

## REVIEW ARTICLE ON USES OF SHATAPUSHPA IN VARIOUS FORMS IN STRI ROGA AND PRASUTI TANTRA

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### ABSTRACT

**Background:** 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 spite of advances in science, management of gynaecological disorders is still not satisfactory. As hormonal and surgical treatment is having various side effects. In Ayurvedic system of medicine, there are various herbs & formulations are described by *Acharaya*, which can improve & cure these gynecological problems of females. A classical drug named

*Shatpushpa* described by Kashyapa in a separate chapter having properties like *Ritupravartini*, *Yonisukra vishodhini*, *Putraprda*, *Viryakari* etc so it is used in *Anartava* (amenorrhea), *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 Gulma* (useful in uterine fibroids) and *yonishoola* (pain in vagina).<sup>[1]</sup> **Materials and methods:** Selected Ayurveda classics, electronic databases, namely PubMed, Digital helpline for Ayurveda Research Articles and so on are searched to compile the evidence of use of shatapushpa in gynaecological disorders. **Results:** *shatpushpa* is used in the preparations of more than 56 Ayurvedic preparations, which include *dashmoolarishta*, *kumaryasav*, *narayana taila*, *mahanarayan taila*, *phalghrita*, *sheetkalyanghrita* and so on. Various research studies at present reveal many major chemical constituent present in this drug are useful as described by maharishi Kashyapa. *Shatapushpa* (*Anethum sowa*) is one of the important medicinal plant having many therapeutic uses.

Acharya Kashyapa had described it as nectar for women having gynaecological disorders.

**Conclusion:** *shatapushpa* can be used to cure many gynaecological disorders like *artava kshaya*, *anartava*, *vandhyatav*, *kashtaartava*, and so on. It can be used in form of *nasya*, *pana*, *abhyanga* and *basti*.<sup>[2]</sup>

**KEYWORDS:** *Shatapushpa*, gynaecological disorder, *Artava*, *Anethum sowa*.

## INTRODUCTION

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 spite of advances in science, management of gynaecological disorders is still not satisfactory. As hormonal and surgical treatment is having various side effects. In Ayurvedic system of medicine, there are various herbs & formulations are described by Acharaya, 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*, *Putraprda*, *Viryakari* etc so it is used in *Anartava* (amenorrhea), *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 Gulma* (useful in uterine fibroids) and *yonishoola* (pain in vagina).<sup>[3]</sup>

*Anethum Sowa* Kurtz. Belong to Apiaceae/Umbelliferae family. *Anethum sowa* also known as *Peucedanum graveoles* / *Shatapushpa* or Dill. The common name 'Dill' arises from Norse word Dilla which means soothe. This herb grows annually glabrous and aromatic herb native to the eastern Mediterranean region and western Asia. Indian dill is grown in the states of Rajasthan, Gujarat, Madhya Pradesh, Maharashtra and Andhra Pradesh for its seeds, which are used for the extraction of oil and are exported as such to earn foreign exchange. Rajasthan shares 48% of total dill production.<sup>[4]</sup> The seeds and the leaves used for curing many disease. *Anethum sowa* seed has medicinal uses as a diuretic, carminative antibacterial, antiseptic, antispasmodic, cardio depressant, digestive, blood sugar lowering, blood pressure lowering, breast milk stimulating, galactagogue, and laxative properties. Two species of dill: European dill (*Anethum graveolens* L.) and Indian dill (*Anethum sowa* Roxb.). *Anethum sowa* is rich in apiol whereas *Anethum graveolens* is rich in carvone. *Anethum* seeds are used as a spice and its fresh and dried leaves called dill weed are used as condiment and tea. The aromatic herb is

commonly used for flavoring and seasoning of various foods such as pickles, salads, sauces and soups.

**Pharmacology**<sup>[5]</sup>: The essential oil from seeds and its constituents viz carvone, dihydrocarvone, limonene, dillapiol showed antifungal activity. D and L- Limonene showed antidermatophytic and antibacterial properties. The seeds exhibited antibacterial activity. The aqueous extract of seed showed mutagenicity to salmonella typhemuram. The 50 per cent ethanolic extract of the fruits exhibited hypoglycemic effect in rats.

Major functions: antifungal, anti bacterial, antispasmodic.

**Safety aspects**: dillapiol, found in essential oil of *anethum sowa* is known to be abortifacient and toxic to both liver and kidney.

The LD50 of the 50 percent ethanolic extract of the fruit is 1000mg/ kg ip in mice.



**Botanical name**<sup>[6]</sup> - *Anethum Sowa* Roxb.ex Flem, *Anethum graveolens* Benth

**Family**- Umbelliferae or Apiaceae

**Kingdom** - Plantae

**Division** - Magnoliophyta

**Class** - Magnoliopsida

**Order** - Apiales

**Family** - Apiaceae

**Indian Names - Hindi, Bengali, Punjabi, Urdu** (*Sowa, soya*), **Gujrati** (*Surva*), **Kannada** (*Sabastya*), **Marathi** (*Surva*), **Sanskrit** (*Shatapushpa*), **Telugu** (*Sabasige*). **English name - Dill Anet Arabic - Shibth/ Habu.**

**Synonyms:** *Sathapushpa, Chhatra, Shatahwa, Madhura, Mishi, Carvi, Atilambi, Samhitchhatrik, Sitachhatra, Peetika Avakpushpi, Shipapara, Ghosh, Magdhi, Yonishulaghni.*  
Classifications of *shatapushpa* in various Nighantus and text.

|                       |                                  |              |
|-----------------------|----------------------------------|--------------|
| Charak Samhita        | Aasthapanopag Anuvashanopag      | 25-26        |
| Sushrut Samhita       | Kapha Shanshaman                 | 9            |
| Kashyap samhita       | Shatapushpa Shatavari kalpadyaya | 280-281      |
| Dhanvantri Nighantu   | Shatpushpadi varga               | 1 – 3        |
| Raj Nighantu          | Shatavahavyadi Varga             | 10 – 13      |
| Kaiydev Nighantu      | Aushadi Varga                    | 1186 – 1191  |
| Bhav prakash Nighantu | Haritkyadi varga                 | 89 – 91      |
| Madanpal Nighantu     | Shuthyadi Varga                  | 24-25        |
| Shodal nighantu       | Shatpushpadi varga               | 259,289      |
| Astang Nighantu       | Shaymadi varga                   | 266          |
| Adarsh Nighantu       | Jeerkayadi Varga                 | Pg.N.688-690 |

### Properties<sup>[7]</sup>

**Rasa:** *Madhura, Katu, Tikta*

**Guna:** *Laghu, Ruksha, Tikshna*

**Virya:** *Ushna*

**Vipaka:** *Katu*

**Doshaghnta:** *Kaphavatashamaka*

**Karma:** *Artavajanana*

### MATERIAL AND METHODS

Original articles and research papers in published journals and in Pubmed central on *Shatapushpa* in relation to gynecological diseases were studied out and related articles and papers were taken into consideration. Ayurveda literature including samhitas and nighantu related to *Shatapushpa* was also studied. Information regarding gynaecological disorders was collected from modern and Ayurveda literature. All the literature was especially studied for medicinal use of *Shatapushpa* in gynaecological diseases and taken in to consideration. More emphasis has been given on clinical trials carried out on *Shatapushpa*. Finally results were obtained from all the data and literature studied.

## RESULTS AND DISCUSSION

### Therapeutic use<sup>[8]</sup>

#### *External application*

- *Shushka Arsha* 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)
- *Aprapatana*- tampon soaked with oil prepared with *shatapushpa*, *kustha*, *madanphala* and *hingu* should be given (Charak sam sha 8/41)

#### *Internal*

- *Bastikarm* - Acharya Charaka firstly described *shatapushpa* in *asthapanopaga* as well as *anuvasanopaga mahakashaya* & also in *dhanvantari nighantu*. It is widely used as a *kalka* in *basti* therapy, it helps to regularise the *apana vata*
- *Asthapana basti* with *shatapushpa*, *vaca*, *kustha*, *kana* and *sarsapa* mixed with oil and salt is used for *aparapatna* (Ashtang Hridaya sha 1)
- *Agnimandhya*, *Aruchi* & *Vamana* - Because of its *Usna*, *Tikshna*, *Pittkrit*, *Deepana*, *pachana*, *Ruchidayaka*, *Vatanulomana* properties.
- *Udarshoola*, *Krimi*, *jwara*, *vrana*, *netraroga* etc.
- *Rasayana*: *Shatapushpa* promotes intellect within a month when given with honey and *Ghee*.<sup>[9]</sup>
- According to Acharya Kashyapa it is used in different conditions with different *Anupanas*.<sup>[10]</sup>
- For *Agnivridhi* – *Madhu*
- *Rupa Vardhan* – *Ksheer* & *Sarpi*
- *Bala Vardhan* – *Taila*
- In *Pleeha roga* – *Katu taila*
- *Kamala*, *Pandu* & *Shotha* – *Mahisha ksheer* & *Mutra*
- *Kushti*– *Khadirava*



- *Gulma – Eranda taila*. Some formulation which contains *shatapushpa* as ingredient frequently used in *stiroga* and *Prasuti tantra*.

| Sr no. | Formulation  | Dosage               | Adhikar   | Part used    | Reference  |
|--------|--|----------------------|---|--------------|--|
| 1      | <i>Dashmoolarishta</i> <sup>[11]</sup>                       | <i>arishta</i>       | <i>Vandhyatva, pushtikarak, teja and shukra, balaprad</i> | <i>phala</i> | <i>Sharangdhar, madhyam 10</i>                     |
| 2      | <i>Narayan taila</i> <sup>[12]</sup>                         | <i>taila</i>         | <i>vandhyatava</i>  | <i>phala</i> | <i>Sharangdhar, madhyam khanda 9</i>               |
| 3      | <i>Kumaryasav</i> <sup>[13]</sup>                            | <i>asava</i>         | <i>Udarroga shukradosh nashnam</i>                        | <i>phala</i> | <i>Sharangdhar madhyam khanda 10/18-27</i>         |
| 4      | <i>Dhanvantar tailam</i> <sup>[14]</sup>                     | <i>taila</i>         | <i>Sarvaroghar chikitsa</i>                               | <i>phala</i> | <i>Ashtanga hridya</i>                             |
| 5      | <i>Phalaghrita</i> <sup>[15]</sup>                           | <i>ghrita</i>        | <i>vandhyatav</i>   | <i>phala</i> | <i>Sharangdhar. madhyamkha Nda 9/80-87</i>         |
| 6      | <i>Sheetkalyan ghrita</i> <sup>[16]</sup>                    | <i>ghrita</i>        | <i>Alpapushpa, vandhyatav</i>                             | <i>phala</i> | <i>Yog. rat. pra. Rog. chi</i>                     |
| 7      | <i>Brihatkushmand avleh</i> <sup>[17]</sup>                  | <i>avleh</i>         | <i>Vrishya, brihana, balavardhana</i>                     | <i>phala</i> | <i>Bhav. Chi. 9/58-71</i>                          |
| 8      | <i>Shatapushpa churna, Shatapushpa taila</i> <sup>[18]</sup> | <i>Churna, taila</i> | <i>artavajanak</i>  | <i>phala</i> | <i>Kashyap shatapushpa Shatavari kalpa 5/23-25</i> |
| 9      | <i>Bala taila</i> <sup>[19]</sup>                            | <i>taila</i>         | <i>vandhyatav</i>   | <i>phala</i> | <i>Ashtanga sangrah</i>                            |
| 10     | <i>Maharasnadi kashyam</i> <sup>[20]</sup>                   | <i>kashaya</i>       | <i>vatashamak</i>   | <i>phala</i> | <i>Sharangdhar. Sam. madh. 2/89-85</i>             |

#### Clinical studies conducted on *shatapushpa* (*anethum sowa. linn*)

| S.No. | Institution   | Author                                 | Year | Title  | Conclusion  |
|-------|---|--|------|--|---|
| 1.    | IPGT & RA Jamnagar                                    | Der Chaya                              | 2002 | A Comparative clinical study of <i>Shatapuspadi vati</i> and <i>Krishna Tila Kwatha</i> on <i>artava kshaya</i>                                    | <i>Kwath</i> Therapy (Gr. B) was found to be more effective than <i>vati</i> (Gr. A). Maximum relief was achieved in duration of menstrual cycle (80.97%), intermenstrual cycle (76.47%) amount of menstrual blood (76.46%) painful menses (95.5%). |
| 2.    | Gopabandhu Ayurveda college and hospital, Puri.       | A. Ghose and P. K. Panda               | 2010 | Clinical efficacy of <i>Shatapushpa</i> ( <i>Anethum sowa</i> Kurz.) powder in the management of <i>Artava kshaya</i> (oligomenorrhoea)            | The statistical evaluation of clinical study revealed that significant results were observed in painful menstrual bleeding, scanty menstrual bleeding and irregular menstrual cycle.  |
| 3.    | SMSS Ayurved Rugnalaya & Research Centre, Aurangabad. | Nilesh Y. Bediskar Sandhya M. Yennawar | 2017 | Clinical evaluation of <i>Shatapushpa Shatavari churna</i> and O.C pills in management of <i>artavakshaya</i> w.s.r to certain menstrual disorders | <i>Shatapushpa Shatavari Churna</i> is more effective on <i>Yoni Vedana, Artava strava Pramana</i> and <i>Artava strava kalvavadhi</i> .  |
| 4.    | IPGT & RA   | Krupa                                  | 2011 | A clinical study on  | 20% patient ovulated in whom  |

|    |   |  |      |   |  |
|----|---|--|------|---|--|
|    | Jamnagar  | Patel  |      | polycystic ovarian disease and its management by <i>Shatapuspa tail Matra basti</i> and <i>Pathadi kwath</i> .  | <i>Shatapuspa taila matra basti</i> was given. 33.33% patient got complete remission of disease.   |
| 5. | SVPRAMC Badami, Bagalkot Dist, Karnataka State            | Dr. Parvati Birajdar   | 2016 | A clinical evaluation of <i>vandhyatwa</i> (anovulation) with <i>Shatpuspa taila nasya</i> and <i>churna</i> orally   | Overall result among 30 <i>Vandhyatwa</i> patients 18 (60.00%) and 12 (40.00%) which are rated as Fair and good response respectively, and considered as to be considered as a best treatment in controlling, relieving and curing <i>Vandyatwa</i> condition. |
| 6  | M.A.Podar Ayurved Medical Hospital                        | Dr.Bhagya shri Mahavir Khot.<br>Dr.Meena Dipak Lad.<br>Dr.Arun Jagannath Patil.<br>Dr.Anil Chindhu | 2013 | “A Clinical Study To Evaluate The Efficacy Of <i>Shatapushpa Tail Uttarbasti</i> & <i>Shatavari Tail Uttarbasti</i> With Herbal Compound In The Treatment Of Anovulatory Cycle” | <i>Shatpushpa</i> and <i>Shatavari</i> both are contains natural phytoestrogen therefore its increases endometrial thickness & menstrual flow.   |
| 7  | National Institute of Ayurveda (N.I.A.) Hospital, Jaipur. | Dr. Kamble Snehal Bhimarao   | 2019 | The Comparative Clinical Study of <i>Shatapushpa Churna</i> and <i>Tilshelukarvi Kwatha</i> on <i>Artava Kshaya</i> Dr. Kamble Snehal Bhimarao                                  | Combined use of <i>Shatapushpa Churna</i> and <i>Tilshelukarvi Kwath</i> is effectively helps in managing the disease <i>Artava kshaya</i> .   |
| 8  | DGM Ayurvedic Medical College Gadag                       | Nidhi Garg Akhil Jain  | 2016 | evaluation of efficacy of <i>shatapushpa phala churna</i> in <i>rajakrichra</i> with special reference to primary dysmenorrhoea   | <i>Shatpushpa</i> showed highly significant result in subjective Parameters in curing dysmenorrhea   |
| 9  | Qom University of Medical Sciences of Iran.               | Reza Heidarifar, Nahid Mehran,   | 2014 | Effect of Dill ( <i>Anethum graveolens</i> ) on the severity of primary dysmenorrhea in compared with mefenamic acid: A randomized, double-blind trial                          | Comprising the VAS showed that the participants of Dill and mefenamic acid groups had lower significant pain in the 1 <sup>st</sup> and the 2 <sup>nd</sup> months after treatment   |
| 10 | Masshad university of medical science, Iran               | Samira Ebrahimza deh et al   | 2012 | An investigation of effectiveness of oral Dill extracts on postpartum hemorrhage. J Women Midwifery Infertily Iran  | Dill seeds can be used for the augmentation of uterine contraction in low risk women in labour and also prevents post pregnancy complication.  |

All these above studies prove that shatapushpa is useful in gynaecological disorders like *kashtaartava* (dysmenorrhoea (Especially in Primary dysmenorrhoea), Post partum haemorrhage, for increasing labor pains, *artava kshaya*, *vandhyatav* (infertility), and polycystic ovarian disease. *Shatapushpa* oil is beneficial in form of *nasya pana abhyanga* and *basti*. *Shatapushpa*.

1 Because of *Katu Rasa*, *Katu Vipaka* and *Ushna Veerya* this drug will help in *Rajapravartana*.

2 Because of *Ushna Guna* and *Vata Shamaka* property *Shatapushpa* will help in *Shamana* of *Shoola*.

3 *Kapha Shamaka* properties will help in alleviating *Kapha Dosha*, which will relieve obstruction to flow of *Raja*.

4 Because of its *Anulomaka Guna* it will cause *Anulomana* of *Doshas* and *Malas* and it will change *Gati* of *Apana Vayu* from *Pratiloma* to *Anuloma* that in the turn will help in its proper functioning i.e. *Pravartana* of *Raja* and *Mala*.

5 Because of *Rochana* and *Agnivardhaka* properties it will help in *Ama Pachana* and *Ama* is considered as *Moola* of all the *Vyadhis*.

6 Because of *Rasayana Guna* and *Madhura Rasa* it alleviates *Vata* and increases the *Rasa Dhatu* so its Upadhatu *Artava* also increases.

Researchers and literature have proven that it has capacity to increase the production of milk. It is also rich source of Phytoestrogen<sup>[21]</sup> hence can be effectively used in menopausal females for symptoms like hot flush, vaginitis, anxiety and osteoporosis Phytoestrogens acts as anti estrogenic in breast and endometrial tissue, so when used in proper ways these can be beneficial in breast CA, Endometrial CA. Along with this it is also beneficial as antioxidant, antihyperlipidemic<sup>[22]</sup>, anti-inflammatory<sup>[23]</sup> and antimicrobial<sup>[24]</sup> Seed oil is also effective in stomach illnesses, food digestion, stopping hiccup, relieving of pain.

## CONCLUSION

In present review it is clear that *shatapushpa* has properties which are useful for treating many gynaecological disorders. It can prove key plant especially in the management of *artavakshaya*, *kashtaartava*, *vandhyatava* and post partum hemorrhage.

So it is concluded that with various preparations *shatpushpa* can be effectively used in the management of various gynaecological disorders. Also there is a great scope for development of new preparations of *shatapushpa*.



## REFERENCES

1. Vriddha Jivaka, Kashyapa Samhita or (Vriddha Jivakiyam Tantra), Pandit Hemaraja Sharma, The Vidyotini Hindi commentary, Sri Satyapala bhisagacharya, Chaukhamba Sanskrit Sansthan, Varanasi, Edition: Reprint, 2015, shatapushpa-shatavari kalp adhyaya pgno. 281.
2. ibidem, shatpushpa Shatavari kalp adhyaya shloka 25, pg no. 282.
3. Ibidem.
4. Directorate of arecanut and spices development (ministry of agriculture and farmers welfare <http://spicenurseries.in/variety-description.php?View=description&PL=T257e44aa9d5bade97bafMc74d97b01eaeY>
5. Quality standards of Indian medicine plants, ICMR New Delhi, 2006; 4: 18-27.
6. Acharya Priyavratt Sharma Dravyaguna Vigyana, Chaukhamba Bharti Academy Varanasi volume 2nd Reprint, 2011; Plant165 page no.403.
7. Acharya Priyavratt Sharma Dravyaguna Vigyana, Chaukhamba Bharti Academy Varanasi volume 2nd Reprint, 2011; Plant165 page no.403.
8. P.V Sharma, Classical uses of medicinal plants, 1 st edition, Varanasi, Chaukhamba Vishvabharati, 1996; 354.
9. Vriddha Jivaka, Kashyapa Samhita or (Vriddha Jivakiyam Tantra), Pandit Hemaraja Sharma, The Vidyotini Hindi commentary, Sri Satyapala bhisagacharya, Chaukhamba Sanskrit Sansthan, Varanasi, Edition: Reprint, 2015, shatapushpa- shatavari kalp adhyaya shloka no.18 pgno. 281.
10. Vriddha Jivaka, Kashyapa Samhita or (Vriddha Jivakiyam Tantra), Pandit Hemaraja Sharma, The Vidyotini Hindi commentary, Sri Satyapala bhisagacharya, Chaukhamba Sanskrit Sansthan, Varanasi, Edition: Reprint, 2015, shatapushpa-shatavari kalp adhyaya pgno.281.
11. Shrangadhara, Sharangadhra Samhita, Dipika Hindi commentary by Pt. Parashuram shastri vidyasagar Chaukhamba Subharti Prakashan, Varanasi, 1st edition, 2013; 239.
12. Shrangadhara, Sharangadhra Samhita, Dipika Hindi commentary by Pt. Parashuram shastri vidyasagar Chaukhamba Subharti Prakashan, Varanasi, 1st edition, 2013; 223.
13. Shrangadhara, Sharangadhra Samhita, Dipika Hindi commentary by Pt. Parashuram shastri vidyasagar Chaukhamba Subharti Prakashan, Varanasi, 1st edition, 2013; 235–236.
14. Sahsraayogam by Dr. K. Nishteshwar & Dr. R. Vidyanath, chaukhamba Sanskrit series office Varanasi, 4th edition, 2014, taila prakarana pg no. 109.

15. Shrangadhara, Sharangadhra Samhita, Dipika Hindi commentary by Pt. Parashuram shastri vidyasagar Chaukhamba Subharti Prakashan, Varanasi, 1st edition, 2013; 235–236.
16. Yogaratnakara with Vidyotini hindi commentary by Vaidya Laxmipati Sastri, chaukhambha prakashan, reprint, 2015; 400.
17. Bhavaprakasha Nighantu of Sri Bhavanishra by Sri brahmasankara Mishra, First Part, Chaukhamba Sanskrit Sansthan, Varanasi, 11th edition-2007; 218.
18. Vriddha Jivaka, Kashyapa Samhita or (Vriddha Jivakiyam Tantra), Pandit Hemaraja Sharma, The Vidyotini Hindi commentary, Sri Satyapala bhisagacharya, Chaukhamba Sanskrit Sansthan, Varanasi, Edition: Reprint, 2015, shatapushpa-shatavari kalp adhyaya, 281.
19. Vriddha Vagbhatta, Ashtanga Samgraha, Shashilekha Sanskrit Commentary by Indu, translated by Prof. Jyotir Mitra, edited by Dr. Shivprasad Sharma, Chaukhamba Sanskrit Series Office, Varanasi, Reprint, 2012; 571.
20. Shrangadhara, Sharangadhra Samhita, Dipika Hindi commentary by Pt. Parashuram shastri vidyasagar Chaukhamba Subharti Prakashan, Varanasi, 1st edition, 2013; 156.
21. Phytoestrogens and their health effect, Desmawati Desmawati and Delmi sulastri, PMC, Open Access Maced J Med Sci, 2019; 7(3): 495-499.
22. Yazdanparast R, Alavi M. Antihyperlipidaemic and antihypercholesterolaemic effects of Anethum graveolens leaves after the removal of furocoumarins. Cytobios; 2001; 105(410): 185-191.
23. Naseri M, Mojab F, Khodadoost M. The study of anti-inflammatory activity of oil-based dill (*Anethum graveolens* L.) extract used topically in formalin-induced inflammation male rat paw. Iranian Journal of Pharmaceutical Research, 2012; 11 (4): 1169-117.
24. Kaur G J, Arora D S. Antibacterial and phytochemical screening of *Anethum graveolens*, *Foeniculum vulgare* and *Trachyspermum ammi*. BMC Complement. Altern. Med, 2009; 9: 30.