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INFUSION OF BASIL, GINGER AND THEIR IMPACT ON HEALTH

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ABSTRACT

Yashtimadhu (Glycyrrhiza glabra Linn.), commonly known as Licorice, is a plant with many health benefits. It has been used in traditional medicine for centuries to treat various conditions. This review discusses the different ways Yashtimadhu can be helpful, including its ability to reduce inflammation, improve digestion, support the immune system, and help with respiratory issues like cough and asthma. The plant also has healing properties for wounds, skin diseases, and ulcers. Additionally, Yashtimadhu helps in controlling fever, bleeding disorders, and digestive problems. This review highlights the many uses of Yashtimadhu in promoting overall health and well-being.

KEYWORDS: Yashtimadhu, Glycyrrhiza glabra, Ayurveda, Glycyrrhizin.

INTRODUCTION

Plants have been the cornerstone of traditional medicine systems for centuries, and Ayurveda has emphasized the use of *Dravyas* like *Yashtimadhu* for both preventive and curative purposes. *Yashtimadhu* is a highly revered herb categorized under *Vayasthapana* and *Kantya* Mahakashayas by Acharya Charaka. It is renowned for promoting longevity, enhancing voice quality, and offering *Rasayana* effects. Its sweet taste (*Madhura Rasa*), cooling potency (*Shita Virya*), and nourishing properties make it beneficial for a range of diseases including respiratory disorders, ulcers, skin diseases, and general debility.

The scientific name, *Glycyrrhiza glabra* Linn., is derived from the Greek words "glykos" (sweet) and "rhiza" (root), illustrating its characteristic sweet root. Given its diverse traditional uses and growing modern interest, a thorough review is essential to understand its multidimensional utility.

MATERIALS AND METHODS

This review was compiled using classical Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, along with contemporary pharmacological and botanical research articles from databases like PubMed, Scopus, Google Scholar, and AYUSH Research Portal. Inclusion criteria involved peer-reviewed articles, clinical trials, pharmacological studies, and classical commentaries related to *Yashtimadhu*.

PHARMACOGNOSY

Botanical Name: Glycyrrhiza glabra Linn.

Family: Fabaceae

Synonyms

- Sanskrit: Madhuka, Madhuyashti, Yashtimadhu
- Hindi: Mulethi
- English: Licorice

Parts Used: Root and rhizome

Morphology

- **Root:** Long, cylindrical, sweet-tasting, yellowish inside.
- **Leaves:** Pinnate, leaflets 9-17, ovate.
- **Flowers:** Pale blue to violet, in racemes.
- **Pods:** Compressed, containing several seeds.

Habitat: Native to parts of Europe, Asia, and the Mediterranean region. In India, it is cultivated in Punjab, Uttar Pradesh, and Kashmir.

Chemical Composition

The therapeutic properties are attributed to:

- Glycyrrhizin (glycyrrhizic acid) - 6–10%
- Flavonoids (liquiritin, isoliquiritin)
- Isoflavonoids

- Saponins
- Coumarins
- Sterols
- Essential oils

Types/Varieties

According to *Nighantus* and *modern classification*, two major types are recognized:

1. **Glycyrrhiza glabra** (Common licorice)
2. **Glycyrrhiza uralensis** (Chinese licorice)

Ayurvedic perspective

Classical texts mention *Yashtimadhu* varieties based on color and taste diffe (e.g., *Shwetamadhuka* and *Krishna Madhuka*).

PHARMACOLOGY

Pharmacological Action	Mechanism
Anti-inflammatory	Glycyrrhizin inhibits NF-κB activation → reduces inflammatory cytokines (TNF-α, IL-6) and COX-2 enzyme → lowers inflammation.
Hepatoprotective	Glycyrrhizin binds HMGB1 protein and reduces oxidative stress → protects liver cells from damage.
Anti-ulcer	Glycyrrhetinic acid increases gastric mucus secretion and inhibits acid production → protects gastric mucosa.
Antiviral	Glycyrrhizin blocks viral replication and boosts interferon production → enhances antiviral immunity.
Antioxidant	Flavonoids (glabridin, liquiritin) neutralize free radicals and activate Nrf2 pathway → reduce oxidative stress.
Anti-cancer	Glycyrrhetinic acid and isoliquiritigenin induce apoptosis (programmed cell death) and inhibit tumor cell growth.

Classical Properties (According to Ayurveda).

Property	Sanskrit Term	Description
Rasa	Madhura	Sweet
Guna	Guru, Snigdha	Heavy, unctuous
Virya	Shita	Cooling
Vipaka	Madhura	Sweet

Prabhava	Varnya, Kantya, Rasayana	Enhances complexion, voice, rejuvenator

Therapeutic Indications.

Disease (Indication)	Mode of Action
Kasa (Cough)	Acts as a **demulcent** — forms a soothing layer over the irritated mucosa of the throat and respiratory tract; reduces cough reflex. Stimulates mucus secretion, making sputum thinner and easier to expel (**expectorant action**).
Shwasa (Asthma)	Reduces airway inflammation by inhibiting **COX-2 and leukotriene synthesis**. Glycyrrhizin stabilizes mast cells, preventing histamine release. Slight **bronchodilator effect** improves airway passage.
Amlapitta (Hyperacidity)	Increases **gastric mucus production** and strengthens mucosal barrier; inhibits **histamine-mediated gastric acid secretion** by blocking histamine H2 receptors, reducing acid load and promoting ulcer healing.
Vrana (Wounds, Ulcers)	Promotes **fibroblast proliferation** and **collagen synthesis** aiding faster wound contraction. Reduces inflammation and microbial infection by its **antibacterial and anti-inflammatory** properties.
Kushtha (Skin diseases)	Inhibits **NF-κB pathway**, reducing pro-inflammatory cytokine production. Its antioxidant properties neutralize free radicals, aiding in skin repair and reducing hyperpigmentation, scaling, and inflammation.
Jwara (Fever)	Modulates immune response by suppressing overproduction of inflammatory cytokines (**IL-1, IL-6, TNF-α**) that mediate fever. Enhances body's defense by supporting macrophage and lymphocyte activity.
Raktapitta (Bleeding disorders)	Strengthens vascular endothelium, reduces capillary permeability and fragility. Glycyrrhizin shows **mild vasoconstrictor** activity and promotes normal blood clotting mechanisms.

Agnimandya (Digestive disorders)	Mildly stimulates digestive fire (**deepana** action) by promoting secretion of digestive juices; regulates **Pitta dosha** in GIT. Prevents bloating and indigestion through mild **carminative** action.

Common Formulations.

Formulation	Use
Yashtimadhu Churna	Cough, hoarseness
Kantakari Avaleha (with Yashtimadhu)	Respiratory disorders
Yashtimadhu Ghrita	Gastric ulcers
Yashtimadhu Taila	Wound healing
Khadiradi Vati (containing Yashtimadhu)	Oral ulcers

Modern Clinical Applications.

Condition	Dose	Result
Peptic ulcers	500 mg extract daily	Significant healing
Chronic hepatitis	2 gm/day extract	Improved liver enzymes
Skin disorders	Topical gels	Reduced eczema symptoms
COVID-19 supportive therapy	500 mg twice a day	Anti-inflammatory support

DISCUSSION

Yashtimadhu stands as an excellent example where classical and modern knowledge converges. Classical texts highlighted its ability to balance *Vata* and *Pitta doshas*, support *Ojas*, and act as a *Medhya* (brain tonic). Modern research corroborates these effects, illustrating its anti-inflammatory, hepatoprotective, and adaptogenic activities.

However, its chronic overuse can lead to pseudoaldosteronism characterized by hypokalemia, hypertension, and edema due to glycyrrhizin's action on mineralocorticoid receptors. Thus, rational and monitored use is essential, especially in hypertensive and cardiac patients.

The combination of *Yashtimadhu* with other drugs (Yogas) often potentiates its benefits, especially when used in formulations like *Sitopaladi Churna* or *Chyawanprash*.

CONCLUSION

Yashtimadhu is a versatile herb with immense therapeutic potential, validated through both traditional knowledge and contemporary scientific research. Its multi-faceted action profile makes it beneficial in a wide array of diseases, especially respiratory, gastrointestinal, and

inflammatory disorders. Nonetheless, caution regarding dosage and duration is warranted to avoid adverse effects.

There is a promising scope for further pharmacological investigations, clinical trials, and novel drug development based on its potent bioactive compounds. Reviving its application in clinical practice, integrating with modern medicine, and encouraging safe usage protocols can pave the way for broader acceptance and global recognition.

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