



## A review on phyto pharmacological, botanical and marketed formulation studies of *Anethum sowa*

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### Abstract

*Anethum* as vast growing aromatic plant of family umbelliferae which is extensively used in therapeutic preparations and in different cuisines. The plant is a local inhabitant of southern Europe known as Dill originating from Norse Dilla which means to have soothing and healing ability. The phytochemical investigation revealed the presence of flavonoids, glucosides, alkaloids, vitamins, minerals, proteins and essential oil. The present review emphasizes mainly on the significant information about its phytochemical investigations, pharmacological activities as well as ethnopharmacological properties as traditional medicine. The plant has been investigated and it displayed notable pharmacological activities such as antidiabetic, antimicrobial activity, antioxidant and cytotoxic activity, hypoglycemic and hematopoietic potential, insecticidal activity. The entire plant is important for the medicinal purpose which can be further explored and studied for future pharmaceutical perspective.

**Keywords** *Anethum* · Dill · Antidiabetic · Antimicrobial activity · Antioxidant · Cytotoxic activity

### Introduction

Many herbal remedies have been employed in various systems of medicine for the prevention, cure and management of different diseases (Heamalatha et al. 2011). Use of herbs as complementary medication for treatment of diseases has been prevailed in the world (Mobasseri et al. 2014). Up to 70% of the rural population depends on drugs obtained from plants for healthcare and other requirements of daily life. Lack of primary healthcare centres, transportation facilities, repressive cost of treatment, side effects of several chemical drugs have led to enhanced prominence on the use of plants as a source of medicines for a large number of human diseases (Kamboj 2000).

Several modern drugs have been prepared from plant sources (Saini et al. 2014). Moreover, the World Health Organization (WHO) encourages the use of medicinal plants as these are effective, safe, less toxic, easily available and authentic natural resources (World Health Report 1995). In India, the native people are exploiting a wide range of herbal

drugs for effective treatment of several ailments (Rao and Neogi 1980).

*Anethum* is an annual or biennial herb consisting of not less than four species belonging to family Umbelliferae. Two species of the genus *Anethum* produces dill oil, which is used in various pharmaceutical preparations. *Anethum sowa*, the Indian species of the genus *Anethum* is considered as a variety of *Anethum graveolens* (Singh 2012). Almost entire part of the plant, green parts as well as the fruits have been used since ancient times both in cuisines around the world and as a therapeutic herb, since it has a pleasant aromatic odour but a slightly bitter and pungent taste (Jain and Nidhi 2017). Due to the presence of carvone, a cyclic ketone, in the essential oil obtained from Dill, it is pharmaceutically very important and used as flavouring agent, carminative and as a perfume in soaps.

(Khan et al. 1993; Chopra et al. 1956; Kirtikar and Basu 1975; Sarbhoy et al. 1978; Saksena and Saksena 1984; Singh and Sharma 2006; Saleh-e-In et al. 2019). The plant grows up to a height of 150 cm. The stem is round and about 2–5 branches arises from the base of the stem grows along with the main stem. Flowers are yellow in colour while the seeds, after ripening, attain light brown colour (Gupta 2001; Saleh-e-In et al. 2006, 2009).

The Ayurvedic name of the plant is shatapushpa, there are other names also like dill and soya. This plant was used

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