



Review on Herbal Immune Booster

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ABSTRACT

All these Herbal immuno boosters are rich in antioxidants, minerals. F Vitamins Antioxidants help to reduce internal infection by destroying free radicals.

The present review highlights the Pharmacological importance viz antioxidant activity, antimicrobial activity, antibacterial activity, antifungal activity, anti-diabetic activity, anti-stress activity, Hypolipidemic effects, hepatic disorder & anti-complementary activity.

Keywords: Eugenol pharmacological activity. Chemical constituents, *Tinospora cordifolia*, Curcumin. Anti-inflammatory anti-oxidants.

INTRODUCTION

1. This ancient medical science had stated long ago that plant extracts could do a lot to strengthen the body. According to Ayurveda, our body can withstand infections only when all the seven layers of our body's tissues (Rasa, Mamsa, Rakta, Medha, Majja, Asthi and Shukra) are strong. When the seven layers are working together, our immunity will be boosted.
2. Vitamin C, Embilicic acid A and B, and flavonoids (to exert powerful immunomodulatory, antioxidant, and anti-inflammatory effects) phenolic compounds of *Embilicic acid* (to potentiate the immune system) *Ashwagandha* and *Giloy* (to modulate the body's defence mechanism) *Curcumin* (to decrease the severity of illness) *Tulsi* (to increase the activity of detoxification enzymes) Other micronutrients essential for the body's natural immune response All in all this immunity booster helps to treat various types of infections due to its anti-bacterial, anti-viral, and anti-fungal activity.
3. The decoction of *sunthi* (*Zingiber officinale* Roscoe.), *lavanga* (*Syzygium aromaticum*) and *maricha* (*Piper nigrum*) have been recommended to the healthy as well as COVID-19 infected person, as it provides support in the humoral and cell mediated responses and also lowers the airway hyper-responsiveness and nasal congestions.
4. *Tulsi* – Rich in antioxidants and micronutrients, helping your immune system. *Giloy* – A universal herb that helps boost immunity.

Ashwagandha – Stimulates the working of the immune system. *Neem* – It has an immunomodulator that modulates and maintains immunity. *Pure Shilajit* – It contains more than 84 minerals to offer various health benefits.

•As per Ayurveda, strong immunity is a result of better digestion, metabolism (agni), healthy liver functioning and a balance hormonal function. Currently, no research supports the use of any supplement to protect against COVID-19 specifically.

➤ Ginger

Ginger is another ingredient many turn to after getting sick. Ginger may help decrease inflammation, which can help reduce a sore throat and inflammatory illnesses. Ginger may help with nausea as well.

While it's used in many sweet desserts, ginger packs some heat in the form of gingerol, a relative of capsaicin.

Ginger may also decrease chronic pain Trusted Source and might even possess cholesterol-lowering properties Trusted Source.

➤ Turmeric

You may know turmeric as a key ingredient in many curries. This bright yellow, bitter spice has also been used for years as an anti-inflammatory in treating both osteoarthritis and rheumatoid arthritis.

Research Trusted Source shows that high concentrations of curcumin, which gives turmeric its distinctive color, can help decrease exercise-induced muscle damage. Curcumin has promise as an immune booster (based on findings from animal studies) and an antiviral.

➤ Green tea

Both green and black teas are packed with flavonoids, a type of antioxidant. Where green tea really excels is in its levels of epigallocatechin gallate (EGCG), another powerful antioxidant.

In studies, EGCG has been shown to enhance immune function. The fermentation process black tea goes through destroys a lot of the EGCG. Green tea, on the other hand, is steamed and not fermented, so the EGCG is preserved. Green tea is also a good source of the amino acid L-theanine. L-theanine may aid in the production of germ-fighting compounds in your T cells.

➤ Amla

Overpowered with amla, this formulation holds powerful antioxidant properties that shield the body against infections and boost up the immune system. It also purifies the blood, flushes out the toxins and other waste from the system. Furthermore, the goodness of amla capsules revitalize the skin, treats acne, reduces hair fall and premature greying, bolsters the immune system and keep diseases at bay

1. Turmeric:



Fig.No.1. Turmeric

Turmeric It is also called as Indian Saffron

Scientific name: Curcuma longa

Common Name: Haldi

Family: Zingiberaceae

- **Chemical constituents :** Turmeric contains 3-6% polyphenolic compound collectively known as curcuminoids which is a mixture of curcumin, demethoxycurcumin, and bisdemethoxycurcumin. Curcuminoids are major components responsible for various biological actions.
- Turmeric contains curcumin, a substance with powerful anti-inflammatory & antioxidant properties and Anti-apoptosis and suppress ion deposition.
- Turmeric is one of the best immuno-boosters and is essential for our body. In Indian dishes, turmeric is used regularly as a spice.
- It is also used as a medicine for centuries to treat wounds, infections, colds, and liver disease. In that, curcumin, a compound, may reduce inflammation in the body.
- Turmeric is used in diseases like body aches, skin diseases, stomach disorders, intestinal worms, fever, hepatic diseases, urinary diseases, dyspepsia, leukodema, dental diseases, ulcers, colic inflammation, stress, and tensions.
- The most of pharmacological effects of turmeric are related to the presence of curcumin, which has antioxidant activity. In vivo and in vitro studies have shown that this herb. [1]

2. Tulsi:



Fig.no.2. Tulsi

Scientific Name: *ocimum tenuiflorum*.

Family: Lamiaceae

Common Name: Tulsi

Chemical constituents: The main chemical constituents of tulsi are oleanolic acid, ursolic acid, Rosmarinic acid, Eugenol, carvacrol, linalool & 8-caryophyllene, have been used extensively for many years in Food products perfumery and dental and oral products and plant extract continues the numerous searches for more effective drug.

- *Ocimum tenuiflorum* is also known as *ocimum Sanctum*. *Ocimum tenuiflorum* commonly known as Holy Basil or tulsi is an aromatic perennial plant Family Lamiaceae.
- It is native to the Indian Subcontinent and widespread as a cultivated plant throughout the Southeast Asian tropics.
- Tulsi is cultivated for religious & traditional medicine purposes, and also for its essential oil. It is widely used as a Herbal tea, common used in ayurveda, and has a place within the vaishnava tradition of Hinduism in which devotees perform worship involving holy basil plants or leaves.
- Tulsi or Holy basil from the family Lamiaceae, Has been described as the "Queen of plants" and the "Mother medicine of nature". Due to its perceived medicinal qualities.
- Tulsi Has been described as Rasayana drug in the ancient texts of Ayurveda including Charak Samhita, Susrut Samhita and Rigveda (3500-1600 BCE) to treat cough, respiratory disorders, poisoning, impotence and arthritis. It is considered as one of the sacred plants in India. OS is used (OS means tulsi) as a nervine tonic, adaptogen, improving health during cancer and has beneficial effects in stress release.

In Ayurveda & Siddha for healing properties as well as in Greek, Roman and Unani System of medicines for the treatments of Skin diseases, Common cold, headaches, coughs, malarial fever. [2]

• **Uses :**

- Tulsi is reported to possess antibacterial, antioxidant, anti-inflammatory activities and is incorporated in many skin creams.
- Tulsi possesses hepatoprotective effects – liver diseases remain one of the serious health problems and no satisfactory liver protective drugs are available for serious liver disorders in modern medicine.
- Tulsi is an antitubercular drug regimen consisting of Isoniazid, rifampicin and pyrazinamide, although effective, associated with untoward effects and compromise the therapeutic benefits. Tulsi prevents gastric ulcers.
- It is also effective in preventing gastric ulcerations and in reducing chemical-induced gastric carcinogenesis. [3]

3. **Giloy:**

**Fig.no.3. Giloy**

- **Scientific Name:** *Tinospora cordifolia*
- **Common name:** Guduchi, moonseed, gilby, Ambvel, Amrita, Giloy
- **Family :** Menispermaceae.
- **Species:** *T. Cordifolia*
- Giloy plant is an Ayurvedic herb that has been used and advocated in Indian medicine. In Ayurveda, Giloy is considered one of the best medicines to treat various fevers and other conditions. It has been in use for centuries in traditional medicine to treat various disorders.
- *Tinospora cordifolia* is indigenous to tropical regions of the Indian Subcontinent... Also, it is found in Myanmar, Sri Lanka & China.

- The plant is commonly used as traditional in ayurvedic medicine & has several therapeutic properties such as jaundice, rheumatism, urinary disorder, skin diseases, diabetes, anemia, Inflammation allergic condition anti-periodic radio protective properties. It is useful in the treatment of helminthiasis, heart diseases, leprosy, rheumatoid arthritis.
- Support the immune system. The body's resistance to infections support standard Marks WBCs Function level.
- It also helps in digestive elements such as Hyperacidity colitis, worm infestations loss of appetite, abdominal pain excessive thirst & vomiting & even liver disorders.[4]
- The chemical constituents like diterpenoid lactones, glycosides steroids, sesquiterpenoid. Phenolics aliphatic compounds essential oils, mixture of fatty acids & polysaccharides & is present in a different part of the plant body, including root, stem, whole part.[4].
- Recently giloy kadha has gained fame for its immunity boost properties that can help you steer clear for coronavirus
- According to a Shloka of Charak Samhita giloy is one of the main herbs with a bitter taste. It is used in various disorders and also helps alleviate vata & kapha dosha. As per Ayurveda, giloy can be consumed in either a powdered form or can be in the form of kadha (decoction) or even juice.
- Giloy is a strong immunity booster anti-toxic, antipyretic (that reduces fever) anti-inflammatory, antioxidant.
- Giloy for chronic fever, antipyretic property to reduce Fever giloy for dengue fever also for a speedy recovery and increase platelet count giloy can boost Immunity hence; it may be useful for various fevers, viral fevers like corona infection. It helps to enhance the production of Insulin which ultimately controls, the blood sugar levels.
- It is used useful for diabetes complications like ulcers, kidney problems.
- It is an excellent remedy to reduce mental stress and anxiety. Giloy is very effective to improve eye -sight when applying topically. It is usually used in panchkarma.

4. Ginger:



Fig.no.4. Ginger

Scientific name: Zingiber officinale **Common Name:**

Ginger Family:

Zingiberaceae.

Species: Z. Officinale

Chemical Constituents: Carbohydrates (60-70%) lipids (3-87%), terpenes and phenolic compounds.

- Ginger (*Zingiber officinale*) is a flowering plant whose rhizome, ginger root or ginger is a herbaceous perennial which grows annual pseudostems about one meter tall bearing narrow leaf blades.
- The inflorescences bear flowers having pale yellow petals with purple edges. And "arise directly from the rhizome on separate shoot." Ginger is more a brownish red /orange.
- *Zingiber officinale* is a medicinal plant that has been widely used in Chinese, Ayurvedic and Tibb-unani herbal medicines all over the world.[5]
- It is widely used around the world in foods as a spice for centuries.
- Gingerol, Shogaol, zingiberine, zingiberol, Phellandrene, bisabolone, starch.
- Terpene components of ginger include Zingiberene Farnesene, bisabolone sesquiphellandrene & 2- curcumene while phenolic compounds include gingerol, paradols, & shogaol.
- Ginger is used for menstrual cramps, osteoarthritis diabetes, migraines headaches & other conditions but there is no good scientific evidence to
- Support many of these. In food & as a uses beverages ginger Flavouring agent. Is used
- **Uses:**
- is also used as one of the chemicals in ginger an ingredient in laxative & antacid medications.
- A lung disease that makes it harder to breathe chronic obstructive pulmonary disease (COPD).

- Diabetes taking ginger Seems to lower blood sugar in some people with diabetes, Doses of at least 3gm of ginger per day seem to be needed.
- High blood pressure drinking black tea with ginger might lower blood pressure by a small amount in people with diabetes and high blood pressure.

5. Clove:



Fig.no.5. Clove

Scientific Name: *Syzygium aromaticum*

Common Name: clove, Chengkeh, chingkeh

Family: Myrtaceae

- Clove are the aromatic flower buds of a tree in the family myrtaceae, *syzygium aromaticum*.
- They are Native to the Maluku Islands (or Moluccas) in Indonesia and are commonly used as a spice. Clove are available throughout the year owing to different harvest seasons in different countries.

Chemical constituents:

- Eugenol comprises 72-90% of the essential oil extracted from Cloves and the compound most responsible for clove aroma.
- The most popular plant extracts that have antimicrobial activities are essential oils. Clove oil is a mixture of different compounds with the three main active ingredients being eugenol, caryophyllene.
- Clove contains, Volatile oil, clove oil 15-20%, eugenol 70-90%, Vanillin, Caryophyllene, Acetyl eugenol 4%, Tannins 10-13% (gallotannic acid) Resin, chromone, Eugenin, small quantities of esters, ketones, alcohols.

Uses:

- Most traditional medicine therapies involve the use of plant extracts of their active components which are already established as flavouring in food.
- The essential oil extracted from the dried flower buds of clove is used as a topical pain reliever & to promote healing [6].
- Clove is most commonly applied directly to the gums for toothache pain control during dental work and other dental related issues.
- Clove also contains a compound called Eugenol. Which has been shown to act as a natural antioxidant.
- Clove has been shown to have antimicrobial properties, meaning they can help stop the growth of micro-organisms like bacteria.
- The compound Eugenol may be especially beneficial for the Liver.
- Clove may help keep blood sugar under control clove extract helped moderate blood sugar increases in mice with diabetes.
- Some research indicates that the compounds found in clove could help treat stomach ulcers that is peptic ulcers are painful sores the lining of the stomach duodenum or esophagus.
- In foods and beverages clove is used as a flavouring agent.
- In manufacturing clove is used in perfumes, toothpaste, soaps, cosmetics and cigarettes, clove cigarettes also called keteks generally contain 60% to 80% tobacco and 20% to 40% ground clove.
- It has antifungal properties- many reports have indicated that clove all exhibited anti-fungal properties from 20 essential oils tested, Clove oil was one of the

6. Cinnamon:



Fig. No. 6. Cinnammon

Scientific Name: Cinnamomum verum

Common Name : Ceylon, cinnamon, daalacheenee aam

Family: Lauraceae.

Cinnamomum verum which translates as 'True Cinnamon' is native to India, Sri Lanka Bangladesh, and Myanmar cinnamon is a spice obtained from the inner bark of several treespecies from the genus Cinnamomum.

Cinnamon is the name for several species of trees & the commercial spice products that Some of them product.

Chemical constituents:

- Cinnamon consists of a variety of resinous compounds including cinnamaldehyde, cinnamate, cinnamic acid and numerous essential oils.
- Cinnamon leaves Contain Eugenol 70% to 95%.
- Cinnamon Bark contains cinnamaldehyde 65% to 80%, Eugenol 5% to 10%.
Cinnamon root bark contain camphor 60%.
- The phytochemical analysis shows that cinnamon contains a variety of compound such as alkaloids, tannins, flavonoids, phenols etc. Cinnamon bark contains procyanidins and catechins.
- The components of procyanidins Cinnamon fruit contains trans-cinnamyl acetate (42% to 54%) and caryophyllene (9% to 14%).

Uses:

- Cinnamon has been used for centuries in traditional medicine and used for colds, flatulence, nausea, diarrhea, and painful menstrual periods.
- In Ayurvedic medicine Cinnamon is used as a remedy for diabetes, indigestion and colds, can help balance a person's kapha.
- It is also common ingredient in chai, tea and cinnamon tea, both of which are believed to improve digestion.
- Cinnamon has been attributed a high importance due to its antioxidant properties, which may contribute to beneficial effects on health protecting against non-communicable diseases.
- and antimicrobial effects.[8]
- Cinnamon is a spice sprinkled on toast and lattes But extracts from the bark as well as leaves, flowers, fruits and roots of the cinnamon tree have also been used in traditional medicine around the world for thousands of years. It's also used in cooking & baking & added to many foods. Cinnamon is loaded with powerful antioxidants such as polyphenols.
- Cinnamon has been linked to a reduced risk of heart disease the world's most common cause of premature death. Cinnamon can improve sensitivity to the hormone insulin.

7. Amla:



Fig.no.7. Amla

Scientific Name: Phyllanthus emblica

Common Name: Indian gooseberry, amalaka, amla

Family: Phyllanthaceae

Amla also known as Indian gooseberries grows on a flowering tree of the same name. The Small berries are round and bright or yellow green.

Chemical constituents:

Amla contain high amounts of Ascorbic acid (vitamin C) and have bitter taste a that may derive from a high density of ellagitannins, such as emblicanin A(37%) & emblicanin B(33%) punigluconin (12%), and pedunculagin (14%) Amla also contains punicafolin and phyllanemblinin A. Phyllanemblin other polyphenols such as flavonoids , Kaempferol, ellagicacid & gallic acid.

Use

- Plant products have widely been used as the basis of numerous therapeutic treatments in humans. The extract of Amla has been used tradi- tional medicine. Further more, Amla in combination with other natural products or as formulations has used as health promoting effects.
- Its role in health management has been proven as antioxidants, anti- inflammatory, hepatoprotective, antidiabetic, gastro protective and antimicrobial activity.[9]
- Amla is a great source of vit. C which is a water soluble Vit, that acts as an antioxidant. It enhance liver health.
- Amla promotes heart health it may increase hair growth. Amla can protect us against countless ailments be it the common cold cancer or infertility.
- It improves eyesight improves the vision, prevent reddening, itching and watering of eyes. Drinking amla juice with honey every morning can give you blemish free healthy glowing skin.
- Amla can provide relief owing to its anti-inflammatory properties, for ulcers you simply need to dilute amla juice in a cup of water & gargle with it.
- Amla also acts as a natural conditioner giving you soft shimmering locks you could apply amla oil or mix amla powder into henna for a hair pack & prevents from dandruff.

RESULT

Herbal immuno-boosters are medicinal plants are considered as a rich resource of ingredient which is useful for the immunity and Our health. The first step towards fighting infections is practicing preventive care and building your wellness quotient. This includes eating healthy and staying fit, along with including immunity boosters in your daily regimen. The aim should be to not only protect oneself against COVID-19 but also maintain a healthy body and mind for overall well-being

CONCLUSION

Curcumin can be considered a potential therapeutic agent for a variety of great inflammatory conditions. And used as a increase the Immunity. Tinospora cordifolia, commonly known as guduchi or giloy shows it to possess immuno stimulatory properties.

Plant products have widely been used as the basis of numerous therapeutic treatments. In Humans. Clove & clove oils are used various uses of clove as a flavouring agent in food. Pharmaceutical uses etc.

Ginger is used to treat several gastrointestinal Diseases & research finding studie Both preclinical and human studies.

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