Review Article

www.ijrap.net

(ISSN Online:2229–3566, ISSN Print:2277–4343)

THERAPEUTIC APPLICATION OF SHATAPUSHPA (*ANETHUM GRAVEOLENS* LINN.) IN THE CONTEXT OF MENSTRUAL DISORDERS: A CRITICAL REVIEW

Sharanya CB [1], Smitha Jain [2]*

[1] UG Scholar, Shri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital, Anchepalya, Kumbalgodu Post Bangalore, India

[2] Assistant Professor, Department of Rasashastra and Bhaishajya Kalpana, Shri Dharmasthala Manjunatheshwara Institute of Ayurveda and Hospital, Anchepalya, Kumbalgodu Post Bangalore, India

Received on: 07/3/25 Accepted on: 22/4/25

***Corresponding author**
E-mail: drsmithajn@gmail.com

DOI: 10.7897/2277-4343.16275

ABSTRACT

Shatapushpa (*Anethum graveolens* Linn.), an annual herb belonging to the family Umbelliferae, has been used in Ayurvedic medicine to treat various ailments. Notably, it plays a crucial role in regulating Agni (digestive fire) and Vata (Dosha regulating movement and cognition) and supporting Rasa Dhatu (nutrient fluid) , making it particularly effective in the management of menstrual disorders. There is scattered information on its effectiveness in conditions like Anartava (amenorrhoea), Viphalartava (anovulatory cycles), Atyartava (menorrhagia), Alpartava (hypomenorrhea), Kashtartava (dysmenorrhea), Rudhira Gulma (uterine fibroids), and Yoni Shulahara (pain reliever). A comprehensive review on its potential application in the management of menstrual disorders remains lacking. Hence, this review aims to consolidate insights drawn from classical Ayurvedic texts, including Charaka Samhita, Sushrutha Samhita, Kashyapa Samhita, Madnapala Nighantu, Bhavaprakasha Nighantu, and Kayadeva Nighantu. Additionally, the study incorporates an exploration of relevant published research from databases such as PubMed, Google Scholar. By analysing its diverse properties, such as anti-spasmolytic, analgesic, anti-inflammatory, contractile, and antibacterial, this study highlights the potential of Shatapushpa in the effective management of various menstrual disorders.

Keywords: Shatapushpa, Menstrual Disorders, Artava Vyapad, Artavavaha Srotas

INTRODUCTION

Menstruation is a physiological process in females that spans from adolescence to menopause, playing a crucial role in the reproductive lifespan. The menstrual cycle, defined as the regular, cyclical hormonal changes that regulate ovulation and the shedding of the uterine lining, typically lasts between 21 and 35 days[1]. Menstrual health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity in relation to the menstrual cycle. While many females undergo their menstrual cycles with minimal discomfort, others experience both physical and psychological manifestations before or during menstruation. Disruptions in menstrual cycles can have profound implications for physical and psychological well-being, ultimately affecting overall quality of life. A variety of factors, including genetic predispositions and lifestyle changes, can negatively influence the regularity and function of the menstrual cycle, potentially leading to a range of health issues. The Fédération Internationale de Gynécologie et d'Obstétrique (FIGO) defines these disruptions as Menstrual Disorders[2]. Menstrual abnormalities, including but not limited to amenorrhoea, abnormal uterine bleeding (such as menorrhagia, oligomenorrhea, polymenorrhea, and hypomenorrhea), dysmenorrhea, premenstrual syndrome, and high perceived stress, are commonly reported[3]. These conditions may lead to anxiety, depression, mood swings, and reduced self-esteem. Moreover, menstrual irregularities can also lead to infertility, as they may disrupt hormonal balance, ovulation, and overall reproductive health. A large-scale survey conducted across India in 2020 revealed that approximately 23 per percent of women aged 20 to 29 years experienced menstrual problems[4]. Hence, addressing these disorders is crucial, as they can lead to long-term health complications, reduced quality of life, and impaired fertility. Effective management and treatment are essential not only for restoring regular menstrual cycles but also for preventing more serious health issues. These disorders are often influenced by factors such as sedentary lifestyles, poor dietary habits, hormonal imbalances, and psychological stress, all of which can lead to significant menstrual health complication[5]. Addressing these risk factors is crucial for promoting menstrual well-being and ensuring optimal reproductive health.

Menstrual health and the regimen to be followed are intricately detailed in Ayurveda to ensure optimal health and balance. Ayurveda elaborates on menstrual disorders under Artava Vyapat, specifically addressing menstrual irregularities and menstruation related health issues. Gynaecological disorders are mainly classified under the broad heading of Yoni Vyapat, which includes twenty disease conditions affecting the female reproductive system. Additionally, Ayurveda describes Arbuda (tumours) and Rudhira Gulma (uterine fibroids), which involve abnormal growths and masses in the reproductive organs. In Ayurveda, the management of menstrual disorders primarily involves two key approaches: Shodhana (purification therapies) and Shamana (palliative therapies). Shodhana focuses on removing blockages in the Srotas (channels), ensuring the smooth flow of vital nutrients through smaller channels. This process helps in balancing metabolism and hormonal fluctuations, reducing mental stress, and maintaining normalcy in menstruation. Several therapeutic procedures are indicated to balance the disturbed Apana Vata (descending Vata), as menstrual irregularities are mainly caused by the improper

functioning of Apana Vata. Additionally, Ayurveda provides a variety of herbal, mineral and herbo-mineral compound formulations to support the treatment of menstrual disorders. Research on herbal drugs such as Ashoka *(Saraca asoca* Roxb.), Lodhra *(Symplocos racemosa* Roxb.) and Tila *(Sesamum indicum* Linn.) has demonstrated their efficacy in alleviating menstrual disorders. However, research on the potential effects of Shatapushpa (*Anethum graveolens* Linn.) specifically in the treatment of menstrual disorders remains limited, suggesting that it holds promising therapeutic potential yet to be fully explored. Hence, this review systematically evaluated the potential therapeutic efficacy of Shatapushpa in the management of menstrual disorders. A comprehensive analysis of existing literature was conducted to assess its ability to alleviate associated symptoms and restore normalcy in menstruation. Furthermore, the review elucidated the pharmacological mechanisms of action of Shatapushpa pertaining to menstrual disorders.

Shatapushpa in Ayurvedic Texts

The study integrates information from Ayurvedic treatises like Charaka Samhita, Sushrutha Samhita, Kashyapa Samhita, Madnapala Nighantu, Bhavaprakasha Nighantu and Kaiyadeva Nighantu, along with findings from original research articles sourced from reputable databases including Google Scholar and PubMed.

Botanical Description of Shatapushpa

Anethum graveolens, belonging to the family Umbelliferae, is an annual herb growing in the Mediterranean region and central and southern Asia[6]. *A. graveolens* grows up to 90 centimetres tall, with slender stems and alternate, pinnately divided leaves that are broader than those of fennel. Its yellow flowers form umbels. The seeds are actually halves of small, dry fruits called schizocarps. Dill fruits are oval, compressed, and winged with three longitudinal ridges and oil cells between them. The seeds are small, flat, and light, with a pleasant aromatic odour[7].

Shatapushpa, commonly known as Dill, is traditionally recognised by various regional names, including Suva in Hindi, Shepu in Marathi, Satakuppa in Malayalam, Satakuppi in Tamil, Satakuppivittulu in Telugu, Sabbasige in Kannada and Suva in Gujarati. Classically, it is also known by various synonyms such as Mishreya, Shatahva, Mishi, and Karavi. Acharya Charaka lists Shatapushpa under Asthapanopaga and Anuvasanopaga Mahakashaya, while Kaiyadeva Nighantu includes it in Aushada Varga, and Bhavaprakasha Nighantu places it in the Haritakyadi Varga. Renowned for its Ushna (heat-producing), Laghu (light) and Tikshna (penetrating) qualities, Shatapushpa enhances Agni (digestive fire), facilitates Vatanulomana (regulates Vata), and balances Kapha. It is effective in relieving Jwara (fever/inflammatory conditions), Daha (burning sensation), Trushna (thirst), Vrana (wounds), and Akshi Roga (eye disorders) and provides Shulahara (analgesic) effects[8]. It acts as Yoni Shodhaka (uterine cleanser) and Yoni Shulahara (pain reliever), offering relief in gynaecological conditions. Additionally, it supports Rutu Pravartana (inducing menstruation), aiding in menstrual regularity, and as it facilitates Vatanulomana, it ensures the proper downward movement of Artava (menstrual blood). In the context of Artavavaha Srotas (reproductive channels), Shatapushpa proves to be highly effective in managing disorders such as Anartava (amenorrhoea), Viphalartava (anovulatory cycles), Atyartava (menorrhagia), Alpartava (hypomenorrhea), Kashtartava (dysmenorrhea), Vandhya (infertility), Rudhira Gulma (uterine fibroids), and Yoni Shula[9]. Important classical formulations of Shatapushpa that are indicated in Artavavaha Sroto Vikara include Shatapushpa-Shatavari Kalpa, Shatapushpyadi Taila, and Shatapushpa Churna. Few other commonly used classical Ayurvedic formulations where Shatapushpa is found as an ingredient include Dashamula Arishtam, Dhanwanthara Arishtam, Maharasnadi Kashayam, etc. These are used for the treatment of Vata disorders, general weakness, neurological conditions and postpartum care.

Active Constituents of *Anethum graveolens* Linn.

The primary components found in all parts of the dill herb include carvone, limonene, and α-phellandrene. A study on the composition of essential oils isolated from dill seeds, flowers, and the vegetative herb revealed that the major components of the seed oil were carvone (62.48%), dillapiole (19.51%), and limonene (14.61%). The flower oil contained p-cymene (33.42%), dill ether (19.63%), and carvone (13.10%), while oil of the vegetative herb was dominated by α-phellandrene (46.33%), limonene (13.72%), β-phellandrene (11.01%), and p-cymene (17.88%)[10]. The main classes of active principles are flavonoids (quercetin, rutin), hydroxycinnamic acid derivatives (caffeic acid, chlorogenic acid), coumarins (scopoletin), sterols (beta-sitosterol/stigmasterol) and mucilage[11].

Pharmacological Actions of *Anethum graveolens* Linn.

Pharmacological findings demonstrate that *A. graveolens* possesses a range of therapeutic properties, including anti-spasmodic, anti-inflammatory, and analgesic effects. It also exhibits contractile effects, which can aid in improving uterine tone, and has been shown to increase progesterone concentrations. Additionally, it is antibacterial, carminative, mucoprotective, and also has anti-ulcer properties, making it a promising remedy for addressing a variety of menstrual, gynaecological and gastrointestinal disorders.

Effect on Oestrogen and Progesterone

A study conducted on the reproductive system of rats shows that a high dose of the extract caused a significant increase in the duration of the oestrous cycle and dioestrus phase, with a significant increase in serum progesterone. Thus, dill can be used as a regulatory agent of the menstrual cycle in irregular cycles.[12]

Antispasmodic Activity

The flavonoid quercetin has been shown to inhibit Ca^{2+}-dependent uterine contractions, potentially easing menstrual cramps[13]. Additionally, the terpenoid carvone, found in *Anethum graveolens*, contributes to its antispasmodic effects, further supporting its use in alleviating menstrual cramps[14].

Contractile Effect

An experimental study proved that dill seeds exhibit contractile effects on the myometrium and enhance the release of oxytocin, a hormone that plays a crucial role in uterine contractions. This action may help in promoting uterine tone and facilitating labour, making it potentially beneficial in managing conditions like dysmenorrhea, excessive bleeding, or uterine dysfunction[15].

Antibacterial Activity

Research findings on the antibacterial activity of aqueous extracts of *A. graveolens* have demonstrated broad-spectrum antibacterial activity against *Streptococcus aureus*, *Escherichia coli*, *Pseudomonas aeruginosa* and *Shigella flexneri*; hence, it can act as an effective antibiotic which can prevent vaginal infections[16].

Anti-inflammatory and Analgesic Activity

A comparative study between *A. graveolens* oil and diclofenac gel showed a significant decrease in the paw oedema in rats compared to the blank group. As compared to diclofenac, *A. graveolens* oil showed more decrease in paw oedema[17]. Another experimental study on rats showed that a single topical application of ethanol extract of *A. graveolens* fruits to the inner and outer surfaces of the ears of mice inhibited 60% of ear

inflammation induced by 12-O-tetradecanoyl phorbol-13 acetate. Another study in mice exhibited that both 10% aqueous extract of *A. graveolens* fruit and 5% aqueous solution of its essential oil demonstrated analgesic activity, as evidenced by reduced pain responses in hot plate and acetic acid-induced writhing models. Another study reveals that the hydroalcoholic extract of *A. graveolens* seeds significantly reduced inflammation and pain in rats[18].

Anti-Hyperlipidemic Activity

A study finding suggested that crude extracts of *A. graveolens* exhibits potent anti-hyperlipidemic properties that can enhance the body's antioxidant status by reducing lipid peroxidation in the liver and modulating antioxidant enzyme activities[19]. These effects improve metabolic health and mitigate oxidative stress; thus, they may be useful in disorders associated with hormonal imbalances induced by metabolic dysfunctions such as polycystic ovary syndrome (PCOS) and irregular menstrual cycles.

Clinical Findings of *Anethum Graveolens* Linn.

A comparative study on the effect of dill and mefenamic acid on primary dysmenorrhea showed that dill extract was as effective as mefenamic acid in reducing the lower abdominal pain[20]. The results of a clinical study on Shatapushpa Churna in the management of Artava Kshaya (oligomenorrhea) found that there was a significant regularisation of irregular menstrual cycles, thus helping to normalise cycle patterns. In cases of scanty bleeding, the Churna led to an increase in menstrual flow, improving the overall menstrual health of the subjects. Additionally, menstrual pain was markedly reduced in all participants. Furthermore, an increase in haemoglobin levels was also observed[21]. A comparative study on oral administration of Shatapushpa Churna and Matra Basti (enema) with Shatapushpa Taila in the management of Kashtartava observed that the severity of abdominal cramps reduced in both the groups, and the effect of Shatapushpa Taila Matra Basti was comparatively better in relieving the low back pain during menstruation[22]. A comparative randomized single blind study evaluated the effects of oral administration of Shatapushpa-Shatavari Churna and Anuvasana Basti (enema) with Shatapushpa-Shatavari Ghrita in the management of polycystic ovary syndrome revealed its ability to consistently lower the ovarian volume and endometrial thickness[23].

DISCUSSION

Disruptions in the balance of Tridosha *(*Vata*,* Pitta*,* and Kapha*)* during the menstrual phase can lead to various Artava Vaha Sroto Vikaras*.* Vata Dosha imbalances often result in irregularities like scanty or delayed menstruation; Pitta Dosha aggravation can cause excessive bleeding or associated symptoms like burning sensations, while Kapha Dosha disturbances may lead to conditions such as heavy, unctuous, or thick menstrual flow. The interplay of these Doshas and their dominance during specific phases is a key factor in the manifestation of menstrual disorders. Assessing and identifying irregular menstruation, delayed menstruation and non-menstrual vaginal bleeding is essential to plan appropriate treatment plans based on Dosha and its clinical features[24].

Due to its aforementioned properties, Shatapushpa exerts a significant influence on the Artava Vaha Srotas (reproductive channels), making it beneficial in conditions predominantly influenced by Vata and Kapha. Being Pittakara in nature, it enhances metabolism and regulates menstrual flow. Acharya Kashyapa mentions that these attributes make it an excellent choice for pacifying Vata and stimulating regular menstruation. Based on its Yoni Shodhaka and Yoni Shulahara properties, Shatapushpa may offer therapeutic potential in addressing a range of abnormal menstrual conditions such as Anartava (amenorrhoea), Viphalartava (anovulatory cycles), Atyartava (menorrhagia), Alpartava (hypomenorrhea), Kashtartava (dysmenorrhea), Vandhya (infertility), Rudhira Gulma (uterine fibroids) and Yoni Shula. Thus, it is useful in various common menstrual and gynaecological disorders like PCOS, especially associated with infertility, oligomenorrhoea, dysmenorrhoea, etc.

Shatapushpa exerts Deepana (enhancing digestive fire) and Pachana (digesting undigested matter) functions at the Jatharagni (digestive fire) level. This action extends to influence the Rasadhatwagni (the metabolic fire at the tissue level), thereby supporting the proper formation of Rasa Dhatu (nutrient fluid). Consequently, this facilitates the nourishment and formation of Artava (menstrual fluid), a Upadhatu (secondary tissue) of Rasa Dhatu. This modulation of digestive and metabolic processes may contribute to the regulation of menstrual cycles and the promotion of proper ovulation. Consequently, this may also address associated symptoms of Polycystic Ovary Syndrome (PCOS), such as weight gain, acne, and hirsutism. By supporting both digestive and metabolic pathways, Shatapushpa potentially plays a role in normalising the hormonal environment, which is crucial for the management of metabolic disorders like PCOS.

Menstrual disorders can arise due to both physical abnormalities and functional disturbances. Physical issues, such as uterine fibroids, polyps, weak uterine contractions, adenomyosis, endometrial irregularities, and blockages in the tubes or channels, are caused by decrease in Sthana Bala (the strength or integrity of the site) and Srotosanga (obstruction or blockage of the channels). It can lead to disruption of Artava Nishkramana (menstrual flow). Functional abnormalities are largely due to Agni Dushti (digestive fire imbalance), leading to Rasa Dhatu Dushti (impairment of the bodily fluids) and improper formation of Artava (menstrual fluid). Additionally, a derangement of Vata, particularly Apana Vata, plays a significant role, as its function directly governs Artava Nishkramana. Disruptions in the movement of Apana Vata, or its inability to coordinate effectively with the other types of Vata—Prana Vata, Udana Vata, Samana Vata, and Vyana Vata can further contribute to menstrual irregularities. Hence, Shatapushpa's potent Vatanulomana properties support the balanced movement of Prana Vata, Vyana Vata*,* and Apana Vata, which are essential for proper bodily functions and the reproductive system. This regulation is crucial for ensuring Artava Nishkramana (the normal flow of menstrual blood). Consequently, Shatapushpa plays a key role in regulating menstruation and promoting a normal menstrual flow[25].

The phytochemical constituents of Shatapushpa, such as terpenoids, flavonoids, and steroids, contribute to its diverse therapeutic properties, including anti-spasmolytic, analgesic, anti-inflammatory, contractile, and antibacterial activities which are effective in managing menstrual irregularities, alleviating abdominal cramps, addressing infertility, and supporting the treatment of conditions like PCOS. Hence, it contributes to maintaining overall metabolic health and assists in maintaining the HPO axis and regularising the menstrual cycle[26]. Consequently, it aids in correcting Rasa Dhatwagni and ensuring the proper formation of the Upadhatu*,* Artava. This is particularly beneficial in conditions like Pushpaghni Jataharini *(*PCOS), where the female is Sthula (obese) and has Nishpala Artava (infertility)[27]. As Shatapushpa has been proven to increase oestrogen and progesterone levels while regulating cycles, it may help address these underlying hormonal imbalances.

Shatapushpa is proven to have volatile components, alkaloids, coumarins, terpenoids, flavonoids, phenolic acids, tannins, and steroids[28]. Terpenoids generally have anabolic effects, enhancing Agni and acting as diuretics. The terpenoid carvone has an antispasmodic effect[29]. Flavonoids like quercetin impact the morphological and proliferative changes in the uterus by stimulating oestrogen receptors to promote this cell proliferation. It also has the ability to reduce PGF2α-elicited Ca^{2+} responses in human uterine smooth muscle cells and inhibits Ca^{2+}-dependent uterine contractions, thus having anti-spasmolytic activity. Volatile compounds like α-phellandrene and limonene have analgesic effects[30]. Phytoestrogenic components of dill extracts can mimic or modulate the action of oestrogen in the body, which may have several potential effects on the regulation of the menstrual cycle.

In addition, Shatapushpa is valued for being a safe, cost-effective, and easily accessible medicinal herb. Safety evaluation of *A. graveolens* on mice revealed that a single oral dose of 2000 mg/kg and long-term oral multiple doses of this extract are safe agents. Doses less than 50 mg/kg were considered as No Observable Adverse Effect Level (NOAEL) in both genders of the mice[31].

CONCLUSION

Shatapushpa (*Anethum graveolens* Linn.) emerges as a potential therapeutic herb for supporting menstrual and reproductive health. Its ability to regulate hormonal balance, enhance Agni, and modulate Rasa Dhatu and Artava aligns with Ayurvedic therapeutic strategies, addressing the fundamental mechanisms involved in menstrual health. The presence of key phytochemical compounds—such as terpenoids, flavonoids, and steroids—confers anti-inflammatory, analgesic, anti-spasmolytic, metabolic, and hormone-regulating properties, reinforcing its potential for managing menstrual dysfunctions. Its cost-effectiveness and established safety profile further reinforce its potential as a viable natural treatment option. While research on its direct impact remains limited, its therapeutic potential is evident. Further clinical studies and exploration of its pharmacokinetics and pharmacodynamics will be critical in fully validating its efficacy.

REFERENCES

1. Dutta DC. Menstruation. In: Konar H, editor. DC Dutta's textbook of gynecology. 6th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2013. p. 82.
2. Maybin JA, Munro MG, Fraser IS, Critchley HOD. Re-definition and re-classification of menstrual disorders. Obstet Gynecol Reprod Med [serial on the Internet]. 2013 Nov [cited 2025 May 7];23(11):331–6. Available from: https://www.obstetrics-gynaecology-journal.com/article/S1751-7214(13)00164-4/abstract
3. Esimai OA, Esan GOO. Awareness of menstrual abnormality among college students in urban area of Ile-Ife, Osun State, Nigeria. Indian J Community Med [serial on the Internet]. 2010 Jan [cited 2025 May 7];35(1):63–6. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC2888370/
4. Statista [homepage on the Internet]. Hamburg, Germany: Statista, Inc.; c2020 [updated 2025 Mar 3; cited 2025 Mar 3]. Available from: https://www.statista.com/statistics/1136538/india-menstrual-problems-among-women-by-age-group/.
5. World Health Organization [homepage on the Internet]. Geneva, Switzerland: World Health Organization; c2022 [updated 2022 Jun 22; cited 2025 Mar 3]. Available from: https://www.who.int/news/item/22-06-2022-who-statement-on-menstrual-health-and-rights.
6. Al-Snafi A. The pharmacological importance of *Anethum graveolens*: A review. Int J Pharm Sci [serial on the Internet]. 2014 Jan [cited 2025 May 7];6(1):11–3. Available from: https://www.researchgate.net/publication/267030666_The_pharmacological_importance_of_Anethum_graveolensA_review
7. Jana S, Shekhawat GS. *Anethum graveolens*: An Indian traditional medicinal herb and spice. Pharmacognosy Rev [serial on the Internet]. 2010 Jul [cited 2025 May 8];4(8):179–84. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC3249919/
8. Gyanendra Pandey. Madanapala Nighantu, Shuntyadi Varga, verse 24-25. Varanasi: Chaukhamba Orientalia; 2016. p.271-2.
9. Sharma H, editor. Kashyapa Samhita of Vruddha Jivaka, Kalpasthana, Shatapushpa Shatavari Kalpa Adhyaya, verses 5, 6, 10. 2nd ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2022. p.280.
10. Kaur V, Kaur R, Bhardwaj U. A review on dill essential oil and its chief compounds as natural biocide. Flavour Fragr J [serial on the Internet]. 2020 Mar [cited 2025 May 8];36(3):1–20. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1002/ffj.3633
11. Ortan A, Popescu ML. Contributions to the pharmacognostical study on *Anethum graveolens*, Dill (Apiaceae). Rom Biotechnol Lett [serial on the Internet]. 2009 Apr [cited 2025 May 8];14(2):4342–8. Available from: https://www.researchgate.net/publication/228506762_Contributions_to_the_Pharmacognostical_Study_on_Anethum_graveolens_Dill_Apiaceae
12. Monsefi M, Ghasemi M, Bahaoddini A. The effects of *Anethum graveolens* L. on female reproductive system of rats. DARU J Pharm Sci [serial on the Internet]. 2006 Jul [cited 2025 May 7];14(3):131–5. Available from: https://pubmed.ncbi.nlm.nih.gov/16835877/
13. Wu CH, Shieh TM, Wang KL, Huang TC, Hsia SM. Quercetin, a main flavonoid in onion, inhibits the PGF2α-induced uterine contraction *in vitro* and *in vivo*. J Funct Foods [serial on the Internet]. 2015 Dec [cited 2025 May 7];19:495–504. Available from: https://www.sciencedirect.com/science/article/pii/S1756464615004454
14. Souza FV, Da Rocha MB, De Souza DP, Marçal RM. Carvone: antispasmodic effect and mode of action. Fitoterapia [serial on the Internet]. 2013 Mar [cited 2025 May 8];87:20–4. Available from: https://pubmed.ncbi.nlm.nih.gov/23103297/
15. Gharib Naseri MK, Haeidari A. Spasmolytic effect of *Anethum graveolens* (dill) fruit extract on rat ileum. Physiol Pharmacol [serial on the Internet]. 2006 [cited 2025 May 8];10(2):99–105. Available from: http://ppj.phypha.ir/article-1-248-en.html
16. Arora DS, Kaur JG. Antibacterial activity of some Indian medicinal plants. J Nat Med [serial on the Internet]. 2007 [cited 2025 May 8];61:313–7. Available from: https://www.researchgate.net/publication/225655215_Antibacterial_activity_of_some_Indian_medicinal_plants
17. Naseri M, Mojab F, Khodadoost M, Kamalinejad M, Davati A, Choopani R, *et al.* The study of anti-inflammatory activity of oil-based dill (*Anethum graveolens* L.) extract used topically in formalin-induced inflammation male rat paw. Iran J Pharm Res [serial on the Internet]. 2012 Fall [cited 2025 May 8];11(4):1169–77. Available from: https://pubmed.ncbi.nlm.nih.gov/24250550/
18. Altameme HJ, Hameed IH, Hamza LF. *Anethum graveolens*: Physicochemical properties, medicinal uses, antimicrobial effects, antioxidant effect, anti-inflammatory and analgesic effects: a review. Int J Pharm Qual Assur [serial on the Internet]. 2017 [cited 2025 May 8];8(3):88–91. Available

from: https://www.researchgate.net/publication/320082200_Anethumgraveolens_Physicochemical_Properties_Medicinal_Uses_Antimicrobial_Effects_Antioxidant_Effect_Anti-Inflammatory_and_Analgesic_Effects_A_Review
19. Yazdanparast R, Bahramikia S. Improvement of liver antioxidant status in hypercholesterolemic rats treated with *Anethum graveolens* extracts. Pharmacologyonline [serial on the Internet]. 2007 [cited 2025 May 8];3:88–94. Available from: https://pharmacologyonline.silae.it/files/archives/2007/vol3/10_Yazdanparast.pdf
20. Heidarifar R, Mehran N, Heidari A, Tehran HA, Koohbor M, Mansourabad MK, *et al.* Effect of dill (*Anethum graveolens*) on the severity of primary dysmenorrhea compared with mefenamic acid: A randomized, double-blind trial. J Res Med Sci [serial on the Internet]. 2014 Apr [cited 2025 May 8];19(4):326–30. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC4115348/
21. Ghose A, Panda PK. Clinical efficacy of Shatapushpa (*Anethum sowa* Kurz.) powder in the management of Artavakshaya (oligomenorrhoea). AYU [serial on the Internet]. 2010 Oct [cited 2025 May 8];31(4):447–50. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC3202254/
22. Deogade MS, KSR P, Nesari TM, Bhati D. Efficacy and comparison of Shatapushpa Taila Matrabasti with Shatapushpa Churna in Kashtartava (Dysmenorrhoea). Int J Ayurvedic Med [serial on the Internet]. 2021 [cited 2025 May 8];12(2):254–8. Available from: https://www.ijam.co.in/index.php/ijam/article/view/1838
23. Kumarapeli M, Karunagoda K, Perera PK. A randomized clinical trial to evaluate the efficacy of satapushpa-shatavari powdered drug with satapushpa-shatavari ghrita for the management of polycystic ovary syndrome (PCOS). Int J Pharm Sci Res [serial on the Internet]. 2018 Jun [cited 2025 May 8];9(6):2494–9. Available from: https://ijpsr.com/bft-article/a-randomized-clinical-trial-to-evaluate-the-efficacy-of-satapushpashatavari-powdered-drug-with-satapushpa-shatavari-grita-for-the-management-polycystic-ovary-syndrome-pcos/
24. Mishra BS, editor. Bhavaprakasha. 11th ed. Varanasi: Chaukhamba Sanskrit Bhawan; 2018.Volume 2, Chikitsa Sthana, 68th Adhyaya, Verse 10. p.754.
25. Pandya S, Gujarathi J, Vyas J. Effect of Shatapushpa in female infertility w.s.r to anovulatory factor: A review study. J Ayurveda Holistic Med [serial on the Internet]. 2017 [cited 2025 May 8];5:52–60. Available from: https://www.researchgate.net/publication/321126892_effect_of_shatpushpa_in_female_infertility_wsr_to_anovulatory_factor_a_review_study
26. Mewara H, Mewara J, Chauchan PA. Review of Shatapushpa and its mode of action in gynecological disorders. Int J Res Anal Rev [serial on the Internet]. 2019 [cited 2025 May 8];6:443–8. available from: https://www.semanticscholar.org/paper/a-review-of-shatapushpa-and-its-mode-of-action-in-mewara-mewara/84e550f303224269368e1966e4fb2e25ffaa6197?utm_source=direct_link
27. Sharma H, editor. Kashyapa Samhita of Vruddha Jivaka, Kalpasthana, Revati Kalpa Adhyaya, verse no. 33-34. 2nd ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2022. p. 290.
28. Jana S, Shekhawat GS. *Anethum graveolens*: An Indian traditional medicinal herb and spice. Pharmacognosy Rev [serial on the Internet]. 2010 Jul [cited 2025 May 8];4(8):179–84. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC3249919/
29. Souza FV, Da Rocha MB, De Souza DP, Marçal RM. Carvone: Antispasmodic effect and mode of action. Fitoterapia [serial on the Internet]. 2013 [cited 2025 May 8];84:20–4. Available from: https://pubmed.ncbi.nlm.nih.gov/23103297/
30. Piccinelli AC, Santos JA, Konkiewitz EC, Oesterreich SA, Formagio AS, Croda J, Ziff EB, Kassuya CA, *et al.* Antihyperalgesic and antidepressive actions of (R)-(+)-limonene, α-phellandrene, and essential oil from *Schinus terebinthifolius* fruits in a neuropathic pain model. Nutr Neurosci [serial on the Internet]. 2015 Jul [cited 2025 May 8];18(5):217–24. Available from: https://pubmed.ncbi.nlm.nih.gov/24661285/
31. Arbabi BS, Taheri E, Baher H, Ziarati P. Safety evaluation of oral *Anethum graveolens* L total hydroalcoholic extract in mice. J Pharm Health Sci [serial on the Internet]. 2011 [cited 2025 May 8];1(2):61–7. Available from: https://www.researchgate.net/publication/233731722_Safety_evaluation_of_oral_Anethum_graveolens_L_total_hydroalcoholic_extract_in_mice

Cite this article as:

Sharanya CB and Smitha Jain. Therapeutic application of Shatapushpa (*Anethum graveolens* Linn.) in the context of menstrual disorders: A Critical Review. Int. J. Res. Ayurveda Pharm. 2025;16(2):217-221
DOI: http://dx.doi.org/10.7897/2277-4343.16275

Source of support: Nil, Conflict of interest: None Declared