



Review Article

EVALUATING THE IMMUNOMODULATORY EFFECT OF *INDUKANTHAM GRITHAM*: AN AYURVEDIC PERSPECTIVE

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ABSTRACT

The basic principles of Ayurveda rely on the concept that *Sharira* is composed of *Tridoshas* (three humors), *Panchamahabhuthas* (five elements), *Sapthadhatus* (seven tissues). Any imbalance among them causes *Roga*. Ayurveda aims at maintaining the health of *Swastha* and curing the *Roga* in unhealthy. Classical texts of Ayurveda have defined immunity as (*Vyadhikshamatwa*) i.e., the ability of the body to prevent as well as arrest the progression of a *Roga*. In biomedical science immunology is that branch which covers the study of all aspect of immune response in all organisms. *Indukantham Gritham* an Ayurvedic medicine is recognized for its role in promoting health and enhancing immune function. It is composed of ghee, which is known for its rejuvenative properties, and several herbs with documented health benefits. Present article light on the concept of evaluating the immunomodulatory effect of *Indukantham Gritham*.

INTRODUCTION

In Ayurveda, immunity is considered as a vital aspect of overall health and is closely linked to the concept of *Ojas*. According to classical Ayurvedic texts, immunity includes both the body's resistance to diseases and its ability to maintain balance and harmony within. In Ayurveda immunity is known by the word *Vyadhikshamatva*. *Vyadhi* means disease and *Kshamatwa* means resistance, so it is the capacity of the body to resist disease^[1]. In *Caraka Samhita*, *Vyadhikshamatva* is closely associated with the strength of *Ojas* and *Agni*. *Ojas* is described as a key factor in the body's resistance to disease, while a strong *Agni* ensures proper digestion and assimilation of nutrients, contributing to overall immunity^[2]. During certain condition *Apathya ahaara* taken by a person who is over obese, over emaciated or whose muscles and blood are diminished markedly will easily get affected by disease due to weak immunity.

In modern view Immunity is the body's defense mechanism against pathogens, including bacteria,

viruses, fungi, and parasites. It is crucial for maintaining health and preventing infections. Immunity is categorized into two primary types:

- 1. Innate Immunity:** This is the body's immediate and non-specific response to pathogens. It includes physical barriers (such as the skin and mucous membranes), chemical barriers (such as stomach acid and antimicrobial peptides), and cellular defenses (such as phagocytes and natural killer cells). Innate immunity provides the first line of defense and is generally effective in preventing initial infection.
- 2. Adaptive Immunity:** Also known as acquired or specific immunity, this response is slower but highly specific to particular pathogens. It involves lymphocytes- T cells and B cells, that recognize specific antigens. Adaptive immunity also includes the development of memory cells that provide long-term protection and faster responses upon subsequent exposure to the same pathogen.
- 3. Immune Memory:** One of the hallmarks of adaptive immunity is the development of immune memory. Upon initial exposure to a pathogen, the immune system produces memory cells that persist long-term. These memory cells allow the immune system to respond more rapidly and effectively upon subsequent exposures to the same pathogen^[3].

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Bala and Vyadhikshamatwa relation: In Ayurveda both are inter related. Health of a person depends on the strength of the body (*Bala*). *Acharya caraka* says that before treating a person *Bala* has to be examined, as it is difficult to treat a person whose *Bala* is less. According to *Susrutha*, *Ojas* is considered as the essence of vitality and health. It is the final product of digestion and metabolism, reflecting the overall strength and energy of the body. Adequate *Ojas* is crucial for maintaining immunity and resistance to diseases. *Vyadhikshamatva* is closely linked to the presence of balanced *Ojas*, proper digestion (*Agni*), and harmonious *Doshas* (bodily humors). A strong *Ojas* signifies a strong immune system and overall resistance against illnesses.

Types of Bala

Sahaja bala: strength which exists in the body and mind from the very birth.

Kaalajabala: It is based on the seasonal strength and age of the person. In *Aadana kala* (late winter, spring and summer) the *Bala* of the persons will be less and in *Visarga kala* (rainy season, autumn and winter) *Bala* will be more. In case of age, *Uthama* (maximum) *Bala* in young age and *Alpa* (least) in child and old age.

Yukthikruthabala: Acquired strength by the diet and physical activities of the person in lifetime.^[4]

AIMS AND OBJECTIVES

1. To describe *Swastha* and *Vyadhikshamatwa* mentioned in Ayurvedic texts.
2. To analyse the ingredients of *Indukantham gritham*.
3. To describe the immunomodulatory effect of *Indukantham gritham*.

MATERIALS AND METHODS

The review is based on search in various classical texts and literary work on web using keywords *Vyadhikshamatwa*, immunity, *Indukantham Gritham*, *Ojas* etc to gather relevant data.

Ingredients and action of Indukantham Gritham

Indukantham Gritham is a unique formulation mentioned in *Sahasrayoga*. It is *Sheethalam* (cooling), *Avipaakam* (easy to digest), *Kaanthi samvardhakam* (enhances luster) and maintains the body's vitality consistently^[5]. Cures *Vaatamaya* (*Vata* related *Rogas*), *Kshaya*, *Mahodara*, *Gulmashoolam*, *Nimnonnatha Jwaraharam* (cures recurrent fever) and is *Bala vardhanam* (immunity boosting).

Ingredients are: *Putikaranja* (*Holoptelia integrifolia*) and *Devadaru* (*Cedrus deodara*): Anti-inflammatory properties, antioxidant effects, immunomodulatory Effects and antimicrobial activity^[6].

Dasamoola: *Brihati* (*Solanum indicum*), *Kantakari* (*Solanum xanthocarpum*), *Kharjura* (*Phoenix dactylifera*), *Gokshura* (*Tribulus terrestris*), *Pippali* (*Piper longum*), *Vasa* (*Adhatoda vasica*), *Shalaparni* (*Desmodium gangeticum*), *Prishnaparni* (*Uraria picta*),

Balamulaka (*Balanites roxburghii*), *Vidanga* (*Embelica ribes*) are anti-inflammatory, immunomodulatory, rejuvenative, good in respiratory and digestive health.^[7]

Shatapala: Also has immunomodulatory effect.

Ksheera and *Gritha* as base.

Tikta, *Katu*, *Madhura*, and *Kashaya* are the predominant *Rasas* in the formulation. *Tikta Rasa* helps pacify vitiated *Pitta*, alleviating burning sensations (*Daha*) by absorbing excess *Pitta*. It also possesses *Deepana* properties, enhancing digestion^[8].

All the ingredients of *Indukantha gritham* has immunomodulatory action. *Devadaru* and *Karanja* have antioxidant and antimicrobial property which protects the body by killing the harmful disease causing organisms. *Dasamoola* helps in digestive health and maintains normalcy of *Agni*. *Panchakola* composed of five medicinal plants that are known for their *Deepana Pachana* (digestive) and rejuvenative properties and has immense effect in maintaining the equilibrium of *Agni*. In Ayurveda "*Rogāḥ sarvepi mandāgnau*" – means all diseases (*Roga*) are caused by a weak or impaired digestive fire (*Mandāgnau*)." So, these ingredients of *Indukantham gritha* helps in preventing disease caused by impaired *Agni*. By all these special ingredients *Indukantham Gritham* can protect one from disease by immunity modulating and also cure the effected diseases. By this peculiar property it can be taken by a healthy individual for maintaining health and diseased one to cure from it. It can be used in the form of *Pravicharana sneha* to boost immunity in children also.

Preliminary studies from lab indicate that *Indukantham Gritham* exhibits significant immunomodulatory effects, particularly promoting a Th1-type immune response. In a study, *Indukantham Gritham* potential as an adjuvant in cancer chemotherapy is recorded. BALB/c mice were treated with *Indukantham Gritham* for 14 days, during which various parameters including hemoglobin levels, total and differential white blood cell counts, bone marrow cellularity, lymphocyte proliferation and function, macrophage phagocytosis, and tumor remission were assessed. Findings revealed that *Indukantham Gritham* administration significantly inhibited tumor development in mice with Dalton's lymphoma ascites. Additionally, *Indukantham Gritham* promoted leukopoiesis, leading to an increase in median survival time and overall lifespan in tumor-bearing animals^[9].

DISCUSSION

Indukantham Gritham possesses immunomodulatory effects, making it useful in managing various diseases and their associated side effects, such as those related to cancer. *Ghritha* exhibits properties like *Ojovardhaka*, *Rasayana*, and *Vayah sthapana*, indicating its potential to enhance longevity. *Rasayana*

ingredients support optimal tissue function, promote youthful vitality, and improve quality of life. *Oja*, regarded as the essence of *Teja Dhatus*, represents the body's strength and contributes to innate immunity, helping to protect individuals from various diseases^[10]. *Indukantham Gritham* nourishes the *Rasadi dhatus* and improves *Bala* and *Ojus* by its miraculous composition.

CONCLUSION

The word *Vyadhikshamatwa* means resistance to disease or immunity against the diseases. Normal *Dosa*, equilibrium of *Dhatus*, normal *Agni* and patency of *Srotas* are the factors which contribute for *Vyadhikshamatwa*. It has greater importance in Ayurveda. Proper *Dinacharya*, *Ritucharya* and the *Rasayanas* mentioned in Ayurveda help in keeping a good health. All unwholesome foods articles effects the *Rasadidhathu poshana* causing *Roga*. *Indukanta Ghritam*, with its diverse therapeutic activities and multiple ingredients, may outperform conventional drugs. It has demonstrated healing properties, enhanced platelet aggregation, inhibition of gastric acid secretion, and suppression of neo-angiogenesis, among other benefits. The medicines like *Indukantham Gritham*, *Chyavanaprasham* etc helps in eradicating the disease and improves the immune system. One who adopts Ayurvedic principles in day to day life will be free from diseases.

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