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Medicinal Activities of Fennel

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Abstract

The common name of fennel is sonf, belongs to the Apiaceae family. Scientifically fennel known as Foeniculum vulgare, aromatic plant. The cultivation of fennel is seen in usually Mediterranean land. Fennel is a spice herb that plays a significant role in treating several illnesses. So, research proves that fennel is used continuously in the medical field. Foeniculum vulgare is a rich source of essential oil which has lots of medicinal & commercial properties. Fennel is a rich source of various components like flavonoids, phenolic acid, etc. Thesecomponents perform different activities.

Keywords: medicinal activities; composition, antibacterial; antifungal; flavonoids

Introduction

Most people cure their illnesses using medicinal plants from the beginning of time. Pharmacists use different components for the purpose of treatment [1]. The role of medicinal plants is significant because of their minute adverse effect as compared to other alternative medicine [2]. The role of plants & their component used for the well-being of humans. These plant derivative components show a loss of pharmacological properties like anti-oxidant, anti-inflammatory, anti-bacterial, anti-fungal, anti-ulcer,etc [3]. The research resulted that more than 5000 plants are being used for pharmaceutical purposes. The use of fennel is seen in various forms in healthcare society, cosmetics, and food [4]. According to research, it was proved that among various medicinal plants fennel is one of the oldest herbs which is famous due to its lots of pharmacological properties. Most effectively used for the management of gastrointestinal problems so, that's why effectively used in the treatment of various diseases. Fennel possesses analgesic, diuretic, carminative, anti-spasmodic & anti-bacterial effects. Fennel is also effectively used for the management of central nervous system problems.

Phytology of Fennel:

Fennel is the English name of Foeniculum vulgare, French name of this herb is Fenouil&a member of the Apiaceae family. The length of this plant is 1 to 2 meters, fragrant & herbaceous plant. The cultivation of fennel is seen in Asia, Europe & Mediterranean areas. The stem of the fennel showsa grooved part, and the leaves are intermittent with a combination of dark green colors, and sheathed petioles with fluffy leaves. The flowers of this herb are regular, irregular, and bisexual and have yellow umbrellas which show a resemblance with oval beads. The seeds of fennel are small & their scent and flavor are pleasant. The width is 3mm & length is 8mm. the seeds of fennel are cylindrical in shape, thin & long, the size of the seeds fluctuates with the growth of the plant [5,6].

Chemical composition of fennel:

All parts of fennel are rich sources of chemical components. The richest source of fennel are roots, seeds, leaves & fruit. In their chemical composition water is 6.3%, protein is 9.5%, fat is 10%, minerals are 13.4%, fiber is 18.5%, and carbs is 42.3%. the chemical composition of fennel leaves includes minerals, vitamin C, niacin, riboflavin, thiamine, iron, salt, calcium, potassium & phosphorus [7]. 10 to 20% oil is present in the fruit. 6% petrocylic acid is present in the oil, oleic acid 22%, linoleic acid 14%, and palmitic acid 4%. The oil of fennel contains almost 30 various types of terpenes. In all these the important terpene is limonene & trans-anethole. The other phenolic component is flavonoids, tannin, coumarin, and hydroxycinnamic acids [8,9]. The other phenolic component is caffeoylquinic acid, caffeoylquinic acid, di-o- caffeoylquinic acid. This component plays an important role in the management of CVS problems, inflammation, cancer, etc [10].

Nutraceutical& pharmacological effects of Fennel:

Fennel possesses lots of medicinal activities like being used for the management of cough, diabetes, bronchitis & kidney stone. Fennel is also used for the management of nausea & vomiting [11,12]. Oleic acid, benzenediol & linoleic acid shows anti-bacterial properties [13,14]. The aqueous extract of fennel shows bactericidal effects against various bacteria like Enterococcus faecalis, salmonella typhi, and Pseudomonas aeruginosa. The extract of this plant is effectively used for the inhibition of bacteria [15].

The extract of fennel possesses anti-fungal activities against candida albicans, aspergillus species & fusarium oxysporum [16,17]. Scopoletin is effectively used for the management of different infections. it shows anti-bacterial effects [18]. Flavonoids &polyphenols are used to reduce the formation of free radicals so, it is a good anti-oxidant component [19]. The methanolic extract of fennel is used to prevent inflammation so, it shows anti-inflammatory activities [20,21].

Conclusions

Fennel is significant for the management of various illnesses. Fennel contains lots of phytochemical components like flavonoids, phenolic acid, tannins, etc. These possess lots of anti-bacterial, anti-fungal, and anti-inflammatory activities. Fennel is a common herb which used in different forms and used in spice. Plant derivativesare effectively used & show fewer side effects as compared to other alternative medicine.

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