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A REVIEW ON POLYHERBAL IMMUNE BOOSTER

Mohd. Adil*[1], Mohd. Bilal[2], Nitesh Kumar Singh[3], Prashant Kumar[4] and Dimpal Singh[5] Tomar

[1-4]PG Schloar Department of Pharmaceutics, Kharvel Subharti College of Pharmacy, Meerut-250005, Uttar Pradesh, India.

[5]Asst. Professor Department of Pharmaceutics, Kharvel Subharti College of Pharmacy, Meerut-250005, Uttar Pradesh, India.

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***Corresponding Author**
Mohd. Adil
PG Schloar Department of Pharmaceutics, Kharvel Subharti College of Pharmacy, Meerut-250005, Uttar Pradesh, India.

ABSTRACT

The immune system is one of nature's most fascinating inventions. It is an amazing protection mechanism designed to defend us against millions of bacteria, viruses, fungi, toxins and parasites. The immune system is very complex. It is made up of several types of cells and proteins that have different jobs to do in fighting against foreign invaders. If our immune system is working properly we are protected from dangers caused by microbes. If not, we suffer sickness and disease. It is possible to intervene in this process and make our immune system stronger using immune boosters. Immune boosters work in many ways. They increase the number of white blood cells in the immune system army, train them to fight against microbes causing diseases. This review article gives an overall view about some natural herbs like Ginger Turmeric Amla Giloy Honey and Aswagandha that have been proven clinically for their strongic immunostimulatory activities.

KEYWORDS: Ashwagandha, amla, honey, ginger.

INTRODUCTION

General weakness: Weakness is a feeling of being tired or exhausted, or experiencing a loss of strength. Weakness may not always be accompanied by obvious or visible illness. Short-term weakness may occur because of overwork, stress, or lack of sleep. You may also feel weakness after overcoming an illness, such as a cold or the flu. Some weakness may occur after vigorous physical activity.[1]

Weakness may occur throughout your entire body or in a specific area, such as your arms or legs. Weakness may also be localized to a single muscle such as a calf muscle in your leg.

You may also feel weakness as a symptom of depression. Depression is defined as feeling blue, miserable or sad. While occasional periods of sadness are normal, long-term depression, called clinical depression, may indicate serious emotional or psychological problems. Weakness or fatigue that is persistent always requires the prompt attention of your health care provider.

Weakness may also occur because of physical diseases or toxic disorders. Long-term (chronic) conditions, such as multiple sclerosis or an underactive thyroid, may cause weakness. Short-term (acute) conditions, such as a pinched nerve or a urinary tract infection, may also cause weakness. Other possible causes of weakness are toxic disorders (botulism), exposure to an insecticide, or shelfish poisoning.[2]

Weakness that is related to an acute condition may require emergency attention. Seek immediate medical care if you experience sudden onset of weakness on one side of your body or face; weakness with shortness of breath or palpitations; or weakness with loss of consciousness, severe chest pain, back pain, or abdominal pain. Seek prompt medical care if you have malaise along with other symptoms, such as abdominal pain or cramping, fever and chills, foul-smelling urine, or a general ill feeling.[3]

Classification of general weakness

Neuromuscular fatigue can be classified as either "central" or "peripheral" depending on its cause. Central muscle fatigue manifests as an overall sense of energy deprivation, while peripheral muscle fatigue manifests as a local, muscle-specific inability to do work.[4]

Neuro muscular fatigue

Nerves control the contraction of muscles by determining the number, sequence, and force of muscular contraction. When a nerve experiences synaptic fatigue it becomes unable to stimulate the muscle that it innervates. Most movements require a force far below what a muscle could potentially generate, and barring pathology, neuromuscular fatigue is seldom an issue.[5]

For extremely powerful contractions that are close to the upper limit of a muscle's ability to generate force, neuromuscular fatigue can become a limiting factor in untrained individuals.

In novice strength trainers, the muscle's ability to generate force is most strongly limited by nerve's ability to sustain a high-frequency signal. After an extended period of maximum contraction, the nerve's signal reduces in frequency and the force generated by the contraction diminishes. There is no sensation of pain or discomfort, the muscle appears to simply 'stop listening' and gradually cease to move, often lengthening. As there is insufficient stress on the muscles and tendons, there will often be no delayed onset muscle soreness following the workout. Part of the process of strength training is increasing the nerve's ability to generate sustained, high frequency signals which allow a muscle to contract with their greatest force. It is this "neural training" that causes several weeks worth of rapid gains in strength, which level off once the nerve is generating maximum contractions and the muscle reaches its physiological limit. Past this point, training effects increase muscular strength through myofibrillar or sarcoplasmic hypertrophy and metabolic fatigue becomes the factor limiting contractile force.[6-8]

Central fatigue

Central fatigue is a reduction in the neural drive or nerve-based motor command to working muscles that results in a decline in the force output.

Peripheral muscle fatigue

Peripheral muscle fatigue' during physical work is an inability for the body to supply sufficient energy or other metabolites to the contracting muscles to meet the increased energy demand. This is the most common case of physical fatigue—affecting a national average of 72% of adults in the work force in 2002.

The fundamental difference between the peripheral and central theories of muscle fatigue is that the peripheral model of muscle fatigue assumes failure at one or more sites in the chain that initiates muscle contraction.

Bacterial myositis, an inflammation of muscle tissues as the result of a bacterial infection, is commonly localized and occurs after an injury. *Staphylococcus* and *Streptococcus* organisms are usually responsible. General indications of infection, such as fever and increased numbers of white blood cells, are accompanied by local signs of inflammation, such as reddening, swelling, and warmth. Abscess formation is rare, except in persons who reside in tropical regions. In general, bacterial myositis responds to treatment with antibiotics and minor surgery.[9-13]

Role of herbal agent in stimulating immunity in the body

Ginger

Biologically, Ginger is a root or rhizome of the flowering plant known as *Zingiber officinale*, which is a native to India and Southeast Asia. Ginger belongs to the Zingiberaceae family. The anti-inflammatory and antioxidant properties in ginger can improve the immunity of the body. Consuming ginger tea or a medicinal ginger concoction on an empty stomach, in the morning, could keep away many diseases and strengthen the immune system.

Turmeric

It contains a yellow-colored chemical called curcumin, which is often used to color foods and cosmetics. Turmeric is commonly used for conditions involving pain and inflammation, such as osteoarthritis. It is also used for hay fever, depression, high cholesterol, a type of liver disease, and itching. Anti-inflammatory, antiseptic and anti-bacterial properties contained turmeric also contains curcumin.

Amla

The Indian Gooseberry or Amla is widely known for its abundance of antioxidants and rich nutrients. Amla juice is rich in essential minerals and vitamins such as carotene, phosphorus, calcium, iron, and vitamin B complex making it a powerful antioxidant.

Giloy

It is a powerhouse of antioxidants which fight free-radicals, keep your cells healthy and get rid of diseases. Giloy helps remove toxins, purifies blood, fights bacteria that causes diseases and also combats liver diseases and urinary tract infections.

Ashwagandha

Withania somnifera, known commonly as ashwagandha, Indian ginseng, poison gooseberry, or winter cherry, is a plant in the Solanaceae or nightshade family.

Ashwagandha, an herb used for more than 5,000 years in the practice of Ayurvedic medicine, can increase the body's white blood cells, which help boost immunity.

Honey

Honey is a sweet, viscous food substance made by honey bees and some related insects. Bees produce honey from the sugary secretions of plants (floral nectar) or from secretions of other

insects (such as honeydew), by regurgitation, enzymatic activity, and water evaporation. Bees store honey in wax structures called honeycombs. The variety of honey produced by honey bees (the genus *Apis*) is the best-known, due to its worldwide commercial production and human consumption. Honey is collected from wild bee colonies, or from hives of domesticated bees, a practice known as beekeeping or apiculture.

Honey gets its sweetness from the monosaccharides fructose and glucose, and has about the same relative sweetness as sucrose (table sugar). It has attractive chemical properties for baking and a distinctive flavor when used as a sweetener. Most microorganisms do not grow in honey, so sealed honey does not spoil, even after thousands of years.

CONCLUSION

The polyherbal approach is trending approach which covers the almost ailments as the herbal approach is free of serious adverse reaction or side effects it is efficacious, safe, potent, and compatible with excipients also it is promising approach for immunity building protocols.

The overall approach is based on phytoconstituent's action in treating immune diseases effectively.

The various study reveals that the herbal based formulation are trusted and highly efficacious it is not only safe but also effective and produces good result.

REFERENCES

1. Kaminski N.E. Faubert Kaplan B.L. and Holsapple M.P. "Toxic responses of the immune system". In: Casarett and Doull‟s Toxicology The Basic Science of Poisons. Edited by Klassen C.D. USA; McGraw-Hill Medical Publishing Division, 2008; 7: 485- 556.
2. Quinn PJ: "Mechanism of action of some immunomodulators used in veterinary medicine". In: Advances in veterinary science and comparitive medicine. Academic Press, USA, 1990; 38: 44-67.
3. Retief FP and Cilliers L: S. Afr. Med. J., 1998; 88(1): 50–53.
4. Ostoya P: Revue D'Histoire Des Sciences Et De Leurs Application, 1954; 1: 60–78.
5. Plotkin SA: Vaccines: past, present and future. Nat. Med., 2005; 11(4): S5–11.
6. Vogel HG: Drug Discovery and evaluations. New –York; Springer-Verlang, 2002; 2: 775- 790.

7. Kuby J: Cytokines. In Immunology, Edited by J. Kuby. New York: W. H. Freeman and Company, 1994; 297- 322.
8. Wagner H, Proksch A, Vollmar A, Kreutzkamp B and Bauer J: In vitro phagocytosis stimulation by isolated plant materials in a chemoluminescencephagocytosis model. Planta Med., 1985; 1: 39-44.
9. Makare N, Bodhankar S and Rangari V: Immunomodulatory activity of alcoholic extract of *Mangifera indica* L. in mice. J. Ethnopharmacol., 2001; 78: 133-137.
10. Kremer JM, Alarcon GS, Lightfoot RW, Willkens RF, Furst DE, Williams HJ, Dent PB and Weinblatt ME: Methotrexate for rheumatoid arthritis. Suggested guidelines for monitoring liver toxicity. Arthritis Rheum, 1994; 37: 316.
11. Upadhyay SN: "Plant products as immune response modulators". In: Proceedings of the International ayurveda conference, Sanjay Gandhi post graduate institute of medical sciences, Lucknow, 1997; 10.
12. Davis L, Kuttan G: Immunomodulatory activity of *Withania somnifera*. J. Ethnopharmacol, 2000; 71: 193- 200.
13. Dahanukar, SA and Thatte UM: Current status of Ayurveda in phytomedicine. Phytomed, 1997; 4: 359-368.