

A Scientific Review on Novel and Holistic Approach of Ayurveda and Yoga in Covid-19 Pandemic

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Abstract - Ayurveda is a holistic health science of health and wellbeing for all while Yoga is a science of sound mental health, peace and spirituality. Ayurveda considers communicable diseases like COVID – 19 as a Janapadodhwamskara or Oupasargika Roga. Acharya Charka, has described epidemic management and defines immunity as the ability to prevent disease and arrest its progress to maintain homeostasis. Various principles and practices of Ayurveda like Dinacharya, Rutucharya, Behavioral Regimen, Vyayam, Ayurvedic Medicines and herbs, Upakramas of Panchakarma for detoxification, Spiritual practices like Homa, Havana and Yoga, Satvavajaya Chikitsa, Concept of Rasayana in the form of specific formulations and Acharya Rasayana-Sadavrutta, Yoga and Spiritual practices, Dhoopana therapy, Ayurveda based hand sanitizers and Nasya spray could be applied cumulatively for prevention and cure of communicable diseases like COVID-19 as a holistic approach. Various principles and practices of Yoga like Yama, Niyama, Shatkarma, Sukshma Kriya, Asana, Pranayama, Dhyana etc aid in the holistic and complete care of the Covid -19 patients tailored in all the stages.

The Holistic measures of Ayurveda and Yoga will not only prevent but also control the vicious cycle of Covid-19 infection by limiting their sources, preventing the routes of transmission, minimising portals of entry, strengthening the Body Systems and protecting susceptible patients by improving their immunity along with the overall health and wellbeing of the community. Addition of the principles and practices Ayurveda and Yoga in Community health Programs will not only reduce the incidence and prevalence of the Covid -19 infection but also will also neutralize the upcoming third Covid -19 wave. This article will give insights about preventive and curative treatment to cure COVID-19 through Ayurveda.

Index Terms - Holistic Approach, Ayurveda, Yoga, COVID 19 Pandemic.

INTRODUCTION

Ayurveda is knowledge system of healthy and happy life. It has vast potential to meet health and wellness for all. The aim of Ayurveda and Public health seems

to be in line with each other. The Ayurvedic practice is not just for those who are diseased but also for those who are healthy to protect their health status. The main ayurvedic aim is to build immunity among individual during the midst of the Coronavirus pandemic. In Ayurveda, a concept similar to the epidemic is narrated by Acharya Charaka under a broad heading 'Janapadodhwamsa'. The word 'Janapadodhwamsa' comprises of two words Janapada (large population) & Udhvamsa (destruction) which means the diseases affecting & causing damage of a large number of people; similar to pandemic. Factors which are common to the community like air (Vayu), water (Jala), habitat (Desha) and seasons (Kala) are responsible for 'Janapadodhwamsa'. These factors prove to be true even today in perspective of different Pandemic situations like COVID.

COVID 19, according to Ayurveda is caused by vitiated Vayu (droplets) and vitiated Desha. Thus, Herbal Fumigation (Hawan) with ghee and Vayu shuddhikara drugs was advocated and was found useful. Similarly, Sushruta has given the concept of Aupasargika Roga for the communicable diseases and different modes of transmission are also well explained. Avoiding these factors of transmission is nothing but the modified practical version of COVID prevention viz. social distancing, avoid gathering, frequent hygiene, sanitization, wearing mask etc. (1) Corona virus causes illness ranging from the common cold to more severe diseases. (2) Correlating the clinical features described by various authorities the symptoms of COVID-19 mostly correlate with Vataja or sometimes Vata Kapha Jwara usually in a Saama avastha can be grouped under Aagantuja jwara which is caused by Virus (Foreign body) with vatta, pitta dosha involved in abhayantra roga marga and puphusha as its adhithana with Droplet mode of transmission. It is the Aama which may provoke pitta and kapha at a later stage making it a Vatolbana Sannipata in the more advanced stages.

The predominant pulmonary involvement of covid-19 can be explained by the commonality of pranavaha srotas vitiating factors with that of vata. Most of the cases started by the end of February and the beginning of March, i.e., end of Shishira ritu and beginning of Vasantha ritu. The period was Ritusandhi, i.e., junction period of two ritus, where it is said that the time is apt for the occurrence of any disease as the immunity of individuals would have reduced.

The concept of prevention of disease is the unique specificity of Ayurveda similar to innate and acquired immunity, the Ayurveda concept of immunity (Bala or strength) is classified as natural (Sahaja), chronobiologic (Kalaja), and acquired (Yuktikrut).

The holistic approach of Ayurveda toward promoting health (Swasthavritta) includes therapeutic cleansing procedures (known as Panchakarma) and certain immunomodulators (known as Rasayana) to boost the immune system. Building immunity requires time.

There may be some asymptomatic carriers who could transmit the virus to other apparently healthy people. Hence, physical and social distancing for all would be essential to avoid any transmission.

Ayurveda encourages every individual to take this pandemic as an opportunity to improve their daily lifestyle, eating and hygiene practices to boost their immune system, as a precautionary measure to protect themselves from this pandemic and any future health epidemics to come. Ayurvedic General Principle of Prevention and Cure of all the Diseases In Ayurveda, treatment strategies of disorders are established on the base of three pillars i.e.

1. Nidana Parivarjana (avoidance of etiological factors)	Dhoopana, with Bhootanashak Dravyas(antimicrobials)
2. Apakarshana	Panchakarma- complete elimination of disease-causing morbid substances by purifying body
3. Prakriti Vighata	Rational use of medication, Rasayana Chikitsa, Sadvrittapanan.

Ministry of AYUSH has given certain guidelines for the Public Health in the view of Covid -19 Pandemic time to time. (3)

The general measures for respiratory illnesses described in Ayurveda such as consumption of hot water, herbal decoctions, gargling with medicated water, steam inhalation, and local applications may be helpful for symptomatic relief in mild cases. Several non-pharmacological measures are advocated in Ayurveda for holistic health, including diet, sleep, mental relaxation, lifestyle behaviour, and Yoga. (4)

Ayurveda explains the stages of disease in 6 stages, concept of prevention can be applied at each level of kriyakala. Ayurvedic management principles for Covid 19 is Preventing the virus entering to our body

cells by various prophylactic measures in appropriate and required form and dosage like intake of Ginger, Garlic, Cumin, Coriander, Cinnamon, Clove, and Turmeric in prescribed quantity for its prevention. (5) Further, stopping its replication if it gets inside the cells by symptomatic ayurvedic management and finally, reducing the damage that occurs to our tissues by restoration through Rasayana therapy. (6)

Acharya Charaka in his treatise, has explained that Tikta rasa aushadi should be given during Jwara kala. (Bitter taste dominant medications). (7)

Accordingly, considering the prakriti of the individual, roga and rogi bala, kala and adhisthana of roga the treatment of different type of jwara is to be decided. (8)

Since the COVID is vatapittaja vyadhi, there are a large number of Ayurvedic medicines that are currently in use for all types of Vata-Kaphaja diseases. (9)

The regulated diet played an important supportive role in the cure.

The diet is advised so that it did not further aggravate the doshas, is easy to digest (laghu), stimulates the digestive fire (Agni deepanam) and it nourishes the patient.

Kwath which is having ginger, cinnamon and guda (Jaggery), Tea which is made with tulsi, or even mint and cinnamon.

These herbal teas boost our energy. Keeping Agni (digestive fire) strong one can prevent themselves from being infected.

Some home remedies such as herbal tea / decoction (prepared from Tulsi (Basil), Dalchini (Cinnamon), Kalimirch (Black pepper), Shunthi (Dry Ginger) and Munakka (Raisin) advised by Bhaishajya Ratnavali) and Golden milk or Milk medicated with Turmeric in order to improve immunity in pandemic state of COVID -19 can be suggested in addition to above recommendations. (10)

Judicious use of Spices such as ginger, garlic, turmeric, and capsaicin (from chili peppers) while preparation of curry, soups, stews, stir-frys, or salad dressings since such spices have multiple medicinal benefits of improvement in digestive health by kindling the agni and give tough fight against cold and infections by their properties eg. antibiotic, anti-inflammatory and antioxidant. (11)

Ayurveda describes many principles and practices related to public health like infectious diseases,

immunity, nutrition etc. As prevention is the single option to fight with this dreadful situation and the immunity of the individual plays key role in it.

MATERIAL AND METHODS

Materials:

Data was collected from

1. Samhitas of Ayurveda
2. Textbooks and reference Books on Ayurveda
3. Reputed Journals of Ayurveda and
4. World Wide Web references.

Methodology:

1. Collection of references on Ayurveda, Yoga, from different Ayurvedic and Yoga samhitas.
2. Collection of references on COVID 19 from Modern Science Textbooks, International Journals, World Wide Web references etc.
3. Critical analysis of the references collected in the view of the Holistic Approach specifically Preventive, Curative, Health Promotive benefits and drawing the conclusions.
4. Critical analysis of the references collected in the view of the Holistic Approach specifically Preventive, Curative, Health Promotive benefits
5. Drawing the conclusion on the basis of Critical Analysis.

NEED FOR STUDY

This study will be immensely beneficial in understanding the importance of Ayurveda & Yoga in Covid-19 pandemic and will specifically focus on the Role of Preventive, Promotive, Curative and Restorative Ayurveda Management of Covid-19.

Awareness and education of preventive measures and management of Covid 19 is important. The current understanding of COVID-19 indicates that good immune status is vital to prevention and to safeguard from disease progression.

This article gives insights to all the Ayurvedic measures and principles required for holistic integrated approach of treatment through Ayurveda and Yoga resulting in Physical, Mental and Spiritual healing, and serving the entire humanity in these pandemic times by further boosting immunity and prevention from disease progression.

Critical Analysis of the collected References:

1. Dhoopana Karma (12)

- a. Preventive Benefits: It can be used for massive and local sterilization in Pandemics like COVID as it is invasive form of route of herbal drug administration to avoid further spread of contagious diseases through contaminated air.
- b. Curative Benefits: Various Dhoopana yoga in contagious disorders like viral fever, Jwara or Kustha suggests its antimicrobial activity. Almost all the Dhoopa ingredients have action of deodorant, antiseptic, insecticidal, anti-pyretic, anti-inflammatory etc.

2. Personal Hygiene Measures : (13)

- 1. The Sadvruutta regimes should be followed strictly by patient, family members, visitors, employees, and care providers.
- 2. Preventive Benefits: Maintaining respiratory hygiene and cough etiquette with the help of covering mouth and nose with tissues or hankerchiefs while sneezing, coughing and proper disposing such used items is important.
- 3. Washing hands with Ayurvedic Decoctions regularly especially after contact with respiratory secretions along with the use of hand gloves carries importance.
- 4. Maintaining specific distance while communicating, avoiding visiting at public places prevents exposure of causative factors and checks over the transmission of infection.
- 5. Curative Benefits: Kwath, Phant and Arka Kalpana with specific Ayurvedic drugs checks over transmission of pathogens from source of infection. Application of both these non-pharmacological interventions plays key role for prevention of COVID-19

3. Ayurvedic Siddha Jalas: Liquid Remedies : (14)

- 1. Use warm water or boiled with herbs like ginger (*Zingiber officinale*) or coriander (*Coriandrum sativum*) or basil (*Ocimum sanctum/Ocimum basilicum*), or cumin (*Cuminum cyminum*) seeds etc., for drinking purpose.
- 2. Hot liquid is considered to be superior to cold liquids in the management upper respiratory tract infections.
- 3. Warm water (Ushnodaka) is specifically advised by Ayurveda in the conditions of Jwara and it acts as

Amapachaka. It is also a part of Langhana. Ushnodaka is specifically mentioned in Janapadodhwamsaniya Adhyaya, which itself proves its indication for the pandemic conditions like COVID 19.

- a. Preventive Benefits: Traditionally, warm water is consumed in many parts of India as a popular home remedy for many ailments like fever, inflammation, metabolism, and allergy such as rhinitis and asthma.
- b. Curative Benefits: Hot water drinking also relieves spasm and checks the entry of virus through its portal. Moreover, warm water is an easily available and simple modality which anyone can adopt. These herbs are proposed for the reason that these are known to be broad-spectrum antivirals.

4. Ayurvedic Spices for Covid -19 (15)

Spices	Used-Parts	Latin Name
1. dry ginger	rhizomes	<i>Zingiber officinale</i>
2. yashtimadhu	rhizomes	<i>Glycyrrhiza glabra</i>
3. nut- grass	rhizomes	<i>Cyperus rotundus</i>
4. khus	roots	<i>Vetiveria zizanioides</i>
5. Indian sarsaparilla	roots	<i>Hemisdesmus indicus</i>
6. coriander	seeds	<i>Coriandrum sativum</i>
7. fennel	seeds	<i>Cuminum cyminum</i>
8. cinnamon	barks	<i>Cinnamomum verum</i>
9. catechu	barks	<i>Acacia catechu</i>

5. Gandusha and Kavala Regimen for Covid -19 (16)

Methodology: Gargle with warm water added with a pinch of turmeric and salt. Water boiled with Triphala or Yashtimadhu (*Glycyrrhiza glabra*) also can be used for gargling.

- a. Preventive Benefits: The oils or oily decoctions in gargles (gandusha) or mouth rinses (kavala) 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. Warm liquids and oils cleanse the mouth and throat thoroughly.
- b. Curative Benefits: Gargles with these medicated decoctions have beneficial effects in xerostomia

(dry mouth), postoperative sore throat, oral ulcers, gingivitis, and bacterial growth. Salt water (Jala neti) is recommended in Yoga texts to cleanse nasal passage.

Ayurvedic Herbs for Gargles/mouth rinse	Parts Used	Latin Name
1. Turmeric	Rhizome	Curcuma Longa
2. Yashtimadhu or Liquorice	Stem	Glycyrrhiza Glabra
3. Neem	Bark	Azadiracta Indica
4. Catechu	Bark	Acacia Arabica

6. Pratimarsha Nasya : (17)

Methodology : Nasal instillation/application of medicated oil (Anu taila or Shadbindu Taila) or plain oil (Sesame or Coconut) or nasal application of cow's ghee Goghrita) once or twice in a day, especially before going out and after coming back to home.

- a. Preventive Benefits : As Nasya oleates the Nasal Cavity, it prevents the entry of Covid19 virus in the respiratory tract. This will act as a bio mask and strengthen the mucous membrane of the nose as a first line of defence. It is useful for creating the unfavourable environment for the Covid19 virus.
- b. Curative Benefits: Nasya expels out the cougha from Nasal Cavity, Sinuses, Cribriform Plate of ethmoid bone and oral cavity. Hence it is useful for creating the unfavourable environment for the Covid19 virus.

7. Bashpa Snan and Steam inhalation (18)

- a. Preventive Benefits: It improves nasal conditioning, nasal mucus velocity, and reduces congestion and inflammation. This may protect the respiratory tract from pathogen entry.
- b. Curative Benefits: Steam inhalation (with aromatic oils such as menthol) provide satisfactory clinical relief in nasal and throat congestion, bronchoconstriction, headache, and sinusitis.

8. Chyawanprash : (19)

- Chyawanprash – a polyherbal formulation containing Amla as the main ingredient is considered as an important practical version of Vatatapika Rasayana. Amla has proved to be effective immune booster, immune modulator,

rich in vitamin C and effective in strengthening the tissues. Apart from Amla, Chyawanprash also has many other drugs acting on Respiratory system, Cardiovascular system and Digestive system.

- Immunoprotective role of Chyawanprash at cellular level mediated by immune stimulation is proven as key in immune cells viz. Dendritic cells, Macrophages and Natural killer cells.

9. AYUSH Kwath: (20)

For prevention of the disease progression to symptomatic and severed form and to improve recovery rate, AYUSH Kwath has been included in the National protocol Advisory of COVID 19. Based on the Prakriti of the patient and the environmental conditions, the herbs included in the AYUSH Kwatha can be added or omitted.

Methodology : The proportion of Shunthi and Kali Mirch should be 1/4th of the other ingredients. Moreover, for the persons of Pitta Prakriti and those suffering from acidity, acid peptic diseases, piles, mouth ulcers etc. Amla / Yashtimadhu may also be added. It can also be flavoured with lemon and jaggery. It may also be boiled with milk or prepared as Tea. This has proved to be very effective.

10. Golden Milk: (21)

Methodology: Half Teaspoon of Haldi powder in 150 ml of hot milk once or twice can be advised.

- a. Preventive benefits: Ayurveda describes “Kshira Ghrita Abhyasa” i.e routine intake of ghee and milk (preferably cow's milk & ghee) as best among the Rejuvenators. Turmeric is having the proven effect as anti-microbial, anti-oxidative immune booster and particularly useful for the diseases of Respiratory tract.
- b. Curative benefits: It helps in the co-morbid conditions like Diabetes Mellitus for which also it is a drug of choice. Thus, Golden milk / Turmeric milk is advised for the prophylaxis as well as treatment of COVID 19.

11. Diet guidelines in COVID Management : (22)

- 1. Chew a piece of ginger with a pinch of rock salt 15 to 20 minutes before food to improve appetite.
- 2. Light to digest food preparations like: -
 - a. Soups of mung dal or lentil.
 - b. Soups of vegetables, Meat soup.

- c. Khichadi of rice and mung dal.
- d. Phulka with cows' ghee.
- 3. Vegetables like Gheya, Turai, Bhindi, Sitaphal etc.
- 4. Use spices like jeera, black pepper, garlic, coriander, ginger, Ajwayan.
- 5. If appetite and digestion improve start with normal diet & Quantity of food as per appetite.

12.Vihara (Behavioural Regimen) (23)

Dont's	Do's
1) Unnecessary gathering	1) Maintain distance from each other
2) Crowding in public places	2) Do ½ Shakti Vyayam
3) Sleeping during the daytime	3) To combat mental stress and anxiety. <ul style="list-style-type: none"> • good sleep.
4) excessive physical activity including	<ul style="list-style-type: none"> • Application of lukewarm oil on anterior fontanelle, to reduce stress
5) Spitting in open	<ul style="list-style-type: none"> • Shirodhara– A panchakarma procedure is known to reduce mental stress and anxiety can be performed

13.Lifestyle modifications in COVID management (24)

1. Wake up early in the morning around 5 - 5.30 am
2. Ushahpana: Drink warm 100ml to 640 ml water stored in copper vessel.
3. Defecation and Urination.
4. Cleansing face and oral cavity.
5. Brushing teeth with astringent tooth paste or powder, tongue cleaning.
6. Frequent Gargling with warm water added with salt and haldi
7. Further washing face with warm water.
8. 2drops of Anutail in each nostril.
9. Oil application daily at least on head, ear and foot feet (sole), preferably whole body once a week.
10. Light physical exercise

14.Samshamani Vati :

Guduchi (Giloy) is a wonder herb. It is especially mentioned under the Rogadhikara of Jwara. Moreover, it also is a drug of choice for Rejuvenation. Thus, its daily usage is beneficial as immune modulator and

prevents the occurrence of communicable diseases. It can be prescribed as two tablets twice daily with lukewarm water.

15.Rasayana Drugs as Roga-pratirodhak kshmata vardhak in Covid-19 (25)

Below is the list of drugs that can be used as Rasayan in daily regimen

Sr. No.	Rasayana-Potential Immunomodulators	Latin Name
1	Haritaki	<i>Terminalia chebula</i>
2	Punarnava	<i>Boerhaavia diffusa</i>
3	Bhibhitaki	<i>Terminalia bellirica</i>
4	Draksha	<i>Vitis vinifera</i>
5	Haridra	<i>Curcuma longa</i>
6	Ashwagandha	<i>Withania somnifera</i>
7	Guduchi	<i>Tinospora cordifolia</i>
8	Shatavari	<i>Asparagus racemosus</i>
9	Amalaki	<i>Phyllanthus embelica</i>
10	Yashtimadhu	<i>Glyceriza glabra</i>

- a. Preventive Benefits: Rasayana therapy comprises lifestyle, diet, and medicine having properties to enhance growth, retard aging, induce tissue regeneration, and enhance immunity.
- b. Curative Benefits: Rasayana Chikitsa may have direct relevance to the prophylaxis and management of Covid-19 infection by its property of boosting immunity. It also helps in improving mental status of person by relieving mental stress.

16.Yoga for Covid-19 (26)

- a. Preventive Benefits: Yoga including meditation clean our srotas and boost our immunity to keep Coronavirus away and could be a simple and useful home-based practice for the prevention and post-recovery management of COVID-19.
- b. Curative Benefits: Pranayama is known to improve lung function and maintains the balance of ojas (immunity, strength), prāna (vital life force) and Agni (digestive power) in our body. Meditation is found to reduce inflammation markers and influence markers of virus-specific immune response.

17.Yoga for Positive Health in Covid 19

1. Sukshma Vyayama (warm up) loosening exercises for all joints

2. Shatakrma: Nauli, Neti, Dhauti, Basti, Kapalbhathi and Tratak
3. Sitting postures
4. Yogasana in supine postures
5. Yogasana in Prone position
6. Relaxing postures: Shavasana, Makarasana
7. Pranayama: Deep Breathing, Anulom-vilom, Suryabhedan, Kapalbhathi
8. Meditation: 10 minutes

18. Post COVID Management as per Ministry of Health and Family Welfare Guidelines : (27)

- AYUSH Kwatha – 150 ml daily.
- Sanshamani Vati – 500 mg BD.
- Ashwagandha Powder - 1 – 3 gm twice per day with lukewarm water for 15 days.
- Amla Powder - 1 – 3 gm per day.
- Mulethi Powder- 1 – 3 gm twice per day with lukewarm water.
- Chyawanaprasha – 1 teaspoonful (5 gm) once daily.

*(Above all medication should be taken by Consulting Ayurveda Physician.)

CONCLUSION

Ayurveda is a holistic health science for health and wellbeing for all while Yoga is a science of sound mental health, peace and spirituality.

Various principles and practices of Ayurveda like Dinacharya, Rutucharya, Behavioral Regimen, Vyayam, Ayurvedic Medicines and herbs, Upakramas of Panchakarma for detoxification, Spiritual practices like Homa, Havana and Yoga, Satvavajaya Chikitsa, Concept of Rasayana in the form of specific formulations and Acharya Rasayana- Sadavrutta, Yoga and Spiritual practices, Dhoopana therapy, Ayurveda based hand sanitizers and Nasya spray could be applied cumulatively for prevention and cure of communicable diseases like COVID-19 as a holistic approach.

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infection by limiting their sources, preventing the routes of transmission, minimising portals of entry, strengthening the Body Systems and protecting susceptible patients by improving their immunity along with the overall health and wellbeing of the community.

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ACKNOWLEDGEMENTS

The authors acknowledge the financial support received from Dr. D. Y. Patil College of Ayurveda and Research Centre and Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pune, for their support and encouragement in carrying out this research work.

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