

Herbal Drug Used As Immuno Booster

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Abstract- In the domain of nutrition, exploring the diet–health linkages is major area of research. The outcomes of such interventions led to widespread acceptance of functional and nutraceutical foods; however, augmenting immunity is a major concern of dietary regimens. Indeed, the immune system is incredible arrangement of specific organs and cells that enabled humans to carry out defense against undesired responses. Its proper functionality is essential to maintain the body homeostasis. Array of plants and their components hold immunomodulating properties. Their possible inclusion in diets could explore new therapeutic avenues to enhanced immunity against diseases.

Index terms- Herbal Drug, Immune System, Immuno Booster Drug

INTRODUCTION

The usage of medicinal plants in recent years has increased because of their user-friendliness, and affordability. Current research findings have also shown that their toxicity level is low as compared to their synthetic pharmaceutical counterparts.¹ Lately, traditional medicine research has given high priority to immune boosting medicinal plants due to the prevalence of diseases like HIV/AIDS which affect the immune system.² However, very little information on plants with immune boosting potentials have been documented.³ Existing knowledge has been passed through generations by traditional health practitioners (THPs).⁴ An example of a plant that is widely used as immune booster by traditional healers within South Africa is Hypoxis hermerocallidea Fish locally known as African Potato.^{5,6} The corm of African potato is currently

used as traditional medicine (TM) and complementary alternative medicine (CAM) for patients infected with HIV/AIDS for its immune boosting potentials.⁷ Since the key role of the immune system is protection of the host against pathogenic agents, an impaired immune competence inevitably increases the susceptibility of invasion by pathogens

Herbal Drugs:

Herbal medicine (also herbalism) is the study of botany and the use of medicinal plants. Plants have been the basis for medical treatments through much of human history, and such traditional medicine is still widely practiced today.^[1] Modern medicine makes use of many plant-derived compounds as the basis for evidence-based pharmaceutical drugs



2. WHAT IS THE IMMUNE SYSTEM?

The immune system is an interactive network of organs, cells and proteins that protect the body from viruses and bacteria or any foreign substances. The immune system works to neutralize and remove pathogens like bacteria, viruses, parasites or fungi that enter the body, recognize and neutralize harmful substances from the environment, and fight against the body's own cells that have changes due to an illness.

The cells of the immune system originate in the bone marrow, then migrate to guard the peripheral tissues, circulating in the blood and in the specialized system of vessels called the lymphatic system.

When our immune system is working properly, we don't even notice it. It's when the performance of our immune system is compromised that we face illness. Under activity of the immune system results in severe infections and tumors of immunodeficiency, while over activity results in allergic and autoimmune diseases.

For our body's natural defenses to run smoothly, the immune system must be able to differentiate between "self" and "non-self" cells, organisms and substances. "Non-self" substances are called antigens, which includes the proteins on the surfaces of bacteria, fungi and viruses. When the cells of the immune system detect the presence of an antigen, the immune system recalls stored memories in order to quickly defend itself against known pathogens.

However, our own cells also have surface proteins, and it's important that the immune system does not work against them. Normally, the immune system has already learned at an earlier stage to identify these cells proteins as "self," but when it identifies its own body as "non-self," this is called an autoimmune reaction.)

The amazing thing about the immune system is that it's constantly adapting and learning so that the body can fight against bacteria or viruses that change over time. There are two parts of the immune system — our innate immune system works as a general defense against pathogens and our adaptive immune system targets very specific pathogens that the body has already has contact with. These two immune systems complement each other in any reaction to a pathogen or harmful substance.

3. HOW TO BOOST YOUR IMMUNE SYSTEM NATURALLY

According to Harvard Medical School, in order to function well, our immune systems require balance and harmony. Here are several ways to promote that balance through diet, exercise, supplements and other healthy-living strategies.

1. Remember your A-B-C-D-Es. A lack of micronutrients — i.e., vitamins — has been linked to reduced immunity. Taking a multivitamin supplement, along with eating a healthy diet rich in natural sources of nutrients, boosts overall health as well as the immune system. In particular, vitamins A, B2, B6, C, D and E have been studied in relation to immune response, and seem to play a key role in helping us avoid illness.
2. Get some sun. Spending some time in natural light is one of the key ways our bodies manufacture vitamin D. Vitamin D plays a role in helping our immune systems produce antibodies; low levels of vitamin D, on the other hand, have been correlated with a higher risk of respiratory infection
3. Open your mouth and say "om." While the physical effects of stress are still being studied by scientists, studies have so far proven that chronic stress can lead to a variety of negative effects on physical and emotional well-being, including a reduced immune response. Stress-reducing practices like meditation, massage, and even music can help us relax and improve our immune function.
4. Try turmeric. The bright orange-yellow spice that gives curries a distinct flavor and mustard its color also has anti-inflammatory properties, and there is increasing evidence that it helps prevent illness, too. Particularly relevant for seniors, extracts of turmeric seem to play a role in preventing cancer, slowing Alzheimer's, and alleviating arthritis pain.
5. Run a relaxing bath. A nice hot bath, with Epsom salt or relaxing aromatherapy scents, can go a long way toward reducing our stress — and making us sleepy. Sleep is one of the key ways our bodies repair themselves, and sleep deprivation, reports Mother Earth News, "activates the stress response, depresses immune function and elevates inflammatory chemicals."
6. Eat more vegetables. Vegetables, as well as fruits, nuts, and seeds, are loaded with particular,

cruciferous vegetables like cabbage, kale, and broccoli help support liver function, a key part of our bodies' natural detoxification process.

7. Micromanage your minerals. In addition to a range of vitamins, it is important to get enough — but not too much — of key minerals that are important to daily health. Selenium, according to Harvard Medical School, may help prevent cancer, and zinc is a critical ingredient for the proper function of our immune cells. However, experts caution that too much zinc can actually impair immune function, so it's important to stick to the recommended daily allowance.
8. Make room for 'shrooms. Certain types of mushrooms, particularly Japanese mushrooms like shiitake, maitake, and oyster mushrooms, have recently been shown to help support the production of immune cells. They're also loaded with antioxidants.
9. Try herbal remedies. Scientists are still studying the effectiveness of many herbal supplements traditionally used as health boosters, like echinacea and ginseng, but whether or not they have a measurable effect on the immune system, a soothing tea can help with relaxation, sleep, and stress reduction. Of course, you should always talk to a doctor before making herbal treatments a regular part of your arsenal.
10. Spice up your cooking. Pungent but tasty garlic and ginger are both delicious, immune-boosting additions to the family diet. Raw garlic in particular contains antimicrobial and cancer-fighting agents, and ginger has been used for centuries in traditional medicine to treat nausea, colds, and flu symptoms.

The Use of Herbal Remedies and Herbs for the Immune System:

Herbs for the immune system can be combined together with attention to diet and relaxation to further help your immunity.

From a nutritional perspective, natural ways to boost the immune system are best served by eating fresh and organic food with an emphasis on raw and steamed fruit and vegetables, unprocessed grain and nuts, and lean meat.

During times of immune stress, you will have a greater need for vitamins and minerals and may need

to supplement your diet in order to get enough of what your body needs.

A quality Vitamin B complex, Vitamin C, Iron, and Zinc are all great immune boosters and often can be found combined in one tablet to bolster a flagging immune system.

Herbs to boost the immune system need to be looked at closely as they can interfere with your medications, so seek help in making the decision on what herbs to take.

Immunity Boosting Herbs and Foods:

Boost your immune system with botanicals known to support our body's ability to fight infection.

When our immune system is running below its optimal level we are more susceptible to infections such as colds, flu and tummy bugs – as well as more serious conditions. So for good health we need to be pro-active in looking after our immune system in order to be 'fighting fit

One of the most interesting recent branches in medical science is psycho-neuro-immunology, which basically means that what we think and feel can affect our immunity.

A. Aloe Vera (Aloe Barbadensis Miller)



With an impressive nutrient profile of over 200 active constituents, Aloe Vera contains the polysaccharide "Acemannan" – a long chain sugar that injects itself into all cell membranes. It is a powerful immunomodulator which increases the fluidity of cell membranes, allowing toxins to flow out more easily and nutrients to flow in. This improves cellular metabolism throughout the body leading to an overall boost to energy production, cells are more resistant to viruses and pathogenic bacteria, and the kind of inflammation that can lead to all kinds of chronic disease is reduced.

B. Amla

□ (Phyllanthus emblica)



Amla has a regenerative effect on the immune system. Research has shown Amla berry extract to be an effective antibacterial against illness causing bacteria like staphylococcus and cholerae.

Amla is also loaded with powerful antioxidants and is extremely rich in vitamin C, nutrients that strengthen the immune system and mop up free radicals before they can do enough damage to impair important bodily functions.

C. Ashwagandha

(Withania somnifera)



Ashwagandha is a powerful herb for the immune system, which as an antioxidant supports overall immune system function. The main chemical constituents of the root activate enzymes and macrophages (Th1 helper cells), that can engulf disease before it manifests - defending the body against parasitic, bacterial and viral infections. It can also reduce the harmful suppressive effects of chemotherapeutic drugs on the immune system. Research studies have shown that Ashwagandha increases white blood cell counts, platelet counts, stem cells in the bone marrow and the amount and diversity of antibodies produced in the body. This is why it has been especially used in Ayurveda to support patients' recovery from illness.

D. Astragalus

(Astragalus membranaceus)



Astragalus has a long and enduring history as a potent immune boosting herb and disease fighter. It is an immunostimulant (an agent that stimulates the immune system) that it is known to increase the count of white blood cells and stimulate the production of antibodies, this builds up bodily resistance to viruses and bacteria.

There have been many clinical studies showing how Astragalus not only boosts the immune system, but also encourages an increase in immune cell (T-cells, natural killer cells, macrophages, immunoglobulin) activity, production, and function.

Astragalus appears to help trigger immune cells from a resting state into heightened activity. The number of macrophages (cells of the immune system that ingest foreign antigens to protect against infection) has been shown to increase after administering Astragalus. The natural killer cells of the immune system also have a markedly enhanced ability to fight intruders (five to six times higher than normal).

E. Camu Camu

(Myrcaria dubia)



The Camu Camu fruit contains more vitamin C than any other fruit known. The importance of this powerful vitamin to a healthy immune system cannot

be overstated - white blood cells which play a critical role in immune function, contain more than 20 times the amount of vitamin C than any other cell - These cells need constant replenishment to keep the immune system working to its optimum capacity. A powerful antioxidant, vitamin C can block free radicals and other pathogens from entering the body, helping the immune system to run more smoothly overall.

F. Cats Claw
(*Uncaria tomentosa*)



A recent study showed that Cat's Claw significantly elevated the infection fighting white blood cell count in adult men who supplemented with this herb for 6 months. Researchers also noted a repair in DNA – both single and double strand breaks. Its effect on the immune system appears to be two fold, with the ability to both boost and dampen immune response, depending on what is needed. Hyper immune responses can be contained,

G. Turmeric
(*Curcuma longa*)



Studies suggest that Turmeric can provide a boost to the white blood cells that help the body fight off bacteria, viruses and other ailments. Furthermore, studies have also been performed on Turmeric's

effects on inflamed white blood cells and the mediation of those cells.

The outcome of all studies provides evidence that Turmeric helps regulate the communication of white blood cells to the immune system and the rest of the body, providing a better connection and improved immune function.

Turmeric has also been found to increase the expression of perforin - a protein that plays an important role in immune response. It was shown to be twice as effective as curcumin alone in initiating immune responses.

H. Siberian Ginseng
(*Eleutherococcus senticosus*)



As an adaptogenic herb, Siberian Ginseng has the ability to effect “immunomodulation” – a process by which an immune response is altered to the desired level. This is partly achieved by recharging exhausted adrenal glands - when these glands become over-taxed it can lead to different systems in the body to break down. Siberian Ginseng consists of a group of glycosides known as “eleutherosides”. The evidence is mounting that Siberian Ginseng enhances and supports immune system response, making it a possible natural alternative in the long term management of various diseases of the immune system. German research has shown that it increases lymphocytes – important components of the immune system which act as the body’s primary defence against viral infections. They found that Siberian Ginseng significantly increases the activity and number of CD4 cells, a subset of T-lymphocyte cells, whose proper activity is crucial to the ability of the immune system to function normally.

The jury is still out as to how Siberian Ginseng achieves this powerful effect on the immune system, with some researchers believing it induces increased interferon biosynthesis (interferon is a powerful chemical which boosts immune-system activity). Others attribute its success to the naturally occurring polysaccharides (long chain sugar molecules), which stimulate the activity of special white blood cells called “macrophages”. Macrophages play a number of roles in the immune system, including the breakdown of infected cells and the stimulation of other immune cells.

I. Olive Leaf
(*Olea europaea* L.folium)



Olive leaves have been traditionally used for centuries to support the immune system, maintain overall good health and to relieve symptoms of coughs, colds and flu. It has five times (400%) more antioxidant power than the equivalent amount of Vitamin C.

The Olive Leaf also has anti-viral properties with research showing that extracts can effectively fight against a number of disease causing microbes. These powerful compounds destroy invading organisms and don't allow viruses to replicate and cause infection.

J. Garlic
(*Allium sativum*)



This pungent bulb, a staple in most kitchens and a member of the onion family, is one of the oldest horticultural crops and grows wild only in Central Asia, in countries including Turkmenistan and Uzbekistan. However, it was also used in Ancient Egyptian and Indian cultures thousands of years ago. And, is well-known for both its flavor and its numerous health benefits. One its compounds called Allicin, released when garlic is cut or crushed, has potent anti-bacterial and anti-fungal properties, though this compound breaks down and loses its potency when exposed to high heat. Studies indicate that garlic can also help prevent colds and chest infections, particularly when eaten raw. For tasty plant-based recipes incorporating garlic, check out this Smoked Garlic Hummus, or make some Sweet Potato Noodles with Garlic Cashew Cream

K. Ginger
(Hardihood)



This knobby rhizome (a word meaning “mass of roots” in Ancient Greek) originated in Southeast Asia thousands of years ago. Since, it's been cultivated and grown in many other countries. Ginger contains chemicals called sesquiterpenes that target cold viruses. It also helps suppress coughing and soothes a sore and scratchy throat. It can also inhibit certain types of bacteria, such as Salmonella (a type of food poisoning). And it has powerful pain relieving properties. If you're looking for some tasty ginger-infused recipes, check out this warming Pumpkin Ginger Chickpea Soup, or sip on a tangy Flu Fighter Immunity-Boosting Lemon Ginger Turmeric Tonic, packed with antioxidants and perfect for any time of year

Ministry of AYUSH
Ayurveda's immunity boosting measures for self care during COVID 19 crisis

In the wake of the Covid 19 outbreak, entire mankind across the globe is suffering.

Enhancing the body's natural defence system (immunity) plays an important role in maintaining optimum health.

We all know that prevention is better than cure. While there is no medicine for COVID-19 as of now, it will be good to take preventive measures which boost our immunity in these times.

Ayurveda, being the science of life, propagates the gifts of nature in maintaining healthy and happy living. Ayurveda's concepts of "Dinacharya" - daily regimes and "Ritucharya"- seasonal regimes to maintain healthy life. It is a plant-based science.

The simplicity of awareness about oneself and the harmony each individual can achieve by uplifting and maintaining his or her immunity is emphasized across Ayurveda's classical scriptures.

Ministry of AYUSH recommends the following self-care guidelines for preventive health measures and boosting immunity with special reference to respiratory health. These are supported by Ayurvedic literature and scientific publications.

General Measures

Recommended Measures

1. Drink warm water throughout the day.
2. Daily practice of Yogasana, Pranayama and meditation for at least 30 minutes as advised by Ministry of AYUSH (#YOGAatHome #StayHome #StaySafe)
3. Spices like Haldi (Turmeric), Jeera (Cumin), Dhaniya (Coriander) and Lahsun (Garlic) are recommended in cooking.

II Ayurvedic Immunity Promoting Measures

1. Take Chyavanprash 10gm (1tsf) in the morning. Diabetics should take sugar free Chyavanprash.
2. Drink herbal tea / decoction (Kadha) made from Tulsi (Basil), Dalchini (Cinnamon), Kalimirch (Black pepper), Shunthi (Dry Ginger) and Munakka (Raisin) - once or twice a day. Add jaggery (natural sugar) and / or fresh lemon juice to your taste, if needed.
3. Golden Milk- Half tea spoon Haldi (turmeric) powder in 150 ml hot milk - once or twice a day.

III Simple Ayurvedic Procedures

1. Nasal application - Apply sesame oil / coconut oil or Ghee in both the nostrils (Pratimarsh Nasya) in morning and evening.
2. Oil pulling therapy- Take 1 table spoon sesame or coconut oil in mouth. Do not drink, Swish in the mouth for 2 to 3 minutes and spit it off followed by warm water rinse. This can be done once or twice a day.

IV During dry cough / sore throat

1. Steam inhalation with fresh Pudina (Mint) leaves or Ajwain (Caraway seeds) can be practiced once in a day.
2. Lavang (Clove) powder mixed with natural sugar / honey can be taken 2-3 times a day in case of cough or throat irritation.
3. These measures generally treat normal dry cough and sore throat. However, it is best to consult doctors if these symptoms persist.

The above measures can be followed to the extent possible as per an individual's convenience.

These measures are recommended by following eminent Vaidyas from across the Country as they may possibly boost an individual's immunity against infections.

1. Padma Shri Vaidya P R Krishnakumar, Coimbatore
2. Padma Bhushan Vaidya Devendra Triguna, Delhi
3. Vaidya P M Varier, Kottakkal
4. Vaidya Jayant Devpujari, Nagpur
5. Vaidya Vinay Velankar, Thane
6. Vaidya B S Prasad, Belgaum
7. Padma Shri Vaidya Gurdeep Singh, Jamnagar
8. Acharya Balkrishna ji, Haridwar
9. Vaidya M S Baghel, Jaipur
10. Vaidya R B Dwivedi, Hardoi UP
11. Vaidya K N Dwivedi, Varanasi
12. Vaidya Rakesh Sharma, Chandigarh
13. Vaidya Abichal Chattopadhyay, Kolkata
14. Vaidya Tanuja Nesari, Delhi
15. Vaidya Sanjeev Sharma, Jaipur
16. Vaidya Anup Thakar, Jamnagar
17. Disclaimer: The above advisory does not claim to be treatment for COVID 19.

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