A review of Shatapushpa and its mode of action in gynaecological disorders

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Abstract:
Now a day females were facing the gynecological disorders due to excessive consumption of junk food, sedentary lifestyle, faulty dietary habits and also physical & mental stress because of work load. So that HPO axis gets impaired. In Ayurvedic system of medicine, there are various herbs & formulations are described by Acharyas which can improve & cure these gynecological problems of females. A classical drug named Shatapushpa described by Kashyapa in a separate chapter having properties like Ritupravartini, Yonisukra vishodhini, Putraprada, Viryakari etc so it is used in Anartava (amenorrhoea), Viphala Artava (without fruit means no ovulation so can’t conceive), Atyartava (menorrhagia), Alpaartava (hypomenorrhoea), Kashtartava (dysmenorrhoea), Rajonirvrutti (menopause), Yoni-shushkata (dryness of vagina), Vandhya & Shandhi (women not having child / can’t conceive), Rudhira Gulma1 (useful in uterine fibroids) and yonishoola (pain in vagina). Thus, in this article, an effort has been taken to shed some light on conceptual part of Shatapushpa & their use in gynaecological disorders.

Key word: Shatapushpa, gynecological disorders

Introduction:
Ayurveda considers that the whole orchestra of treatment is governed by Chikitsa Chatuspada i.e. four basic pillars of treatment. Among these four pillars, Dravya (Aushadhi) is important factor after physician, which has the potential to bring out reversal in the process of pathogenesis (Hetu) and eradication of the (Linga) signs and symptom. Shatapushpa2 means hundred flowers. It is one of the most important plant origin drug, which had been mentioned for its varied benefits in the literature of Ayurveda.

Drug Review:
Botanical Name: Anethum Sowa Roxb.ex Flem, Anethum graveolens Benth.
Family: Umbelliferae or Apiaceae
Sanskrita name: Sathapushpa, Chhatra, Shatahwa, Madhura, Mishi, Carvi, Atilambi, Samhitchhatrik Sitachhatra, Peetika Avakpushpi, Shipapara, Ghosh, Magdhi, Yonishulaghni.
Hindi name: Soya, Bansounf
English: Dill or Dill-seeds
Swarupa: It is a Kshup having 1'-2' height.
Habitat: All over India.
Part Used: Fruit, Leaf, Flower, oil

Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rasa</td>
<td>Madhura, Katu, Tikta,</td>
</tr>
<tr>
<td>Guna</td>
<td>Laghu, Ruksha, Tikshna.</td>
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<tr>
<td>Virya</td>
<td>Ushna.</td>
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<td>Vipaka</td>
<td>Katu,</td>
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<tr>
<td>Doshaghta</td>
<td>Kaphavatashamaka.</td>
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</tbody>
</table>

Discription of shatapushpa in samhitas and nighantas:

Charaka Samhita: Asthapanopaga as well as anuvasanopaga mahakashaya,
Arsha Chikitsa and Vatarakta Chikitsa

Sushruta samhita: Asthapana gana

Kashyapa samhita: Sathapushpa Shatavari kalpa

Dhanvantari Nighuntu: Shatapurshpadi varga/1

Bhavaprakasha Nighuntu: Haritakyadi varga/89

Raj Nighuntu: Shatadhvadi varga /10-13

Kaiyadev Nighuntu: Aushadha varga/190

Chemical constituents

Seed contains about volatile oil – 1.2-7.7% about 20% each of and fixed oil it also contains proteins, carvone D-Limonen, I-dihyrorocarvone, α-Phellanadrene, B-sitosteral and other terpenes. The chief constituent of the volatile oil is aromatic liquid,know as carvone (43 to 63%). dihydrocarvone, carvacrol, safrole, thymol, safrole, α-pinene, d-phellandrene, dillapiol, d-phellandrene, α-terpinene, carvone, carvophyllene, myristicin, eugenol, anethofuran (essential oil), scopoletin, coumarin (6,7-dihydro-8,8-dimethyl-2H,8H-benzo-[1,2-b:5,4-b'] dipyran-2, 6-dione (dill), carvone, (+) limonene (dill oil); glyceryl esters of saturated and unsaturated fatty acids, phytofluene, β-sitosterol, umbelliferone, scopoletin, stigmasterol, osthol, Z-ligustilide, neocnidilide, butylphthalide, senkyunolide (roots); α- and β-phellandrenes, limonene, p-cymene, octanal, tridecane, tetradecane, hexadecane, 4α-dimethylstyrene, camphor, dihydrocarvone, carvotanacetone, octadecene, nonadecane, α,α,β-trimethylbenzyl alcohol, eicosane, apioi (root essential oil); carvone, d-α-phellandrene (stem and leaves); vicenin (6,8-di-c-glucosyl-5,7,3′-trihydroxy-flavone), xanthone glycoside-dillanoside (fruits); tripetroselinin, petroselicidiolein, dipetroselinicolein, dillapional (seed oil); benzodipyran-graveolone, carvone (plant); carvone, hihydrocarvone, carvacrol, methyl benzoate, 1,5-cineole, p-cymene, α-phellandrene, limonene, safrole, α-terpinene and α-pinene (essential oil from fruits).

Pharmacological activity:

It was reported to have it is antihelmintic, antibacterial, antimicrobial, anti-inflammatory, antihyperlipidemic, Aromatic, Anti-hypercholesterolaeemic, Diuretic, antioxidant, antispasmodic, emmenagogue, galactogogue, stimulant and specially a stomachie; beneficial in colic and hiccup. Oil from the seeds used in the preparation of gripe water. Leaves soaked in warm oil and applied locally to abscesses and boils to hasten suppuration. Fruit are
reported to have antispasmodic activity in smooth muscles of G.I. tract. Dill water prepared from fruit is regarded as stimulant, carminative, aromatic and promotes secretion of milk. Because of its anti-inflammatory activity, seeds bruised, boiled in water and mixed with the roots are applied externally in rheumatic and other swelling of joints.\(^5\)

**Therapeutic use:**

**External application:**

- *Shushka Arsha*\(^6\) fomented with lumps of *Vacha* and *Shatapushpa* mixed with unctuous substances.
- In *Vata* predominant *Vata Rakta* Paste of linseed, castor seeds and *Shatapushpa seeds* pounded with milk is used for local application to remove Shoola. (*Charaka samhita Vatarakta chikitsa*)
- *Vishahara lepa*: Paste of Shatpushpa mixed with rock salt and Ghee is used for local application to counteract bees poison (*Bhela Samhita Visha /216*).

**Internal:**

- *Bastikarm* - Acharya Charaka firstly described shatapushpa in asthapanopaga as well as anuvasanopaga mahakashaya & also in dhanvantari nighuntu. It is widely used as a kalka in basti therapy, it helps to regularise the apana vata
- *Agnimandhya, Aruchi & Vamana*\(^7\) - Because of its Usna, Tikshna. Pittkrit, Deepana, pachana, Ruchidayaka, Vatanulomana properties
- *Udarshoola, Krimi, jwara, vrana, netraroga etc.*
- *Rasayana*: Shatapushpa promotes intellect with-in a month when given with honey and Ghee.
- According to Acharya Kashyapa it is used in different conditions with different Anupanas\(^9\);
  - For Agnivridhi – Madhu
  - Rupa Vardhan – Ksheer & Sarpi
  - Bala Vardhan – Taila
  - In Pleeha roga – Katu taila
  - Kamala, Pandu & Shotha – Mahisha ksheer & Mutra
  - Kushti – Khadiravari
  - Gulma – Eranda taila

**Description for Prasuti and Stri Roga conditions with its probable mode of action**

Acharya Kashyapa highlighted the effect of *Shatapushpa* exclusively in many of gynaecological disorders in a separate chapter. He told its *Ritupravartini, Yonisukra vishodhini, Putraprada, Viryakari etc properties* so it is used in *Artava Kshya or Anartava* (amenorrhoea), *Viphala Artava*, (without fruit means no ovulation so can’t conceive), *Atyartava* (menorrhagia), *Alpaartava* (hypomenorrhoea), *Kashtartava* (dysmenorrhoea), *Rajonirvrutti* (menopause), *Yoni-shuskata* (dryness of vagina), *Vandhyaa & Shandhi* (women not having child / can’t conceive), *Rudhira Gulma*\(^10\) (useful in uterine fibroids) and *yonishoola* (pain in vagina).

1. *Anartava and Atyartava: Sathapushpa* consists of mono terpene such as carvone, limonine, and trans-anethole and some flavonids such as kaempferol and vecenin. Kaempferol, trans-anethole and limonine exhibit

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phyoestrogenic activity. Phytoestrogen can be useful in both hyper estrogenic and hypo estrogenic state in the body due to their adaptogenic activity. Thus depending on target tissue, it may estrogenic and anti-estrogic, so it is useful in Anartava (amenorrhoea), Viphala Artava, (without fruit means no ovulation so can’t conceive) and Atyartava (menorrhagia) too as described by Maharshi Kashyapa.

2. Anulomana Karma of shatapushpa will cause “Doshanam Sanshosana” and facilitate the free movement of Apana Vayu. One of the main function of Apana vayu is the production of Artava. So it acts as Rajah pravartaka (emenogogue)\(^{11}\) and has good effect on Rajorodha kashtarajah & Yonishoola. It relieves Dysmenorrhoea (kashartava) due to inhibition of prostaglandin production and antispasmodic action\(^ {12}\).

3. Anagatartava: Recent reports indicate that phytoestrogen exert their effect in selective estrogen receptor modulators (SERM). Through this SERM like action they inhibit the enzymatic conversion of endogenous oestrone to oestradiol and also possess intrinsic oestrogen activity useful in reducing the menopausal sign and symptoms (like hot flush, vaginitis, anxiety and osteoporosis).

4. Yoni Shushkta (dryness of vagina) is mainly due to decrease in estrogens level in such condition pichu (tampon) of Shatpushpa tail is very useful.

5. Because of its Hypolipidemic & Hypocholesterolaemic action helps to maintain BMI and may help in regulation of HPO axis and in correction of menstrual cycle. Anti-hyperlipidemic\(^ {14}\) effects can also improve the biological antioxidant status by reducing lipid peroxidation in liver and modulating the activities of antioxidant enzymes in rats fed with high fat diet.

6. Pelvic inflammatory disease: Presence of haemorrhagic or other discharges from yoni (vagina) is overcome by contribution of tannin. Its anti-inflammatory and antibacterial actions\(^ {15}\) (A. graveolens showed a broad-spectrum antibacterial activity against S. aureus, E. coli, P. aeruginosa, S. typhimurium, Shigella flexneri and Salmonella typhii) help to cure the PID.

7. Limonene and anethole showed contractive effect on uterine myometrium. Due to its contractive characteristic, seed extract after delivery decreases postpartum hemorrhage

### Probable mode of action

<table>
<thead>
<tr>
<th>Madhura rasa &amp; Ushna virya- vata↓</th>
<th>Dhatu karma</th>
<th>Mala karma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katu vipaka and ushna virya- kapha↓</td>
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</tbody>
</table>

| Vatakaphashamaka | rasavardhaka/raktavardhaka | Anulomana | Srotoshodhana |

By all these properties, various type of Shatapushpa formulations are useful to regularize the Function of HPO Axis & Cure many gynaecological problems.
Conclusion:

*Shatapushpa* is a plant with wide range of chemical constituent with many pharmacological effects. This is a great promise for development of novel drug from dill. *Many Acharyas* was very well-known about its therapeutic uses. *Acharya Kashyapa* gives separate chapter and highlighted it in gynaecological disorders very scientifically. In the modern era natural remedy with *Shatapushpa* will stand strong against many health issues of females.

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