

A holistic approach of Yoga and Ayurveda for Covid-19

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Abstract

Background: - The concepts of holistic health have been derived from our ancient manuscripts. It has been discussed in numerous traditional texts. There are various texts that give a brief for a healthy life. The globe has been facing a pandemic since 2020 and that has significantly increased the mortality rate. The cause of multi-organ failure and deaths are immune dysfunctions. Since the pandemic, it has been a big question for human beings as to how to keep off from the virus. There was a probability that people who had a holistic health approach were less likely to be affected by the virus. The immune system created a shield against Covid virus. Antibodies developed properly in those who adopted yoga and holistic health approach in their lives. Innate immunity did wonders for many who had yogic interventions in their life. This review research is going to delve into the concepts of yoga and holistic health which are or might be used as strategies or interventions to cope with Covid-19 infection.

Methods: - We conducted this narrative review from published literature in different journal databases which is available online. The screening was performed for titles and abstracts by the researcher; potentially eligible citations were retrieved for full-text review. References of included articles and articles from non-indexed peer-reviewed journals were searched for relevance by authors; moreover, Google and Wikipedia were also taken into consideration to understand some medical terms. All inclusion and exclusion has been taken through discussion amongst review authors. Editorials and conference proceedings were excluded.

Observations: - Yoga is a non-pharmacological, non-invasive, cost-effective, and safe intervention associated with several health benefits. Originated in ancient India and with evidences found in Vedas, the discipline of yoga consists of cleansing techniques (Shodhana kriyas), micro exercises (Sukshama vyayama) postures (asanas), Mudra and Bandhas, breathing techniques (pranayama), meditation (dhyana/Dharana), and relaxation. Studies demonstrated yogic practices have shown potential to increase the efficacy of the immune system. As an intervention, yoga improves mental health, as it alleviates anxiety, depression, and stress and enhances mindfulness, self-control, and self-regulation which plays a vital role to increase the ability of the immune system. Yoga has been correlated with numerous cardio-protective and digestive efficiency effects, which may also play a role in prevention of COVID-19 by preventing lung and cardiac injury and other organ failures

Conclusion: - This review study shows that yoga (YOG) and holistic health approaches can be taken into consideration to wipe out the calamities that occurred due to the COVID-19 virus as well as prevention, for a healthy and harmonious life. There are possibilities that yoga (Yog) and holistic health approaches can be helpful to release the viral load that occurred due to the COVID-19 virus.

Keyword- Yoga, Holistic health, health promotion, Complementary therapies, Immunomodulation, COVID-19

Introduction:

The COVID-19 pandemic is a public health calamity that has created negative impacts on humans as a whole. This pandemic condition has ruined people's health along with their social as well as economic life on both national and international levels. The pandemic overburdened the health systems, especially in developing countries. For a lethal disease like COVID-19 with no effective cure, the preventive system was the only hope and it played a vital role in oversee the virus. Yoga and holistic health system has two main aims. Firstly, disease prevention and health promotion i.e., sustaining health in good condition and keeping oneself away from any disease. Furthermore, to cure illness. However, prevention is always better than cure.

Yoga has different meanings in different texts yet, the aim is to achieve the transcendental state. Nevertheless, to get to this state, health is the one and prime ladder. Different practices described in the yogic texts lead to touch a higher state of health. The practices of yoga can play a vital role in the prevention of COVID-19 infection.

The rationale for this article is to provide knowledge of yogic practices and holistic health approaches which can be helpful for the prevention of COVID-19. As the health system of the world could not support human life up to that extent, in this

scenario yoga and holistic health can be seen as the supporting system. Yogic practices can boost health to a great extent. Also, there are numerous herbs mentioned in Ayurveda and other manuscripts that can be taken into consideration for the management of the viral load.

COVID-19, A pandemic: -

To begin with, what are the complications of COVID-19? It has been observed during the pandemic, that patients who tend to get infected frequently faced various health issues, such as pneumonia, respiratory congestion, acute respiratory distress syndrome (ARDS), multi-organ failure, and many more. For a better understanding of COVID-19 complications, we will have to investigate the physiology of this disease. Prelude with pneumonia is one infection that creates inflammation in the air sac called the alveoli, it can be in one or both the lungs, and these may be filled with fluid. Secondly, respiratory congestion may be in any part of the respiratory system. It may begin from the nose, nasal cavity (sinuses), pharynx, trachea, and bronchi. The blockage mainly consisted of the accumulation of cough. The cough blocks the path for smooth inhalation and exhalation. Furthermore, ARDS (acute respiratory distress syndrome) is a condition in which fluid collects in the alveoli, depriving the organ of oxygen. In severe situations of ARDS,

patients feel shortness of breath and often are unable to breathe on their own. They always need an external support system, without a ventilator breathing becomes harder for them. In deprived condition hypoxia occurs in body or the organ does not get sufficient oxygen. The prolonged state of hypoxia leads to organ failure which may cause instability of health and can lead to death. During the COVID-19 pandemic, the above mentioned conditions have been observed frequently.

YOGA: -

Yoga (Yog) is a Sanskrit literature term derived from the word YUJ (*Dhatu yuj*), which means to join or connect however, several meanings have been used in Indian literature i.e. *Yuj Sayamne* to elaborate, control et.al. Which means balance in life, each task of life should be performed in balance, whether personal or professional. Furthermore, *Yuj samadho* means to achieve the transcendental state in life or to flourish with peace and harmony. The balanced state of mind is also considered as *Samadhi*, and balance et.al. is the most important part of life and an integral factor of a healthy life, whereas, imbalance of *Guna* and *Dosha* is the root cause of all diseases or illnesses. There are different schools (thoughts) i.e., *Hathayoga*, *Rajyoga*, *Mantrayoga*, *Layayoga*, *Gyanyoga*, *Bhaktiyoga*, *Karmayoga*, *Astangyoga*, and some more, which work to regulate the *Dosha* and *Gunas* for a healthy and harmonious life. All these have different approaches to achieving the real goal of life which is, emancipation; however, to get salvation, the body is the best friend. Yogic manuscripts are very vast and it is not possible to describe them all in one paper, so we are going to discuss

one ideology of yoga which is *Hathayoga*. *Hathayoga* emphasizes on healthy body, mind and soul. One should be healthy to get freedom from every pain of life and to retain and improve health there are many practices that have been described in *Hatha yoga*. Furthermore, these practices are being used to cure diseases and are found statistically significant for the treatment of illness. There are many texts of *Hathayog* i.e., *Hathayogpradipika*, *Gheranda Samhita*, *Sidha Sidhant Paddati*, *Hatharatanavali*, *Shiv Samhita*, etc. which have some cleansing techniques (*Shatkarma*), physical exercise or postures (*Asanas*), breathing practices (*Pranayam*) mind exercises (*Dharna*) meditation (*Dhayan*) and so on. The causes of illness considered in conventional medicine are morbidity accumulation or storage of toxins in the body. Altogether these yogic practices work upon releasing morbidity from the body which helps in health retention as well as promotion.

Discussing on the pathophysiology of yogic practices, yoga helps to maintain bone strength, joint mobility, and joint stability. It improves posture, muscle strength, coordination, confidence, personality development, and lung functions as well as cardiovascular health. Yogic practices are helpful to increase the efficiency of the immune system, in turn reducing the risk of injury, fracture, illness, and protection against viral load. Yogic practices are generally slow and conducted with awareness. Breathing plays a vital role during yogic practices, these are associated with aerobic respiration that produces major energy bonds inside the cells. The energetic cell works efficiently and is more capable to fight against the virus; moreover, lymph carries leucocytes,

lymphocytes, and antibodies that are known as virus slayer and transport it to the blood, lymph travel throughout body with the help of respiratory and other muscular pressure ⁽⁹⁾, yogic practices especially Micro Exercise (*Sukshama vyayama*), Postures (*aasana*) and Breathing Practices (*Pranayama*) increase this pressure.

Holistic Health: -

The word Holistic finds its origin the term *holism* which was coined in 1926 by South African General and Statesman, Jan Christian Smuts in his book “Holism and Evolution”, which comes from Greek ‘holos’ meaning ‘entire or whole’. When used in the context of health, holistic approach refers to the improving an individual’s overall health rather than just focusing on symptoms or effects of a disease. According to WHO, Health is a state of complete physical, mental, social and spiritual well-being and not merely the absence of disease or infirmity.

Sushruta Samhita an Ayurvedic text describes health as an equilibrium of whole. “*Samdosha samagnisch samdhatu malkriya Prasanna aatm inderiye manha swasth ittibhidhiyte*”

Therefore holistic health can be seen as approach that deals with not only treatment of illness but also overall development of an individual’s physical, mental and spiritual well-being to reach the actual state of “healthy”.

Concepts and discussion: -

However, yoga and holistic health approach during the pandemic shine like the sun and deal with the symptoms of COVID-19 effectively. There were some

scientific shreds of evidence that showed yogic practices significantly in achieving stable health, decrease morbidity from body and cure illness up to some extent. Priya Kotwani, Vaibhav Patwardhan, Geetika Madan Patel, China-Lee Williams, Ekta Modi⁽¹¹⁾ did a study in the Parul group of institutions, Vadodara, Gujarat, India. Responses were gathered with Key Informant Interviews of project implementers (n = 2), physiotherapists (n = 2), dietician (n = 1), Ayurveda practitioners (n = 2), and staff nurses (n = 2) and patients (n = 10). The holistic healthcare package consisted of diet therapy, physiotherapy and yoga, AYUSH medicines for boosting immunity, music therapy, and books and indoor games, the study concluded that a holistic healthcare approach has the potential to combat the COVID-19 virus. As per the conventional texts, diet therapy has been taken from the concept of *Aahar* and *Vihar*, balanced diet is key for a healthy life; moreover, diet plays a vital role in cure of diseases too. As described in *Hathayogapradipika*⁽⁶⁾ of Swami Swatmaram the concept of *mitahara*, *pathya* and *apathya* are recommended for yogis and all these are the key to health retention and cure of diseases for all. Diet is used as nutrition for cells and they convert into the constituents of the body which are known as *Dhatus* (Tissues). As per the ayurvedic texts the formation of these are based on diet; if diet is balanced and full of nutrition then all *dhatus* will form properly. Well-developed cells and tissues are a symbol of good health which means good immunity. In addition, healthy cells and tissues can combat viral attacks or diseases. Physiotherapy is a process to cure diseases by physical methods such as massages, heat treatments, and exercise; however, massage and heat treatment have been adopted from the ayurvedic texts. *Abhayanga* is a wide term for massage, which has been elaborated in the ayurvedic and related texts; moreover, there are different types of *snana* (types of bath)

explained in ayurveda and naturopathy. Some of them are the same as heat treatment provided in physiotherapy. Yoga (YOG) is more than exercise as it works on every aspect of life i.e., physical, mental, and spiritual and it heals from the micro level (*Sukshama sharira*). Giovanna M. dos Santos, Rozangela Verlengia, Anna G.S.V. Ribeiro, Cinthia A. Correa, Melissa Ciuldim, Alex H. Crisp ⁽⁷⁾ conducted a research study in Brazil. An online survey was conducted in all regions of Brazil using a snowball sampling strategy among yoga practitioners. A total of 860 participants (87% female, aged: 19–82 years) completed the survey. Socio-demographic data, lifestyle factors, yoga practice during the pandemic, and the Depression Anxiety and Stress Scale (DASS-21) scores were collected for the interpretation of data and the study concluded that a higher level of yoga practice was associated with better mental health level during COVID-19 pandemic in Brazil. To sustain and improve health as well as to cure diseases, *hathayogic* practices are most popular nowadays. Yogic practices are key to good health as per yogic texts and a healthy body can combat any illness or fatal condition that might occur in life. Paolo Maria Matricardi, Roberto Walter Dal Negro, Roberto Nisini ⁽¹³⁾ conducted a research study in Berlin, Germany and Rome Italy, in this study the researchers have suggested that innate and adaptive immune system helps the body to fight against viral load due to COVID-19. As per the study, moderate physical exercise elevates the immunity system, furthermore, oral inhalation and exhalation during extreme physical exercise with hyperventilation penetrate the virus in the lower respiratory tract and alveoli, however, airways are covered with the mucosae layer which consists of neutralizing antibodies and ciliated tissues. These antibodies and ciliated tissues work as a shield against any viral infections. Innate immunity works as the first and front-line fighter for

body and combats pathogens entered in the body. Types of innate immunity inside the human body are; natural killer cells, lymphocytes (T-cells), mucosa layers, goblets cells, ciliated tissue phagocytes etc. the efficacy of the innate immunity decreases when one has a sedentary lifestyle, stress or obesity. The ayurvedic perspective of health is that everything should be in a balanced state. As per the ayurvedic manuscript *Susrut Samhita* health is the condition in which all three humour (*tridosha*), tissues (*sapta dhātu*) bodily fires (*thirteen agnee*) stools/bodily waste (*three malas*) are in balanced state (*sama avastha*) and the soul (*aatma*) sense organs (*Indriya*) mind (*manah*) should be in happy and harmonious conditions, if any of these factors are missing it will be treated as an unhealthy state or a state of illness. However, when *tridosha* starts to accumulate with the tissues (*Dhatus*) it is the beginning of diseases and it creates blockage for innate immunity or the innate immunity gets weak, as COVID-19 virus load increases in body innate immunity is unable to fight against the viral load. There are several yogic practices and ayurvedic herbs which keep the body in balanced state and that balanced state gives edge to the innate immunity to wipe out the viral load occurred due to COVID-19. Ashok Kumar Panda, Sarbeswar Kar, Amit Kumar Rai, B.C.S. Rao, N. Srikanth, ⁽¹⁸⁾ did a review article study in collaboration with the Ministry of AYUSH Govt. of India, India. A poly-herbal formula developed by the Central Council of Research in Ayurveda Science name AYUSH-64, the formula has immune-modulatory, anti-inflammatory, antipyretic, antioxidant, and antiviral properties. The study concluded that AYUSH-64 has potential to control the initial symptoms of COVID-19 and the cytokine storm, inhibition of the Angiotensin-Converting Enzyme II (ACE2) and Reactive Oxygen Species (ROS), and thereby prevention of the progression of COVID-19. The immediate

immune responses to COVID-19 are the deregulation of central metabolism for the mobilization of energy, cells, and biomolecules. This deregulation of central metabolism is called Amadosha (undigested byproducts of digestion and metabolism) in Ayurveda.^(2, 10, 24) Nguyen PQ, Ooi JS, Nguyen NT, et al^(17, 26), COVID-19 begins in the upper respiratory tract but replicates quickly in ACE2 receptor-rich respiratory mucosa. After reaching in alveoli, the virus begins to replicate fast in pneumocytes causing cell death. This cellular damage accelerates the appearance of multinucleated giant cells and fibrin-rich hyaline membranes. All the phytoconstituents of AYUSH-64 have cough and dyspnea relieving properties which reverse the inflammatory process and reduce fibrosis. Aslı Si's Çeli'k, Tülay Kılınç⁽¹⁾ conducted an empirical research study in Turkey, 101 subjects (Nurses) were taken for the study, and a control and experimental group were formed to know the efficacy of Laughter Yoga which consists of some stretching exercise (Asana), breathing practice (Pranayama), childish games and laughter exercises on reducing the perceived stress and burnout levels in nurses during the pandemic and in increasing their life satisfaction. Results were found statistically significant and concluded that laughter yoga is an effective method to reduce perceived stress and burnout, also increasing life satisfaction. Stress is a type of condition that arises from everyday dealings with the world, during a situation of stress endorphins are released that are produced by the pituitary gland, yoga may help to pump up the production of these endorphins and yogic practices increase the blood circulation for healthier cells, these practices make one calm and relaxed that improve mood and sleep which was disrupted by stress. As per the yoga sutra by sage Patanjali *tato dhwandha na abhigata*⁽¹⁵⁾ means that one does not get affected by any sort of external factor who gets perfection over postures (*Asanas*);

and *Tata siyteprakashya avarnama*⁽¹⁵⁾ stands for breathing practices (*Pranayama*) lighten up the mind to understand the reality behind every aspect of life so postures and breathing practices may be helpful to decrease the perceived stress and burnout. Vasundhra Sharma, Atul Pratap Singh, Ashish Pratap Singh⁽²⁵⁾ India, did research work on a therapeutic approach to combat the deadly situations that occurred due to the corona virus. Camphor (*Kapoor*), cardamom (*Elaichi*) and carom seeds (*Ajvain*) is elaborated in the study as the three-herb combination to get proper oxygen by smelling these herbs⁽²³⁾; moreover, it is suggested that drinking *kadha* of black paper, cardamom, basil leaves, cloves, ginger, turmeric etc works as an immunity booster. Furthermore, yoga practices like Kapalabhati, Surya Namaskar etc. are also useful to win the battle against coronavirus⁽¹⁴⁾. Vidaryadi Ghritam (an ayurvedic medicine), yogic practices twice a day, turmeric milk, sleeping in the night and awakening at the day time were advisable for healthy survivals⁽¹⁹⁾. The study concluded that therapeutic approaches may be used as prevention for corona as well as a cure. Although more scientific study is required for strong validation. *Hatharatnavali*⁽⁸⁾ a Hathayogic text elaborates the efficacy of *Kapalabhasrika* (*kapalbhati in hathayogapradipika*) on phlegmatic and bilious disorders and disease caused due to water like (pleurisy etc). Moreover, it cleanses the forehead and *brahmachakra*: however, corona virus is an intruder of respiratory system and it enters through upper respiratory portion i.e. nose and affect the whole respiratory system. *Kapalabhati* can be taken into consideration to prevent people from corona virus disease and it might help to cure the disease due to corona virus load, more scientific study required to validate this fact. Chikkanna Umesh, Kishore Kumar Ramakrishna, Nishitha Jasti, Hemant Bhargav, Shivarama Varambally⁽³⁾ conducted a narrative review in

Bangalore, India, and found some ayurvedic herbs and yogic practices significant for the management of COVID-19. As per the study, the cause of viral infection elaborated in ayurvedic texts are due to the domination of *kapha* and *vata* with a combination of *pitta*, a disease occurred due to the combination of all three *doshas* are most critical and they take time to cure and that needs extra care to cure. *Tinospora Cordifolia* (*Giloy*) and *Asparagus* (*Shatavari*) are taken into consideration for the management of COVID-19 infection and release of the viral load. Nagendra HR et al.⁽¹⁶⁾ India emphasized homeostasis at the body as well as mind and provided philosophical relevance of Pancha-koshas (five sheaths of existence) and Viparyaya vritti (false/misinterpretation of a subject) of Patanjali's Pancha vrittis (mental afflictions) and Pratipaksha bhavana (contrary mental attitude recommended in yogic literature) to the current scenario in addition to the shreds of evidence suggesting the role of Yoga as an add-on in reducing the severity of infections and inflammation. As per the *Gheranda Samhita*⁽²²⁾ physical body (*Annamya kosha*) is depended upon food, water, air and mainly on micro body (*sukshama sharira or pranamaya kosha*) both the bodies or *Kosha* are related to each other, disruption on anyone affects another. The feed of *Prana* is breathing and they should flow smoothly inside the body so that *Prana* do not get affected. Accumulation of toxins inside physical body create supportive habitat for the virus and that creates blockage in respiratory track, that caused decrease in breathing level and both *annamya* and *Praamya Kosha* gets affected. Davidson et al. (2003)⁽⁵⁾ conducted a research study at the University of Wisconsin U.S. which demonstrated an increase in antibody titer (a test to know the presence of antibodies within a human's blood) in response to influenza vaccine in the subjects who practiced 8-week meditation program as

compared to the control non-meditators. It has a positive effect on brain function and the immune system. *Hatharatnavali*⁽⁸⁾ describes that meditation contributes to the steadiness of the mind. Delta brain waves increase during meditation which rejuvenates brain chemistry and gives a hike to a calmer state, clam condition helps out to increase the efficiency of immune system. Kishorsinh Chaudasama and Gurdip Singh⁽⁴⁾ India, conducted a research study on the efficacy of *Ashvagandha* (*Withania somnifera*) on the immunity of underweight. The trial was done on a group of 37 subjects and found the data was statistically significant as the changes were observed in serum IgA, IgG, and IgM. Thus, it can be recommended for the prevention of seasonal diseases of a patient who frequently suffers due to weak or low immunity. Moreover, the research study also concluded that use of the *Ashvagandha* is beneficial for lung capacity, fatigue, Insomnia, weakness, Inability to adjust to the climate, and immediate memory. Sung-Ah-Lim and Kwang- Jo Cheong⁽¹²⁾ Daejeon university, Korea, did a double-blind, controlled pilot study, of 25 subjects taken to know the efficacy of regular yoga practice for 12 weeks and concluded that regular yoga practice remarkably attenuated oxidative stress and improved antioxidant levels of the body. Moreover, yoga beneficially affected stress hormone release as well as partially improved immune function. Danilo F Santaella et.al.⁽²¹⁾ did a randomized controlled trail in Brazil and Italy to know the efficacy of *Bhastrika Kumbaka* on respiratory function and cardiac sympathovagal balance in elderly subjects, 76 healthy subjects were taken for the research study, controlled and experimental groups were formed with inclusion and exclusion criteria based on age, BMI, attendance (not attending >40%) presence of cardiovascular or any other diseases, and use of medication that could affect autonomic modulation of the heart. All subjects who entered the study

underwent a standard clinical and biochemical evaluation, which included measurement of total blood cholesterol and its fractions, glucose, creatinine, and thyroid stimulating hormone. The study concluded that respiratory yoga training may be beneficial for the elderly healthy population by improving respiratory function and sympathovagal balance. As per *Hatharatnavali*⁽⁸⁾ *Bhastrika* cures the disorder due to vitiation of *Vata*, *pitta* and *Kapha* humours, stimulates the gastric fire, and removes the obstacles like phlegm, etc. stuck up at the opening of *brahma-nadi*. These humours are the main constituents of the body when they are in balanced state; however, imbalanced conditions create disease.

Conclusion: -

As per the review of manuscripts/conventional texts and research study, it may be considered that yoga (YOG) and holistic health approaches can be taken into consideration to wipe out the calamities that occurred due to the COVID-19 virus as well as prevention for a healthy and harmonious life. There are possibilities that yoga (Yog) and holistic health approaches can be helpful to release the viral load that occurred due to the CoViD-19 virus.

Future suggestions: -

The review research study advocates that empirical research should be done to justify the manuscripts on scientific platforms so that any pandemic could not ruin the life of humans in terms of health.

Submission statement: -

The Researcher declares that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, and that, if accepted, it will not be published elsewhere including electronically in the same form, in English or any other language, without the written consent of the copyright holder.

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