



# Can Some Traditional Medicines be Effective as Protectors of SARS-COV-2 Infection?

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**Received:** 📅 June 26, 2020

**Published:** 📅 July 07, 2020

## Opinion

Coronaviruses comprise a large family of viruses, including the latest menace caused by “severe acute respiratory syndrome coronavirus 2 (or SARS-CoV-2 or Novel Corona Virus -19)” that had its origin in China in late 2019. The disease caused by SARS-CoV-2 is commonly known as COVID 19 disease showing acute respiratory distress syndrome (ARDS) or severe pneumonia in a few patients more often culminating in death. The most common symptoms of COVID-19 include dry cough, fever, respiratory distress including shortness of breath, and occasionally sudden loss of taste and smell. It has been playing havoc with human lives all over the world since the beginning of this year, and the human toll has so far been the highest in one of the most advanced countries like USA and also in some other advanced European countries, besides some other third world developing countries. These tiny RNA viruses with club shaped spikes can attack some animals and humans. Earlier, related members of these viruses were implicated for causing respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). Since December 2019, Covid-19 has spread in several mutated forms almost all over the world causing great miseries, pains and loss of human lives. Interestingly, greater majority of COVID positive patients may show only mild sign of flu or may even not show any sign or symptom of the attack, remaining absolutely “asymptomatic”, but still they can be positive carriers of the virus having possibility of transmitting infection of the virus into other unsuspecting people coming in close contact or even in proximity of the infected persons. The SARS-CoV-2 virus is believed to spread from person-to-person via droplet and aerosol transmission through sneeze, cough or nasal drip, or contact through touching a contaminated surface containing the virus. It may also be transmitted through direct physical contamination by kissing, hugging and handshakes with an infected person. Obviously, there may be some more virulent strains which become deadly in

some patients, particularly in those having co-morbidity in form of diabetes, heart ailment, lung ailment (with Asthma and COPD) or kidney ailment, and in relatively older people suffering from various other diseases or lack of proper immunity. Incidentally, smokers of cigars, cigarettes and e-cigarettes are also at higher risk of dying with COVID 19. In the absence of a proper vaccine, some drugs are being widely used as investigational or preventive, like Chloroquine phosphate (anti-malaria drug chloroquine), flavipiravir (a drug used for treatment of influenza in China), Hydroxychloroquine and azithromycin (combination of anti-malaria and anti-bacteria), Ivermectin (an anti-parasitic drug), Lopinavir and ritonavir (a drug combination approved to treat HIV), Remdesivir (an investigational antiviral drug), and some steroids with varying degree of success in some patients, but the success rate is far from satisfactory. Further, most of these drugs have adverse side-effects in some patients, precluding their safe large scale use to protect community in a given area (For more recent information on COVID 19, go to : <https://www.coronavirus.gov/>).

The issue of toxic side-effects has left many to wonder if use of these toxic drugs is advisable in patients suspected to have SARS-CoV-2 infection. Can some traditional medicines, which are claimed to have no or negligible side effects, fill in the void and play any significant preventive/curative role? In some countries like Cuba, China, India, Pakistan, and some other third world countries, treatment with traditional medicines is still in vogue and quite affordable and popular. In India, traditional systems of medicine are also encouraged by the Government. The ministry of AYUSH (comprising Ayurveda, Yoga, Unani, Siddha and Homeopathy), Government of India patronizes and controls research and educational affairs in these streams of traditional medicine. Most of these methods put emphasis on development of natural immunity and building up of a strong general health. As the major target organ of COVID 19 disease is known to damage lung function, and subsequently other important organs are also affected, attention

has been focused more on protection and improvement of lung function through "Pranayama" by Yoga practice, Along with this, efforts are directed to boost the natural immunity by taking mainly some medicinal plant extracts and other non-toxic ingredients used in the Ayurveda and Unani systems which are known to strengthen digestive system, purify blood with more oxygenation, and thereby enhance energy to build up a sound physique. Some spices of daily use (like turmeric, ginger, garlic etc) are also recommended to supplement or boost production of immunity and build up good health. However, as some plant extracts/ingredients used in Ayurvedic or Unani systems may taste bitter or less palatable, they may not go well with some patients. In the meanwhile, initial studies conducted by AYUSH to examine efficacy of these products are encouraging. However, in homeopathy, ultra-highly diluted drugs are often recommended for use in micro doses, which become a subject of concern for many as most rationalists question the ability of these ultra-highly diluted drugs to elicit any remedial action in human body as their mechanism and pathways of action is still debatable. However, quite a large number of scientific controlled studies conducted so far showed that even though the diluted drugs are not expected to have the physical presence of even a single molecule of the original drug substance, they have the ability to trigger a favorable response, be it in experimental cancer models [1-4] or in virus or bacteria infected experimental models [5,6]. Further, their possible molecular mechanism and pathway of action has also been supported with experimental evidence [7-9]. After some initial pilot studies and obtaining favorable results, AYUSH recommended the prophylactic use of Arsenicum Album 30C against COVID infection (2 to 3 medicine soaked pills to be taken once only in the morning for three consecutive days and to repeat intake in the same way after 25 to 30 days to boost up immunity). (Read more at: <https://pib.gov.in/PressReleasePage.aspx?PRID=1600895>).

Thus, the scientific advisory board of the Central Council for Research in Homoeopathy (CCRH) under the Ministry of AYUSH, after discussing ways to prevent the nCoV infection through homoeopathy, was satisfied that the homeopathic mini-trial conducted by them yielded quite convincing results and recommended large scale use of Arsenicum Album 30C to as many people who opted to take the medicine as preventive. The advisory also very clearly mentioned that all other precautions like social distancing, maintenance of hygiene and sanitization etc. had to be strictly adhered to to derive the maximum benefit of the prophylactic use of the drug. Sporadic initial results emerging out from various pockets of India where people in large numbers opted for the homeopathic and ayurvedic preventive drugs are now coming out and the AYUSH ministry are presently accumulating these results to produce a more massive data in near future. But till then, the Ministry of AYUSH is issuing the advisory as a preventive measure and not claiming it to be a sole treatment advice for the nCoV infection (Read more at:

[https://economictimes.indiatimes.com/news/politics-and-nation/homeopathy-and-unani-effective-in-prevention-of-novel-coronavirus-infections-ayush-ministry/articleshow/73741342.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](https://economictimes.indiatimes.com/news/politics-and-nation/homeopathy-and-unani-effective-in-prevention-of-novel-coronavirus-infections-ayush-ministry/articleshow/73741342.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst)

and at:

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The official recommendation for use of the homeopathic drug, Arsenicum Album 30, as a prophylactic drug to boost immunity was initially not taken with a great enthusiasm by many people, but has over the recent months become quite popular in India, a country with more than 1.3 billion people, as the infection rate started to increase steadily every day.

For all traditional systems of medicine, along with the homeopathic, Ayurvedic, or Unani medicines, these WHO recommendations are to be followed by all: keeping hygiene (repeated hand washing) and sanitization (alcohol based) as also maintaining social distancing norms (maintaining a distance of two meters). Yoga can play an additional supportive role to combat COVID disease.

In this scenario, the best way could be to go for an effective vaccine specifically developed against such viral diseases at the earliest. Although vigorous efforts are being made by various government and private agencies to develop active vaccine candidates in different countries, by utilizing previous knowledge available from the closely related virus SARS-COV in the use of ACE2 receptor to enter human cells [10]. Scientists are mainly targeting three vaccination strategies: i) developing a vaccine from dead or inactivated whole virus aiming to trigger a prompt immune response against SARS-COV 2 if and when it enters human body; ii) to develop subunit vaccines, with an objective to create a vaccine that sensitises the immune system to certain subunits of the virus, as for example utilizing the S-spike protein, that assists the virus to intrude the ACE2 enzyme receptor, and iii) to develop nucleic acid vaccines -DNA or RNA vaccines- through a unique technique. However, like any successful vaccine, the emergence of the right vaccine candidate will depend on how it passes the stringent tests for ascertain safety and efficacy [11].

People are now anxiously waiting for the much needed discovery of the effective vaccine that can make them safe from the possible attack of the virus even though they somehow come in contact with the extremely contagious virus, making the virus incapable of infecting humans or making them lose their virulence so much so that they cannot do any harm to their host. Though

efforts are being made in different laboratories of Universities, medical and pharmaceutical Institutes, and also in private business laboratories, so far the efforts did not yield absolute success although partial success has been claimed to be achieved for some vaccines developed so far. But since either the sample size of human trial was relatively small or the success rate varied to some extent, no claim has been established beyond any doubt for any specific vaccine to be able to confer foolproof protection from the virus attack or bringing remarkable decrease in phenotypic expression of their curtailed virulence. The major reason for this failure can be attributed to the ability of the virus to rapidly undergo mutation to adapt to a particular adverse environmental situation or change in environmental condition and already several strains (at least five) of the COVID 19 virus have so far been detected from different countries. Despite having the ability to mutate, the basic general features of the virus are more or less retained in viruses infecting people of different countries, having variable environmental conditions, as exemplified by their occurrence and spread in diverse environmental conditions, from cold and temperate countries in Europe, to hot and humid countries in India and its neighbouring countries, or to desert like conditions prevailing in some African and middle east countries.

The argument in favour of use of traditional medicines, particularly homeopathy, is that the drugs have no or negligible ill effects while all modern medicines currently being used have adverse side effects to a variable extent. Pilot studies have already shown encouraging results in respect of use of the homeopathy and Ayurveda drugs in bringing COVID positive patients back to negative ones in course of three to five days of treatment. Although more works and scientifically conducted large scale human trials are necessary to come to a definite conclusion about efficacy of these traditional medicines and to elucidate their mode or pathways of action in prevention of the disease during the pandemic, new approaches should nevertheless be always made to combat a disease where conventional medicines cannot provide the desired results in blocking the increasing death toll in many countries including the advanced ones, overriding the counter argument that

they may give a false sense of security, because that also needs to be proved after proper experimentation if that notion is based on any scientific truth or simply based on bias of the modern world against the use of unorthodox medicines.

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DOI: [10.32474/JCCM.2020.02.000135](https://doi.org/10.32474/JCCM.2020.02.000135)



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