

METHI A WONDERFUL HERB AND ITS THERAPEUTIC USES: A PHARMACOGNOSTIC PERSPECTIVE

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ABSTRACT

Methi (*Trigonellafoenumgraecum*L.) a well-known herb in Ayurveda since long time. Bhavprakash Nighantu includes methi seeds under the “Chaturbeeja Vargas” with other three seeds which used in indigestion, abdominal pain and flatulence. Fenugreek is known as the Asian beauty secret for skin, hair and health for their anti-septic, anti-inflammatory, hypoglycemic, digestive, anti-spasmodic and oxidative properties. Methi seeds have rich source of proteins, fibers, diosgenin (a steroidal sapogenin), mucilage and fixed oil by which methi shows different therapeutic action.

KEYWORDS: Methi, Chatuebeeja, Diosgenin.

INTRODUCTION

Methi (*Trigonellafoenumgraecum*L.)^[1], a well-known herbs in Ayurveda since long time, is being used extensively, now a days. We have a number of classical formulations with great therapeutic significance. Methi seeds are described under the “ChaturbeejaVargas”^[2] of Bhavprakashlitrature. Methi was not clearly mentioned in the “BrihatTrayee” texts of Ayurveda but later it was mentioned in different Nighantus^[3,4] with a number of synonyms. The seeds are mainly used as an anti-spasmodic, anti-diabetic, aphrodisiac, appetizer, digestive, purgative, and a stimulant. It is as potent as cod liver oil because it contains phosphate, lecithin, nucleo-albumin etc. so used in anemia, bone disorders. Fenugreek is known as the Asian beauty secret for acquiring beautiful and healthy skin for their anti-septic, anti-inflammatory and oxidative properties.^[5]

Synonyms

Methika, Methini, Deepani, Gandhaphala, Vallari, Manthya, Mishraphala, Peetbeeja, Bhau-patrika, Bhodhini, Chandrika.^[6]

Scientific classification:^[7]

Kingdom	Plantae	Orders	Fabales
(Unranked)	Angiosperms	family	Fabaceae
(Unranked)	Eudicots	Genus	Trigonella
(Unranked)	Rosids	species	T. foenum-graecum

In Ayurveda, Bhavprakash Nighantu was classified in Haritkyadi Verga, Nighantuadarsa classified in Plasadi Verga, Raj Nighantu classified in Piplayadiverga and Dhanvantari Nighantu^[8] classified in Swarnadi Verga on the basis of their Guna and Karma (properties and active function)

Botanical distribution^[9]

Erect, annual herb, 30-50 cm high. Leaves trifoliate; leaflet 2-3 x 0.5-2 cm, obovate-oblongate, with entire margins. Flowers pale yellow, about 5 mm across, axillary, solitary or in pairs. Fruits have an elongate pod with a long beak. Seeds 15-20, yellowish or light brown, somewhat quadrangular in outline. Flowering and fruiting particularly in November to January. It is cultivated throughout India.



Picture shows that Methi shrubs with flowers, seeds and legume.^[10]

Pharmacological properties of Methi^[11]

Its seeds possess Katu Rasa; Laghu, SnigdhaGuna; UshnaViryaand KatuVipaka. So it has Vata-kaphadoshahar properties.

Part used

Seeds and whole plant.

Preparation and Dosage

Seed powder- 3-6 gm.

Specific formulation

Methimodak, Madanamodak, Mritasanjeevani, Shrika-meshwaramodak.

Chemical composition^[12]

Diosgenin, a steroid sapogenin found in fenugreek is the starting compound for over 60% of the total steroid production by the pharmaceutical industry. Other sapogenins found in fenugreek seed include yamogenin, gitogenin, tigogenin, and neotigogens. Fenugreek seeds contain alkaloids, including trigonelline, gentianine and carpaine compounds. The seeds also contain fiber, 4-hydroxyisoleucine and fenugreekine, a component that may have hypoglycemic activity. Other constituents of fenugreek include mucilage, bitter fixed oil, volatile oil, and the alkaloids choline and trigonelline.

These seeds are a rich source of fiber and protein. Whole Fenugreek seeds also contain 4.8% saponins. Fenugreek seed saponins are of steroidal nature (type furostanolsaponins) with diosgenin as the principal steroidal saponin.

Fenugreek seeds contain alkaloids, including trigonelline, gentianine and carpaine compounds. The seeds also contain fiber fenugreekine, a component that may have hypoglycemic activity. Crude fiber is composed of cellulose, which is a complex molecule composed of glucose molecules. Related to cellulose is hemicellulose - one type of hemicellulose is pectin. Lignin, another form of crude fiber, is not a carbohydrate per se, but it is of plant origin and is also indigestible, which prevents the rapid uptake of glucose in the small intestine, slows gastric emptying, aids in blood sugar retention in diabetic patients and may also be effective in the treatment of hypercholesterolemia.

Two compounds were isolated from the leaves and stems of *Trigonella foenum-graecum*, and on the basis of spectral analysis, their structures were elucidated as gamma-schizandrin and scopoletin. They were isolated from *T. foenum-graecum* for the first time

Therapeutic uses: Wonderful uses of fenugreek (methi) as follow**1. Benefits for Skin^[13]**

Methi seed and leaves apply internal and external with various adjuvants produces healthy skin. It is an herbal cure for skin inflammation. It can treat boils, abscesses, eczema, muscle pain, burns and gout among other problems. It can relieve local inflammatory pain and swelling when used as a poultice. It can be useful against blackheads and wrinkles as well. It draws out toxins accumulated underneath the epidermis and tones the outer layers of the skin. Thus, both ingestion and external application of this is useful to help you get that desired glow on skin. Fenugreek is a natural anti-ageing remedy too. It combats free radicals in the body; repairs damaged skin cells; and regenerates new ones, effectively. It smoothly exfoliates face skin to reveal the beautiful skin beneath. This scrub helps exfoliate the skin and removes dead skin cells, making skin healthy and shiny. Fenugreek can also be used to lighten your complexion. It improves complexion and minimizes the appearance of fine lines. Consumption of fenugreek is said to work wonders in protecting skin against harmful radiation of sun and damage caused by sun exposure.

2. Fenugreek Seeds for Hair^[14]

Methi seeds are extremely effective against hair fall, dandruff and help to reverse baldness and hair thinning. Fenugreek seeds or methi contain proteins and nicotinic acid which are a great source for hair growth. It contains large amounts of lecithin which makes our hair healthy and strong, and hydrates the hair. It helps to reduce the dryness of the hair, cures dandruff, conditions the hair, keeps the scalp cool and treats a variety of scalp issues. It is highly effective against hair fall and provides strength from the roots. The lecithin in methi helps in strengthening dry and damaged hair. The natural tonic helps in moisturizing the hair and bringing back the luster and bounce. Dandruff is a common hair ailment and it surfaces specially during the winter months. There are various treatments and procedures to treat dandruff and one of the most basic and an effective cure is using methi seeds. It is also effective against a dry scalp and dermatitis. Fenugreek seeds contain lecithin, an emulsifying substance. When soaked in water, the seeds produce a slippery substance which endows hair with shine. This quality makes methi seeds for hair conditioning an optimal choice. The mucilage of fenugreek replicates that slippery effect. One of the most popular uses of fenugreek for hair is to reverse baldness. Fenugreek contains hormone antecedents that enhance the hair growth and help in strengthening and rebuilding hair follicles.

2. Reduces and Balances Cholesterol^[15]

Research has proven that fenugreek seeds help to lower the cholesterol level, specially the 'bad' cholesterol or LDL in our body and improve level of HDL thus reduces the risk of hypertension, Diabetes mellitus, Heart diseases and Metabolic syndrome. Due to the presence of galactomannan (a polysaccharide), fenugreek possesses cardiovascular benefits. Its consumption can lower the risk of heart attacks. Due to its high potassium content, it counters the action of sodium to effectively control blood pressure. So it's use as a cardiac tonic.

4. Controls Diabetes^[16]

Studies have pointed out that fenugreek is beneficial for people affected by Type 2 diabetes. It contains galactomannan which is a natural soluble fibre, and this decreases the rate at which sugar is absorbed into the blood. Methi may increase the number of insulin receptors in red blood cells and improve glucose utilization in peripheral tissues, thus showing potential ant diabetic effects in the pancreas and other tissues. The amino acid 4- hydroxyisoleucine, ingredient of methi seed, may also possess directly insulin secretagogue effects.

5. Gastro protective and antacid effect^[17]

It is an effective treatment for heartburn and acidity. Due to the presence of high quantities of mucilage, its consumption helps soothe digestive inflammation by coating the lining of our stomach and intestine. The cytoprotective effect on seeds seemed to be not only due to the anti-secretory action but also to the effect on mucosal glycoprotein. it is also prevented the rise in lipid peroxidation induced by ethanol presumably by enhancing antioxidant potential of the gastric mucosa thereby lowering mucosal injury.

6. Digestive/carminative (Deepana / Vata-anulomana)^[18,19]

Methi seeds have a high content of Vitamin A and C. Together with these; they contain calcium, iron, proteins and carbohydrates and trace minerals. It is an effective treatment for gastritis and indigestion. It helps prevent constipation as well as digestive problems created by stomach ulcers. Ayurveda suggests people suffering from abnormal digestive fire or 'Agni' to soak fenugreek seeds in water overnight, make a paste out this the next day, mix this with grated ginger and consume some time before a meal. Moreover, fenugreek seeds are known to detoxify the liver.

7. Remedy for Fever and Sore Throat (Jwarhar)^[20,21]

This is a well-known home remedy for fever. Fenugreek is known to help reduce fever with honey. Due to the presence of mucilage, it also has a soothing effect, helping to relieve the pain of a sore throat. Study showing that the active principle of methi seeds extracted out in different solvent systems to assess the anti-plasmodial potential, with an aim that they can further be utilized to formulate anti-malarial drugs. Methi seed powder was used cure for rheumatic fever, rheumatoid arthritis due to their Aam-pachaka properties (detoxifying of toxic particle).

8. Breast Enlargement and Increases Breast Milk Production^[22]

Diosgenin contained in methi seeds helps to increase milk production in lactating mothers. Hence, this is essential for nursing mothers. This herb contains phyto-estrogen, diosgenin which boosts milk production in lactating mothers. Fenugreek tea is well known to stimulate uterine contraction, which helps to speed up and ease childbirth.

9. Relief in colicky pain, menstrual cramps and menopause syndrome^[23,24]

Fenugreek is known to relieve menstrual cramps hot flushes, discomfort and moodiness due to its calming effect on the hormonal system. The oestrogen like properties of the fenugreek seed is very effective in treating the symptoms of menopause like hot flashes, insomnia and anxiety.

10. Prevents Cancer (anti-neoplastic agent)^[25,26]

Diosgenin, a compound found in fenugreek, is believed to have anti-carcinogenic properties, which may help to ward off cancer cells. The major steroidal saponins constituent, diosgenin, on azoxymethane –induced rat colon carcinogenesis during initiation and promotion stages present in fenugreek seeds inhibit bile salts re-absorption and toxins in the food to protect the colon mucous membranes from cancer.

11. Rich Source of Antioxidants^[27]

The antioxidants in fenugreek act as a scavenger to destroy the free radicals found in the body and reduce of ethanol toxicity.

12. Prevents Respiratory Problems^[28]

Fenugreek disperses mucus from the respiratory tract to cure bronchitis. It also benefits people suffering from chronic sinusitis by clearing the sinuses. A gargle prepared from fenugreek seeds can be very helpful in treating sore throats.

Side effects of methi seeds

Fenugreek is considered safe for consumption when used moderately, but there can be some minor-side effects too.

- Nausea is a common side effect associated with methi consumption while other people have reported gastrointestinal discomfort like gastritis and diarrhoea.
- It may cause some side effects when consumed orally like bloating, flatulence and diarrhoea. It can also cause a mild skin irritation if applied topically.
- People suffering from anaemia should avoid consuming fenugreek as it may interfere with iron absorption.
- It can also cause thyroid imbalance, so avoid taking fenugreek if you suffer from a thyroid problem.^[29]
- It may produce uterine contraction and produce abortion due to its active composition have oestrogen like activity.^[30]

CONCLUSION

The various scientific reports showed that Fenugreek, known for its hypoglycemic, anti-inflammatory, antiseptic, antispasmodic, appetizer, cardiovascular, carminative, digestive, diuretic, anti-oxidant and immunomodulatory activity, may be a promising protective medicinal herb for consideration in complementary therapy in cancer patients under chemotherapeutic interventions. Therefore, further research is required to determine the optimal dosage, bioavailability, and bio-efficacy of diosgenin-based drugs.

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