



COVID-19 PANDEMIC: AN AYURVEDIC CRITICAL ANALYSIS

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Abstract: The entire mankind across the globe is suffering an unprecedented pandemic of COVID-19 disease. Despite so many efforts, the pandemic is continuing to spread across the world causing terror in the globe. Currently, there is no medicine recommended by WHO to cure COVID-19, although treatments and vaccines are currently under study. However, the potential therapy is symptomatic. In such situations, it is necessary to draw on the knowledge of all medical systems available globally. Utilization of Traditional Chinese Medicine in Wuhan to treat COVID-19 cases sets the example demonstrating that traditional health care can contribute to treatment of these patients successfully. Research Councils under Ministry of AYUSH, GOI also issued advisory based on the Indian traditional medicine practices in the wake of present COVID-19 crisis. So, the present article is attempted to critically analyze and highlight the knowledge and medical measures described in Ayurveda to deal with such a pandemic diseases with special reference to COVID-19 pandemic crisis. It is a mere conceptual article and is not claiming to prevent and cure COVID-19.

Index Terms - COVID-19, Pandemic, Ayurveda, *Agantuja jwara*, *Aupasargika Roga*, *Janapadodhwansa*

I. INTRODUCTION:

In late December, 2019 China reported a cluster of pneumonia outbreak with unknown aetiology in the people of Wuhan. It has been determined to be caused by a Novel coronavirus (NCoV) and named as a Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2).^{1,2} The World Health Organization has declared the outbreak of coronavirus disease (COVID-19) in Hubei Province, China, to be a Public Health Emergency of international concern in January 2020. Since then WHO has declared it as a Pandemic affecting more than 115 countries around the globe.³ The disease has since spread to more than 200 countries, areas or territories (globally), with more than 4.39 million confirmed cases and 3,00,441 deaths as of May 16, 2020.⁴ India got its first case of COVID-19 on 30th January in the state of Kerala and there are 85,940 confirmed cases and 2,752 deaths as of May 16, 2020.⁵

The entire mankind across the globe is suffering an unprecedented pandemic of COVID-19 disease. Despite of many measures, the pandemic is continuing to spread across the world causing terror in the globe. Although the prevention and cure of the present crisis is remaining uncertain till now the social distancing is the only measures to escape the pandemic. Since due to lock down and social distancing India is till now able to delay the pandemic. But the battle will be very long till the vaccine or specific medicine will come out for the disease. Currently, there is no medicine has been recommended by WHO to cure COVID-19. However, there are many clinical trials are on-going in western medicine for evaluating the potential treatment for COVID-19. In such circumstances, it is necessary to draw on knowledge of all other medical systems available globally. China was officially included Traditional Chinese Medicine (TCM) in the Chinese Guideline on diagnosis and treatment of COVID-19 in Wuhan.⁶ This is exceptionally important to note that specific TCM wards were set up, and designated hospital were established which had used a variety of Chinese medicines utilising their own principle of syndrome differentiation in conjunction with treatment employing western medicine.⁷ Research Councils under Ministry of AYUSH, GOI has already issued advisory based on the Indian traditional medicine practices in the wake of present COVID-19 crises.⁸ So, the present article is attempted to critically analyze and

highlight the knowledge and medical measures described in Ayurveda to deal with such an epidemic diseases with special reference to COVID-19 pandemic crises.

II. AIMS & OBJECTIVES:

The present literary article aimed to critically analyze and highlight the medical measures described in Ayurveda to deal with such an epidemic diseases with special reference to COVID-19 pandemic crises. The specific objectives of the study are:

1. To study COVID-19 in brief.
2. To draw the opinions of Ayurvedic science with special reference to COVID-19 pandemic.
3. To critically analyze the conceptual knowledge and medical measures described in Ayurveda to deal with such an epidemic diseases with special reference to COVID-19 pandemic crises.

III. METHODOLOGY:

The classical text books of Ayurveda such as *Charaka Samhitā*, *Sushruta Samhitā*, *Ashtānga Hridaya* and *Ashtānga Sangraha*, *Mādhava Nidāna*, *Bhāva Prakāsha Nighantu* etc., concern commentaries and the information on COVID-19 from the available sources have been referred thoroughly. The findings related with the aims of the study have been collected, compiled and arranged as a review article.

CORONA VIRUS DISEASE (COVID -19)⁹:

COVID-19 is the contagious disease of respiratory system. It is caused by the most recently discovered novel coronavirus (NCoV) discovered in 2019 and hence the name so. Coronaviruses are a group of RNA virus that cause diseases in mammals and birds. In humans, these viruses are known to cause respiratory tract infections that can range from mild illness include common cold to more lethal to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS) and COVID-19. The virus is named as a Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) closely related to bat coronaviruses and SARS-CoV.

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate symptoms of respiratory tract infections. The symptoms can very similar to Influenza-like illness (ILI) also known as flu-like syndrome. The most common symptoms are fever, cough and difficulty in breathing. Some patients may have aches and pains, nasal congestion, runny nose, sore throat or diarrhoea and are less common symptoms. These symptoms are usually mild and begin gradually. Severe cases can lead to pneumonia, Severe Acute Respiratory Infections (SARI), kidney failure and even death. Some people become infected but they don't develop any symptoms and hence don't feel unwell. The current information suggests that the incubation period is approximately 5-6 days but it can range from 1-14 days.

The Centers for Disease Control and Prevention (CDC) have said that COVID-19 is primarily spreads from person to person through respiratory droplets when a person with COVID-19 coughs, exhales or sneezes. These droplets are transmitted to the people nearby within 6 feet or possibly if they inhaled. These droplets are too heavy to hang in the air and quickly fall on floors or surfaces around the person. So, it may also be possible that other people can also get COVID-19 by touching these objects or surfaces that has the virus on it and then touching their eyes, nose or mouth. This is why it is important to stay more than one meter away from a person who is sick. According to current evidence, the airborne transmission of was not reported.

Currently, there is no treatment specifically recommended to cure COVID-19. However, the treatments and vaccines are currently under study for evaluating the potential treatment. Most people (about 80%) recover from the disease without needing special treatment and hospitalization. Around 1 out of every 6 people who get COVID-19 becomes seriously ill and develops difficulty in breathing. Older people and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease and cancer etc. are more likely to develop serious illness (or appear to be more vulnerable).

People with fever, cough and difficulty in breathing should seek immediate medical attention. The treatment focuses on managing symptoms as the virus runs its course. Antiviral or retroviral medications, mechanical ventilation, steroids, immune therapy and blood plasma transfusions are the therapies used for these

illnesses. The available preliminary data suggests that the average time from onset to the clinical recovery may take approximately 2 weeks for mild cases and 3-6 weeks for patients with severe or critical disease.

The practice of good hand hygiene (washing hands or using an alcohol based rub frequently and not touching the face), respiratory hygiene (practice respiratory etiquette for example, by coughing into a flexed elbow, using face mask) and social distancing (more than one meter) are most effective ways to protect against COVID-19.

AYURVEDA AND COVID -19:

Charaka Samhitā, an ancient text book of medicine in Ayurveda, says that “diseases are innumerable and newer ones would keep appearing.”¹⁰ Ayurveda, with its strong, well validated theoretical concepts and practices and the extensive pharmacopoeia with innumerable drugs, is capable of understanding, diagnosing and managing with a wide range of diseases, old or new, known or unknown.

COVID-19 can be approximately compared with *Āgantuja Jwara*.¹¹ The fever is produced by *Āgantuja* (an external factor i.e., virus in this case) and is sub-classified into *Bhutābhishyanga* category.¹¹ *Bhuta* refers to micro-organism (such as a virus). The virus causes an imbalance in the system and the disease takes root in the body initiating an intrinsic disease process through predominantly *kapha vata dosha* vitiation. So, the initial phases of the manifestation can be comparable to *Āgantuja Vāta-Kaphaja Jwara*. The uncontrolled conditions, further vitiates *dosha* (bio-energies or life forces) and *dhātus* (tissues) i.e., *Rasa* (plasma), *Rakta* (blood), *Māmsa* (muscle) etc., thus entering into the *Sannipātaja* condition and results in *Arishta laxana* (complications). Based on the particular signs and symptoms and involvement of the system, the disease is related to *Prānavaha Srotasa* (respiratory system or cardiopulmonary system).

Lakshana (Symptomatology):

1. *Jwarā* (fever)
2. *Angamardhā* (body pain)
3. *Kāsa* (cough)
4. *Shwasa* (respiratory distress)
5. *Anannābhilāshā* (loss of appetite)

Mode of Transmission: *Sushruta Samhitā*, an ancient text book of surgery in Ayurveda, describes *Aupasargika* or *Sankrāmaka Roga*¹² (communicable or contagious diseases). They are *Sankrāmaka* (infectious) and spread one person to another through (*Prasanghāta* (close interaction or social gathering), *Gātra Samsparshāta* (physical contact), *Nishwāsāta* (inhalation of expired air or droplets exhalation), *Saha Bhojanāta* (eating together in one plate or sharing food), *Saha Shayyā* (sleeping together or in groups), *Saha Āsanāta* (sitting together or in groups or using same sitting arrangement) with infected person and *Vastra-mālyanu lepanāta* (sharing cloths, jewels, cosmetics etc. belongings) of infected person.¹² *Jwara* (fever) is mentioned one among the *Aupasargika rogas*. Dalhana, the commentator of this text, also says that *Upasargaja roga* are usually produced when people comes in close contact (*Upasarga*) with the person suffering from such as *Jvarādiroga* (fever etc., diseases).¹³ So, COVID-19 is *Aupasargika* or *Sankrāmaka Roga*.

Pandemic Disease: The western science describes outbreak, epidemic, pandemic and endemic terminologies to explain the degree and intensity of a health-related event or disease affecting the large numbers of people. Ayurveda summarizes all such relevant concepts under *Janapadodhwansa* (destruction of large human settlements/community or annihilation of society).¹⁴ In Ayurveda epidemics are *Aupasargika roga* and pandemics are *Janapadodhwansakar roga*. COVID-19 is an example of the latter.

So, considering all the above said pointers, COVID-19 can be approximately compared with *Bhutābhishyanga* variety of *Āgantuja Jwara* affecting the *Prānavaha Srotasa* and falls under the category of *Aupasargika* or *Sankrāmaka roga* manifesting as *Janapadodhwansakara Roga*.

AYURVEDIC MEDICAL MEASURES FOR COVID -19:

Charaka Samhitā, an ancient text book of medicine advises that as soon as an outbreak is anticipated, if proper medicine and treatment administration is done, one need not be afraid of diseases even if at all occurs.¹⁴ Keeping the basic principles of management and considering the symptomatology, vulnerable target organs and systemic involvement of Covid-19, the following local and systemic treatment modalities can be intervened to

manage and reduce the risk of SARS-COV-2 infection at three levels viz. prevention, management and rehabilitation. They might be effectively utilized as the prophylaxis and adjuvant therapy and may be useful to reduce the risk of SARS-COV-2 infection. However, in general the management of epidemics/pandemics needs holistic and comprehensive approach.

1. *Nidāna Parivarjana* (avoid the cause)
2. *Panchakarma* (bio-purification therapy)
3. *Rasāyana* (rejuvenation treatment and immune boosting medicines)
4. *Shamana* or *Vyādhihara Chikitsā* (palliative therapy)
5. Local Therapy
6. Yogic Therapy

1. ***Nidāna Parivarjana***(Avoidance of etiological factors):

Avoidance of etiological factors has been given prime importance behind success of many treatments in Āyurveda. The basic principle “Prevention is better than cure” is the first step in the management of COVID-19. Avoid the different modes of transmission, diet and lifestyle activities which aggravate the disease.

2. ***Rasāyana therapy*** (Rejuvenation treatment and immune boosting medicinal therapy):

Rasāyana is a specialty of Ayurveda which deals with measures for rejuvenation. Literally, rejuvenation means to return to youthful conditions or to normal from the diseased state. *Rasāyana* therapy comprises *Āchāra Rasāyana* (special health promoting conduct and behaviour) *Āhāra* (dietary regimen) and *Aushadha* (medicine) that have properties to enhance growth, retard aging, induce tissue regeneration and stimulate immunity. It basically enhances immunity (innate) or to prevent the diseases. Enhancing the body’s natural defense system (immunity) plays an important role in maintaining optimum health and is a cornerstone of Ayurvedic practice.

(A) ***Āchāra Rasāyana***: It is based on good conduct and behavior and lifestyle principles, which would ensure freedom from disease (*Ārogya*) and victory over the senses faculties (*indriya vijaya*). These principles do not embody only good values and moral principles but incorporates several other concerns, such as practical measures for preventing health hazards, social customs and conventions, good habits, relations within and outside the family, protecting people in affliction, observing celibacy and much more.¹⁵ They help to increase person’s mental and physical health status and help to reduce the disorders very effectively. In addition Ayurveda also advises *Charyātrayees* i.e., *Dinacharya* (daily regimens), *Rātricharya* (night regimens) and *Rutucharya* (seasonal regimens) and much more for keeping the person healthy and disease free. All the people and the patients must follow such healthy practices in all situations (even during such epidemic/pandemic crisis) regularly to prevent and spread of such diseases. WHO has suggested different healthy practices to escape the COVID-19 pandemic crisis.

(B) ***Āhāra Rasāyana***: It is based on the usage of healthy food substances (diet and nutrition) on regular basis as to provide all the essential nutrients to the body. The nutrient deficit diet is a risk for disease and it affects overall health. Regular intake of healthy food makes the body fit and helps to develop a strong immune system to fight the onslaught of various diseases. So, it is necessary to advice healthy food substances both in healthy and diseased condition for prevention, promotion and curative. The use of spices like *Haldi* (turmeric), *Jeera* (cumin), *Dhaniyā* (coriander), *Lahsuna* (garlic) and *Shunthi* (ginger), *Pippali* (pepper), etc., are known to contain immune-boosting antioxidants and builds stronger respiratory system which is the utmost necessary in the prevention and spread of SARS-COV-2 infection. The following specific healthy food preparations *Kritanna* (*Āhāra*) *Kalpna* are beneficial to the body when taken in an appropriate time with proper proportions. This helps to correct the morbid condition of the diseases.

1. *Peya* (watery par-boiled rice gruel)
2. *Yusha* (soup of pulses)
3. *Kritayusha* (vegetable barley soups spiced liberally with *Trikatu* – ginger, black pepper & long pepper).

4. *Pippalādi ksheera* (milk with added pepper powder)
5. *Lasunādi ksheera* (garlic milk)
6. *Dhānyanāgara pāna*
7. *Nitya Sevaneeya dravyas* such as *Shashtikasāli* (rice), *Godhuma* (wheat), *Yava* (barley), *Mudga* (greengram), *Godugdha* (cow's milk), *Goghrita* (ghee), *Godhuma* (wheat), *Madhu* (honey) etc.,
8. Herbal tea of *Ginger*, *Turmeric* and *Tulasi* (holy basil)
9. Decoction (*Kashāya*) of *Tulasi*, *Guduchi* and *Ginger* etc.,
10. Intake of comfortable warm fluids boiled with medicinal herbs preferably *Shunthi*, *Dalchini*, *Trikatu* should be used as a regular drink to maintain hydration.

(C) Aushadha Rasāyana: It is based on the usage of drugs and herbs on regular basis as to boost the respiratory immunity. They can be used as a mass prophylaxis and in the management of SARS-COV-2 infection. They are: *Chyawanaprāsha*, *Pippali Rasāyana*, *Vardhamāna Pippali Rasāyana*, *Vardhamāna Guduchi Rasāyana*, *Agastya Haritaki Rasāyana* etc. Based on research data, the herbs *Ashwagandha* (*Withania somnifera*), *Guduchi* (*Tinospora cordifolia*), *Āmalaki* (*Terminalia emblica*), *Yashthimadhu* (*Glycyrrhiza glabra*), *Shunthi* (*Zingiber officinale*), *Pippali* (*Piper longum*), *Chitraka* (*Plumbago zeylanica*), *Haridrā* (*Curcuma longa*), *Tulasi* (*Ocimum sanctum*) etc. potential immunomodulator drugs. They enhance cure rate and prevent disease recurrence. They act as antioxidant, anti-stress, anti-inflammatory, anti-microbial, vaccine adjuvant and confer immunity against diseases.^{16,17} Such drugs may be considered for COVID-19 prophylaxis and as an add-on treatment. *Kāmya Rasāyana* (used to serve a special purpose in life) and *Naimittika Rasāyana* (to promote the health of particular system or tissues of body and to prevent their bad effects) are used in the prevention and spread of such epidemic.¹⁸

3. Panchakarma (Bio-purification Therapy):

It is therapeutic detoxifying treatment in Ayurvedic medicine which includes preventive, curative and promotive actions for various diseases. It is not only for detoxifying the body, but also for rejuvenation, strengthening the immune system and restoring balance and well-being. It includes five therapeutic procedures indicated for purification (*Shodhana*) of body as well as mind viz., *Vamana* (therapeutic emesis), *Virechana* (therapeutic purgation), *basti* (decoction or oil enema), *Nasya* (instillation of medicine through nostrils) and *Raktamokshana* (blood letting). These procedures probably may be responsible for the alleviation of pathological process of the disease. Obviously, because of the danger and risk of transmitting the COVID-19 virus, the bio-purification therapy is administered with utmost care after the consultation of Panchakarma specialist. However, the administration at the appropriate stage of the disease is left to the discretion of the treating physician.

4. Shamana (Palliative Therapy):

The medical treatment described under fever (*Jwara*), cough (*Kāsa*) and respiratory distress (*Shwāsa*) *chikitsā* can be adopted to manage COVID infection. The drugs having antipyretic, anti-inflammatory, antiviral, immune boosting and antioxidant property are to be administered. They not only break the pathogenesis of the diseases but also arrest its progress. The following are the some of the classical medicine which may be helpful.

1. **Vati** (tablets): *Sanjeevani vati*, *Tribhuvanakeerti rasa*, *Vilwādi gulikā*, *Mahā jwarānkusha rasa*, *Sarvajwarhar Lauha*, *Mrityunjaya rasa*, *Lakshmvilāsa Rasa*, *Vilwādi gutika*
2. **Churna** (powder): *Sitopalādi churna*, *Taleesādi churna*, *Sudarshana churna*, *Vidanga churna*
3. **Kwātha** (decoction): *Dashamula kashāya*, *Dashamula katutrayādi kashāya*, *Amruttotaram kashāyam*, *Shadanga kwātha*, *Pathyādhi kwātha (kashāya)*, *Neelithulasyādi Kashāyam*
4. **Āsavārishta** (fermented liquids): *Amritārista*, *Dashamulārishta*, *Kanakāsava*, *Vāsārishta*

5. Local Therapy:

- 1) **Dhupan Karma (Fumigation):** It is fumigation therapy described in Ayurvedic literatures for proper disinfection and sterilization purpose by using *Vishaghna*, *Krumighna* and *Vrinahara gana* drugs for their anti-microbial and disinfectant properties. *Agnihotra*, *Homa*, *Havana*, *Yagya* are the traditional way to protection of population from the diseases originating from *Bhuta* (microbes). *Raksoghana Dhupana* is mentioned for protection from infections and Gana.¹⁹ *Aparājita Dhupa* is very good for disinfecting the environment and also in all the types of fevers.²⁰ Charaka has mentioned *Dhupana Karma* with *Guggulu* (*Commiphora mukul*), *Nimba* (*Azadiracta indica*), *Vachā* (*Acorus Calamus*), *Kutha* (*Saussurea lappa*), *Haritaki* (*Terminalia chebula*), *Sarsapa* (*Brassica campestris*), *Yava* (*Hordeum vulgare*) with *Ghrta* in in different diseases.²¹ *Sushruta* has mentioned *Dhupana Karma* done with twice a day for 10 days by using *Rakshoghna Dravya* such as *Sarsapa*, *Nimba*, *Lavana* with *Ghrta*. Microbes are destroyed by *Rakshoghana drugs*.²² Fumigation of homes, shelters and living-place at morning and evening time by using *Krumighna* (anti-microbial), *Vishaghna* (anti-poisonous) and *Rakshoghna* (protective) drugs can be effectively used to maintain hygienic condition for the prevention and spread of COVID-19.
- 2) **Dhumapana (Inhalation):** Steam inhalation and hot fomentation provide satisfactory clinical relief in nasal and throat congestion, broncho-constriction, 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.²³
 - *Aparājita dhupa* (A.H.Chi.1/163) or *Pathyādi dhupa* (A.H.Chi.3/53)
- 3) **Nasya (Nasal drops):** 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. Application of pure sesame oil was found to be effective for the treatment of dry nasal mucosa.²⁴ 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 infection.²⁵
 - *Anu taila* (Ashtanga Hrudaya Sutrasthana 20/37-38)
- 4) **Gandoosha** (holding liquid in mouth) / *kavala* (gargle): These are advised to cleanse the mouth and throat thoroughly. The oils or oily decoctions and are likely to coat the mucosa as biofilm and induce additional immunomodulatory, antioxidant, and antimicrobial benefits.²⁶ Turmeric rhizome, *Yashtimadhu* or liquorice stem, *Neem* and catechu (*Acacia arabica*) barks and natural salt may be used to prepare medicated water/solutions for gargles or mouth rinse. Glycyrrhizin, an active component in liquorice was found to be more effective than common anti-virals inhibiting the replication of SARS virus and inhibited its adsorption and penetration.²⁷
 - *Sasaindhavagharta* ((Ashtanga Hrudaya Chikisthana1/127)

6. Yogic Therapy:

Generally, poor mental health conditions, including stress and depression, are known to increase the risk of acute respiratory infections.²⁸ Yoga is very effective as it detoxifies the body and mind. It ensures good physical and mental health that is essential ingredients of strong immune functions. Several studies have endorsed the role of *Yogāsana* (postures), *Prānāyāma* (breathing techniques), *Dhyāna* (meditation) and *Yogic Kriya* (cleansing measures) in improving lung health.²⁹ *Prānāyāma* is known to improve lung function.³⁰ *Dhyāna* is found to reduce inflammation markers and influence markers of virus-specific immune response.³¹ Yoga therapy can prevent progression of disease, improve immunity and help to maintain healthy respiratory function. So, it is more beneficial for the prevention and post-recovery management of COVID-19. However, it should be practiced after consulting the Yogic experts.

MINISTRY OF AYUSH GOI AND AYURVEDA'S IMMUNITY BOOSTING MEASURES FOR SELF CARE DURING COVID-19 CRISIS:

Ministry of AYUSH recommends the following self-care guidelines for preventive health measures and boosting immunity with special reference to respiratory health.³² These are supported by Ayurvedic literature and scientific publications. The below measures can be followed to the extent possible as per an individual's convenience. The below advisory do not claim to be treatment for COVID 19.

I. General Measures:

1. Drink warm water throughout the day.
2. Daily practice of Yogāsana, Prānāyāma and Dhyāna for at least 30 minutes as advised by Ministry of AYUSH (#YOGA at Home #Stay Home #Stay Safe)
3. Spices like *Haldi* (turmeric), *Jeera* (cumin), *Dhaniyā* (coriander) and *Lahsuna* (garlic) are recommended in cooking.

II. Ayurvedic Immunity Promoting Measures:

1. Take *Chyavanprāsha* 10gm (1tsf) in the morning. Diabetics should take sugar free *Chyavanprāsha*.
2. Drink herbal tea or decoction (*kādhā*) made from *Tulasi* (*basil*), *Dālchīni* (*cinnamon*), *Kālimircha* (black pepper), *Shunthi* (dry ginger) and *Munakka* (*Raisin*) - once or twice a day. Add jaggery (natural sugar) and or fresh lemon juice to your taste, if needed.
3. Golden Milk- Half tea spoon *Haldi* (turmeric) powder in 150 ml hot milk - once or twice a day.

III. Simple Ayurvedic Procedures:

1. **Nasal application (*Nasya*):** Apply sesame oil / coconut oil or Ghee in both the nostrils (*Pratimarsha Nasya*) in morning and evening.
2. **Oil pulling therapy (*Kaval*):** Take 1 table spoon sesame or coconut oil in mouth. Do not drink, Swish in the mouth for 2 to 3 minutes and spit it off followed by warm water rinse. This can be done once or twice a day.

IV. During dry cough / sore throat:

1. Steam inhalation with fresh *Pudinā* (mint) leaves or *Ajwain* (caraway seeds) can be practiced once in a day.
2. *Lavanga* (clove) powder mixed with natural sugar / honey can be taken 2-3 times a day in case of cough or throat irritation.
3. These measures generally treat normal dry cough and sore throat. However, it is best to consult doctors if these symptoms persist.

CONCLUSION:

COVID-19 is a contagious disease of respiratory system causing terror in the globe. In Ayurvedic medical science, it can be approximately compared with *Bhutābhishyangaja* variety of *Āgantuja Jwara* affecting the *Prānavaha Srotasa* and falls under the category of *Aupasargika* or *Sankrāmaka roga* manifesting as *Janapadodhwansakara Roga*. COVID-19 will remain a cause of concern and a threat for pandemics in future till the vaccine is available. Appropriate lifestyle modifications for disease prevention at individual levels can stop transmission of disease in the community. Social distancing is the only measures to escape and able to delay the pandemic. Contribution of Ayurveda in the management of various communicable and non-communicable diseases has greater potential to address such situations through its wider concepts and treatment modalities. Integrating the best medical practices from the treasure trove of Ayurveda along with clinical excellence of Allopathic Medicine as prophylaxis and adjuvant therapy might be effective in reducing the risk of SARS-COV-2 infection successfully. Let's integrate the best of Allopathy and Ayurveda to fight COVID-19.

DISCLAIMER: This article is a mere conceptual and academic article and is not claiming to prevent and cure COVID-19. Don't follow any advice given in the management part of this article without consulting an Ayurveda physician.

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