



Traditional Medicines – Sources and Clinical Applications

Ms. Sneha Bansode*, Bhavana Tambe, K. J. Tiwari

SMBT Institute of D Pharmacy, Nandi hills, Dhamangaon, Nashik, Maharashtra, India

Abstract

The Natural products and traditional medicines are of great importance; such forms of medicine as traditional medicine, Ayurveda and Unani have been practiced in some areas of the world and have blossomed into orderly regulated system of medicine. As per WHO traditional is sum total of the knowledge, skill and practices based on theories, beliefs and experience indigenous to different culture, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness.. Indian traditional medicines offer treatment methods to cure many common diseases such as food allergies, which have few modern treatments. Traditional medicines refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercise, applied singularly or in combination to treat, diagnose and prevent illness or maintain well being. There is an increasing demand for herbal medicines, health products, pharmaceuticals. *Glycyrrhiza glabra* Linn is a plant used in traditional medicine across the world for its ethnopharmacological value. It is found to contain important phytoconstituents such as glycyrrhizin, glycyrrhizinic acid, glabrin A and B and iso-flavones. It is effectively used as anti-inflammatory, anti-bacterial, anti-fungal, anti-diabetic, antiviral, anti-ulcer, antitussive, anti-oxidant, skin whitening, anti-diuretic agent.

Keywords: Traditional medicines, *Glycyrrhiza glabra*, glycyrrhizin, antitussive, anti-oxidant.

Corresponding author: Ms. Sneha Bansode, Email id - snehabansode2804@gmail.com, Contact- +91 8554043205

Introduction

Traditional medicines are not only used by the rural masses for their primary health care in developing countries but are also used in

developed countries where modern medicines dominate. The medicines in the traditional systems are derived from herbs, minerals, and organic matter while for the preparation of herbal

drugs only medicinal plants are used. Liquorice root is used as traditional medicine. Liquorice root is known as sweet root, is used mostly as a sweetner in candies and beverages. Used as medicinal plants. Liquorice is available in many forms either containing glycyrrhizin or as deglycyrrhized liquorice. Liquorice is taken by mouth alone or with other herbs for various digestive system complaints inducing stomach ulcers, heart burn, colic, and ongoing inflammation of the lining of the stomach. Dosage of liquorice root should not exceed 30 mg/ml of glycyrrhizin acid. *Glycyrrhiza glabra* Linn is one of the most extensively used medicinal herb from the ancient medical history of Ayurveda. It is also used as a flavouring herb. The word *Glycyrrhiza* is derived from the Greek term *glykos* (meaning sweet) and *rhiza* (meaning root). *Glycyrrhiza glabra* Linn, commonly known as 'liquorice' and 'sweet wood' belongs to Leguminosae family. Vernacular names for liquorice are Jeshthamadh (Marathi), Jothi- madh (Hindi), Yashtimadhu, Madhuka

(Sanskrit), Jashtimadhu, Jaishbomodhu (Bengali), Atimadhuram, Yashtimadhukam (Telugu), Jethimadhu (Gujarati) and Atimadhuram (Tamil) (Chopra RN et al; 2002).

In traditional medicine, liquorice has been recommended as a prophylactic agent for gastric and duodenal ulcers. It is employed in dyspepsia as an anti-inflammatory agent during allergenic reactions (Ammosov S et al; 2003). It is used as a contraceptive, laxative, anti- asthmatic, emmenagogue, galactagogue, antiviral agent in folk therapy (Saxena S; 2005). *Glycyrrhiza* roots are useful for treating cough because of its demulcent and expectorant property (Anonymous; 2019). It is also effective against anemia, gout, sore throat, tonsillitis, flatulence, sexual debility, hyperdyspsia, fever, skin diseases, swellings. Liquorice is effectively used in acidity, leucorrhoea, bleeding, jaundice, hiccough, hoarseness, bronchitis, vitiated conditions of Vata dosha, gastralgia, diarrhea, fever with delirium and anuria (Sheth A; 2005: Kaur et al; 2013).

Table 1: Some Traditional Medicines

Plant	Family	Chemical Constituents	Uses
Ginger	Zingiberaceae	1 to 2% volatile oil, starch, gingerol.	Stomachic, carminative, stimulant, flavouring agent, mouth washes, ginger beverages, liquors.
Clove	Myrtle	72 to 90% essential oils, eugenin.	Pain control during dental work, flavouring agent, perfumes, soaps, cosmetics.
Aloe-vera	Liliaceae	Aloe emodin, barbaloin.	Irritant purgative, carminatives, cosmetics as a protective, stimulates the growth of hairs.
Adulsa	Acanthaceae	Vasicine, vasicol.	Anti ulcer, wound healing, cosmetics.

Neem	Meliaceae	Stearic acids, oleic acids, meliantriol, quercetin.	Antiseptics & disinfectants, antifertility, antiviral, treatment of AIDS.
Tulsi	Labiatae	0.1 to 0.9% volatile oil, traces of maleic, citric, and tartaric acid.	Antibacterial and insecticidal, fresh leaves and volatile oil for various purposes.
Turmeric	Zingiberaceae	5% volatile oil, borneol, curcumin.	Antiseptic, expectorant, coloring agent, ointments and creams.
Garlic	Lilaceae	29% carbohydrates, 56% proteins, 0.1% fat mucilage, 0.06 to 0.1% volatile oil	Expectorant, stimulant, disinfectant, treatment of pulmonary conditions, carminatives, rubefacient.
Cinnamom	Lauraceae	0.5 to 1.0% volatile oil, 1.2% tannins, starch, 5 to 10 % eugenol .	Carminative, stomachic, mild astringent, flavoring agent, stimulant, aromatic, antiseptic.

Taxonomy of *Glycyrrhiza glabra*-

Kingdom –Plantae; Family: Leguminosae;
Division: Angiospermae; Genus: Glycyrrhiza;
Class: Dicotyledoneae; Species: glabra Linn;
Order: Rosale

Medicinal Uses

Liquorice is the extract of *Glycyrrhiza glabra* roots and is often used in ancient Siddha medicine and is approved by the German commission. Liquorice is used for gastritis, cough, bronchitis, ulcers, inflammation, and epilepsy. The association between the use of liquorice and hypertension is well established. Liquorice root is used to soothe gastrointestinal problems. In cases of food poisoning, stomach ulcers, and heartburn, liquorice root extract can speed the repair of stomach lining and restore balance. This is due to the anti-inflammatory and immune-boosting properties of glycyrrhizic acid (Baker ME; 1994). Liquorice is recommended to

treat respiratory problems. Taking licorice as an oral supplement can help the body produce healthy mucus. Increasing phlegm production may seem counterintuitive to a healthy bronchial system. Over time, stress can leave the adrenal gland exhausted by constantly producing adrenaline and cortisol. Liquorice supplements can give the adrenal gland some relief. Liquorice root extract can stimulate the adrenal gland, which promotes a healthy level of cortisol in the body. Topical gels containing licorice are recommended for treating eczema. Liquorice can be a successful dermatological treatment due to its antibacterial properties. For that reason, holistic health practitioners often suggest applying licorice to tooth decay to kill bacteria.

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Anti-inflammatory Use

Anti-inflammatory activity Licorice root (Glycyrrhiza) extract promotes the healing of ulcers of the stomach and mouth. The fact was known for over 2000 years. But the scientific studies for finding out possible mechanism began in 1950's. It is reported that glycyrrhetic acid in licorice extract gives anti-inflammatory effect similar to glucocorticoids and mineralocorticoids. According to In vitro studies, glycyrrhizic acid inhibits all factors responsible for inflammation.

Anti-bacterial Use

Anti-bacterial Activity Because of the presence of secondary metabolites such as; saponins, alkaloids, flavonoids in hydro-methanolic root extract of Glycyrrhiza glabra, the extract exhibits potent antibacterial activity (Sharma V et al; 2013).

Anti-malarial Use

Licochalcone A (a chalcone) present in licorice

has reported to possess very good antimalarial activity. All Glycyrrhiza species have this compound in different amounts and it can be isolated from them. In vivo studies against *P. yoelii* in mice with oral doses of 1000 mg kg⁻¹ have shown to eradicate malaria parasite completely. Also no toxicity was observed (Sianne S, Fanie RVH; 2002).

Anti-hyperglycemic Activity

The effect of licorice extract on serum lipid profile and liver enzymes was studied in albino mice. Root extract of Glycyrrhiza glabra was found to have anti-lipidemic and antihyperglycemic activity at low doses (Revers FE; 1956).

Conclusion

Traditional medicine licorice have applications across diverse cultures include as both a demulcent and an anti-inflammatory, often used to soothe respiratory gastrointestinal (GI) symptoms. It also recommended as a laxative, anti-anthelmintic and anti-viral agents. It

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