



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>
Journal DOI: [10.21474/IJAR01](https://doi.org/10.21474/IJAR01)

INTERNATIONAL JOURNAL
OF ADVANCED RESEARCH

RESEARCH ARTICLE

FOENICULUM VULGARE: PHYTOCHEMICAL AND PHARMACOLOGICAL REVIEW.

Sweta Rani* and Sanjita Das.

Department of Pharmaceutical Technology, Noida Institute of Engineering and Technology (NIET), Knowledge Park -II, Greater Noida-201306, U.P. India.

Manuscript Info**Manuscript History:**

Received: 14 May 2016
Final Accepted: 19 June 2016
Published Online: July 2016

Key words:

phytochemistry, pharmacology,
foeniculum vulgare, volatile
compound, non volatile compound.

***Corresponding Author**

Sweta rani.

Abstract

Foeniculum vulgare commonly called fennel has been used in traditional medicine for a wide range of ailments related to digestive, endocrine, reproductive, and respiratory systems. Additionally, it is also used as a galactagogue agent for lactating mothers. The review aims to gather the fragmented information available in the literature regarding morphology, ethnomedicinal applications, phytochemistry, pharmacology, and toxicology of Foeniculum vulgare. It also compiles available scientific evidence for the ethnobotanical claims and to identify gaps required to be filled by future research. Findings based on their traditional uses and scientific evaluation indicates that Foeniculum vulgare remains to be the most widely used herbal plant. It has been used for more than forty types of disorders. Phytochemical studies have shown the presence of numerous valuable compounds, such as volatile compounds, flavonoids, phenolic compounds, fatty acids, and amino acids. Compiled data indicate their efficacy in several in vitro and in vivo pharmacological properties such as antimicrobial, antiviral, antiinflammatory, antimutagenic, antinociceptive, antipyretic, antispasmodic, antithrombotic, apoptotic, cardiovascular, chemomodulatory, antitumor, hepatoprotective, hypoglycemic, hypolipidemic, and memory enhancing property. Foeniculum vulgare has emerged as a good source of traditional medicine and it provides a noteworthy basis in pharmaceutical biology for the development/formulation of new drugs and future clinical uses.

Copy Right, IJAR, 2013,. All rights reserved.

Introduction:-

Foeniculum vulgare Mill. is a biennial medicinal and aromatic plant belonging to the family Apiaceae (Umbelliferaceae). It is a hardy, perennial-umbelliferous herb with yellow flowers and feathery leaves. It grows to a height of up to 2.5 m with hollow stems. The leaves grow up to 40 cm long; they are finely dissected with the ultimate segments filiform (thread like) of about 0.5 mm wide. The flowers are produced in terminal compound umbels. The fruit is a dry seed 4–10 mm long. It is generally considered indigenous to the shores of Mediterranean Sea but has become widely naturalised in many parts of the world especially on dry soils near the sea coast and on the river banks. Some authors distinguish two sub-species of fennel, piperitum and vulgare: sub-species piperitum has bitter seeds, while sub-species vulgare has sweet seeds which are used as flavouring agents in baked goods, meat and fish dishes, ice creams, alcoholic beverages, etc due to their characteristic anise odour¹. Morphological differences between these two sub-species are not always clearly defined. It is a traditional and popular herb with a long history of use as a medicine. A series of studies showed that F. vulgare effectively controls numerous infectious disorders of bacterial, fungal, viral, mycobacterium, and protozoal origin²⁻⁶. It has antioxidant, antitumor, chemopreventive, cytoprotective, hepatoprotective, hypoglycemic, and oestrogenic activities⁷⁻¹¹.