

MEDICINAL PLANTS: AS A NATURAL IMMUNITY BOOSTER AGAINST COVID-19

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ABSTRACT

(COVID-19) Corona virus disease is an infectious disease caused and identified as a newly discovered Coronavirus. This is a pathogenic virus and its Full form is **Corona Virus Disease- 2019**. A novel coronavirus (CoV) is named '2019 novel coronavirus' or 'COVID-19' described by the World Health Organization. According to WHO that the current outbreak of pneumonia that began at the beginning of Dec. 2019 nearby Wuhan City, Hubei Province, China. The COVID-19 virus is a new virus linked to the same family of viruses as of SARS (Severe Acute Respiratory Syndrome) and then MERS (the Middle Eastern respiratory syndrome or camel flu) and it was appreciated that they could cause serious human infections. (WHO, 2020b). Those two infections are thought to have come from bats via civet cats and camels.

Keywords: COVID-19, WHO, SARS, MERS, Camel Flu.

Introduction

Corona virus can lead to Pneumonia, Respiratory failure, Heart problems, Liver problems, Type 2 Disease, septic shock and death. Many COVID-19 complications may be caused by a condition known as Cytokine Storm. Therefore it an infection triggers human immune system to flood bloodstream with inflammatory proteins called Cytokines. Corona virus kill tissue and damage human body organs.

The Indian traditional medicine system is one of the oldest systems of medical practice in the world and has played an essential role into providing health care service to human society, right from its beginning. India has own identified on traditional medicine by exclusive distinction namely; Ayurveda, Unani, Siddha, Yoga and Homoeopathy (AYUSH) (Adhikari and Paul, 2018). Herbal medicines have good values not only in the treatment of normal disease but also in the treatment of COVID. In many countries, scientific investigations of medicinal plants have been initiated because of their potential (WHO, 2002-2005). Traditional medicine and ethno-botanical information plays a significant role in scientific research.

AYUSH Kwath

Now a days, Ministry of AYUSH is inspiring, use of AYUSH kwath, formulation of kwath is a ready-made for health promotes of the masses. The formulation is made of four medicinal plants as *Ocimum sanctum* L. leaves, *Zingiber officinale* Roscoe rhizomes, *Cinnamomum verum* J. Presl. stem barks and *Piper nigrum* L. fruits. The formulation is available in the market with different names like 'AYUSH Kwath', or 'AYUSH Joshanda' 'AYUSH Kudineer'. It is available in powder form and in the tablet forms also in the market. These medicinal plants have been reported as an immunity booster (Alsuhaibani and Khan, 2017; Bhalla et al., 2017) and these active remedies are very effective against various viral diseases (Mair et al., 2016; Ghoke et al., 2018).

Explanation of Some Medicinal Plants along with Household Remedies

Many medicinal plants have anti-viral, anti-allergenic, anti-microbial, anti-inflammatory properties that fights against various type disease. Some plants are describe below;

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Phyllanthus emblica/Emblca officinalis (Amla)**Family-Phyllanthaceae, Part Use-Fruit**

- Fruit is a natural immune boosting plant as it containing a powerful cocktail of vitamins C (ascorbic acid) and A, alkaloids, polyphenols and flavonoids such as quercetin and kaempferol.
- Fruit of Amla has strong antioxidant and anti-aging agent due to proliferation inhibition, apoptosis induction, invasion suppression, and angiogenesis inhibition.
- Juice of Amla is used to increase white blood cells, that's are main line of defense for the immune system. White blood cells (WBC) are attack and eliminate on foreign toxins and substances into the bloodstream throughout the body.
- Studies revealed that *E. officinalis* have anti-inflammtory, hypolipidemic, antiviral, antimicrobial, antifungal, antimutagenic and immunomodulatory activities.

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Ocimum santum(Tulsi)**Family- Lamiaceae****Plant Part Use-Whole Plant**

- Tulsi is known as the “mother medicine of nature” and “Queen of plants” and due to its multi medicinal qualities.
- It has antimicrobial activity as it present in Tulsi Essential Oil.
- Recent investigation has scientifically confirmed that a decoction from the leaves can cure infections of the upper respiratory tracts.
- It is used to enhance bodily resistance against stressful condition.
- Leaves along with black pepper is prepared for tea and ginger is taken to cure cold, cough and fever.
- Half tea spoon dried powder of seed is taken orally with milk to cure fever.

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Zingiber officinale (Adharak)**Family- Zingiberaceae****Part used-Rhizome**

- *Zingiber officinale* is a tuberous rhizome.
- Ginger has an effective antimicrobial, antifungal, and antiviral agent.
- Ginger havean aromatic essential oil and non-volatile pungent substances (gingerols and shogaol).
- The rhizome of plant is normally used in the treatment of cold, asthma and bronchitis.
- It's powdered are used in drug form capsules.
- It's alcoholic extracts (including tincture) used in combination with other drugs in extracts of tonic.
- The tea prepared from leaves along with *Ocimum sanctum*, black pepper and (ginger) *Zingiber officinale* is widely taken to cure cough, cold and fever.
- It exerts have antilipidemic, anti- oxidative, cardio tonic, antitumor genic, ant carcinogenic, cytotoxic and apoptotic activities, as well as immunology dilatory effects.

Ñ **Glycyrrhiza glabra (Mulethi)**

Family-Fabaceae

Part Use-Roots and Stolon



- It has chief constituent –Glycyrrhizin.
- **Anti-microbial activity-** It has anti-microbial activity. Roots are taken as a protection against virus, bacteria and fungi due to the presence of Glycyrrhizin that blocks the microbial growth.
- **Improves immunity-** Root extracts taken to increasing the production of lymphocytes and macrophage thereby improving defense mechanism & preventing microbial attack. It also helps in minimizing immune related problems as like- allergy and autoimmune complications.
- **Anti-inflammatory activity** – Liquorice are powerful anti-allergic, anti-inflammatory activity and used to cure chronic inflammation as arthritis, rheumatic problems and skin diseases and autoimmune diseases and also used to preventing any inflammatory problems as like conjunctivitis with the help of glycyrrhizin activity that counteracts negative effects caused by cortisol.

Ñ **Piper nigrum**

Family-Piperaceae

Family- Plant Part use-Dried fruit



- Black pepper (**Piper nigrum**) is also known as 'King of Spices'.
- It is a pungent, aromatic, digestive stimulant and nerve tonic as it contains a chemical piperine.
- *Piper nigrum* has good source of many anti-oxidant vitamins like vitamin-C and vitamin-A. These compounds help to remove harmful free radicals and help to protect from cancers.
- It is beneficial to cure cough and cold.
- The tea prepared from leaves along with *Ocimum sanctum*, black pepper and (ginger) *Zingiber officinale* is widely taken to cure cough, cold and fever.

Ñ **Tinospora cordifolia (Giloy)**

Family-Menispermaceae

Used part-Leaf, Bark, Stem, Root



- (Giloy) *Tinospora Cordifolia* is a universal medicinal plant that helps boost immunity.
- It is known as powerhouse of antioxidants which can fight free-radicals, keep cells healthy to get rid of diseases.
- Giloy is used in all types of fever and infections including Bacterial and viral infections.
- The plant is used for its immune-modulatory action.
- It is taken to reduce of several type disease like Swine Flu, dengue and Malaria as well.
- It used to help reduce to mental stress as well as anxiety.
- It used to helps get rid of toxins, boosts the memory, calms you down and makes for an excellent health tonic.
- It is also used into curing diabetes.

Conclusion

Medicinal plants are potentially provide an interdisciplinary approach like anti-inflammatory, anti-viral and immune-modulatory effects in management of COVID-19. Covid-19 is a very dangerous to human being because of non-availability of approved medicine and vaccines for its treatment. There are many medicinal plants that have been reported as an immunity booster against viral infections, and to have anti-allergic, anti-inflammatory activities, need to be tested against COVID-19.

Indian Traditional Medicines have a wide potential for being used in these tough times, owing to their longstanding use in community, ancient references and scientific evidence about their safety and clinical efficacy, Govt. of India, The AYUSH ministry has suggested several type suggestion timely, considering the strength and evidence of these systems of medicines and making considerable efforts to encourage researchers to explore herbal products for COVID-19.

According to AYUSH systems, herbal formulations have the support of evidence for immunity-enhancing, anti-inflammatory and antiviral effects. The medicinal plants species are very beneficial to immune boosting and fight against disease and virus like SARS-CoV-2 and COVID-19.

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