness of breathing and of positive thoughts, emotions and actions for 6 minutes. The period of exhalation shall be more than the period of inhalation.<sup>7</sup>

The evening session of 15 minutes, include Shavasana for 2 minutes and abdominal, thoracic, clavicular, deep breathing, each for 2 minutes, relaxation in Shavasana with awareness on abdominal breathing for 5 minutes. Steam inhalation every day or alternate day is advised.<sup>7</sup> Pawar et al<sup>9</sup> observed, the symptoms of COVID-19 drastically reduced after the administration of steam. Steam inhalation provides satisfactory clinical relief in patients with nasal and throat congestion, bronchoconstriction and sinusitis. Its role in reducing nasal congestion and inflammation has been reported in several clinical studies.<sup>5,15</sup> Martin et al<sup>19</sup> observed, steam inhalation therapy has no proven benefit and the side effects of this therapy in terms of burn injury are significant. Ophir et al<sup>20</sup> observed, steam inhalation resulted in alleviation of cold symptoms and increased nasal patency in a significantly higher percentage of patients. AYUSH protocol advised gargles with lukewarm saline water regularly.<sup>7</sup> All above practices should be performed under the guidance of Yoga Specialist.

## CONCLUSION

Effective management to address COVID-19 is still evolving and attempts are being made to integrate traditional interventions along with standard care. Yoga can definitely play a pivotal role to augment preventive measures of COVID-19, provided in the guidelines by Ministry of Health and Family Welfare. Good immune status is vital to prevention and to safeguard from disease progression and is possible with the help of Yoga.<sup>5</sup> Holger et al<sup>18</sup> observed, one in five adult yoga users experienced at least one acute and one in ten reported at least one chronic adverse effect, mainly musculoskeletal effects due to their yoga practice. Adverse effects seem to be mainly associated with yoga self-study without supervision. More than three quarters of the cases reached full recovery. Considering overall injury rate per 1000 hours, yogic practices appear to be as safe or safer when compared to other exercise types.<sup>18</sup> Today, the concept of prevention of diseases has become broad-based.<sup>6</sup> Yoga can work very well at all four levels i.e. primordial, primary, secondary and tertiary level of prevention.

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