

Health Benefits and Medicinal Uses of Fenugreek Seeds

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SUMMARY

Fenugreek (*Trigonella foenum graecum*), native to southern Europe and Asia, is an annual herb with white flowers and hard, yellowish brown and angular seeds, known from ancient times, for nutritional value beside of its medicinal effects. Fenugreek seeds are rich source of gum, fiber, alkaloid, flavonoids, saponin and volatile content. Due to its high content of fiber, fenugreek could be used as food stabilizer, adhesive and emulsifying agent to change food texture for some special purposes. The utilization of fenugreek seed as an antibacterial and anticancer agents. Fenugreek seeds have been known and valued as medicinal material from very early times. Fenugreek as a chemurgic crop has a wide use for industrial purposes. Its seeds are considered to be of commercial interest as a source of a steroid diosgenin, which is of importance to the pharmaceutical industry.

INTRODUCTION

Fenugreek (*Trigonella Foenum-gracium*) is a plant from the family of Leguminosae that grows annually and is widely cultivated in Mediterranean countries and Asia. In the botany, fenugreek is a small annual leguminous herb belonging in the Fabaceae family, genus: *Trigonella*. Scientific name: *Trigonella foenum-graecum*. (Nasim et al.2016). Some of the common names of herb fenugreek include greek-hay, methi seeds, bird's foot, greek-clover, etc. Fenugreek leaves and seeds are consumed in different countries around the world for different purposes such as medicinal uses (anti diabetic, lowering blood sugar and cholesterol level, anti-cancer, antimicrobial, etc.), making food (stew with rice in Iran, flavor cheese in Switzerland, syrup and bitter run in Germany, mixed seed powder with flour for making flat bread in Egypt, curries, dyes, young seedlings eaten as a vegetable, etc.), roasted grain as coffee-substitute (in Africa), controlling insects in grain storages, perfume industries, and etc. Fenugreek can be a very useful legume crop for incorporation into short-term rotation and for hay and silage for livestock feed, for fixation of nitrogen in soil and its fertility, and etc. (Sadeghzadeh-Ahari et al., 2009).

Fenugreek Seeds

Fenugreek seeds yield can be significantly increases in quantity and as well as quality through the suitable management of cultivation, irrigation and harvesting. In this context, fenugreek is an annual legume and extensively cultivated in most regions of the world for its medicinal value as well as spices. The dried seeds have been traditionally used in India, China, and Egypt and in some parts of Europe for their beneficial health effects such as, galactogogue, antibacterial, anti-inflammatory, insulinotropic, and rejuvenating effects. Fenugreek seeds have been known and valued as medicinal material from very early times. Fenugreek as a chemurgic crop has a wide use for industrial purposes. Its seeds are considered to be of commercial interest as a source of a steroid diosgenin, which is of importance to the pharmaceutical industry (Mehrafarin et al., 2010). The seed have horny and relatively large layer of white and semi-transparent endosperm encircling central hard, yellow embryo. Fenugreek seed contains various bioactive compounds like flavonoids (quercetin, rutin, vetexin), saponins (graecunins, fenugrin B, Fenugreekine), amino acids (isoleucine, 4-hydroxyisoleucine, histidine, leucine, lysine). As medicinal plant it shows its activity against allergies, appetite / loss of catarrh, bronchial, cholesterol, diabetic retinopathy, gas, gastric disorders, lung infections, mucus excessive, throat/sore, abscesses, anemia, asthma, boils, body odour, bronchitis, cancer, swollen eyes, fevers, gallbladder problems, heartburn, inflammation, sinus problems, ulcers, uterine problems etc. A study in India showed that Fenugreek seed is used to reduce the blood sugar and other harmful fats. Not only therapeutic, Fenugreek also used as spices worldwide. The anti-diabetic properties of fenugreek seed have been shown in both in vitro and in vivo models covering various modes of

actions (Yadav et al 2014). However, the effect of fenugreek seed extracts on anti-glycation activity is limitedly studied. Further, there are no previous reports on effect of fenugreek seed extracts on glycation reversing ability, which is one of the most important aspects in the management of diabetes complications. Therefore, this study investigated anti-glycation and glycation reversing ability of fenugreek seed extract.

Nutritional Value of Fenugreek seed (Nutritional value per 100 g)

Principle	Nutrient Value	Percentage of RDA	Principle	Nutrient Value	Percentage of RDA
Energy	323 Kcal	16%	Thiamin	0.322 mg	27%
Carbohydrates	58.35 g	45%	Vitamin A	60 IU	2%
Protein	23 g	41%	Calcium	176 mg	18%
Total Fat	6.41 g	21%	Copper	1.110 mg	123%
Cholesterol	0 mg	0%	Iron	33.53 mg	419%
Dietary Fiber	24.6 g	65%	Magnesium	191 mg	48%
Folates	57 µg	14%	Manganese	1.228 mg	53%
Niacin	1.640 mg	7%	Phosphorus	296 mg	42%
Pyridoxine	0.600 mg	46%	Selenium	6.3 µg	11%
Riboflavin	0.366 mg	28%	Zinc	2.50 mg	23%

(Source: USDA National Nutrient database 2019)

Medicinal and Health Benefits of fenugreek seed

Helps treat Diabetes & Reduce Cholesterol: It has been proven to be an excellent remedy for reducing level of bad Cholesterol levels from our body. It is also used to reduce blood glucose levels in the blood. It purifies blood and helps in flushing out the harmful toxins. It helps in dissolving excess mucus, thereby making the digestive organ refreshed and clean. Also fenugreek seeds are useful in improving memory power too. The Fenugreek seeds being high source of Protein are very useful in hairfall, so it helps in treating baldness, thinning of hair and hair fall. The fiber in fenugreek fills the stomach, even when consumed in a little amount. Soak a few fenugreek seeds in water and chew them in the morning, on an empty stomach. (Nasroallah et al.2013)

CONCLUSION

Several studies have been concluded that the medicinal and functional properties of fenugreek seeds. Fenugreek is rich in fiber, protein, and due to its valuable bioactive components has promising therapeutic and application. Antidiabetic, antioxidant, anticarcinogenic, hypoglycaemic activity, hypocholesterolemic activity are the major medicinal properties of the fenugreek demonstrated in various studies. Based on these several healthful benefits, fenugreek can be recommended and be a part of our daily diet and incorporated into foods in order to produce functional foods.

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