

Fennel (*Foeniculum vulgare* Mill.) in Polish herbaria of the 16th-18th centuries: An ethnopharmacological analysis in the context of contemporary knowledge

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Receipt: 09.01.2025

Revised: 03.02.25

Acceptance: 05.02.25

DOI: 10.53552/ijmfmap.11.1.2025.1-14

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ABSTRACT

*This study aimed to analyse the use of common fennel (*Foeniculum vulgare* Mill.) in Polish herbaria of the 16th-18th centuries and to compare historical ethnopharmacological knowledge with contemporary scientific data. The research involved a theoretical ethnopharmacological analysis based on the works of renowned Polish botanists such as S. Falimirz, H. Spiczyński, M. z Urzędowa, S. Syreński and K. Kluk. Digitised versions of herbaria, alongside modern scientific publications, were employed to assess the pharmacological properties of fennel. The primary objective was to compare historical data with contemporary publications, particularly those detailing fennel's chemical composition and pharmacological properties, including its key active compounds such as anethole, fenchone, and limonene. The results of the study indicated that fennel has traditionally been used as a remedy for the digestive and respiratory systems, a use that is corroborated by contemporary scientific data on its antimicrobial, antispasmodic, anti-inflammatory, and antioxidant properties. Historical records suggest that fennel was employed to alleviate pain and treat coughs, colic, and bloating. The study also revealed a significant nutritional content in fennel fruits, including proteins (15.8 g), fats (14.9 g), and carbohydrates (36.6 g) per 100 g, as well as essential oils, which contribute to its medicinal properties. Particular attention was given to the high concentration of trans-anethole (up to 83.1%) in sweet fennel, making it effective in treating stomach disorders, bloating, and other gastrointestinal issues. The findings underscore the importance of fennel as a modern herbal remedy with the potential for use in treating serious conditions such as oxidative stress and cancer. The study opens up opportunities for further research into the potential of this plant in modern medicine.*

Keywords: Antimicrobial properties, botany, digestive disorders, fennel, phytopreparations, traditional medicine,