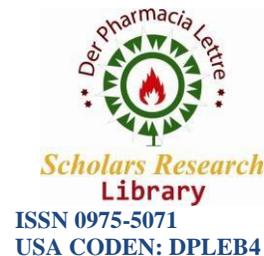


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Literature Review on COVID-19: A Herbal Treatment Approach

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ABSTRACT

Nobel Corona virus is a pandemic transmitted from human to human, which become the worst pandemic disease and responsible for global crisis of Health. SARS-COV-2 is the main cause of Corona virus. Through this article by using the different herbs, the main aim is to increase the use of Herbal plant as a treatment because it shows very lesser side effects as compared to various medicines available in market. Globe is filled with large number of Corona patient that is up to 3.23 Cr confirmed cases is India and deaths rate (mortality) is nearly 4.33 Lakh in India, whereas total cases of COVID-19 in world is 20.9 Cr and death rate is 43.9 Lakh. Through this review paper, reviewing herbal active plants including *Glycyrrhiza radix*, *Curcumin*, *Echinacea purpurea*, *Cinchona* etc, this review describes etiology, sign and symptom and currently available herbal therapies for COVID-19. Classically used to treat viral respiratory infections, herbal therapy can contain an anti-COVID compound. Inhibition of replication of virus is taken into consideration as preferred mechanism of natural extracts, but some study proves that conventional herbs can interact with Protein of virus, associated with Virus Virulence. Chinese, Indian, Iranian, Many more traditional remedy, shows herbs for Preventing, Treating and Rehabilitation of illnesses. Here in, I am trying to review the herbal plant which boosts the immune system as well as herbal medicines available in market for making immune system strong and treating Corona virus.

Keywords: Pandemic disease, Herbal medicine, Corona virus, SARS-COVID-2, Immune system.

INTRODUCTION

Corona virus 2019 is a Pandemic and causes ill conditions to various people throughout the world. There are no sources in the current document. By January 7, 2020, it was reported that SARS-CoV-2 had emerged a new type of corona virus. Corona virus both affect Animals as well as humans, that belongs from Single-Stranded RNA virus. Very most common symptom of this Virus include Ache, Sore throat, Headache, Discoloration of fingers, fever, pain in chest, Speechless, Pneumonia may also sometimes occur, finally cause the Organ failure. Due to the rapidly spreading of COVID-19 through transmitting one human-to-another, the cases are going to rise daily. COVID strain is found in Wuhan which is a single RNA type virus strain with pneumonia. Immune modulators foods can boost immune system; also make strong respiratory system by protecting from attack of this virus [1] (Figure 1).

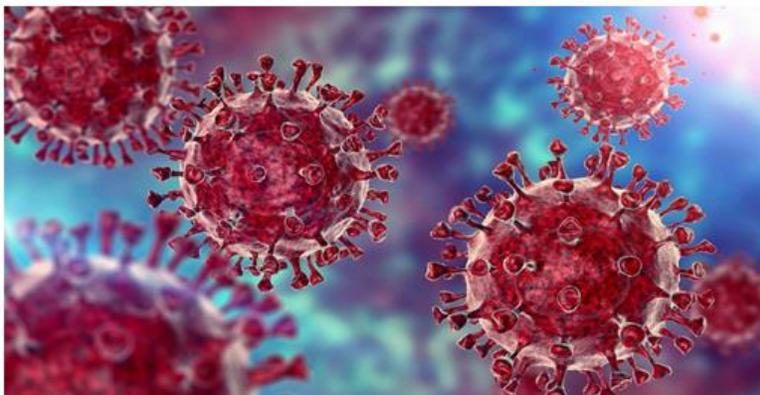


Figure 1: Shows the structure or appearance of Corona virus under the microscope.

Another variant of Corona virus is U.K. is B.1.1.7, U.S. 501.V2, 501Y. Symptoms of these virus are same as the variant one like as Fever, Dry Cough, Tiredness, Ache, Sore throat, Headache, Discoloration of fingers, Shortness of Breath, Chest pain, Speech loss, Pneumonia occur sometimes, finally cause the Respiratory infection, Body ache, Throat infection as same in the variant 1. Combined therapy of modern and traditional medicine reduces the symptom death rate side effect observed in China. There is no specific medicine available to treat this pandemic in effective manner, But various kind of vaccine are available to boost the immune system i.e., Cova vaccine, AstraZeneca, ZyCoV-D, Janssen COVID, Novavax vaccine. The main problem arising is that these vaccine do not undergo all phases of clinical trial, so it may cause serious problem in future due to lack of safety [2].

All the researcher are hardly trying to find out most effective way to prevent this pandemic including the herb based medicine which shows immunomodulatory effect, boost immune system and act as a prevention therapy for the patients suffering with COVID-19 strain 1,2;. So this review helps to understand the use herbal medicine without causing any harmful effect to human. The first patient was admitted in China and recovered by the treatment that combines herbal and modern Therapy. In ASIA various traditional medicine has been used because of various properties present in it like Antioxidant, Antimicrobial, Anti-inflammatory effects. SARS COV-2 shows the various unspecific symptoms from mild to infected patient [3] (Figure 2).

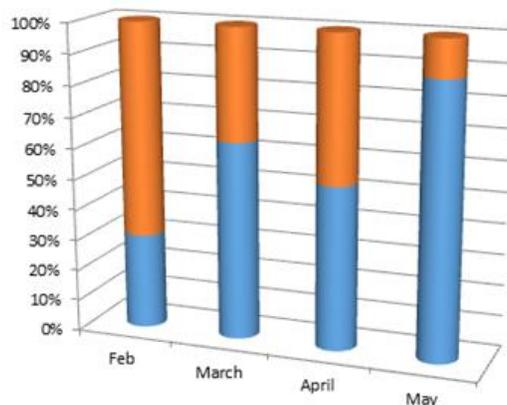


Figure 2: This graph Represents percentage of appeared cases of corona virus (Unsafe population) and Safe population with increasing year.
 ■ Safe population, ■ unsafe population.

MECHANISM OF ACTION

It is reported by Huang that Fever, cough, myalgia or fatigue, sputum production, headache are the most common symptoms identified for the Corona virus. Structurally, Corona virus is surrounded by envelope that is Round and oval in shape. The diameter of this virus is about

50-200 nm SARS-CoV2 has Unique shaped Spike Projection present on the virus. This corona virus is encoded to four structure protein. There are four proteins such as spike Membrane envelope, Nucleocapsid. Class 1 fusion protein is a trimetric S glycoprotein which is attach to the host cell receptor. Class 1 fusion protein consists of trimetric S glycoprotein of the S protein and mediate host cell-receptor attachment [4] (Figures 3-5).

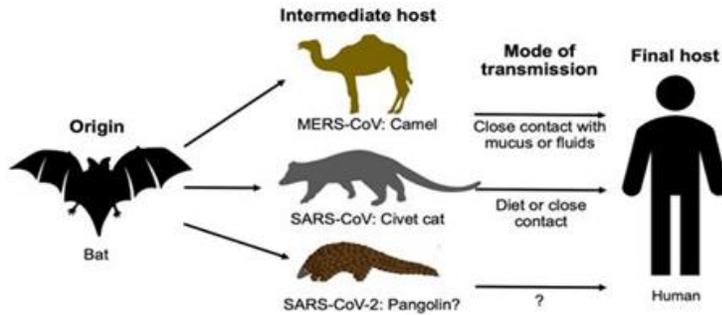


Figure 3: Shows the transmission cycle of SARS-COV-2. Originated in china introduced into the host or camel, civet cat then on directly contact of fluid through mucus and finally insect the host mainly the human.

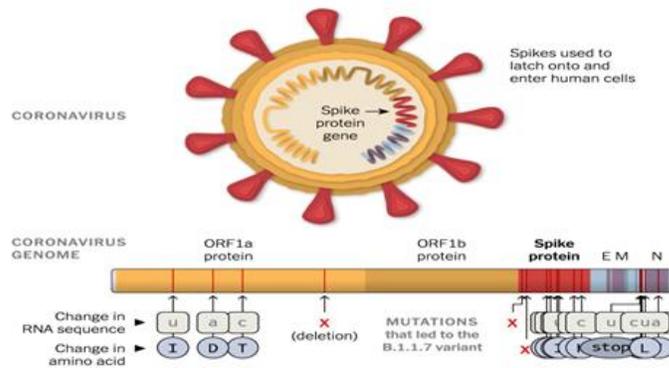


Figure 4: Spikes of corona virus.

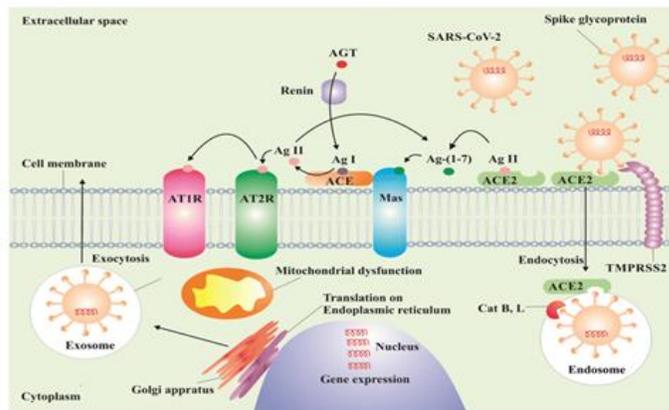


Figure 5: SARS-COV-2 with its receptor. SARS-COV-2 has a spike protein which is of red color, yellow is Serine protease. This diagram is showing Transformation of virus into host cell.

HERBAL PLANTS USED FOR COVID-19

In this situation, herbal treatment by using active constituent having very important role in treatment of various variant of Corona virus. Allopathic medicine is also available to treat this virus but they produce more side effects. So, Herbal plant could be the best preventive therapy, can help to cure respiratory system and also help to boost immune system. The most common plants are used in the treatment of this virus.

Purpurea echinacea

It is of Europe and North America's most common herbal medicines basically used to treat the symptoms. This sort of herb is used by many Native Americans for respiratory infections. It includes many bioactive compounds such as chicory and caffeic acids, polysaccharides, and alkyl amides. Determination, analysis of alkaloids have been successfully developed through the high-performance liquid chromatography (HPLC) in conjunction with various detector such as UV spectrophotometer, Coulometric, Mass spectrometric detectors [5].

Curcumin

Turmeric known as *Curcuma Longa* is an herbal Plant called rhizomatous. The family is ginger (*Zingiberaceae*) and the genus *Curcuma*, both belong to Turmeric. Its drug is used to treat Inflammatory bowel disease, Psoriasis, Anti-inflammatory, Anti-cancer agent etc. *C. Longa* contains Carbohydrates, Proteins, Fat minerals, Moisture. *Curcumin* is said to have antiviral properties against a wide range of viruses HIV, HSV-2, HPV viruses, Influenza, Zika virus [6].

Cinchona species

Bioactive compounds that can cure fever are a basic component of the trees (Maldonado et al. 2017). Use of *Cinchona* for mild influenza, Cold, Fever, Mouth and Throat diseases, Muscle cramps [7].

Xanthorrhizol

It is commonly used as a medicinal plant in countries in Southeast Asia. This plant has some effects on systemic lupus erythematosus (SLE) as Anti-inflammatory, Antioxidant, Anticancer, Supplement etc. This contains Curcuminoids, Xanthorrhizol and Camphor etc., as active constituents. Xanthorrhizol is an immunosuppressant that because having ability to reduce Pro Inflammatory Cytokine. COVID-19 patients are prone to CRS [8].

Toona sinensis

It is commonly called as Chinese mahogany. *Cedrela sinensis* A. Juss, also known as *Toona sinensis* Roem, is a well-known plant in China. More than 2300 years have passed since it was first cultivated. For the detection of activity of this herb is identified by Vero cell with SARS-COV-1 strain infection model. TSL-1 is fraction of this plant (*Toona sinensis*) leaf that is preparing accordingly a prior report. It was also formulated as TSL-1 nm after being treated with a nanometer-manufacturing technique [9].

Glycyrrhiza radix

It is commonly called as liquorices. Bioactive compound of this herb is Glycyrrhizic Acid. For the detection of activity of this herb is identified by FFM 1 infection model SARS-CoV-1 [10].

Lycoris radiata

It is commonly called as Red spider. Bioactive compound of this herb is Lycorine. For the detection of activity of this herb is identified by strain BJ001 and BJ006 or Vero cell [1].

Rhizome cibotii

It is commonly called Rhizome of Scythian Lamb. Bioactive compound of this herb is Glycyrrhizic Acid Derivatives. For the detection of activity of this herb is identified with SARS-CoV-1 strain BJ001, BJ006 model [11] (Figure 6).



Figure 6: Various Herbal plants used in the treatment of Corona-(A) *Purpurea echinacea*, (B) *Curcumin*, (C) *Cinchona sp.*, (D) *Xanthorrhizol*, (E) *Toona sinensis*, (F) *Glycyrrhiza radix (Liquorices)*, (G) *Lycoris Radiata (Red spider)*, and (H) *Rhizoma Cibotii*.

DISCUSSION AND CONCLUSION

Corona virus 2019 is a Pandemic and causes ill conditions to various people throughout the world. By January 7, 2020, it was reported that SARS-CoV-2. Corona virus is Single-Strand RNA virus, which affect both Animals/Humans. Very most common symptom of this Virus include Dry Cough, Ache, Sore throat, Discoloration of fingers, Chest pain etc. Reported that (WHO) COVID-19 is global epidemic there have been 51,251,715 confirmed cases and 1,270,930 deaths. Currently based on research data which is previously done, there are very lesser number of drug available in market which are effective against pandemic COVID-19. Because of lack of Allopathic medicine, Herbal agent can be alternative therapy for COVID-19. No doubt herbal medicine or agent are only the option to cure these pandemic but a suggestion for the Apothecary or drug Therapist is that administration of these medicine must be even to the patient full care and protection because various study or data have been reported that they produce harmful effect on the final host. More advancement should be added into it, that researcher require more experimentation as well as more investigation to make this kind of medicines which are cost effective with having lesser side effects.

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