

## To review on Indian spices and herbs has a promising activity to boosting immunity against deadly coronavirus infection

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### Abstract

The COVID-19 is mainly considered as an inevitable pandemic, in resent scenario and scientists are very concern about how to provide the best protection to the public before a vaccine can be made available Herbal medicine is a class of medicine derive from nature so that Traditional plant based compounds are seeking more attention to treat incurable diseases as they causing fewer side effects because of less use of additives, preservatives. The aim of writing a review over the use of spices and herbs for boosting immunology against this deadly viral infection because of the rapid spread of the infection, unavailability of knowledge regarding the treatment. Providing some recollecting and gathering informatics details of Ayurveda for the public to protect themselves from the effect of viral infection.

**Keywords:** coronavirus, immunity booster, species, herb

### Introduction

A coronavirus is a group of viruses that have a crown-like appearance under the electronic microscopic view. Coronaviruses cause respiratory tract infections in humans, which can cause a wide range of illnesses from the mild common cold to lethal SARS and MERS. There are still no vaccines and anti-viral drugs are available yet to treat corona viral infections [1].

In December 2019, the novel coronavirus, cause coronavirus disease 2019 (COVID-19) in humans, was an outbreak in Wuhan, China. The epidemic disease of the development of vaccines to prevent and treat the SARS CoV-2, but effective vaccines are not available yet. There is a crucial need for the development of effective prevention and treatment strategies for the SARS CoV-2 outbreak. Indian people are consuming Indian traditional medicinal herb extract and Indian spices to boost the immune system to fight COVID SARS CoV-2.

According to WHO (world health origination current data June 2020). Infections can spread directly from person to person a this can result in local outbreaks and epidemics, pandemics affecting all global. Which has now infected 10,414,795 people and killed nearly 508,265 individuals around the world, everyone is focusing on preventive strategies, at least until an effective cure and vaccine are made. As societies rush to keep themselves protected, Ayurveda experts have emphasized that medicinal herbs and spices helpful in the build-up of the immune system which is vital to fighting the deadly virus. Nowadays, people are opting for various precautionary measures for a healthier lifestyle and are taking Ayurveda as a serious note. However, there are several herbs, which have anti-viral properties and can be used in inhibits the evolution of the virus, boosts immunity, and fights foreign pathogens. India is known for its production of spices and medicinal plants all over the world. Both exhibit a wide range of physiological pharmacological properties [2].

They add a wide range of flavors to food and may also provide health benefits. due to the presence of essential oil and aromatic smell, it is also used as a taste enhancer in

food. Some spices have antimicrobial properties against pathogenic bacteria and viruses. In the present scenario of research, there need for improvisation of preventive and therapeutic options for many viral infections, numerous studies have been conducted to investigate the antiviral potential of natural compounds.

### Nutritive value of spices and herbs

Spices are consumed in very small quantities every day in the Indian diet, Aromatic herbs and medicinal plants produce a diversity of secondary metabolites and chemical compounds with the potential to inhibit viral replication and chemical molecules from natural products are of interest as possible and promising sources to inhibit viral replication and infection. Herb and spices are being known for maintaining human health by their, anti-inflammatory, immune-modulatory, anti-oxidative effect on human health over action on gastrointestinal, cardiovascular, respiratory, and other systems [3].

### Health Benefits of Herbs and Spices

#### Garlic (*Lehsun*) (*Allium sativum*)

Garlic may be one of the most famous herbal Remedies to be used by in human history-dating back to ancient cultures. Garlic has been an interesting plant for centuries as a medicinal panacea. Broad range of pathogenic organisms, including bacteria, fungi, protozoa and viruses have been shown to be sensitive to fresh crushed garlic Garlic may one of the most famous herbal remedies to be used by people since ancient cultures. A wide range of pathogenic organisms, including bacteria, fungi, protozoa, and viruses be susceptible to fresh crushed garlic. Fresh garlic extract with allicin, which is an organosulfur compound, that main active component of it has been shown to have antiviral activity *in vitro* and *in vivo*. Its beneficial effects may be due in part to sulfur-containing compounds such as allicin, diallyl disulfide, diallyl trisulfide that react with thiol groups of various *Lehsun* enzymes which are critical for microorganism [4].

### Ginger (*Zingiber officinale* Roscoe)

Ginger is a common spice in the Indian diet and also a widely used medicinal plant in very ancient times. Ginger contains such pungent ingredients as gingerol and 6-paradol [7], Rhizome of Ginger possesses several superlative bioactive non-volatile phenolic compounds namely gingerols, paradols, shogaols, and zingerones. In Ayurvedic study is concern Ginger is one of the best choices of bioactive Phyto- compound in traditional medicine has it had been proved that Ginger is an ingredient that has antiviral activity against the human respiratory syncytial virus (HRSV) [8].

### Talsi (*Ocimum sanctum* Linn)

In Ayurveda, Tulsi is being used as a herb for its tremendous mediational properties and without any known adverse effects. The taste of tulsi is hot and bitter which is said to penetrate the deep tissues, dry tissue secretions, and normalize Kapha and Vata according to Ayurveda. Daily consumption of tulsi is to prevent disease, promote general health, wellbeing, and longevity, and assist in dealing with the stresses of daily life [9]. It is a traditional belief that the consumption of fresh leaf enhances immunity. This claim has been investigated in experimental animals, showed a significant rise in antibody titer [10].

### Cinnamon

For thousand years to various civilizations of the world antimicrobial, adaptogenic, anti- diabetic, hepato-protective, anti-inflammatory, anti-carcinogenic, radio-protective, immuno modulatory, neuro-protective, cardio-protective, mosquito repellent Cinnamon is the herb that is used as a spice in almost all food preparations. The chemical constituent of cinnamon makes it rich in many cinnamic acid, cinnamaldehyde, and eugenol. Cinnamon improves body sensitivity toward foreign particles. Cinnamon essential oil and powder had antiviral activity by appreciable immuno stimulatory activity [11].

### Clove

Clove is the aromatic flower buds of the clove tree. For many years people used cloves in cooking and traditional medicine. due to their health potential and benefits recently scientists have begun studying as a medicinal herb. Eugenol is the main bioactive compound that presents in clove and also phenolic acids, gallic acid is the compound found in higher concentration. The eugenin, a compound isolated from *S. aromaticum* and from *Geum japonicum* that shows the antiviral activity which was tested against herpes virus strains to be effective at 5 µg/mL, and it was deduced that one of the major targets of eugenin is the viral DNA synthesis by the inhibition of the viral DNA polymerase [12].

### Cumin

Cumin is rich in iron, an important mineral for immune health and a popular spice in the world. It is also used traditionally to improve digestion for a long time, and preliminary scientific evidence suggests that it's a traditional herb for enhancing immunity. Zoological studies also indicate that cumin may have anti-carcinogenic properties as a result of its ability to enhance detoxification enzymes in the liver, protecting against the formation of liver and stomach tumors. Cumin seeds were also reported to possess

antimicrobial activities for different microorganisms, including bacterial strains, yeasts, and fungi [13].

### Conclusion

For many years, antibiotics have saved the lives of millions of people all over the world and participated in the development of modern medicine. However, in the present case, the human population all over the globe are being distressed from the growing pandemic crisis of antibiotic-resistant pathogens, such as the novel coronavirus. requires the development or innovation of new antiviral drugs. In the present scenario searching for new substances with intercellular and also intracellular antiviral activity is a need. These substances must affect viruses without harming the host cell. Based on the reviewed literature, we get to know that spices not only enhance the flavor, aroma, and color of food and beverages but also they can also protect people from acute respiratory and chronic diseases, due to the high antioxidant activity of their essential oil. Many of the antiviral and antioxidants properties in spices have significantly high biological activities and are actively used in preclinical, clinical, and therapeutic trials investigating new treatments of diseases.

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