WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.084
Volume 10, Issue 11, 782-792. Review Article ISSN 2277–7105

AYURVEDIC TREATMENT OF COVID-19 DISEASE PROTECT IMMUNE SYSTEM

***Richa Kushe**

ASPM College of Pharmacy Sangulwadi Dist, Sindhudurg.

Article Received on
07 July 2021,

Revised on 28 July 2021,
Accepted on 18 August 2021

DOI: 10.20959/wjpr202111-21481

***Corresponding Author**
Richa Kushe
ASPM College of Pharmacy
Sangulwadi Dist,
Sindhudurg.

ABSTRACT

The immune system protects against viruses and diseases and produces antibodies to kill pathogens. This review presents a brief overview of the immune system regarding its protection of the human body from COVID-19 This article can be used as in this critical moment for promising alternative solutions related to surviving the coronavirus. In the last year of 2019, December COVID-19 hit Wuhan city in China. It has infected more than 210 countries and nearly about 33.4 million people with one million deaths globally. It is a viral disease with flu-like symptoms. It has Many healthcare systems, scientists, researchers and doctors are fighting for the cure of this pandemic. Ayurvedic treatments have been studied extensively for the cure of COVID-19 disease. In addition to ayurvedic treatments, of Ayush, dhanvantari, patanjali, In India has also recommended many remedies to boost up immunity.

SUMMARY

The analysis of Ayurvedic treatment strategies are out in the present study of corona virus. Depending upon the patient's conditions and symptoms, Ayurveda is useful for the treatment of COVID-19.

KEYWORDS

COVID-19. Ayush kwatha, Sanshamani vati, Fifatrol tablets, and Laxmivilasa rasa. sanjeevini ghanvati, daruharidra, apamarga, chirayata, karanja, kutaki, tulsi, godanti (bhasam), mrityunjaya rasa, tribhuvana kriti rasa and sanjivani vati.

INTRODUCTION

COVID-19 is a rapidly changing and evolving situation. World Health Organisation (WHO) is constantly monitoring it and updating the information available regarding its spread, mortality, and morbidity. So far in Modern Western Medicine (MWM), no cure has been found which is specific to COVID-19. There is plenty of evidence as to how traditional Chinese medicine has been put to use in China to contain COVID-19. Fever (Jwara) is well understood in Ayurveda and it occupies the first chapter in treatment (chikitsa) in two of the canonical texts of Ayurveda, namely Charaka Samhita and Ashtanga Hrdayam. It deals with diagnosis (nidanam), pathophysiology (samprapti), classification, management, medicines, diet and prognosis. In this case, the fever was diagnosed as per his presenting symptoms as a Vata Kapha predominant one.

Scientific Brief

In response to the growing COVID-19 pandemic and shortages of laboratory-based molecular testing capacity and reagents, multiple diagnostic test manufacturers have developed and begun selling rapid and easy-to-use devices to facilitate testing outside of laboratory settings. These simple test kits are based either on detection of proteins from the COVID-19 virus in respiratory samples (e.g. sputum, throat swab) or detection, in blood or serum, of human antibodies generated in response to infection.

WHO applauds the efforts of test developers to innovate and respond to the needs of the population. However, before these tests can be recommended, they must be validated in the appropriate populations and settings. Inadequate tests may miss patients with active infection or falsely categorize patients as having the disease when they do not, further hampering disease control efforts. At present, based on current evidence, WHO recommends the use of these new point-of-care immunodiagnostic tests only in research settings. They should not be used in any other setting, including for clinical decision-making, until evidence supporting use for specific indications is available.

Rapid diagnostic test based on antigen

Rapid diagnostic tests (RDT) detect the presence of viral proteins (antigens) expressed by the COVID-19 virus in a sample from the respiratory tract of a person. If the target antigen is present in sufficient concentrations in the sample, it will bind to specific antibodies fixed to a paper strip enclosed in a plastic casing and generate a visually detectable signal, typically within 30 minutes. The antigen(s) detected are expressed only when the virus is actively

replicating; therefore, such tests are best used to identify acute or early infection. The tests work depends on several factors, including the time from onset of illness, the concentration of virus specimen, the quality of the specimen collected from a person and how it is processed, and the precise formulation of the reagents in the test kits. The antigen-based RDTs for other respiratory diseases such as influenza, in which affected patients have comparable concentrations of influenza virus in respiratory track samples as seen in COVID-19, the sensitivity of these tests might be expected to vary from 34% to 80%. WHO does not currently recommend the use of antigen-detecting rapid diagnostic tests for patient care, although research into their performance and potential diagnostic utility is highly encouraged**.**

Rapid diagnostic tests based on host antibody detection

polymerase chain reaction: RT-PCR), weak, late or absent antibody responses have been reported.6,7,9 There is another, more common type of rapid diagnostic test marketed for COVID-19; a test that detects the presence of antibodies in the blood of people believed to have been infected with COVID-19.2-5 Antibodies are produced over days to weeks after infection with the virus. The strength of antibody response depends on several factors, including age, nutritional status, severity of disease, and certain medications or infections like HIV that suppress the immune system.6-8 In some people with COVID-19, disease confirmed by molecular testing (e.g. reverse transcription Studies suggest that the majority of patients develop antibody response only in the second week after onset of symptoms.2,6,7,10-14 This means that a diagnosis of COVID-19 infection based on antibody response will often only be possible in the recovery phase, when many of the opportunities for clinical intervention or interruption of disease transmission have already passed. Antibody detection tests targeting COVID-19 may also cross-react with other pathogens, including other human coronaviruses.7,15,16 and give false-positive results. Lastly, there has been discussion about whether RDTs detecting antibodies could predict whether an individual was immune to reinfection with the COVID-19 virus.

Tests to detect antibody responses to COVID-19 in the population will be critical to support the development of vaccines, and to add to our understanding of the extent of infection among people who are not identified through active case finding and surveillance efforts, the attack rate in the population, and the infection fatality rate. For clinical diagnosis, however, such tests have limited utility because they cannot quickly diagnose acute infection to inform actions needed to determine the course of treatment. Some clinicians have used these tests for

antibody responses to make a presumptive diagnosis of recent COVID-19 disease in cases where molecular testing was negative but where there was a strong epidemiological link to COVID-19 infection and paired blood samples (acute and convalescent) showing rising antibody levels.

Overview

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered coronavirus.

Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. Older people, and those with underlying medical problems like cardiovascular disease, diabetes, chronic respiratory disease, and cancer are more likely to develop serious illness.

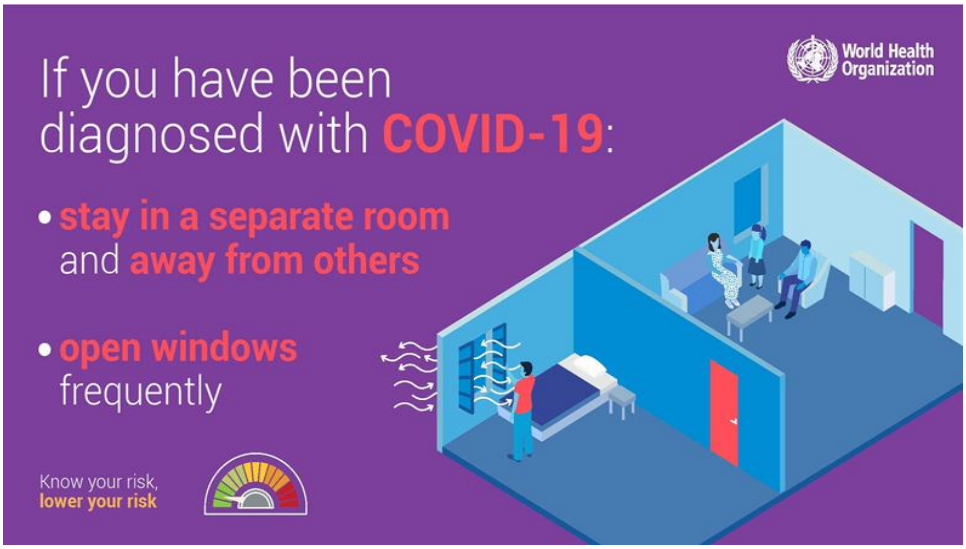
The best way to prevent and slow down transmission is to be well informed about the COVID-19 virus, the disease it causes and how it spreads. Protect yourself and others from infection by washing your hands or using an alcohol based rub frequently and not touching your face.

The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it’s important that you also practice respiratory etiquette (for example, by coughing into a flexed elbow).

Prevention

To prevent infection and to slow transmission of COVID-19, do the following.

- Wash your hands regularly with soap and water, or clean them with alcohol-based hand rub.
- Maintain at least 1 metre distance between you and people coughing or sneezing.
- Avoid touching your face.
- Cover your mouth and nose when coughing or sneezing.
- Stay home if you feel unwell.
- Refrain from smoking and other activities that weaken the lungs.
- Practice physical distancing by avoiding unnecessary travel and staying away from large groups of people.



Symptoms

COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization.

Most common symptoms

- fever.
- dry cough.
- tiredness.

Less common symptoms.

- aches and pains.
- sore throat.
- diarrhoea.
- conjunctivitis.
- headache.
- loss of taste or smell.
- a rash on skin, or discolouration of fingers or toes.

Serious Symptomsa

- difficulty breathing or shortness of breath.
- chest pain or pressure.
- loss of speech or movement.

Seek immediate medical attention if you have serious symptoms. Always call before visiting your doctor or health facility.

People with mild symptoms who are otherwise healthy should manage their symptoms at home.

On average it takes 5–6 days from when someone is infected with the virus for symptoms to show, however it can take up to 14 days.

Global research database

WHO is gathering the latest international multilingual scientific findings and knowledge on COVID-19. The global literature cited in the WHO COVID-19 database is updated daily (Monday through Friday) from searches of bibliographic databases, hand searching, and the addition of other expert-referred scientific articles. This database represents a comprehensive multilingual source of current literature on the topic. While it may not be exhaustive, new research is added regularly.

Diagnostic Study

Diagnostic tests

- **RTPCR test:** This tests for the presence of the actual virus's genetic material or its fragments as it breaks down. This is the most reliable and accurate test for detecting active infection.
- **Antigen test:** This test detects bits of proteins on the surface of the virus called antigens. Antigen tests are typically considered rapid, taking only 15 to 30 minutes but are less accurate than a PCR test. Rapid antigen tests are most accurate when used within a few days of the start of your symptoms, which is when the largest amount of virus is present in your body. Because this test is not as accurate as a PCR test, if an antigen test is negative, your healthcare provider may order a PCR test to confirm the negative test result.
- **Antibody (serology) test:** This tests detects if you've had an immune response (antibodies) to the virus. This means that you've had the virus and your body (immune system, specifically antibodies) has mounted an attack to fight it. The test is detecting those antibodies. It typically takes about a week after being infected for enough antibodies to develop to be detected in your blood. For this reason, this test shouldn't be used to diagnose an active infection.

- **Case Study**

Ayurveda drugs can be effective in mild to moderate cases of Covid-19: AIIA

Citing the case of a 30-year-old male health worker infected with coronavirus, the report said his infection was managed with Samshamana therapy that included oral administration of Ayush kwatha, Sanshamani vati, Fifatrol tablets, and Laxmivilasa rasa.

NEW DELHI: A team of doctors from the Delhi-based All India Institute of Ayurveda (AIIA) under the Ayush Ministry has found that Ayurveda interventions like Ayush kwatha and Fifatrol tablets can be effective in mild to moderate cases of Covid-19 infection in a "very short period" with "complete regression of symptoms". Use of four Ayurveda interventions-- Ayush kwatha, Sanshamanivati, Fifatrol tablets and Laxmivilasa rasa not only improved the condition of Covid-19 patient but also turned the rapid antigen test negative within six days of treatment, according to a case report published in the journal of AIIA -- 'Ayurveda Case Report' in October.

Presently, there is no specific cure for the disease that has infected over 44.7 million people and claimed 1.17 million lives world over.

Citing the case of a 30-year-old male health worker infected with coronavirus, the report said his infection was managed with Samshamana therapy that included oral administration of Ayush kwatha, Sanshamani vati, Fifatrol tablets, and Laxmivilasa rasa.

The patient after testing positive for Covid-19 was advised home quarantine.

"The mentioned treatment plan was effective in the symptomatic relief (fever, dyspnea, anorexia, fatigue, anosmia, and dysgeusia) as well as in the resolution of viral load, as the patient tested negative in the RAD for Covid-19 within six days of intervention and RT-PCR test was also done on day 16, which was reported negative," the study said.

Herbal drug Fifatrol developed by AIMIL Pharmaceutical helps fight infection, flu and cold. It has immunity strengthening herbs like guduchi, sanjeevini ghanvati, daruharidra, apamarga, chirayata, karanja, kutaki, tulsi, godanti (bhasam), mrityunjaya rasa, tribhuvana kriti rasa and sanjivani vati.

Ayush Kwatha is a combination of four medicinal herbs commonly used in every Indian kitchen - basil leaves (tulsi), cinnamon bark (dalchini), Zingiber officinale (sunthi), and krishna marich (Piper nigrum).

Sanshamani Vati (also called guduchi ghana vati) is an ayurvedic herbal formulation used for all types of fevers.

Laxmivilas Ras is a traditional herbomineral medicine that mainly contains Abhrak Bhasma and cures cough, cold and rhinitis. It soothes the throat and sinuses.

Diagnosis

In this particular case, the diagnosis was initially made, based on his symptoms and the season. Since the COVID-19 diagnosis had not yet been made, we looked at the symptoms as those of a *nija jwara* (caused by the disequilibrium of the bodily doshas), a fever with *Vata-kapha* predominance and gave appropriate medicines, diet and regimen. The final diagnosis was arrived at based on the vast literature available on COVID-19 in the public domain[7,8] and symptoms as reported by the patient. Fevers are classified according to the aggravated *doshas* (disease-causing factors), which allows us to understand all types of new and emerging fevers.

Pathophysiology (*Samprapti)*

In this *roga* (disease), the *Roga Marga* is *abhyantara* [4, Sutra Sthana, 12/44-49], as *jwara* (fever), *svasa* (respiratory distress) and *kasa* (cough), the three major symptoms of COVID-19 belong to this *roga marga*. *Abhyantara roga marga* is one of the three *roga margas* or "pathways of disease" as described in *Ashtanga Hrdayam*. There is *Pranavaha sroto dushti* [5, Vimana Sthana, 5/7] observed in this disease, as there is severe respiratory

distress along with other symptoms, sometimes leading to death. The seat of affliction of this disease is primarily *Uras* (chest region).

Based on the above, Coronavirus disease can be correlated as *Agantuja Sannipataja Jwara*, which is of *Vata-Kapha* predominance [5, Chikitsa Sthana, 3/92; 3/128-129]. This *jwara* can be classified as being *agantu* (external) caused by *Bhoota Abhishanga* [5, Chikitsa Sthana, 3/111, 3/114], which aggravates all the three *doshas*. Since all the three *doshas* are aggravated it is labelled *Sannipata*. The spread and affliction caused by the virus in this *jwara* can be understood in Ayurveda under the *Bhoota abhishanga* classification. According to Ayurveda, *agantu jwara* is to be treated as a *nija jwara* caused by an imbalance of *doshas* [5, Sutra Sthana, 19/7, Chikitsa Sthana.

CONCLUSION

COVID-19 is responsible for causing a large number of deaths particularly in medically and technologically advanced countries like USA. This is presumably due to the absence of a proper treatment protocol in MWM to address this condition. Therefore, we report this case to show that COVID-19 is a condition where focussed Ayurvedic treatment, if given, may prevent the deterioration of the disease into a more critical condition. This patient's presentation was not mild. However he didn't become critically ill owing to Ayurvedic intervention and regulated diet. India is in a position to use the wealth of knowledge available in the Indian Systems of Medicine, to cure this disease and control the epidemic. This is also an invaluable opportunity for demonstrating the efficacy of Ayurveda. we have demonstrated that a preliminary clinical profiling of COVID-19 from the Ayurvedic perspective is possible through literature review supported by discussions with Allopathic clinicians as well as examination of patient case records. The provisional diagnosis proposed can be further developed with continued review of literature, wider cooperation and teamwork with Allopathic physicians and access to clinical data as well as direct clinical assessment of COVID-19 patients.

REFERENCES

1. Bruning AHL, Leeflang MMG, Vos JMBW, Spijker R, de Jong MD, Wolthers KC, et al. Rapid Tests for Influenza, Respiratory Syncytial Virus, and Other Respiratory Viruses: A Systematic Review and Meta-analysis. Clin Infect Dis [Internet]. 2017 Sep 15 [cited 2020 Apr 1]; 65(6): 1026–32.

2. Liu Y, Liu Y, Diao B, Ren Feifei, et al. Diagnostic indexes of a rapid IgG/IgM combined antibody test for SARS-CoV-2. medxriv [Internet], 2020.
3. Zhang P, Gao Q, Wang T, Ke Y, et al. Evaluation of recombinant nucleocapsid and spice protein serological diagnosis of novel coronavirus disease 2019 (COVID-19). medxriv [Internet].
4. Pan Y, Li X, Yang G, Fan J, et al. Serological immunochromatographic approach in diagnosis with SARS-CoV-2 infected COVID-19 patients. medxriv [Internet], 2020.
5. Li Z, Yi Y, Luo X, Xion N, et al. Development and clinical application of a rapid IgM-IgG combined antibody test for SARS-CoV-2 infection diagnosis. Journal of medical virology.
6. Zhao J, Yuan Q, Wang H, Liu W, Liao X, Su Y, et al. Antibody responses to SARS-CoV-2 in patients of novel coronavirus disease 2019. medxriv [Internet], 2020.
7. Okba N.M.A, Muller M.A., Li W, Wang C, et al. SARS-COV-2 specific antibody responses in COVID-19 patients. medxriv [Internet], 2020.
8. Gorse GJ, Donovan MM, Patel GB. Antibodies to coronaviruses are higher in older compared with younger adults and binding antibodies are more sensitive than neutralizing antibodies identifying coronavirus-associated illnesses. Journal of medical virology.
9. Lin D, Liu L, Zhang M, Hu Y, et al. Evaluation of serological tests in the diagnosis of 2019 novel coronavirus (SARS-CoV-2) infections during the COVID-19 outbreak. medxriv [Internet], 2020.
10. Wölfel R, Corman V, Guggemos W, Seilmaier M, Mueller M, Niemeyer D, et al. Virological assessment of hospitalized patients with COVID-2019. Nature [Internet], 2020.
11. Lou B, Li T, Zheng S, Su Y, Li Z, Liu W, et al. Serology characteristics of SARS-CoV-2 infection since the exposure and post symptoms onset. medxriv [Internet], 2020.
12. Liu W, Liu L, Kou G, Zheng Y, et al. Evaluation of nucleocapsid and spike protein-based ELISAs for detecting antibodies against SARS-CoV-2. medxriv [Internet]. 2020 Zhang W, Du R, Li B, Zheng X, et al. Molecular and serological investigation of 2019-nCoV infected patients: implication of multiple shedding routes. Emerging microbes and infections, 2020; 9(1): 386-389.
13. Zhou P, Yang XL, Wang X, Hu B, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. Nature, 2020 Mar; 579(7798): 270-273. doi: 10.1038/s41586-020-2012-7. Epub 2020 Feb 3.

14. Wang N, Li SY, Yang XL, et al. Serological Evidence of Bat SARS-Related Coronavirus Infection in Humans, China. Virol Sin, 2018; 33(1): 104–107. doi:10.1007/s12250-018-0012-7.
15. Che X, Qiu L, Liao Z, Wang Y, et al. Antigenic cross-reactivity between severe acute respiratory syndrome-associated coronavirus and human coronaviruses 229E and OC43. The Journal of Infectious Diseases, 15 June 2005; 191(12): 2033–2037.