



## “HARNESSING NATURE’S STRENGTH: HERBS AS IMMUNITY ENHANCERS”

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### Abstract:-

For centuries, individuals have used regular medications to retouch a grouping of body ailments. The vast majority of phytochemicals, which have various pharmacological applications in addition, consolidate alkaloids, polyphenols, terpenoids, glucosinolates, and glycosides are viewed as in plants. Clinical exploration has exhibited the immunomodulatory properties of these dynamic mixtures. A substance known as a natural immunomodulator can either increment or diminishing the invulnerable framework's intrinsic and versatile immunological reactions. Overall sensible survey is at this point zeroed in on how different helpful plant parts can change the safe system. Different Rasayana Indian common spices have been shown to have immunomodulatory properties in a number of instances. The majority of the focus of the study is on 13 Indian kitchen recipes that are used as flavors and boost resistance in the body by both explicit and vague systems.

### 1.INTRODUCTION:-

The body's defense against pathogens and other harmful agents is the immune system. Through a succession of cycles known as the insusceptible reaction, it targets and battles creatures and substances that enter the body's frameworks and lead to sicknesses.

Leukocytes, or white blood cells, play a crucial role in this process. The thymus, spleen, bone marrow, and lymph nodes are just a few of the places in the body where these cells are produced and stored.

Through a network of lymphatic and blood vessels, the white blood cells, or leukocytes, travel throughout the body between organs and nodes. The immune system is able to effectively monitor the body for potential threats like germs or substances that could cause problems thanks to this organized process <sup>[1]</sup>.

### 1.1. History Of Immunology:-

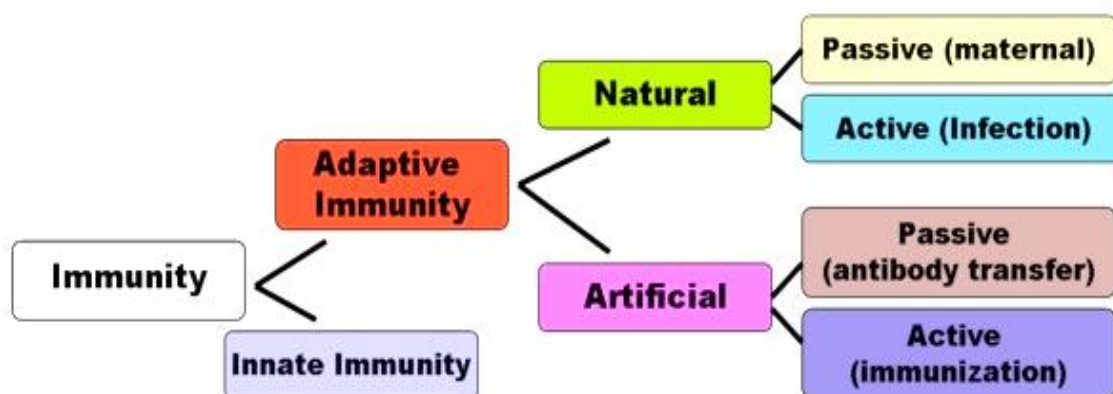
The study of the structure and function of the immune system is the focus of the scientific discipline known as immunology. According to researchers from the London School of Medicine (LSA), the Athens plague in 430 BC was the first-time immunity was mentioned in history. According to these experts, immunology is the study of the body's response to diseases <sup>[2]</sup>.

Pierre Louis Moreau de Maupertuis conducted research in the 18th century that involved experimenting with scorpion venom. Through this exploration, he mentioned the huge objective fact that particular canines and mice displayed a type of obstruction against the toxin's unsafe impacts <sup>[3]</sup>.

After that, these discoveries and other research into acquired immunity were incorporated into the creation of vaccines and Louis Pasteur's theory that germs are the cause of diseases. Pasteur's theory was completely at odds with the miasma theory and other prevalent theories about diseases. Robert Koch was awarded the Nobel Prize in 1905 for his groundbreaking work, which led to the recognition of microorganisms as the primary source of infectious diseases. In 1901, when Walter Reed identified the yellow fever virus, infections were thought to be human microorganisms <sup>[4]</sup>.

### 1.2. Types of immunity :-

There are two main categories of the immune system: adaptive and innate. Our quick and built-in natural defense system, known as inherent immunity, is our first line of defense. When we are repeatedly exposed to a variety of diseases or are immunized against them, we develop adaptive immunity. Antibodies are released whenever this adaptable immunity detects an outside threat within the body. Adaptive immunity produces antibodies in five to ten days, whereas innate immunity struggles to maintain stable levels of pathogens <sup>[5][6][7]</sup>.



**Fig 1.Types of Immune System**

#### 1.2.1.Innate Immune Response:-

the typical inflammatory response of the host to an infectious process. Infections prevent the intense stage protein reaction from occurring because early monocytes are not activated in the early stages of disease. However, when they neutralize infections, normal executioner cells have a significant impact on the host's protection. They can participate in cytotoxic action, immediately produce enormous amounts of interferon, which supports actuating versatile safe cells, and can recognize infection tainted cells without the requirement for an antigen <sup>[8]</sup>.

#### **General Immune Responses**

like supplement, irritant, and questionable cell responses. The provocative reaction effectively transports resistant cells to the contamination site by increasing blood flow to the affected area. Supplement is an insusceptible reaction that penetrates the cell layer of microorganisms and imprints them so that they can be destroyed <sup>[8]</sup>.

### **1.2.2. Adaptive Immune Response:-**

The limit of immune cells to isolate between the body's own cells and sad interlopers is huge for obtained safety. " The cells of the host express "self" antigens. These antigens are distinct from non-self or "foreign" antigens, which are found on the surfaces of bacterial or virally infected host cells. The second line of defense for the host is ineffective against microorganisms that deliberately give or lose their natural, ambiguous defenses (dynamic vaccination): gained protection <sup>[6]</sup>.

#### ***Natural immunity***

Antibodies made due to a normal pollution. incorporates antibodies provided by the mother's colostrum, which is the baby's first breastmilk. protects infant for a brief time during their most vulnerable period.

#### ***Artificial immunity***

antibodies that are created when antigen is ingested in an immunization or serum as opposed to a typical contamination. Normally doesn't keep going as long as when antibodies are made normally from a contamination.

#### ***Active immunity***

immunity that came from the body making its own antibodies. produced in response to vaccine antigens or an ordinary infection.

#### ***Passive immunity***

Resistance that comes from antibodies that come from another body, similar to those that come from mother's milk or are made falsely (neutralizer antibodies). Generally, doesn't continue onward as long as unique invulnerability as antibodies are not given by the body. The following diagram provides a summary of these divisions of immunity <sup>[6][7][8]</sup>.

### **1.3. Herbs:-**

For thousands of years, humans have relied on the pure or crude extracts of biological products derived from animals and plants to treat a variety of illnesses. Throughout the course of a person's life, herbs are utilized in numerous ways as base medicines. Research interest has zeroed in on different spices that have safe invigorating properties as a valuable component in decreasing the gamble of malignant growth.

In various spices, a far reaching of phytochemicals, have been recognized like the flavonoids, lignans, terpenoids, polyphenolics, sulfides, saponins, carotenoids, curcumins, plant sterols and phthalides. Several of these phytochemicals either inhibit nitrosation or increase the activity of protective enzymes like glutathione transferase, a phase II enzyme, when DNA is formed. A large number of plants contain strong cell reinforcement intensifies that give critical insurance against ongoing sicknesses. These mixtures might protect LDL cholesterol from oxidation, restrain cyclooxygenase and lipoxygenase proteins, forestall lipid peroxidation, or have antitumor action <sup>[9,10,11]</sup>.

### **2. HERBS AS IMMUNITY BOOSTERS:-**

#### **AMLA:-**

**Common name:-** Emblica, Indian gooseberry.

#### **Biological Source:-**

This consists of dried, as well as fresh fruits of the plant *Emblica officinalis* Gaerth (*Phyllanthus emblica* Linn).

**Family:-** Euphorbiaceae.

#### **Chemical constituents:-**

37% of emblicanin A, 33% of emblicanin B, and Pedunculagin (14%) and punigluconin (12%). Additionally, amla contains punicafolin and phyllanemblin A. other polyphenols, like flavonoids,

phyllanemblin, Gallic corrosive, ellagic corrosive, and kaempferol. The organic product itself of *E. officinalis*. Along with flavonoids like rutin, it also contains a variety of phytoconstituents like more minerals, vitamins, amino acids, fixed oils, gallic acid, ellagic acid, and other polyphenol oils.

**Uses:-**

Amla is a berry high in L-ascorbic acid that builds the body's making of white platelets (WBC) help in the treatment of a few diseases and contaminations. In Amla, further more plentiful in calcium, iron, and a few different minerals which produce the completely supplement thick natural product. Additionally beneficial for diabetes management and cholesterol reduction in Amla <sup>[12]</sup>.

**ASHWAGANDHA:-**

**Common names:-** Indian Ginseng, Indian Winter Cherry

**Biological Source:-**

It consists of the dried roots and stem bases of *Withania somnifera* Dunal.

**Family:-** Solanaceae.

**Chemical Constituents:-**

In addition to somniferine, pseudo withanine, tropine and pseudo tropine, hygrine, isopellederine, anaferine, anahygrine, and steroid lactones, the plants also contain the alkaloid withanine, which serves as their primary constituent. The leaves contain steroid lactone, usually known as withanolides.

**Uses:-**

It fills in as a cancer prevention agent. Ashwagandha churna fundamentally expanded neutrophil grip and the deferred type excessive touchiness (DTH) reaction after oral treatment. Ashwagandha churna likewise improved the cell insusceptibility. There are a lot of different benefits of ashwagandha for your body and mind. It can, for instance, aid in the treatment of anxiety and depressive symptoms, reduce blood sugar and cortisol levels, and improve cognitive performance <sup>[13][14]</sup>.

**GULVEL:-**

**Common Name:-**Amrita, Giloy, Guduch.

**Biological Source:-**

It Consist of dried, matured species of stem of *Tinospora cordifolia* Miers

**Family:-** Menispermaceae.

**Chemical constituents:-**

Cordifolioside A, N-methyl-2-(11-hydroxymustakone), pyrrolidone, N-formyl annonain, Magno florine, syringing, and tino cordiside are also present.

**Uses:-**

*Tinospora cordifolia* Concentrates from cordifolia are generally used in various regular solutions for different sicknesses diseases because of its enemy of occasional, against convulsive, antimicrobial, hostile to osteoporotic, mitigating, against hypersensitive, and hostile to diabetic attributes. *Tinospora cordifolia*'s use is highly valued in traditional medicine. For centuries, Ayurvedic medicine has been used to treat bone fractures, pain, asthma, skin conditions, poisoning, jaundice, chronic diarrhea, cancer, dysentery, and chronic gastrointestinal illness.

It influences how active the cells known as macrophages (body and microbes) that fight against foreign invaders aid in early recovery. Giloy's anti-inflammatory properties are well-known, and it also helps with tonsillitis, coughs, and other respiratory ailments. You can try Giloy powder, Kadha (tea), or pills for additional skin treatments. harms from the body with no issues. It has

pharmacological attributes too. Liver security, hepatoprotective, and immunomodulation hypoglycemic <sup>[15]</sup>.

### **PURPLE CONEFLOWER:-**

**Common names:-** Sampson, Snakeroot, Red sunflower.

### **Biological Source:-**

It is obtain from *Echinacea purpurea* (L.) Moench (EP) is a perennial herbaceous flowering plant.

**Family:-** Asteraceae.

### **Chemical constituents:-**

*Echinacea* has been found to contain muco polyccharides. Isobutyl mines, linoleic corrosive, echinaceine, echinacoside, and medicinal oils, glycosides, inulin, poly acetylenes, sesquiterpenes, betaine, and phenolics are among the fixings that are available. Additionally, echinacea contains trace amounts of calcium, iodine, and iron. potassium, copper, vitamin A, vitamin E, sulfate, and supplement <sup>[16][17]</sup>.

### **Uses:-**

*Echinacea* can aid the treatment of in spite of being cold, it won't stop one. Additional applications for echinacea against a wide range of ailments, including syphilis, typhoid, tonsillitis, streptococcal infections, cholera, and diphtheria, vaginal yeast infections, genital herpes gum disease, and septicemia (bloodstream infections). Perhaps of the most generally utilized broadly utilized spice and have been totally explored for their invulnerability related impacts It has filled in as a resistance promoter for a scope of diseases, including this season's virus and colds. One of Echinacea's many benefits is its ability to "boost" the immune system <sup>[18][19]</sup>.

### **GINGER:-**

**Common name:-**Adarak, Rhizoma zingiberis, Zingibere..

### **Biological source:-**

The rhizomes, which are roscoed and dried in the sun

**Family:-** Zingiberaceae.

### **Chemical Constituents:-**

Ginger contains one to two percent volatile oil, five to eight percent pungent resinous substance, and starch. The medication's sharp flavor comes from gingerol, a yellowish sleek substance that is unscented and is liable for the medication's fragrant smell. Volatile oil is comprised of sesquiterpene hydrocarbons such as "zingiberol," "sesquiterpene alcohol," "bisabolene," "farnesen," and "sesquiphellandrene." Shogaol and gingerone are two other ingredients that are less acidic. Dehydrated gingerol results in the formation of shogal, whereas fresh rhizomes do not <sup>[20]</sup>.

### **Uses:-**

The immune system may benefit from the antioxidant and anti-inflammatory properties of ginger. In point of fact, taking ginger kashayam or ginger tea first thing in the morning has been shown to boost immunity and reduce the risk of disease. Honey and fresh rhizome juice are used to treat asthma and cough. The ginger rhizome is a flavoring ingredient with a warm, spicy flavor and strong aroma. A clinical preliminary when done on male persistence contenders who got ginger rhizome powder for a seriously significant time-frame showed an immense decline in fatigue. TNF- and C-reactive protein levels are lower <sup>[21][22]</sup>.

### **GARLIC:-**

**Common name:-** Lasan , Allium

**Biological Source:-**

Garlic is the ripe bulb of *Allium sativum* Linn.

**Family:-** Liliaceae.

**Chemical constituents:-**

Numerous valuable wellbeing related natural impacts of garlic (*Allium sativum*) are ascribed to its trademark organosulfur compounds. Allicin, a yellow liquid that gives garlic its distinctive smell, is the drug's active ingredient. It breaks down during distillation and is miscible with alcohol, benzene, and ether. Additional components of garlic that have been identified include alliin, fatty and volatile oils, mucilage, and albumin. Another dynamic fixing is alliin, which is unscented, takes shape from watery  $\text{CH}_3)_2\text{CO}$  and is totally insoluble in chloroform,  $\text{CH}_3)_2\text{CO}$ , ether, and benzene. The specific enzyme alliinase causes the garlic to be cleaved, and the resulting fission products have antibacterial properties comparable to those of allicin. Essential oil contains allicin, diallyl disulfide, and allyl propyl disulfide (0.06-0.1%). Glutamyl peptides can be isolated from garlic. The bulb contains the amino acids leucine, methionine, S-propyl-L-cysteine, S-propenyl-L-cysteine, S-methyl cysteine, S-allyl cysteine sulphoxide (alliin), and S-ethyl cysteine <sup>[23][24][25][26]</sup>.

**Uses:-**

The essential part of garlic that kills microorganisms. The best way to boost immunity with garlic and allicin is to eat it raw to get a boost. Garlic when bitten discharges The mouth discharges allicin, which the body then, at that point, retains <sup>[27]</sup>.

It is a perennial with bulbous roots that has a strong odour. For problems with the chest, cough, and asthma, a garlic decoction is used. Plants have antiviral, antioxidant, anti-inflammatory, Alzheimer's disease, and cancer-fighting properties <sup>[28]</sup>.

**TULSI:-**

**Common name:-** Sacred basil, Holy basil.

**Biological Sources:-**

Tulsi consists of fresh and dried leaves of *Ocimum sanctum* Linn.

**Family:-** Lamiaceae.

**Chemical constituents:-**

Tulsi leaves contain a pleasant, bright, yellow-colored volatile oil that ranges from 0.1 to 0.9 percent. The amount of oil in a drug varies according to its type, cultivation location, and collection date. Using steam distillation, the oil is extracted from the blooming tops and leaves. It contains roughly 70 percent eugenol, 3 percent carvacrol, and 20 percent eugenol-methyl-ether. Besides, caryophyllin is available. Seeds contain fixed oil with strong drying properties. The plant is also said to contain alkaloids, glycosides, saponin, tannins, a significant amount of vitamin C, and traces of maleic, citric, and tartaric acids.

**Uses:-**

Asthma and allergies, as well as bacterial and fungal infections, can be effectively treated with tulsi. Haritha outlines the advantages of Tulsi by stating that it is naturally rich in zinc and vitamin C and provides a strong immune system.

Some illnesses and infections, such as the common cold, the flu, and viral infections, can be prevented by keeping a Tulsi plant indoors. Tulsi, with its potent antibacterial and disinfecting properties, is an excellent plant for a number of purposes, including strengthening your defenses <sup>[29]</sup>.

### **ALOE VERA:-**

**Common name:-** Aloe, Ghrikumari

### **Biological Source:-**

Aloe is the dried juice collected by incision, from the bases of the leaves of various species of Aloe. *Aloe perryi* Baker, *Aloe vera* Linn or *Aloe barbadensis* Mil and *Aloe ferox* Miller.

**Family:-** Liliaceae.

### **Chemical constituents:-**

It contains salicylic and amino acids, lignin, sugars, saponins, enzymes, minerals, vitamins, and other vitamins. Antioxidants from C and E, like beta-carotene. It also has vitamin B12, folic acid, and choline.

### **Uses:-**

Help the immune and cardiovascular systems. Vitamins, minerals, and amino acids can be found in aloe vera<sup>[30]</sup>.

### **CLOVE:-**

**Common name:-** Clove buds, Clove flowers.

### **Biological source:-**

Clove consists of the dried flower buds of *Eugenia caryophyllus* Thumb.

**Family:-** Myrtaceae.

### **Chemical constituents:-**

Between 14 and 21% volatile oil is present in clove. Eugenol, acetyl eugenol, gallotannic acid, two crystalline principles, caryophyllenes, methyl furfural, gum, resin, and fiber are the additional components. Caryophyllin, which is similar to a phytosterol but does not have an odour, is different from eugenol, a colorless liquid. Eugenol, which gives clove oil its anesthetic and antibacterial properties, is present in 60–90 percent of the oil.

### **Uses:-**

Clove is utilized as an antibiotic, stimulant, carminative, aromatic, and flavoring agent. It can also be used as an anodyne and an antiemetic. Dentists use clove oil as an oral anesthetic and root canal disinfectant. Clove is utilized to treat looseness of the bowels, gastrointestinal worms, and other stomach related messes since it kills digestive parasites and has wide antibacterial capacities against organism and microorganisms. Clove oil can ease dental discomfort. It is said that eating cloves makes you more attractive, and putting a few drops of the oil in some water will make you stop vomiting. In small portions, eugenol is likewise utilized as a neighborhood sedative. In addition to being a potent germicide, the oil induces peristalsis and is an efficient expectorant for bronchial issues. The infusion and clove water are effective transporters of alkalies and aromatics<sup>[31][32][33]</sup>.

### **CAT’S CLAW:-**

**Common name:-** Samento, Peruvian liana, una de gato

### **Biological Source:-**

Cat's claws come in two major varieties that are widely used *Uncaria guianensis* and *Uncaria tomentosa*.

**Family:-** Rubiaceae.

**Chemical constituents:-**

Rhyncho phylline, compounds like iso pteropodine and allo iso pteropodine, phytosterols like beta-sitosterol, uncarine, quinovic acid, and proantho cyanidins, and the following are examples of oxindole alkaloids: catechin tannins, stigmasterol, and campe sterol.

**Uses:-**

Numerous examinations have shown that it further creates insusceptibility, gastrointestinal and stomach related conditions, spreading the word about it a well decision for treating Obtained Human Immunodeficiency Condition (Helps) and Disease [33].

Adaptogenic, anti-inflammatory, anti-oxidant, antibacterial, antitumor, antiallergic, and ulcer-fighting properties can be found in these substances [34].

**GINSENG:-**

**Common names:-** Asiatic ginseng, Chinese ginseng, five fingers, Japanese ginseng, Jintsam

**Biological sources:-**

*Panax ginseng* C.A. Mey and other *Panax* species like *Panax japonicus* (Japanese Ginseng), *Panax pseudoginseng* (Himalayan Ginseng), *Panax quinque-folius* (America Ginseng) and *Panax vietnamensis* (Vietnamese Ginseng).

**Family:-** Araliaceae.

**Chemical Constituents:-**

*Panax ginseng* contains triterpene glycosides, also known as saponins or ginsenosides. All bits of the plant contain various dynamic substances, like amino acids, alkaloids, phenols, flavonoids, proteins, polypeptides, and nutrients B1 and B2.

**Uses:-**

Ginseng has been used in a variety of ways since around 5000 B.C. It has been used to improve focus, stress tolerance, physical stamina, and fatigue reduction. Asthma, diabetes, gastritis, erectile dysfunction, impotence, and male fertility are just a few of the conditions it is used for. *Panax ginseng* is used to slow down the aging process, treat cancer, insomnia, neuralgia, rheumatism, dizziness, headache, convulsions, problems during pregnancy and childbirth, hot flashes associated with menopause, and to treat cancer.

*Panax ginseng* arrangements affect the invulnerable framework and the hypothalamuspituitary-adrenal pivot. In terms of stimulating the immune system, the researchers discovered that liquid ginseng extract is superior to standardised ginseng extract [35][36].

**TURMERIC:-**

**Common name:-** Saffron Indian, haldi, Curcuma, *Rhizoma cur-cumae*.

**Biological Source:-**

Turmeric is the dried rhizome of *Curcuma longa* Linn. (syn. *C.domestica* Valetton).

**Family:-** Zingiberaceae.

**Chemical constituents:-**

Turmeric powder has 60 to 70 percent carbohydrates, 6 to 13 percent water, 6 to 8 percent protein, 5 to 10 percent fat, 2 to 7 percent dietary oils, 3 to 7 minerals, 1-6% curcuminoids, and fiber. Volatile oil contains mono- and sesquiterpenes like zingiberene (25%), -phellandrene, sabinene, turmerone, arturmerone, borneol, and cineole. The essential oil's choleric effects are thought to be due to tolylmethyl carbinol [37].



**Uses:-**

Turmeric (67.8 mg/100 g) is one of the highest food sources of iron. milligrams of turmeric powder per 100 grams. Two milligrams of turmeric powder provide three grams of iron equivalent to one teaspoon. Iron is important. The immune system can be greatly improved by taking turmeric. Alzheimer's infection, looseness of the bowels, jaundice, liver issues, and urinary issues can be generally treated with iron. For these purposes, the rhizome, which is aromatic, stimulant, antiperiodic, and carminative, is utilized.

Curcumin is a yellow-orange molecule that can be found in turmeric. Curcumin has been found to inhibit parasite growth and nematocide activity. Curcumin lowers cholesterol levels, and the fact that all immune cells have cholesterol receptors during the immunological reaction helps immune cell homeostasis [38][39][40].

**WILD CARROT:-**

**Common name:-** Bee's Nest-Plant, Bird's-Nest, Devil's Plague, Queen Anne's Lace

**Biological source:-**

It is derived from the plant *Daucus carota*.

**Family:-** Apiaceae.

**Chemical constituents:-**

There are four distinct classes of phytochemicals found in wild carrots: polyacetylenes, carotenoids, phenolic compounds, and ascorbic acid.

**Uses:-**

The vital oils got from *Daucus carota* L. roots and blossoms. By combining carbon-nuclear magnetic resonance and spectrometry with gas chromatography, mass spectrometry, and hydro distillation, *Daucus maritimus* were produced. Because of their antibacterial activity, they stopped bacteria from growing. a few common microorganisms that can cause disease in humans, as well as a few strains that are ecologically and clinically distinct and have a significant minimum inhibitory and bactericidal concentrations [41][42][43].

**NEEM:-**

**Common name:-** Nimtree, Indian lilac

**Biological Source:-**

Neem is made up of either fresh or dried oil from seeds and leaves of *Azadirachta indica*.

**Family:-** Meliaceae.

**Chemical constituents:-**

**Neem leaves:** Azadirachtin, meliacin, quercetin, and other compounds found in Nembosterol, ascorbic acid, carotenoids, amino acids, etc.

**Neem seed:** Azadirachtin

**Neem kernals:** oil of margosa

**Neem barks:** Nimbin, Nimbinine, Nimbidine, nimbosterol, nimbidol, and margosin.

**Uses:-**

Neem has a calming effect and boosts immunity. inner pieces of your body. It has antibacterial and antifungal properties that keep your skin clear, healthy, and glowing. Neem has additional properties that purify blood.

Neem has blood-refining characteristics too, expanding both immunological frameworks that are cell- and lympho interceded. Neem capsules can prevent high fevers, malaria, the flu, dengue, and other infectious diseases. More than 70 varieties of terpenoids, also known as terpenes, have been identified in various Neem tree components. one particular Beta-caryophyllene, a neem terpenoid, has been shown to have calming, cell reinforcement, and painkilling properties benefits. The limonoids nimbolide, azadirachtin, and gedunin are among the more than 300 structurally distinct agents that alter cell signaling pathways <sup>[44][45]</sup>.

#### **THYME:-**

**Common name:-** Ajwaim

#### **Biological Source:-**

Thyme is a spice derived from the seeds of the plant *Trachyspermum ammi*.

**Family:-** Lamiaceae.

#### **Chemical constituents:-**

Thyme powder had a moisture content of 8.66 percent, as can be seen. The amount of fat and protein in thyme powder was high (12.48 percent). Also, the results show that the herbs have a lot of fiber, including thyme (30.33 percent) and ash (7.84 percent). Additionally, the results reveal a total carbohydrate content of 39.65 percent <sup>[46]</sup>.

Thyme contains 0.35 mg of pyridoxine or vitamin B-6; supplying approximately 27% of the recommended daily intake. The brain's levels of the beneficial neurotransmitter gamma-aminobutyric acid (GABA), which acts as a stress buster, are maintained by pyridoxine <sup>[47]</sup>.

#### **Uses:-**

Thyme is a platoon species of herbaceous plant that thrives in mountainous regions. It is commonly prescribed in folk medicine to treat mouth infections, stomach, intestine, and airways infections, coughing, gastroenteritis, and intestinal worms, as well as to strengthen the heart. It can also be used as a beverage in place of or in combination with tea. Due to their antiseptic, antispasmodic, antitussive, antimicrobial, antifungal, antioxidative, and antiviral properties, thyme extracts have been used in traditional medicine to treat a variety of respiratory conditions, including asthma and bronchitis <sup>[48][49]</sup>.

#### **ONION:-**

**Common name:-**Bulb onion, Common onion

#### **Biological source:-**

It is derived from the plant *Allium ascalonicum*. The most popular variety of the *Allium genus* is the bulb onion, a vegetable.

**Family:-** Amaryllidaceae.

#### **Chemical constituents:-**

Onions are the wellspring of a few phytomolecules, for example, polyphenolic synthetic substances, phenolic acids, flavonoids (fisetin, quercetin), ascorbic corrosive, and sulfur compounds. a plant that belongs to the monocotyledon family, which includes thousands of species like garlic, chives, and onions <sup>[50]</sup>.

#### **Uses:-**

A natural remedy for congestion in the nose makes use of *allium cepa*. in addition to strengthening the immune system. Onion incorporates Sulfur, zinc, selenium, L-ascorbic acid, and most vital quercetin, these solid minerals help your insusceptible framework. healthier and more robust system.

Flavonoids and the antioxidant component of quercetin are loaded with antiviral properties. Vitamin C, an essential nutrient for immune function, is abundant in the vegetable. Additionally, onions contain more lenium a trace element that enhances the immune system than any other vegetable. Selenium may be useful in the treatment of allergic and inflammatory viruses <sup>[50][51]</sup>.

### 3.Conclusions:-

A VARIETY OF HERBS AND PLANT MATERIALS THAT BOOST THE IMMUNE SYSTEM IN THE FOLLOWING WAYS:

- Improves immunological function
- Activates the body's natural defenses against harmful viruses, bacteria, allergies, and microorganisms, including parasites
- Increases intestinal immunoglobulin proteins' ability to defend against foreign invaders
- Possesses antioxidant properties
- Encourages DNA repairing

Nature's Immune Stimulator will therefore affect the body as a whole, enhancing quality of life.

A PART FROM DIET WE NEED TO FOLLOW CERTAIN RULES AND REGULATION FOR MAINTAIN AND IMPROVING HEALTH:-

- Avoid smoking
- Consume a lot of fruits and veggies.
- Regular exercise
- Keep a healthy weight.
- If you consume alcohol, do it only occasionally.
- Get enough sleep
- Take precautions against infection by washing your
- regular hand washing and meticulous meat preparation

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