



Review on - "Immunity Booster Herbs in Covid 19 Pandemic"

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ABSTRACT -

Plant extracts have long been known to strengthen the body, according to ancient medical research. Only when all seven layers of our body's tissues (Rasa, Mamsa, Rakta, Medha, Majja, Asthi, and Shukra) are strong can our body withstand diseases, according to Ayurveda. Our immunity will be enhanced when the seven layers operate together. In humans, the immune system is a biological structure. Its purpose is to defend the human body against bacteria, viruses, and other environmental agents. Only a healthy immune system can avoid viral infections like COVID-19. COVID-19 has yet to be treated with a viable medicine or vaccine, however natural herbs in the diet may help to increase immunity. This study aims to highlight the significance of natural herbs and their role in enhancing COVID-19 immunity. Natural herbs such as Rhuscoriaria (Sumac), Zingiberofficinale (Ginger), Allium sativum (Garlic), Ocimum sanctum (Tulsi), Cassia angustifolia (Sennamakkahi) Licorice, Camellia sinensis (Green tea), Citrus, and Lemon have been found to be very effective in boosting immunity against infectious diseases like COVID-19, according to the findings. During the COVID-19 pandemic, "immune boosting" has become a popular issue. The term "immune boosting" is misleading from a scientific standpoint and is frequently used to promote unproven products and therapies.

Key words - Ayurveda, COVID - 19, immune system, Rhus coriaria (Sumac), Zingiber officinale (Ginger), Allium sativum (Garlic), Ocimum sanctum (Tulsi), Cassia angustifolia (Sennamakkahi) Licorice, Camellia sinensis (Green tea), Citrus and Lemon.



Fig - 1. Immunity booster herbs in covid 19 pandemic

INTRODUCTION -

Pandemic diseases are a global issue in the modern era, causing enormous morbidity and mortality despite the availability of sophisticated medical resources. Antiviral medicines, in particular, have been complicated by the appearance of mutants capable of subduing drugs that target viral components. 1 Warm extracts of *Tinosporacordifolia* (advised for chronic fever), *Andrograhispaniculata* (advised for fever and cold), *Cydoniaoblunga*, *Zizyphus jujube*, and *Cordiamyxa* (enhancing antioxidant, immune-modulatory, anti-allergic, smooth muscle relaxant, anti-influenza activity), and *Arsenicum album 30* (enhancing antioxidant, immune-modulatory, anti-allergic (found effective against SARS-CoV-2, immune-modulator). COVID-19 symptomatic therapy was indicated to be obtained from *AgastyaHaritaki* (for upper respiratory infection prevention) and *AnuTaila* (sesame oil drops) for respiratory infection prevention. 2 Medicinal herbs are referred to as "Gifted Gods" in this context, as they are used to treat, support, and rehabilitate people. Despite the lack of evidence, various studies on herbal plants that have the ability to improve the immune system and cope with this

virus are being done. Certain phyto-compounds are being identified to characterize the herbs in moderating the occurrence of infection in order to speed up the process. Traditional medicinal plants from Ayurveda, Unani, Siddhi, Homeopathy, Romanian, Persian, and Chinese cultures, for example, are currently being used to test the virus's efficiency. 3 A single herbal species has a large number of phyto-constituents that, alone or collectively, provide a pharmacological effect. These natural ingredients are then extracted and modified as medication compositions for various disorders. Medicinal herbs are by far the most life-saving medications available today, and research is being done to promote their use in the treatment of COVID-19 patients because of their anti-inflammatory, antioxidant, and antiviral characteristics. Clinical trials are carried out to reuse their value for revolutionary treatment to stop the spread of the disease. During this time of global anxiety, it is critical to find long-term solutions to prevent the epidemic from spreading. As a result, it is critical to collaborate and combat COVID-19 by practicing social distancing and preserving hygienic settings. 4

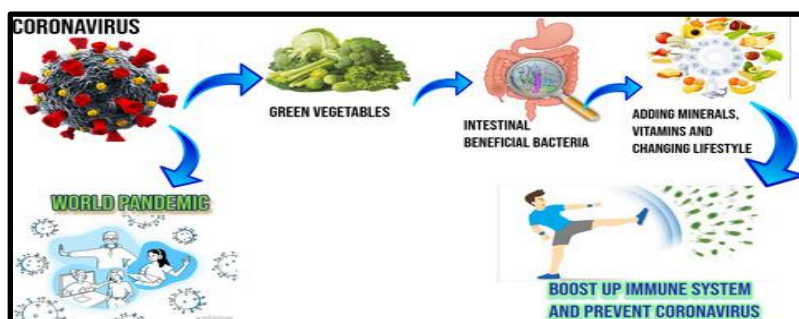


Fig - 2. Relation to herbs and covid - 19

- **9 Immunity Boosting Herbs To Beat COVID-19 !**

1. Moringa
2. Neem
3. Tulsi
4. Ashwagandha
5. Triphala
6. Ginger
7. Garlic
8. Turmeric
9. Black cumin

MORINGA -



Fig - 3 MORINGA

Moringa is a plant that can help you avoid a variety of health problems. It should also be your go-to herb for immunity boosting during the COVID-19 pandemic. So, what is it about moringa that makes it such a potent immunity booster? Moringa has a higher Vitamin C concentration than oranges do. Vitamin C is one of the most important nutrients for our bodies to establish a robust immune system. Moringa also contains certain other essential nutrients that assist your body heal by strengthening your cells, muscles, and tissues. Moringa is high in potassium, iron, calcium, and amino acids, therefore it's a good choice. There's a reason why the Moringa tree is regarded as the "wonder tree." The tree's leaves, fruit, sap, oil, roots, bark, seeds, pod, and flowers are all therapeutic. The tree's products have a wide range of applications. The 'drumstick tree' is another name for it. It primarily inhabits Asia, Africa, and South America. Moringa leaves are nutrient-dense, outperforming carrots, oranges, and even milk in terms of nutritional content. The leaves are versatile and may be included into the diet in a variety of ways, which makes them popular in Indian cuisine. The most typical methods of consumption are adding them to juices and using them as stir-fry veggies. Moringa leaves have no adverse effects when taken in their natural state.

The health benefits of moringa leaves.

1) Rich in Vitamins and Minerals -

Moringa leaves are rich in vitamins A, C, B1 (thiamin), B2 (riboflavin), B3 (niacin), B6 and Folate. Magnesium, iron, calcium, phosphorus, and zinc are all abundant in them. One cup of moringa leaves contains 2 grams of protein, 8% of the RDA for magnesium, 19% of the RDA for Vitamin B6, 11% of the RDA for Iron, 11% of the RDA for Riboflavin, and 11% of the RDA for Vitamin A. (9 per cent of the RDA).

2) Rich in Amino Acids -

Amino acids are the building blocks of proteins, and Moringa leaves are high in them. They include 18 different types of amino acids, each of which contributes to our overall health.

3) Fight Inflammation -

The body's natural response to pain and injury is inflammation. The presence of isothiocyanates in moringa leaves makes them anti-inflammatory. They have niazimicin, which is known to stop cancer cells from growing. Many diseases, including cancer, arthritis, rheumatoid arthritis, and autoimmune diseases, are caused by inflammation. When we incur an accident or infection, the body suffers heightened inflammation. Inflammation is a protective mechanism against trauma, but it can increase in the body as a result of a poor lifestyle and a poor food. Chronic health problems are caused by long-term inflammation. Inflammation can be reduced by eating moringa leaves.

4) Rich in Antioxidants -

Moringa leaves contain anti-oxidants that defend against the harmful effects of free radicals in the environment. Many chronic diseases, such as type 2 diabetes, heart disease, and Alzheimer's, are caused by free radical damage. Moringa leaves are high in vitamin C and beta-carotene, both of which are anti-oxidants. They also include Quercetin, an antioxidant that aids in blood pressure reduction. Chlorogenic acid, another antioxidant found in moringa leaves, helps to maintain blood sugar levels after meals. Taking 1.5 tablespoons of moringa leaf powder on a regular basis for three months resulted in a considerable boost in blood antioxidant levels in women, according to a study.

5) Protects the Liver -

Moringa leaves can help people with tuberculosis by reducing the deleterious effects of anti-tubercular medications. The leaves hasten the regeneration of liver cells. The leaves contain a significant amount of polyphenols, which protect the liver from oxidative damage and may even lessen it. They raise the amount of protein in the liver. The liver is responsible for blood cleansing, fat metabolism, and food absorption, and it can only do so if the liver enzymes are in good shape. Moringa leaves help to keep certain liver enzymes in check.

Moringa leaves are high in antioxidants and have an anti-inflammatory effect. They are a new 'superfood' because of their antioxidative capabilities as well as their cellular-health-protective properties. They reduce sugar levels and decrease the generation of inflammatory enzymes. To enjoy the most health benefits, include these in your diet on a regular basis. 5 and 6

2. NEEM -

Neem has been revered and widely utilized as an immune booster since the dawn of humanity. Because of its antiviral, antibacterial, and antifungal qualities, it is particularly helpful in protecting the body from dangerous microorganisms. Neem can also help to keep your blood pure. It helps to boost immunity by purifying the blood and clearing out impurities. For millennia, neem, or *Azadirachta indica*, has been known to have tremendous health-promoting effects. Since ancient times, Neem has been used in traditional medicinal cures in numerous countries, and it still has a particular therapeutic significance today. Neem pills can not only help you boost your immune system, but they can also help you cure a variety of health issues. Diabetes, Acne, Blood Impurities, Eczema, Dermatitis, Infections, and other conditions can all be helped with Neem Capsules.



Fig - 4 Neem

list of five incredible benefits of Neem:

1) **SKIN AND HAIR** - Neem is well-known for its benefits to the skin and hair. Neem helps to prevent and treat acne as well as dry skin. It's a fantastic treatment for blackheads, big pores, and whiteheads on the skin. Neem is also beneficial to your hair because of its antibacterial and antifungal characteristics, which can aid in the treatment of dandruff. It also aids in the prevention of hair loss and promotes hair growth.

2) **BLOOD PURIFICATION** - In addition to antibacterial and antifungal characteristics, Neem also purifies the blood. It cleanses the blood, removing toxic pollutants that wreak havoc on important organs like the liver and kidneys. Too many toxins in the blood cause numerous organs to underperform, resulting in allergies, weariness, headaches, and other symptoms. So take one or two Neem capsules per day to cleanse your blood of impurities.

3) **IMMUNITY** - Neem improves the body's ability to fight infections by boosting the immunological system. It also aids in the regulation of blood sugar levels, which is beneficial to diabetics. Neem capsules can also help to prevent high fevers, malaria, viral flu, dengue fever, and other infectious disorders.

4) **ORAL HEALTH** - Neem's antibacterial and antifungal characteristics can aid in the treatment of a variety of dental issues. It aids in the prevention of gum irritation. It also aids in the removal of microorganisms that cause cavities. Neem improves overall mouth immunity while also freshening the breath.

5) **HELP WITH DIGESTIVE PROBLEMS** - Neem is well-known for its ability to promote good digestion. Neem's anti-inflammatory qualities can aid in the prevention of stomach and intestinal issues. Neem relieves discomfort and provides relief to persons suffering from stomach infections due to its anti-inflammatory effects. ⁷

3. TULSI -

Tulsi is another wonder herb that Ayurveda recommends. Tulsi, often known as basil, is an effective germicide. Its phytochemicals and antioxidants can help detect and destroy infections, viruses, and bacteria as soon as they enter your body. Take a few leaves first thing in the morning and chew them. You can also add a few drops of tulsi leaf-infused water to your food.



Fig. 5. Tulsi

Tulsi, often known as Holy Basil, is a Lamiaceae family herb. It is an Indian native that is widely planted in Southeast Asia. Tulsi has been shown to be quite helpful in defending our bodies from infections and disorders of the liver, skin, and kidneys, among other organs. It includes potent antioxidants that can help lower blood pressure and cholesterol levels, making it one of the greatest heart-healthy foods available. It is particularly beneficial for diabetics since it has hypoglycaemic qualities, which assist lower blood sugar levels. Tulsi is a herb that should be included in your diabetic diet. Tulsi is known as the "Queen of Herbs" for its myriad health advantages.

Benefits of Tulsi are:

1) Tulsi is high in Vitamin C and zinc, making it a natural immune booster. As a result, it functions as a natural immune booster and prevents infections. It possesses powerful antibacterial, antiviral, and antifungal qualities that keep us safe from a wide range of ailments. Tulsi leaf extract boosts the immune system by increasing the activity of T helper cells and natural killer cells.

2) Fever (antipyretic) and Pain (analgesic) Reduction: Tulsi possesses antibacterial and antiviral characteristics that aid in the fight against infections, lowering fever. Periodic fevers can be cured by mixing fresh Tulsi juice with black pepper powder. Tulsi leaves boiled in half a litre of water with powdered cardamom (elaichi) and sugar and milk are also helpful at lowering temperature. Eugenol, a terpene present in Tulsi that has pain-relieving qualities, helps to relieve bodily aches.

3) Relieves Colds, Coughs, and Other Respiratory Disorders: Tulsi contains camphene, cineole, and eugenol, which assist to relieve colds and chest congestion. Bronchitis, asthma, influenza, cough, and cold can all be treated with Tulsi leaf juice combined with honey and ginger.

4) Tulsi includes the chemicals Ocimum Sides A and B, which help to reduce stress and blood pressure. The neurotransmitters serotonin and dopamine in the brain are balanced by these chemicals, which relieve stress. Tulsi's anti-inflammatory qualities help to lower blood pressure and inflammation.

5) Anti-cancer properties: Tulsi phytochemicals have potent antioxidant effects. As a result, they aid in the prevention of skin, liver, oral, and lung cancers. 8

4. ASHWAGANDHA :

Ashwagandha is an adaptogen, meaning it can help you feel less stressed. Stress weakens the immune system and makes the body more susceptible to viral infections. During this pandemic, take ashwagandha to help minimize your chances of catching the coronavirus



Fig - 6 ASHWAGANDHA

Ashwagandha is also known as "Indian Ginseng" or "Indian Winter Cherry" (*Withaniasomnifera*, fam. Solanaceae). It is one of the most significant herbs in Ayurveda (India's traditional medical system), and it has been utilized as a Rasayana for millennia for its wide-ranging health effects. Rasayana is a herbal or metallic concoction that promotes a youthful physical and mental state of health as well as happiness. These medicines are given to little children as tonics, and they are also used by the middle-aged and old to extend their lives. Ashwagandha is the most well-known of the Rasayana herbs in Ayurveda. The herb is known as "SattvicKaphaRasayana." 9 Adaptogens and anti-stress compounds make up the majority of Rasayana herbs. Ashwagandha is sold as a churna, a finely sieved powder that can be combined with water, ghee (clarified butter), or honey. It boosts memory and improves the function of the brain and neurological system. It promotes a healthy sexual and reproductive balance by improving the function of the reproductive system.

5. TRIPHALA :

Triphala is made up of three fruits that have antioxidative properties: haritaki, bibhitaki, and amla. It's high in vitamin C and vitamin A, both of which help to boost your immunity. Triphala is a great way to start your day.



Fig - 7 TRIPHALA

Triphala has been utilized in Ayurvedic medicine as a multi-purpose therapy for symptoms ranging from stomach disorders to tooth caries since ancient times. It is also thought to help with longevity and general health. It's a polyherbal medicine, which means it's made up of several distinct therapeutic herbs. Ayurvedic medicine, a traditional practice that stresses disease prevention and health promotion, makes extensive use of polyherbal preparations. Combining synergistic herbs is thought to increase therapeutic effectiveness and make a more powerful treatment than taking any one component alone. Triphala is made up of the dried fruits of the three Indian plants listed below. 10 Triphala aids a healthy immune response in a variety of ways, but none is more powerful than antioxidant support. Free radicals cause an overactive immunological response, which might result in a cytokine storm. Triphala has been proven to help maintain appropriate cytokine control during immunological events, resulting in a more effective immune response. The range of naturally occurring antioxidants found in the three fruits of triphala are thought to regulate this mechanism. 11 Healthy gut function is essential for good health and immunity. Low vitamin D, a key driver of immunity, has been associated to poor, slow, or sluggish elimination, as well as mood-related issues like excessive stress and melancholy. Poor elimination has also been shown to decrease immune-boosting good bacteria (*Bifidobacterium* and *Lactobacillus*), while allowing immune-compromising bacteria (such as *E. coli* and *staph*) to thrive. Slow, intermittent, and chronic hard dry stools, according to one study, can weaken immunity. When bowel function returns to normal, so does a healthy microbial immune response. In fact, stool function was employed as a biomarker for immunological function in another investigation. 12,13,14

GINGER -

Ginger has long been used as a flu and cold cure. It could aid in the fight against viruses like COVID-19. It contains gingerol, an antioxidant that boosts our immune system while also killing infections. Ginger is especially effective in preventing respiratory infections. You can eat ginger raw or add it to your dishes. This amazing component, tulsadrakkadha, was the perfect cure for most seasonal maladies like colds, coughs, fevers, and flu. Ginger was a fantastic medicine for boosting digestion and metabolism as well as healing seasonal infections. Apart from that, ginger was utilized in a variety of Ayurvedic treatments to improve hair and skin qualities. And if you think that's all there is to know about this amazing root spice, think again. *Zingiber officinale* is a flowering plant native to India and Southeast Asia, and ginger is a root or rhizome of that species.



Fig - 8 GINGER

The Zingiberaceae family includes ginger. Ginger has been employed as an active ingredient in various Ayurvedic medications due to its excellent therapeutic capabilities. Ginger, as a root spice, is high in vitamins B6 and B12, as well as nutritional elements like magnesium and manganese. In fact, raw ginger contains approximately 79 percent water, 18 percent carbs, 2% protein, and 1% fat. In fact, adding raw ginger to your dishes and drinks is the greatest way to use it. 15

GARLIC -



Fig - 9 GARLIC

Garlic, like ginger, may help you stay protected from coronavirus by boosting your immune system. Allicin, a plant component that serves as a germicide, is present. But keep in mind that the best way to get the most out of garlic is to eat it raw or partially cooked.

For generations, garlic has been a staple in kitchens. Because of its antibacterial and antiseptic qualities, this herb possesses curative and therapeutic benefits. Allicin, a chemical found in garlic, is responsible for its health benefits. Minerals such as phosphorus, zinc, potassium, and magnesium are abundant. Garlic also contains a lot of vitamins C, K, Folate, Niacin, and Thiamine.

The Health Benefits of Eating Garlic are:

1) Prevents Cough and Cold

Cough and cold infections can be warded off with raw garlic. The maximum benefit comes from eating two smashed garlic cloves on an empty stomach. Garlic cloves strung around the necks of children and babies are said to reduce congestion symptoms.

2) Beneficial to Cardiac Health - Allicin, a chemical found in garlic, prevents LDL from oxidizing (bad cholesterol). This helps to lower cholesterol and promote heart health. Garlic eating helps to prevent thromboembolism by reducing the occurrence of blood clots. Garlic also decreases blood pressure, making it beneficial to hypertensive people. More information on how to manage high blood pressure can be found [here](#).

3) Enhances mental performance

Garlic's antioxidant and anti-inflammatory qualities help to keep the brain healthy. It has been shown to be useful in the treatment of neurodegenerative disorders such as Alzheimer's and dementia. Also, learn about the finest brain foods to incorporate in your diet by clicking [here](#).

4) Strengthens the immune system

Garlic shields the body from free radicals and prevents DNA damage. Garlic contains zinc, which helps to boost immunity. Vitamin C aids in the fight against illnesses. Its antibacterial characteristics make it ideal for treating eye and ear infections.

5) Enhances the health of the skin

Garlic aids in the prevention of acne and the lightening of acne scars. Garlic juice can help with cold sores, psoriasis, rashes, and blisters, among other things. It also defends against UV radiation, which slows down the aging process. 16

TURMERIC -

Your grandmother was correct every time she suggested you should drink turmeric for your health. Turmeric includes curcumin, a phytochemical that can aid in the removal of toxins from the body as well as the strengthening of your immune system to combat germs and bacteria. Add a pinch of turmeric to your food or drink it with milk. In terms of appearance, it's a close relation to the classic ginger. Turmeric roots can be used fresh or boiled and dried before being processed into a powder. Turmeric powder is a golden-yellow hue. It has an earthy scent and a slightly spicy,

bitter flavor. Curcuminoids such as curcumin, which gives turmeric its vivid yellow color, dimethoxycurcumin, and bisdemethoxycurcumin, as well as volatile oils such as turmerone, atlantone, and zingiberene, carbohydrates, proteins, and resins, make up turmeric. Turmeric has been utilized as medication by Ayurvedic healers since ancient times. This potent spice, also known as Haldi, is a go-to solution when dealing with a variety of health issues. Its advantages are numerous, whether consumed or administered.



Fig - 10. TURMERIC

Health Benefits of Turmeric Are :

- 1) **Anti-Inflammatory:** Curcumin has been demonstrated to be quite helpful in lowering inflammation in studies. Curcumin's anti-inflammatory properties are thought to be due to its capacity to inhibit cyclooxygenase-2 (COX-2), lipoxygenase (LOX), and inducible nitric oxide synthase (INOS) (iNOS).
- 2) **Immunity Booster:** Turmeric also helps to enhance immunity. Its antibacterial, antiviral, and antifungal qualities guard us against a wide range of ailments. To keep the common cold and flu at bay, several doctors recommend taking a teaspoon of Turmeric in a glass of warm milk every day.
- 3) **Lowers Heart Disease Risk:** Curcumin, an antioxidant present in turmeric, may help to avoid heart disease and diabetes cardiovascular problems. Curcumin also lowers cholesterol levels in the blood and protects against atherosclerosis' degenerative alterations.
- 4) **Lowers Cancer Risk:** Curcumin inhibits the growth and development of cancer cells at the molecular level, preventing their spread. As a result, it works effectively.
- 5) **Aids Digestion:** Turmeric's curcumin decreases bloating and helps the digestive system get back on track. It stimulates the production of bile in the gallbladder. It can also aid in the prevention and treatment of pancreatitis. 17

BLACK CUMIN -

Black cumin extracts can protect your immune system from a variety of viruses and bacteria. Both the seeds and the oil from black cumin work as antioxidants, helping to flush out free radicals that impair your immune system. Everherb Immunity Boosters are another excellent option for strengthening your immune system. Everything you need to boost your immunity is within your grasp. To help fight the coronavirus, consume these and stay at home



Fig - 11 BLACK CUMIN

1) Anti-diabetic properties - Cumin seeds have been shown to have anti-diabetic properties in human diabetics. In this study, 80 patients with non-insulin-dependent diabetes mellitus were given an Ayurvedic formulation including *C. cyminum* orally for 24 weeks. At 6-week intervals, all of the patients' fasting and post-prandial blood sugar levels were significantly lower. In STZ-diabetic rats, dietary cumin seeds were found to reduce diabetes-related metabolic abnormalities. Cuminaldehyde's inhibitory action was around 1.8 and 1.6 times lower than acarbose's and quercetin's, respectively. Cuminaldehyde, on the other hand, could be useful in the development of anti-diabetic drugs.

2) Anti-inflammatory properties - The anti-inflammatory effects of cumin essential oil in lipopolysaccharide were examined. Gas chromatography-mass spectrometry (GC-MS) was used to identify volatile compounds in essential oil, with cuminaldehyde being the most common (48.8 percent).

3) Beneficial benefits - Dyslipidemia has long been recognized as a risk factor for ischemic heart disease. The herb *Nigella sativa* has been used to treat and prevent hyperlipidemia. *N. sativa* was proven to be effective in clinical trials when used as an adjuvant to traditional hypolipidemic and anti-diabetic drugs. The lipid-lowering actions of *N. sativa* are due to inhibition of dietary cholesterol absorption, decreased hepatic cholesterol production, and up-regulation of LDL receptors. Overall, evidence from an experimental and clinical investigation suggests that *N. sativa* seeds are a promising natural therapy for dyslipidemia patients. 18

CONCLUSION -

COVID-19 is a coronavirus-related respiratory illness that affects the immune system in humans. There is yet to be produced an effective medicine or vaccination to combat it. Only a strong immune system can fight infectious disorders like COVID-19, according to the literature. Herbs such as *Rhuscoriaria* (Sumac), *Zingiberofficinale* (Ginger), *Allium sativum* (Garlic), *Ocimum Sanctum* (Tulsi), and *Cassia angustifolia* (Sennamakkahi), licorice, and green tea are high in immunity-boosting chemicals such as flavonoids and triterpenoids, antioxidants, anti-inflammatory, Vitamin C, linoleic acid, and Individuals will gain a better understanding and awareness of how to strengthen their immune systems as a result of this review. It also aids food scientists in conducting study on these herbs and determining how they might be used to treat COVID-19. Vitamins like C, D, and E are being studied to see if they can help with immunity. Vitamin C is abundant in fruits such as oranges, papaya, kiwi, and guava, as well as vegetables such as eggplant, bell peppers, beetroots, spinach, and cauliflower, which are high in vitamin C and beneficial to immunity. DNA synthesis and cell proliferation, which govern innate and adaptive immune responses, require a critical vitamin. Vitamin D boosts cellular resistance by increasing the cytokine storm caused by the innate immune system. Green foods such as broccoli, mushrooms, and even kale are immune boosters that help elderly people's immune systems strengthen quickly. Furthermore, some TCM herb combinations have been shown to be effective in preventing COVID-19. Future parts of this account for greater research on physical activities or exercises and their involvement in immunity-related concerns, hence preventing COVID-19 components. More research is needed to understand how coronavirus behaves and how food can help avoid it. Immunity-boosting dietary combinations that give one and one equals eleven functions should be investigated. In a nutshell, green vegetables are critical in the fight against new coronavirus because they boost immunity in people of all ages.

REFERENCE -

- 1) Ahmad A., Rehman M.U., Alkharfy K.M. An alternative approach to minimize the risk of coronavirus (Covid-19) and similar infections. *Eur. Rev. Med. Pharm. Sci.* 2020;24(7):4030–4034.
- 2) Vellingiri B., Jayaramayya K., Iyer M., Narayanasamy A., Govindasamy V., Giridharan B., Ganesan S., Venugopal A., Venkatesan D., Ganesan H., Rajagopalan K., Rahman P.K.S.M., Cho S.G., Kumar N.S., Subramaniam M.D. COVID-19: a promising cure for the global panic. *Sci. Total Environ.* 2020;725.
- 3) S. Nikhat, M. Fazil, Overview of Covid-19; its prevention and management in the light of Unani medicine *Sci. Tot. Env.* (2020), Article 138859.
- 4) Balachandar et al., 2020V. Balachandar, I. Mahalaxmi, J. Kaavya, G. Vivekanandhan, S. Ajithkumar, N. Arul, G. Singaravelu, N.S. Kumar, S.M. Devi. COVID-19: emerging protective measures *Eur. Rev. Med. Pharm. Sci.*, 24 (6) (2020), pp. 3422-3425
- 5) Moringa Leaves – 16 Health Benefits That You Should Know, 10 months ago.
- 6) COVID-19 Updates • Health Today • Patient Awareness • Protocol for Emergencies 9 Immunity Boosting Herbs To Beat COVID-19 2 years ago
- 7) Neem bolsters your immune system; know other health benefits ByMukulPosted on March 9, 2019.
- 8) pharameasy Lifestyle 15 Powerful Health Benefits Of Tulsi 1 year ago.
- 9) Changhadi Govardhan Sharma, author. *Ashwagandharishta - Rastantra Sar Evam. Sidh Prayog Sangrah - Krishna-Gopal Ayurveda Bhawan (Dharmarth Trust) Nagpur: 1938. pp. 743–744.*
- 10) What Are the Benefits of Triphala? Written by Jillian Kubala, MS, RD on February 3, 2018.

-
- 11) Immunomodulatory Effects of Triphala and its Individual Constituents: A Review Pranoti Belapurkar, Pragya Goyal, and Preeti Tiwari-Bara.
 - 12) Chronic functional constipation is strongly linked to vitamin D deficiency Alba Panarese, Francesco Pesce, [...], and Endrit Shahini
 - 13) Alterations in the colonic flora and intestinal permeability and evidence of immune activation in chronic constipationI L Khalifa et al. Dig Liver Dis. 2005 Nov.
 - 14) Impact of bowel movement condition on immune checkpoint inhibitor efficacy in patients with advanced non-small cell lung cancer Yuki Katayama, Tadaaki Yamada, and Koichi Takayama.
 - 15) Is Ginger An Immunity Booster?Last updated on - May 15, 2020, 19:15 IST
 - 16) Home Remedies, 10 Health Benefits of Garlic, 10 months ago
 - 17) Lifestyle 13 Health Benefits Of Turmeric (Haldi) That You Should Know 4 years ago. Pharmeasy.
 - 18) Cumin (*Cuminum cyminum*) and black cumin (*Nigella sativa*) seeds: traditional uses, chemical constituents, and nutraceutical effects Krishnapura Srinivasan Food Quality and Safety, Volume 2, Issue 1, March 2018, Pages 1–16.