



INTERNATIONAL JOURNAL OF RESEARCH IN MEDICAL  
SCIENCES & TECHNOLOGY

e-ISSN:2455-5134; p-ISSN: 2455-9059

Preventive Measures in Ayurveda for Respiratory Care

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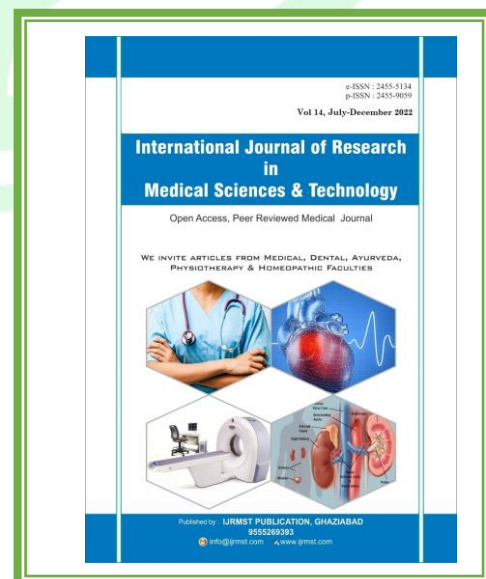
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**Paper Received:** 17 September 2022; **Paper Accepted:** 12 December 2022;  
**Paper Published:** 12 December 2022

DOI: <http://doi.org/10.37648/ijrmst.v14i01.015>

**How to cite the article:**

Dr. Kapila Chahande, Dr Shilpa P Yerme,  
Preventive Measures in Ayurveda for Respiratory  
Care, IJRMST, July-December 2022, Vol 14, 120-  
126, DOI:  
<http://doi.org/10.37648/ijrmst.v14i01.015>



**ABSTRACT**

Ayurveda is a bunch of blooms having multiple spectrums to prevent Health and immunity to fight present and future trends of viruses. The principles of Ayurveda make life span extensive and healthy. COVID-19 is today's crisis; worldwide, people are in dread respiratory disease symptoms as primary indicators of the coronavirus. So, Ayurveda literature has various remedies for strengthening the respiratory system with preventive measures like *Pranayama*, *Yoga*, Meditation, Good sleep, Diet, Lifestyle, and Medication. Prevention is needed to fight COVID-19 because there is no treatment or vaccines to date.

**Keywords-** COVID-19, *Pranayama*, *Yoga*, Meditation, Lifestyle, Respiratory Care

**INTRODUCTION:**

Prevention is better than cure is today's principle followed worldwide, which is even now mentioned in ancient Indian medicine. There are numerous slants to consider for respiratory care in the previous COVID-19 pandemic. One preventive aspect is making the respiratory and immune systems cope with the crisis. As per WHO, Chronic respiratory disease is more likely to develop severe illness [1] and is prone to the COVID-19 virus. So, it needs to protect respiratory system organs from the virus and a robust immune system with short-term efforts, as there are no specific vaccines or treatments for COVID-19.

**Outline for preventive measures**

Ayurveda is comprised of practical principles to overcome today's pandemic issue. The foremost principle is prolonging life and promoting perfect Health to a human being. Lifestyle greatly influences Health, including *Dinacharya*, *Ratricharya*, and *Rutucharya*. During the lockdown period, everyone has to modify their Lifestyle as per guidelines prescribed by the government. But it is a wildly divergent situation for the health workers to work in this situation. The common person and people exposed to pandemic red zone or orange zone areas should take preventive initiatives with prescribed government guidelines. The remedies used for the respiratory and immune systems in the short term period are *Pranayam*,

*Yogasana*, Meditation, Medication, Diet & Lifestyle, and Sound sleep.

### ***Pranayama and Yogasana***

Pranayama improves respiratory functions by regularizing respiratory rate, increasing the forced vital capacity, forced expiratory volume, maximum voluntary ventilation, peak expiratory flow rate, and prolonging breath holding time [2].

Within four weeks, patients with chronic bronchitis benefited from *Yoga* and *Pranayam* therapy [3].

The same results were found in the pilot study of patients with chronic obstructive pulmonary disease (C.O.P.D.) that Pranayama was associated with improved exercise tolerance. Hence Kaminsky suggested Pranayama for symptomatic patients with C.O.P.D. to get the result in twelve weeks [4].

Pranayama and Yoga have a prime role in physical factors like mechanical stimulation and stretching; they enable delays in senescence, improve the lung's physiological functions, and make the body elastic [5].

Thus, a finding stated by Abel et al. that a minimum of 10 weeks of regular Yoga practice improved pulmonary function. So, fewer fit individuals suggested engaging them with regular Pranayama [6].

### **Meditation**

Meditation is beneficial in reducing apparent stress immediately and valuable as a short-term mechanism for stressful conditions; correspondingly, Paudyal et al. said that meditation helps improve the quality of life of asthma patients [7]. Similarly, Harinath et.al. suggested three-month *Hatha Yoga* and *Omkar* citations on disturbed cardiorespiratory performance, psychologic profile, and melatonin secretion. No significant results were observed in systolic blood pressure, diastolic blood pressure, mean arterial pressure, and orthostatic tolerance. Still, it can be helpful in psychophysiology stimuli to increase endogenous secretion of melatonin, which is ultimately responsible for an improved sense of well-being [8].

In the case of the C.O.P.D. population, a complex relationship was observed between breathing parameters, emotion, and mindfulness. Meditation is a beneficial intervention as it has good feasibility and acceptability [9]. Although the physiological and biochemical fluctuations that occur during the acute stress response have been well-characterized, a relaxation response was induced with the help of meditation intervention that may help

tackle a stressful crisis like COVID-19 [10].

### Medication

Curcumin is potentially effective in treating pulmonary diseases and lung disorders, as evidenced in vitro and in vivo [11, 12]. The Ashwagandha is described as *Rasayana* (rejuvenator) in Ayurveda, and research studies also labeled the same [13]. Ethanol extract of *Boswellia serrata* was found to be significantly effective in anti-inflammatory activity, supporting the treatment of lung disorders with allergies and Asthma [14]. The most famous immune modulatory drug in Ayurveda, Chyawanprasha, facilitates current biomarkers of immunity pre and post-consumption and is also observed to be beneficial as adjuvant therapy [15].

In vitro anticancer activity of *Abhrak Bhasma* on cell line of LungHOP62 shows positive effect at Tata Memorial Centre, Research Education in Cancer, Navi Mumbai [16]. Allergen-induced Asthma can be preventatively treated by *Kanakasava* as traditionally people using for a long time [17].

Aqueous extract of *Terminalia arjuna* prevented pulmonary hypertension as it may work as an antioxidant and be effective on pulmonary arteriolar wall thickening [18]. *E. sonchifolia* has

properties like anti-tumor, anti-inflammatory, and antioxidant activities and is significantly effective on pulmonary metastasis, which is also justified by conventional use in traditional medicine [19]. *Tinospora cordifolia* extracts have proven their activity as anti-inflammatory and antioxidant activities in Asthma, reducing asthmatic inflammation and other lung inflammatory conditions [20]. Dubey et al. *Ashtangavaleha* and *Vyaghreehareetakee Avaleha* were both significantly effective, with some differences in *Tamaka Shwasa* (Bronchial Asthma) in children [21].

### Diet & lifestyle

The presented data suggest that some food and nutrients, having properties like antioxidant and anti-inflammatory, are consumed with a balanced diet for better pulmonary function, improved lung functioning, and reduced C.O.P.D. risk [22].

The state of malnutrition and weight loss in the crisis of COVID-19 are more prevalent for respiratory disorders due to lack of nourishment. People should be provided with the required food materials and focused on more energy or protein-rich food to overcome the problem that improves their nutritional status [23].



The Mediterranean diet is suggested to improve lung function parameters, which may protect the lung from respiratory dysfunction [24].

### **Sound sleep**

Sleep is the human system's restart that helps improve body functioning and recharge terminal cells. Disturbed sleep leads to adverse health impacts on quality of life, which may mediate between respiratory disorder and quality of life [25].

A similar finding was observed in the study by Wentz et al. that military recruits diagnosed with upper respiratory tract infections sleep less than six hours per night. So, proper sleep is essential in the services of COVID-19 [26].

### **RECOMMENDATION FOR A.Y.U.S.H. INITIATIVES**

The Ayurveda research in India is at the fundamental stage; there is a need to develop research attitude in the budding doctors and practitioners to change the reserved culture and alteration of the leadership to establish Ayurveda globally and to get a leadership role in the future healthcare system to defeat crisis like COVID-19 [27].

There are a number of areas to be identified for research, education pattern, development of new ideas, and collaboration through an integrative approach to develop Ayurveda to fight upcoming crises [28].

Ayurveda is the science of life that promotes the concept of biological aging. The panchakarma procedures and other proposed activities are suggested for successful HealthHealth, like diet and conscious eating, sleep, routine, mindfulness activities, and *Sadvritta* [29].

### **CONCLUSION**

COVID-19 is a pandemic situation; the whole world is in various crises. The respiratory system-related sign and symptoms are indicative of coronavirus. Ayurveda offers a number of remedies that are useful for preventing respiratory diseases and the immune system. So, with the help of A.Y.U.S.H. initiatives, all the Ayurveda scholars look towards preventive aspects of Ayurveda as a life-saving mechanism for COVID-19 through safe respiratory care by Ayurveda.

**Financial support and sponsorship:** Nil

**Conflict of Interest:** None

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