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The Role of Spices with reference Novel Coronavirus Covid 19

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ABSTRACT

The need of the day is a brisk lift to the resistant framework to keep it fit, battling today pandemic infections, for example, Covid — 19. One should get the right amount of nutrients from the diet, supplementation regimen to boost the immune system. These spices are always there to make tasty food as well as to protect the body from infectious diseases by building the immunity strong Ayurveda approaches to develop physiological reactions to facilitate immunity. Planning of diet is most important to boost immunity. As per many types of research to provide supplementary food which contains Zinc, Vitamin C, Vitamin D and immunity boosting food such as dealing with plenty of spices for a very long time. These spices include some rare to very common spices which we can found near us. The concern is that these viral infections are very prone to attack weak immunity and take the chance to affect the country to the globe. So the very common spices available will be always helpful to get through this Regular use of a few spices in the very simple form proves its importance as a medicine. In this article a review of spices is done which we are available near us, we are using it in our daily life and we are getting the benefit of these which a common people might not be fully aware of about role of immunity building of the body.



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unknown with the facts, the severity of global health outbreaks, precautions to take and importance of intervention by the government as about quarantine and lock down. This review study reaches up to all the facts regarding COVID-19, and it's pandemic to spread more awareness ([Chhapare and Bhutada, 2020](#)). They may be viruses, bacteria or fungi. It may spread through breathing, talking, sneezing, coughing, etc. which generate droplets in the air. Dhoopana Chikitsa (medicinal fumigation) is one of the important faculties in Ayurvedic treatment ([Gond and Bhutada, 2020](#)).

INTRODUCTION

The preventions and treatment on it. Interventions by government. Awareness about the disease and pandemic. The data was collected from different websites, news, books and articles. Even after the disease become pandemic, many people are

Spices also having health benefits, including boosting your immunity will be protected from infections such, virus etc. Including certain spices that come with immunity boosting properties can prove to be beneficial during this flu season. We have listed down five Indian spices that you should make the most ([Borah, 2020](#)). Spices like, Jeera (Cumin), Haldi (Turmeric), Lahsun (Garlic) and Dhaniya (Corian-

der) are recommended in cooking.

It was seen that there is an away from pervasiveness between the all outnumber of COVID-19 cases for each million populace tried and the gram of zest gracefully per capita every day. Countries with lower utilizations of flavors per capita demonstrated a more prominent number of COVID-19 cases for each million people.

This is not unexpected, as spices and flavors are not able to help insusceptibility. Despite the fact that the exact atomic components related with flavors and insusceptibility are not perceived, our discoveries drove us to speculate that zest utilization assumes a part in our capacity to battle COVID-19; in any case, the concentrated examination is expected to decide the translational estimation of these discoveries (Elsayed and Khan, 2020).

The body's first line of protection, the start invulnerable reaction, begins just after a disease, similar to an infantry pursuing an unfamiliar trespasser, executing the infection and any cells harmed by it. The 2nd line of the guard, the versatile invulnerable reaction, it can start one day later if any virus remains, employing what it has learned about the virus to mobilize a variety of special forces such as T cells and B cells (Du and Yuan, 2020) and (Bhutada *et al.*, 2020).

Only the Preventive measures are needed to be followed and ensured by one and all (Pokhrel *et al.*, 2020). The spices are giving taste to the food as well as providing the immunity to fight against any invading infections (Khanal *et al.*, 2020).

Hence, an attempt is made in this article to identify such herbs used in the kitchen with a special perspective to their immune boosting activity during covid 19.

Defence mechanism in the body. The body has two types of defence mechanisms specific and non specific. In Figure 1 classification the Immunity in the two ways Specific & Non Specific.

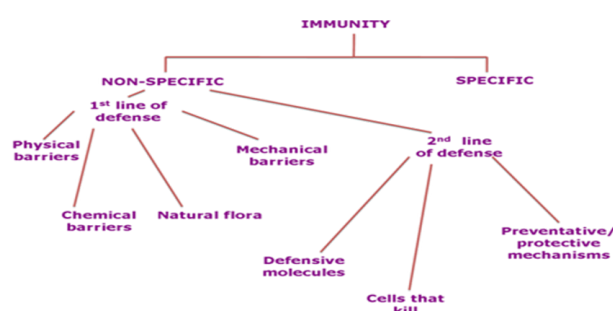


Figure 1: Shown classification of Immunity

Specific

Cell mediated immunity, Humoral immunity beta lymphocyte, Plasma accessory cell, Antibodies.

Non-specific

Skin, Mucous membrane, Collagen, fever, Various body secretion, Hormonal influence, Intestinal flora, Leucocytes, Certain nutrient like Vitamin A ascorbic acid (vitamin C) protein Zinc The inborn safe reaction is the first to kick in and is normal among all creatures. It is vague and resistant cells mount a prompt assault on antigens. The reaction is thusly supplanted by the versatile invulnerable reaction, which tailors protections dependent on the sort of microorganism that is being experienced (Rathi, 2020).

These antibodies are made of up proteins, hence if the protein status of the individual is good, these antibodies will be a present adequate number to resist the invading infection. Infection affects adversely and significantly to the nutritional status of the body. There is increased loss of nitrogen, some electrolytes like phosphates and potassium and other elements such as magnesium and zinc. If there is fever with infection, then the metabolic rate also increases. There is a decrease in food intake due to loss of appetite and nausea. Loss of nutrient is increased due to increased perspiration, vomiting and diarrhoea there is a decrease in absorption of nutrient, especially in case of enteric infection.

Indeed, even without fever protein catabolism increments. The requirement for energy is expanded by 10% to 30% during and after intense disease. Nutrient prerequisite is expanded if the disease is related to growing and rot of the tissue. Many readers may be familiar with mega doses of vitamin C advocated by a scientist in the prevention and cure of common cold. And suggests that supplement of vitamin C have effect in reducing the incidence and severity of symptoms of a cold. Requi1.

(Cinnamomum zeylanicum) Twak Cinnamon is also one of the spice uses in the house is considered a remedy for respiratory, digestive disorders. It has anti-inflammatory, aseptic, antibacterial and antiviral properties. It supports a healthy heart, healthy respiration ignites the digestive fire and purifies the blood. It can digest toxins.

Cinnamon with honey releases cough. Fine powder of cinnamon stick with water relieves fever (Kumar *et al.*, 2019). Addition of zinc and iron increments as both are engaged with insusceptibility measure. Contaminated patient shows a diminished blood zinc level due to relocation to tissues and organ, Zinc discharge in pee additionally expands Iron misfortunes because of expanded decimation of red blood

cells. The Metabolic rate increases by 7% for every degree Fahrenheit in body temperature and 13% for the rise of every degree Celsius in body temperature. This increases the caloric need of the body during fever. Glycogen stores of the body are depleted as they are burnt up to meet the increases in caloric need.

There is an increase in the breakdown of proteins, especially in all type of fever. This causes an increase in excretion of protein waste through kidneys. There is excessive loss of body fluids due to increases in excretion. Energy level should be increased by almost 50% in case of high fever lasting for a longer period. But due to fever, appetite is poor and digestion may be hampered, so the maximum number of calories that can be tolerated should be given. Carbohydrates should be high and as liberal as possible.

It is advisable to add glucose in all liquids and fruit juices given to the patient since it well tolerated in large amounts and is easily assimilated by the body. As caloric need increases, the need for protein also increases. A high protein diet supplying about 1.25 to 1.5 gram per kg body weight should be provided. When digestion is affected adversely, pre-digested protein beverages may prove useful (Bhutada *et al.*, 2020).

Fats can be used liberally as in rich sweetmeats and food, which contain a large amount of fats. Minerals loss of electrolytes sodium and potassium should be replaced. Sodium in the form of salt soups, dals curries. Potassium which is also needed in greater amount, should be given through fruit juices and milk which are good sources of potassium. Vitamins:-all vitamins may give as a supplement to patient. Fluids:-Since loss of body fluids through perspiration and excretory wastes are high, plenty of water, coconut water, fruits and vegetables juices and soup are advised.

These help to flush out excretory products from kidneys. Soft texture and fluid to semi solid consistency are desirable to promote appetite and help the patient to consume a diet which is nutritionally adequate. The feeding should be small and as frequent as possible. In this short survey, the food things with properties of upgraded invulnerability and against viral impacts (Bhutada *et al.*, 2020).

OBSERVATIONS AND RESULTS

Spices like, Jeera (Cumin), Haldi (Turmeric), Lahsun (Garlic) and Dhaniya (Coriander) are recommended in cooking.

Cuminum cyminum (Jeera)

Jeera or *Jirak* is a popular culinary spice having a par-

ticular aroma. In traditional medicine, it is used to treat hoarseness of voice, dyspepsia and diarrhoea. Its seeds are used as stomachic, diuretic, carminative, and stimulant. *Jira* shows antimicrobial, insecticidal, anti-inflammatory, analgesic, antioxidant, bronchodilatory, and immunological activities.

A decoction of *Jirak* with honey helps to get relieves the chest congestion in Asthma (Al-Snafi, 2016).

Curcuma longa (Turmeric or Haldi)

Turmeric or Haldi a golden spice has laden with therapeutic effect on various respiratory disorders. It is having an anti-inflammatory property. Its curcumin aids in mitigating the chest congestion that develops in people suffering from an infection of the nose, sinuses, or upper respiratory tract. Volatile oil extracted from turmeric in cough is also expels the phlegm (Prasad and Aggarwal, 2011).

Fine powder of roasted turmeric and honey with water drink it twice a day will help to get relief from sour throat and cough. Regular use of herbal tea prepared with turmeric powder and carom seeds with honey gives relief in sore throat. An equal amount of turmeric powder and black pepper powder in half cup of water with few Cinnamon sticks along with honey. Boil the solution for 2-3 minutes and drink daily (Bhowmik *et al.*, 2009). Turmeric is an important ingredient in *Vidangadi lepguti* used as an external application in the management of various skin diseases (Dhote *et al.*, 2020).

Allium Sativum (Garlic)

Garlic has been known to have cancer prevention agent, cardio-defensive and hostile to tumor impacts. Allicin (synthetically allyl 2-propenethiosul innate) is the essential bio-dynamic substance available in the watery concentrate of garlic. This compound is additionally found even in the crude garlic homogenate. At the point when garlic is hacked, the chemical alliinase is enacted to deliver allicin. Numerous examinations have noticed the popular counteraction of garlic separates against HIV, herpes, cytomegalo — infection and the lu infections (Bayan *et al.*, 2014).

The specific instrument is unknown. Beta-carotene is an incredible cancer prevention agent that can decrease irritation and lift resistant capacity by expanding leucocytes in the body. Superb well-springs of beta-carotene incorporate yams, carrots, and green verdant vegetables (Grune *et al.*, 2010). Garlic, the most utilizing spice enriched with the organic sulphur and high trace elements which makes it to possess it's anti-bacterial, anti-microbial and antioxidant properties (Bongiorno *et al.*, 2008).

Boil four to five cloves of garlic with a teaspoon of

oregano and some honey in a cup of water and drink it after cool down. This remedy is helpful in breathlessness and other cough symptoms. Crushed garlic consumes directly or with honey, or one can use in cooking also. Consuming crushed garlic with some honey and few drops of clove oil relieves sore throat. Boil two crushed Garlic cloves in a cup of milk. Boil till $\frac{1}{2}$ cup of milk remains; take in divided dosage in the morning and the evening (Rivlin, 2001).

Zingiber officinal (Ginger)

Ginger and its items are being utilized to raise the capacity of the insusceptible frameworks. The concentrates of ginger have calming, stomach related, and hostile to tumor impacts. New Ginger (naturally — Zingiber of icinale) appeared to have hostile to viral action against Human Respiratory Syncytial Virus in a Human Respiratory Tract Cell Line study. Consequently, to extrapolate for lu and a preliminary of such supplement as an added substance in our eating regimen can demonstrate helpfully.

The safe framework stimulates the creation of TNF-alpha creation from the ginger concentrate. Specialists additionally considered ginger alongside other characteristic mixes in the blend for hindering H1N1 influenza (Chang *et al.*, 2013) and demonstrated the inhibition of viral replication. Turmeric is a herbaceous perennial plant (botanical name: *Curcuma longa*) belonging to the ginger family. Ginger, the most commonly consuming spice, is being in use for treating respiratory illness since centuries. Ginger bears anti-inflammatory and antiviral properties. It is beneficial in both gastrointestinal and respiratory system. It supports to terminate the congestion developed in the respiratory passages. Gingerol and zingiberene present in ginger help to boost the immune system (Malhotra and Singh, 2003).

Coriandrum sativum (Dhanyak)

Dhanyaka is a regularly usable herb in the Indian food for seasoning. Its seeds are also using as flavouring food along with spices and also as therapeutic uses. It serves micronutrients and nutritional elements. *Dhanyaka* consists of polyphenols and essential oils which are responsible for its particular taste. It shows antioxidant, anti-mutagenic, anti-anxiety, analgesic and antimicrobial activity (Momin *et al.*, 2012).

Coriander seeds powder with water reduce fever and promote a feeling of coolness (Maroufi *et al.*, 2010).

Some other Spices also use in recipe is also useful properties

(Cinnamomum zeylanicum) Twak

Cinnamon is also one of the spice uses in the house is considered a remedy for respiratory, digestive disorders. It has anti-inflammatory, aseptic, antibacterial and anti-viral properties. It supports a healthy heart, healthy respiration ignites the digestive fire and purifies the blood. It can digest toxins.

1. Cinnamon with honey releases cough.
2. Fine powder of cinnamon stick with water relieves fever (Kumar *et al.*, 2019).

Syzygium aromaticum (Cloves)

Cloves are aromatic dried flowers, one of spice commonly known for its pain-relieving property in toothache. Its phenolic compounds such as eugenol and gallic acid are anti-inflammatory and anti-bacterial. Cloves are used to relieve a sore throat and in persistent cough. It acts as a natural expectorant because of essential oil present in it, helps in clearing the respiratory passage. Cloves also help to get rid of the itchy feeling during dry cough.

A clove with rock salt and bite it all together to get alleviation from the touchiness and bothering of the throat. Moreover, Clove oil can likewise be utilized when blended in with nectar, gives an astonishing impact from repeating hack (Milind and Deepa, 2011).

Ferula assafoetida (Marich)

One of the most famous spice from India, also known as King of spice. One of the alkaloids Piperin is the constituent responsible for its sharp smell. Black paper is using commonly to relieve pain, chills, flu, cold, sour throat and fever. It has antimicrobial, antimutagenic, antioxidant and radical scavenging property. It is also the best bioavailability enhancer of other drugs.

Tulasi, Twak, Marich, Ardraka & Draksha, a decoction of all these ingredients are supposed to boost the immunity (Khanal *et al.*, 2020).

Ferula assafoetida (Hingu)

Hingu is a type of gum resin spice uses to flavour the food also as a medicine in India. It is used as digestive and carminative, but also uses in Asthma, Bronchitis and whooping caught. Hingu has anti-spasmodic, expectorant, laxative and sedative properties.

1. Hingu
2. Water extract of the Hingu taken orally as a stimulating expectorant (Mahendra and Bisht, 2012).

Cinnamomum tamala (Tejapatra)

Tejapatra is an aromatic spice uses in flavouring food. Its therapeutic potential is due to the presence of alkaloids, triterpenes, cinnamaldehyde, an essential oil which shows antioxidant, anti-inflammatory, immune-modulatory and antivirulence effects ([Sanskriti and Upadhyay, 2016](#)).

Tejapatra powder and sugar with honey help to cure dry cough, sore throat and cold ([Dixit et al., 2013](#)).

Ela (Elettaria cardamomum)

Another important aromatic spice *Ela* called as queen of spice. Its Seeds are rich in volatile oil is the main component and also having phenolic and flavonoid components. *Ela* is using as a digestive, expectorant and stimulant. It seems beneficial in asthma, bronchitis and burning sensation ([Sharma et al., 2011](#)).

Ela, Twak, Vamshalochan, Pippali, sugar with honey this combination helps to cure a common cold, cough also helps to give relief in bronchitis, pneumonia, tuberculosis, viral infection, and in chest congestion ([Makhija et al., 2012](#)).

Methi (Trigonella foenum-graecum)

Methi is a green leafy vegetable using as a searing dish in meals and suggested as an important medicine to treat digestive and mucosal conditions. It has active components such as flavonoids, polysaccharides, fixed oils and alkaloids. The seeds are also used against diseases like bronchitis, fever, sore throat, influenza, asthma, emphysema, pneumonia, pleurisy, tuberculosis, laryngitis, and sinusitis ([Yadav et al., 2014](#)).

Methi seeds soak in water overnight and that water extract has to drink in the morning relieves colds, influenza, bronchial complaints, asthma ([Snehlata and Payal, 2012](#)).

DISCUSSION

The Coronavirus disease of 2019 is called COVID-19 with severe acute respiratory syndrome caused by the Novel coronavirus Cov2, i.e. new coronavirus. This virus has grown to pandemic, causing significant mortality throughout the globe.

COVID-19 characteristic varies from asymptomatic or paucisymptomatic forms to respiratory failure that needs mechanical ventilation and support in an ICU, to multiorgan failure and systemic manifestations like sepsis, septic shock, and multiple organ dysfunction. Uncomplicated or mild symptoms may include upper respiratory tract viral infection, including mild fever, cough (dry), sore throat,

nasal congestion, malaise, and headache or muscle pain. Also, newly recognize the loss of taste and or smell, diarrhoea, nausea and vomiting may be observed without dyspnoea ([Cascella et al., 2020](#)).

In this article, the drugs which are explained are usually household spices or easily available nearby our house. In Ayurveda also, these drugs are using precisely since a very long time for viral infection symptoms such as common cold, cough, fever, headache, etc.

Single drug use of above drugs or any formulation of these drugs is used as the alternative medicine in providing the evidence of success that are helping to cure the symptoms of this COVID-19 infections. Few herbal formulations are taking steps forward to evaluate its supportive role in relieving the viral symptoms of COVID-19, along with modern medication. Though they are not considering as total cure, it might be helping to mitigate the early symptoms. Spices are already said to have immunity-boosting properties too. Its antiviral properties may have been recommended for the coronavirus infection.

Not only antiviral property but those drugs are also working on the digestive system to improve its regular functions of the system as well as help to reduce the clinical manifestations like nausea, vomiting, diarrhoea, abdominal pain, etc. These are also a few symptoms newly estimated about the COVID-19. Thus, these Spices may help to mitigate the beginning clinical symptoms and standing as a supportive treatment also for those who can afford and convenient to be available and processing too ([Chhikara et al., 2020](#)) So before it gets too late one should learn about the household drugs, use it wisely to fight against this COVID-19 menace effectively.

CONCLUSION

It's not a new theory these Spices are having an analgesic, antimicrobial, immune-modulatory, antiviral properties. Today's modern era also has studied its properties and has verified its properties on modern parameters. So on that basis considering Ayurvedic and modern point of view the mentioned drugs in this article may help to cure the early or severe stage as a supportive alternative. Today is a need of an hour to adapt the survival alternatives too. Even though COVID-19 still has not any total cure, we should not at least disbelief the science that has been followed since a very long time. Ayurveda aims to cure the diseases by using mere herbs and prevention of the health by any disease. The prevention is always better than a cure, in that way the COVID-19 recommended preventive measures and these so called herbs which may act as a preventive cum

supportive remedies for coronavirus infections the spices have many ranges of bio-functions and their additive and synergistic actions that help to fight against the human body. From many years, spices are part of the diet.

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Conflict of Interest

The authors declare that they have no conflict of interest for this study.

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