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### Initiation of Ayurveda medicinal herbs with nutritional therapy to combat COVID-19 pandemic

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#### Abstract

According to a CDC (Centers for disease control) study, Corona virus is more contagious than previously thought as the Reproductive Number of SARS-COV-2 is 5.7 rather than 2.5 reproductive number of SARS-COV-1 that means one single person can infect 5-6 persons and it become more dangerous when it comes to silent carrier those who get infected with COVID-19 but didn't show any symptoms could infected a large number of population with COVID making them "UNDOCUMENTED CARRIERS" of the virus. The nationwide tally, meanwhile, has neared 3,66,946 including 12,237 deaths. Maharashtra continues to remain the worst-affected state with 1,16,752 cases and 5,537 deaths, followed by Gujarat. Possible treatments containing omega-3 fatty acids and fish oil, vitamin D to treat COVID-19 Effects and A pragmatic plan for Ayurveda Intervention along with the Plasma Therapy contain antibody of the previously infected COVID patient who was recovered is used to treat the patients of COVID-19 in India it shows better effects on those patients who are on intensive care unit with severe complications. Ayurveda has best potential and possibilities to be employed for the prevention and treatment of COVID-19. Medicinal herbs like *Ashwagandha*, *Giloy*, *Mulethi*, *Turmeric*, *Daalchini* has a health rejuvenator which is also widely known for its effectivity in enhancing natural immunity to fight against a number of illnesses such as fever, jaundice, skin diseases, constipation and tuberculosis also known for its anti-inflammatory properties which provide relief while dealing with inflammatory conditions such as gout and arthritis. Mulethi acts as an antacid and reduces free and total HCL levels in the stomach, anti-inflammatory effects and anti-ulcer properties. Ayush-64 is anti-malarial ayurvedic drug, Ayush 64, developed by the ministry of AYUSH, use of sesame oil in the nose, and Tulsi, ginger, Guduchi (*tinspora cordifolia*) and turmeric in diet. Because at the time there is no suggested vaccine developed for combating COVID in worldwide. Thus the traditional healthcare might produce miracle changes to fight against this pandemic morbidity and mortality rate.

**Keywords:** CDC, coronavirus, undocumented carriers, plasma therapy, AYUSH-64, Ayurveda herbs

#### Introduction

Due to their crown like projections, corona virus got its name. Emerging evidence shows that COVID-19 is associated with negative outcomes in older, comorbid, and hypoalbuminemic patients. According to a CDC (Center for disease control) study, Corona virus is more contagious than previously thought as the Reproductive Number of SARS-COV-2 is 5.7 rather than 2.5 reproductive number of SARS-COV-1 that means one single person can infect 5-6 persons and it became more dangerous when it comes to silent carrier those who get infected with COVID-19 but didn't show any symptoms it has shown in various countries studies that silent carrier could contributed 80% or more of those infected as some of them in pre-symptomatic phase and having very mild symptoms while mean could infected a large number of population with COVID making them "UNDOCUMENTED CARRIERS" of the virus. Along with the mild symptoms like Fever, Cough, Shortness of breath the Corona virus also have its hidden symptoms like Muscle pain, Headache, Sore throat, Loss of taste and smell.

#### Prevalence

At 18<sup>th</sup> June 2020, on the global front, the number of coronavirus cases approached 8,407,373 with over 451,439 deaths. The US has recorded the total cases 2,234,475 followed by the United Kingdom (299,251). The nationwide tally, meanwhile, has neared 3,66,946 including 12,237 deaths. Maharashtra continues to remain the worst-affected state with 1,16,752 cases and 5,537 deaths, followed by Gujarat.

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A clinical study conducted in Paris has been prevailed that being overweight is a major risk for people infected with the new corona virus. Patient with obesity related condition such as CVD disease, Diabetes and Metabolic disorder also earlier mentioned that old aged people have more risk to get infected rather than the children and younger population. It is also found that cities with higher air pollution have higher chance of COVID-19 infection as well as deaths. According to them the most polluted regions with high NO<sub>2</sub> exposure act as pollutant produce from the diesel vehicle shown higher incidence of lung disease and respiratory infection and diseases which could lead to more deaths due to COVID-19. According to the article published in *SCIENCE* journal, the team of researcher investigated by using ADVANCED CELL CULTURE MODEL that SARS-COV-2 can infect the intestinal cells and multiply there can cause diarrhoea and other gastrointestinal symptom.

#### Clinical study outcomes to prevent the morbidity and mortality increasing rates

Prof. Dr. Munir Pirmohamad, clinical pharmacologist and geneticist from the University of Liverpool, Plasma Therapy contain antibody of the previously infected COVID patient who was recovered is used to treat the patients of COVID-19 also in India it shows better effects on those patients who are on intensive care unit with severe complications.

#### Possible treatments containing omega-3 fatty acids and fish oil:

In an effort to suppress and ultimately stifle the spread of the global COVID-19 pandemic, the world's scientific and medical communities are turning to treatments containing omega-3 fatty acids and fish oil for help. "EPA as a free fatty acid is very promptly absorbed and incorporated into the body's phospholipid membranes, and then starts to act very quickly. Once incorporated into cell membranes, EPA-FFA significantly affects the production of pro-inflammatory mediators such as IL-6 and leukotriene B4 that

play a crucial role in starting and maintaining the inflammatory process in the lungs. Moreover, EPA-FFA metabolism generates pro-resolving mediators and bioactive metabolites, that enhance innate microbial killing and organ protection," the investigators said.

#### Potential role of vitamin D to treat COVID-19 Effects:

Public Health Experts are advising people to take daily vitamin D supplements. Lower vitamin D level in older people is strongly associated with the number of cases and the mortality rate as it protect from the illness and infections also important for the function of vitamin A. Taking a supplement of 10 mg on a daily basis recommended for older person who are most vulnerable section of the society having anti-inflammatory effects which reducing auto-immune disease. Vitamin D is not recommended if you have medical condition like kidney problem.

#### A pragmatic plan for Ayurveda Intervention

Current estimated mortality of COVID-19 for overall infected population is 0.25-3.0% whereas it increases to > 14% among elderly (over 80 years), 10% in associated CVD and 7% in associated diabetes. China's experience of pandemic has built the evidences that co-morbidity such as hypertension, diabetes, coronary heart diseases and cerebro-vascular disease act as risk factor with increased risk of mortality. In 5% cases requiring Intensive care, the disease progression is gradual, and requires about 9-10 days to progress from symptoms of Upper Respiratory Tract Infection (URTI) to Acute Respiratory Distress Syndrome (ARDS). ARDS often is followed by un-correctable hypotensive shock, multi-organ failure and eventually death.

In that context, at a generic level, key criteria for choosing suggested Ayurveda medicines here have been safety and potential efficacy, broad-spectrum applicability, ease of availability, long-term experiential knowledge on clinical use, ease of administration, and as far as possible, affordability.

Table 1.

No.	Category of people	Proposed Intervention
1.	Unexposed asymptomatic group	Common health keeping approaches of Ayurveda including healthy diet, healthy life-style, adequate sleep, physical activity, good conduct, care for retainable and non-retainable urges, and avoidance of disease causing factors (excessive cold and exposure to pollutants). In addition, Chyavanprasha, Brahma Rasayana, Amrit Bhallataka, Sanjeevani vati, Swarna prashan.
2.	Exposed asymptomatic (Quarantined)	Sanjeevani vati, Chitrakatdi vati, Chyavanprasha, Brahma Rasayana, and decoction of a combination of herbs, <i>Tinospora cordifolia</i> , <i>Zingiber officinale</i> , <i>Curcuma longa</i> , <i>Ocimum sanctum</i> , <i>Glycyrrhiza glabra</i> , <i>Adhatoda vasica</i> , <i>Andrographis paniculata</i> , <i>Swertia chirata</i> , <i>Moringa oleifera</i> , <i>Triphala</i> and <i>Trikatu</i> .
3.	With mild COVID-19 symptoms	Pippali rasayan, Go Jihvadi Quath, Kantakari Avaleha, Chitrakadi vati, Vyaghri haritaki, Dashamul kwath, Sitopaladi, Talishadi, and Yashtimadhu etc.
4.	With moderate to severe COVID-19 symptoms	Pippali rasayan, Laghu Vasant Malati, Sanjeevani vati, Tribhuvan Keerti rasa, Brihata Vata Chintamni rasa, Mrityunjaya rasa, Siddha Makardhvaja etc.

Table source: Ministry of AYUSH, Govt of India

Thus, doctors may soon start human trials of Ayurvedic medicines to treat COVID in India. In states of Goa, Kerala and Harayana, doctors have already started administering Ayurvedic medicines to asymptomatic patients and frontline workers. This review article complements the guidelines issued by Ministry of AYUSH, Government of India for boosting immunity among the masses and the key medicinal herbs which are prescribed by AYUSH with their protective properties for domestic and therapeutic uses are as follows:

**Importance of Ashwagandha:** It has anticancer properties and help to reduce blood sugar levels, cortisol levels, lower cholesterol and triglycerides by reducing stress and anoxia, symptoms of depression. It helps to increase muscle mass and strength.

**Importance of Yashtimadhu (Mulethi):** Mulethi acts as an antacid and reduces free and total HCL levels in the stomach. It has anti-inflammatory effects and anti-ulcer properties. It Contains a Glabridin compound, which reduces colonic inflammation, decreases the inflammation of stomach linings and can provide 50 to 75% relief from aphthous ulcers within one day and complete remission of ulcers within three days. Mulethi therapeutically helpful in sore throat, throat irritation, cough and bronchitis. It attenuates the inflammation of bronchi and soothes the respiratory tract.

**Importance of Guduchi Peepli (Giloy):** Guduchi is recognised to accord longevity, enhances memory, improves health, and bestows youth. This herb, activates the immune system of the body, boosting immunity and promoting vitality in a person. Guduchi has been preferred traditionally to treat ailments such as bronchitis and chronic cough. Giloy or Guduchi has the ability to detoxify your liver and help in proper functioning. Giloy is an excellent adaptogenic herb, which means that it helps in managing stress and anxiety by normalising your physiological functions. This medicinal herb is a health rejuvenator which is also widely known for its effectivity in enhancing natural immunity to fight against a number of illnesses such as fever, jaundice, skin diseases, constipation and tuberculosis also known for its anti-inflammatory properties which provide relief while dealing with inflammatory conditions such as gout and arthritis.

**Importance of Ayush-64:** This is anti-malarial ayurvedic drug, Ayush 64, developed by the ministry, use of sesame oil in the nose, and Tulsi, ginger, Guduchi (*tinspora cordifolia*) and turmeric in diet. Ayush-64 that claims to treat malaria without side effects.

### Conclusion

Ayurveda has best potential and possibilities to be employed for the prevention and treatment of COVID-19. Implementation of proposed action is likely to provide evidence-based insights strengthening the scope of Ayurveda beyond preventive health care and care for non-communicable diseases. India is the country where the world's oldest living health care system originated and therefore it is being carefully watched by the world community for how it handles the crisis using its own resources. Because at the time there is no suggested vaccine developed for combating COVID in worldwide. Thus the traditional healthcare might produce miracle changes to fight against this pandemic morbidity and mortality rates.

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