



## Strategies for Management of COVID -19 in India

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### Abstract

Corona Virus is transmitted from human to human via airborne particles. The transmission also takes place through virus attached to inanimate objects coming in contact with humans. It is said to originate in bats and passed to humans. The incubation period is from two to fifteen days. People more prone to the disease are children and elderly. The primary symptoms of the viral infection includes fever and are more localised in upper respiratory tract resulting in throat dryness, sneezing, coughing, and finally pneumonia. Various etiological findings are put up by experts and also concerns are raised for inappropriate line of treatment. The virus enters into cells through a membrane protein receptor ACE-2 exo-peptidase. The first finding of corona virus took place in Wuhan in China on 7 January 2020. There are 7 strains of human corona virus known. The explosive nature of this pandemic have caused worldwide economic and social disruption. Still no established antiviral therapy is available. At present prevention is the only cure where the person has to be isolated from others and have to follow immunity boosting life style such as ayurvedic diet, yoga, exercises and warm water therapy.

The spreadability of the virus is more rapid than SARS-CoV and MERS-CoV though fatality is less than former. The government of India undertaking AYUSH has been established to promote education, research and propagation of indigenous alternative practice of medicine such as Ayurveda, Yoga and Naturopathy, Unani, Sidha and Homeopathy. It lays emphasis on healthcare models towards combating the pandemic of COVID-19. Government of India has taken stringent steps by implementing a social distance app AROGYA SETU meaning a bridge of spiritual and physical health for the purpose of alarming and informing the individual towards the likelihood of trapping in to the viral disease. Based on current published evidence, this review systematically summarizes the treatment findings and status of COVID-19 epidemic in tropical country like India and role of AYUSH ministry to curb this disease and prevention of COVID-19. It is hoped that this review will help the public to recognize and deal with SARS-CoV-2, and support the views towards the traditional herbal system of medicine which has shown to boost our immunity. Still the vaccine is not available hence the best way to fight with this disease is implementing preventive measures.

**Keywords:** SARS-CoV, COVID-19, AYUSH, Arogya Setu

### Introduction

Coronavirus disease 2019 (COVID-19) is a type of illness caused by a novel coronavirus now called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2; formerly called 2019-nCoV), which was first identified among due to an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China.<sup>1</sup>

It was first time reported to World Health Organization (WHO) on December 31, 2019 and on January 30, 2020, the WHO declared the COVID-19 outbreak a global health emergency. On March 11, 2020, the WHO declared COVID-19 a global pandemic.<sup>2,3</sup>

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India as for reported in 90000 cases and 3000 deaths (Till 17 May 2020). No drug or biological product have proven its efficacy for the prevention or treatment of COVID-19. Numerous antiviral agents like Remdesivir, anti-malarial drugs like Hydroxychloroquine, antibiotics like Azithromycin, immunotherapies, and vaccines are being investigated and developed as potential therapies. As the world scrambles to find a cure for Covid-19, health experts have suggested boosting the body's immune system may help minimize the effects and hasten the recovery from the disease.

Medically adequate research has undertaken to resolve this problem on entire globe. Till now no researcher has got the vaccination for this single-strained RNA contain virus, though few clinical trials have started in UK, USA and China.<sup>4</sup>

In India the first case of COVID-19 is reported in Kerala on January 30, which rose to three cases by 3 February; all were students who had returned from Wuhan, China.<sup>5,6</sup> No significant rise in cases was seen in the rest of February. On 4 March 22 new cases came to light, including those of an Italian tourist group with 14 infected members and 8 Indian people.<sup>15</sup> The transmission escalated in the month of March, after several cases were reported all over the country, most of which were linked to the people with travel history to affected countries. On 12 March, a 76-year-old man from Karnataka state who had returned from Saudi Arabia became the first official victim of the virus in India.<sup>7</sup>

The scenario of INDIA on COVID-19 has decently better as compare to other highly affected countries like USA, UK, France and other European countries due to the early precautionary

measures like screening at various airports from February 20, Total lockdown Phase-I from March 25 to April 14 2020 (21 days), Phase-II from April 15 to May 3 2020 (19 days), Phase-III from May 4 to 17 (14 days), Phase-IV May 18 to May 31 (14 days).<sup>8</sup>

The lockdown restricts people from stepping out of their homes. All transport services—road, air and rail—were suspended, with exceptions for transportation of essential goods, fire, police and emergency services.<sup>9</sup> Educational institutions, industrial establishments and hospitality services were also suspended. Services such as food shops, banks and ATMs, petrol pumps, other essentials and their manufacturing are exempted.<sup>10</sup>

However, India haven't escape from the pandemic and come into danger position. The union government has undertaken several steps to restrain the community spread, understanding the situation. Observers state that the lockdown has slowed the growth rate of the pandemic by 6 April to a rate of doubling every 6 days,<sup>11</sup> and, by 18 April, to a rate of doubling every 8 days.<sup>12</sup> The Oxford COVID-19 Government Response Tracker (OxCGRT), in its report based on data from 73 countries, reports that the Indian Government has responded more stringently and quickly than other countries in tackling the pandemic. It noted the government's swift action, emergency policy making, emergency investment in healthcare, fiscal measures, investment in vaccine research and active response to the situation scored India with a "100" for its measure taken.<sup>13,14</sup> This paper will describe some insights to constrain COVID-19, for Indian life and livelihood.

**Covid-19 Statistics Worldwide (As on May 19, 2020 21:50 IST)<sup>15</sup>**

S.No.	Country	Cases	Deaths	Recovered	Fatality
1	United States	1545314	91006	290336	5.9%
2	Russia	290678	2722	70209	0.9%
3	Brazil	255368	16853	100459	6.6%
4	United Kingdom	247562	34876	945	14.1%
5	Spain	231606	27709	150376	12%
6	Italy	225886	32007	127326	14.2%
7	France	180051	28242	61843	15.7%
8	Germany	176551	8003	155041	4.5%
9	Turkey	150593	4171	111577	2.8%
10	Iran	122492	7057	95661	5.8%
11	India	100328	3156	39233	3.1%

**Covid-19 Statistics India (As on May 19,2020 21:50 IST)<sup>11</sup>**

S.No.	State	Cases	Deaths	Recovered	Fatality
1	Maharashtra	35058	1249	8437	3.6%
2	Tamilnadu	11760	81	4406	0.7%
3	Gujarat	11745	694	4804	5.9%
4	Delhi	10054	168	4485	1.7%
5	Rajasthan	5507	138	3218	2.5%
6	Madhya Pradesh	5236	252	2435	4.8%
7	Uttar Pradesh	4605	118	2783	2.6%
8	West Bengal	2825	244	1006	8.6%
9	Andhra Pradesh	2474	50	1552	2.0%
10	Punjab	1980	37	1547	1.9%
11	Telangana	1597	35	1000	2.2%

**Discussion**

Ayurveda, Unani, Siddha and Homeopathy (AYUSH) department guidelines for immunity boosting.

AYUSH ministry says that ayurvedic herbs such as tulsi, cinnamon, black pepper, shunthi (dry ginger) and raisins and regular yoga are potent aids to increase the body's immunity against harmful viruses. The AYUSH ministry's protocol outlined measures to build a robust immune system, and it included: consuming warm water, practising yogasana, pranayama and meditation for 30 minutes every day.

It also advised usage of Giloy, Turmeric, Cumin, Coriander and Garlic in cooking, besides taking 10 gm of chyavanprash in the morning. Jaggery, fresh lemon juice can also be helpful in the fight against Covid-19.

These herbs also help increase the production of interferons (proteins) and antibodies to generate an immune response against viruses and increase the rate of phagocytosis to destroy microorganisms, thus, increasing immunity from containing viral infections. The idea of traditional system of medicine is that if you don't have a potent weapon to combat the enemy, a strong and effective shield is the best way to protect yourself. Ayush Ministry has also recommended 150 ml hot milk with half a teaspoon of turmeric powder once or twice a day because Turmeric is a natural antibiotic, application of sesame oil/coconut oil or ghee in both the nostrils in the morning and evening is also recommended.<sup>16</sup>

Individuals in certain pre-existing illnesses like diabetes, hypertension, cardio vascular disease, and respiratory issues are at a higher risk of having Covid 19 complications, it also aggravates with age as the general immunity reduces as you get older. In the younger generation with no underlying illnesses, Covid 19 can result in a minor infection, provided you have a robust immunity and do not engage in activities like smoking or vaping.<sup>17</sup>

To combat the onslaught of the virus here is a list of measures you can undertake to improve your

immunity. The food you eat plays a key aspect in determining your overall health and immunity. Eat low carb diets, as this will help control high blood sugar and pressure. A low carb diet will help slow down diabetes and focus on a protein-rich diet to keep you in good shape. And regularly consume vegetables and fruits rich in Beta carotene, Ascorbic acid & other essential vitamins. Certain foods like mushrooms, tomato, bell pepper and green vegetables like broccoli, spinach are also good options to build resilience in the body against infections.

You can also eat supplements rich in omega 3 & 6 fatty acids for your daily dose, if stepping out to buy groceries is not an option during social distancing. Some natural immunity supplements include ginger, gooseberries (amla) and turmeric. Some of these superfoods are common ingredients in Indian dishes and snacks. There are several herbs that help in boosting immunity like garlic, Basil leaves and Black cumin. Certain seeds and nuts like sunflower seeds, Flax seed, pumpkin seeds and melon seeds are excellent sources of protein and vitamin E.

Probiotics like Yoghurt, Yakult and fermented food are also excellent sources to rejuvenate the composition of gut bacteria, which is important for nutrient absorption by the body. These are good options for the older generation too.

Good snooze time for 7-8 hours is the best way to help your body build immunity; lesser sleep will leave you tired and impair your brain activity. The lack of sleep will prevent the body from resting and this will impair other bodily functions that will have a direct impact on your immunity. Drink up to 8-10 glasses of water every day, to stay hydrated. Hydration will help flush out the toxins from the body and lower the chances of flu. Other alternatives include juices made of citrus fruits and coconut water, to beat the heat.<sup>18</sup>

**Arogya Setu android Application**

**Aarogya Setu** (literally, bridge for freedom from disease) is Indian COVID-19 tracking mobile

application developed by the National Informatics Centre and that comes under the Ministry of Electronics and Information Technology Government of India. The stated purpose of this app is to spread awareness of COVID-19 and to connect essential COVID-19 - related health services to the people of India.<sup>19</sup> This app is initiated to share best practices to track the Coronavirus infection, this app is available on android and ios operating system which uses the smartphone's GPS and Bluetooth features.<sup>12</sup> App. tries to determine the risk if one has been near (within 500 meter) a COVID-19 - infected person, by scanning through a database of known cases across India. Using location information, it determines whether you are in infected area or not, based on the data available.<sup>20</sup>

While the battle against the Covid-19 pandemic is fought by our health care workers, we can do our bit by limiting our exposure to the virus by staying indoors, maintaining social distance, eating healthy, hydrating and following basic hygiene protocol.

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