

Role of Saptasara Kashaya with Saindhava Lavana and Guda Anupana in Relieving Menstrual Blood Clots in Udavartini Yonivyapad: An Ayurvedic and Pharmacological Review

Dr. Vishnupriya Thankachan¹, Dr. Sunil Kumar², Dr. Sonu³, Dr. Sruti P⁴

¹PG Scholar, Dept. of Rachana Sharira, National Institute of Ayurveda (Deemed to be), Jaipur

²Professor, Dept. of Rachana Sharira, National Institute of Ayurveda (Deemed to be), Jaipur

³Senior Assistant Professor, Dept. of Prasuti Tantra and Striroga, National Institute of Ayurveda (Deemed to be) Jaipur

⁴PG Scholar, Dept. of Swasthavritta, National Institute of Ayurveda (Deemed to be), Jaipur

Abstract

Introduction: Udavartini Yonivyapad is one of the twenty Yonivyapads described in Ayurveda and is characterized by Krichha Artava (painful menstruation) with immediate relief following the adequate expulsion of menstrual blood. Acharya Indu and Yogaratnakara have further described Badha Raja and Kapha Samsrishta Artava, which may be correlated with menstrual blood clots. Although clot passage is not a cardinal feature of primary dysmenorrhea, it is frequently observed in affected women. Saptasara Kashaya, indicated for Yoniruja in Sahasrayoga, is traditionally used in the management of Udavartini Yonivyapad.

Objective: To review the probable role of Saptasara Kashaya administered with Guda and Saindhava as Anupana in relieving menstrual blood clots associated with primary dysmenorrhea through Ayurvedic principles and modern pharmacological evidence.

Materials and Methods: A conceptual narrative review was carried out using classical Ayurvedic texts, including Charaka Samhita, Sushruta Samhita, Ashtanga Hridaya, Ashtanga Sangraha, Yogaratnakara, Sahasrayoga, and relevant modern scientific literature. The Ayurvedic properties and pharmacological actions of the individual ingredients of Saptasara Kashaya, along with the role of Guda and Saindhava as Anupana, were critically analyzed.

Discussion: The formulation predominantly exhibits Kapha-Vatahara and Vatanulomana actions through its Tikta-Kashaya Rasa, Ushna Virya, and Katu Vipaka. These properties help remove Kapha Avarana, relieve Margavarodha, restore the normal Anuloma Gati of Apana Vata, and facilitate unobstructed menstrual flow. Punarnava may help prevent menstrual clot formation through its antifibrinolytic activity, while the Lekhana Karma of Kulatha may promote easy endometrial shedding. Sahachara and Sunthi suppress prostaglandin synthesis by inhibiting COX enzymes, thereby reducing uterine hypercontractility and pain. The Anupana, namely Guda and Saindhava, further enhances the therapeutic effect by promoting Vatanulomana, Marga Vishodhana, maintaining the fluidity of menstrual blood (Sara), and supporting drug bioavailability.

Conclusion: Saptasara Kashaya with Guda and Saindhava as Anupana appears to be a rational Ayurvedic intervention for managing menstrual blood clots associated with primary dysmenorrhea. Its combined Kapha-Vatahara, Vatanulomana, anti-inflammatory, antispasmodic, prostaglandin-inhibitory, and clot-modulating actions provide a plausible explanation for its beneficial effects. Further well-designed experimental and clinical studies are warranted to validate these mechanisms.

Keywords: Udavartini Yonivyapad, Primary dysmenorrhea, Saptasara Kashaya, Guda, Saindhava, Badha Raja, Kapha Samsrishta Artava, Menstrual blood clots.

Introduction

Women's health is fundamental to the health and well-being of families and society. Physical and psychological disorders can negatively influence a woman's educational, social, and economic life. In today's world, women often manage both household and professional responsibilities, making the maintenance of their health increasingly important. Throughout different stages of life, particularly during menarche and menopause, they undergo various physiological and psychological changes. Among the health problems encountered during the menarcheal period, dysmenorrhoea is one of the most prevalent gynecological complaints.

In Ayurveda, gynecological disorders are described under the broad categories of Yonivyapad or Yoni Roga, comprising twenty distinct conditions. Among these, Udavartini Yonivyapad (Charaka) and Udavarta Yonivyapad (Ashtanga Hridaya, Ashtanga Sangraha, and Sushruta) are characterized by Krichha Artava (painful menstruation) and "Artava sa vimukta tu tatksanam labhate sukham", indicating immediate relief from pain following the adequate expulsion of menstrual blood. In addition to these cardinal features, some Acharyas have also described Badha Raja and Kapha Samsrishta Artava as associated clinical manifestations.

Udavartini Yonivyapad is comparable with primary dysmenorrhea in which pain starts with the onset or just before menstruation.

Saptasara Kashaya mentioned in Sahasrayoga - Kashaya prakarana indicated for Yoniruja. Hence it is considered in the management of Udavartini Yonivyapad

Materials and Methods

Materials: Classical Ayurveda texts such as Charaka Samhita, Susruta Samhita, Ashtanga Hridaya, Ashtanga Sangraha, Yogaratnakara etc and relevant modern articles are also were analyzed.

Methodology: This study is a conceptual, descriptive and narrative review.

Review of Literature

Udavartini Yonivyapad

Nirukti

The word Udavartha derived from 'Uth + ange + vruth + khanghe' means act of going up¹

Definition

Acharya Charaka says that it is the upward movement of morbid Rajas²

Udavartini As per Different Acharyas

According to Charaka, suppression of natural urges (Vega Rodha) causes the reverse movement of Vata, resulting in pain in the Yoni and obstruction to the normal flow of Raja. Consequently, the menstrual blood

is expelled with difficulty, and the pain is relieved immediately after its discharge.³ According to Indu, suppression of natural urges (Vegadharana), particularly retention of Adhovata, is the primary cause of the upward movement (Urdhwagati) of Vata. He further describes the expulsion of clotted menstrual blood (Baddha Raja) as an important clinical feature of the condition⁴. According to Yogaratnakara discharge of frothy menstrual blood occurs associated with kapha with difficulty.⁵

Nidana- Major specific etiology of Udavartini yonivyapad is Vega Udavarthana.

Purvarupa-Not mentioned

Rupa

Table No :1-Lakshanas mentioned by different Acharyas

Lakshana	Charaka	Susrutha ⁶	Vagbhata 1 ⁷	Vagbhata 2 ⁸	Yoga Ratnakara ⁹
Krichrartava	+	+	+	+	+
Artava vimukhte tatksanam sugham	+	-	-	-	-
Phenilatwam	-	+	+	+	+
Vedana	+	+	-	-	-
Yoni prapidana		-	+	+	-
Kapha samsrishta artava	-	-	-	-	+
Badha Raja	-	-	+	-	-

Samprapti

The Samprapti of Udavarta is based on Dosha-Dushya Sammurchana and Srotodushti, which involve the Roga Marga and ultimately manifest as Yonivyapad.

• Samprapti Ghataka

1. Dosha – Vata(Apana vata,Vyana vata),Kapha
2. Dushya – Rasa,Rakta,Arthava
3. Udbhava sthan – Pakwasaya
4. Vyaktha sthana – Garbhasaya ,Yoni
5. Srotas – Artava vaha,Rasavaha,Raktavaha
6. Srotodushti prakara –Sanga,Vimarga gamana
7. Rogamarga – Abhyantara
8. Agni – Jatharagni,Rasagni,Raktagni

Vegadharana leads to Apana vaigunya. Kaphaprakopa Ahara and vihara causes Kapha Vridhi ,which further causes Kapha Avarana to Vata and Margavarodha .Hence Anuloma gati of Apana is obstructed and

results in Pratilomagati of Apana and Urdhwagamitwa of Raja. Finally results in kricchra Artavatwa and Badha raja or Kapha samsrishta Artava.

Chikitsa – Acharya Charaka has mentioned Traivrita Snehanam, Sveda, Gramya-Anupa-Oudaka rasa, Dasamoola ksheera vasti, Traivrita Anuvasana Basti, and Traivrita Uttara basti¹⁰

Primary Dysmenorrhea¹¹

Dysmenorrhoea is defined as painful menstruation of sufficient magnitude so as to incapacitate day-to-day activities. Most women with primary dysmenorrhoea experience moderate to severe menstrual pain, which significantly interferes with their daily activities and academic performance. It is of two types: primary dysmenorrhoea and secondary dysmenorrhoea. Primary dysmenorrhoea is one where there is no identifiable pelvic pathology. Here the pain begins a few hours before or just with the onset of menstruation. In secondary, menstrual pain is associated with some pelvic pathologies. Even though passage of clot is not a major clinical feature in primary dysmenorrhea studies shows that the patients with the presence of clots had 2.07 times higher chance of having dysmenorrhea¹².

Etiopathology of Primary dysmenorrhea¹³

Primary dysmenorrhea is multifactorial in origin. Psychosomatic factors such as tension and anxiety during adolescence lower the pain threshold and increase pain perception. Structural and functional abnormalities of the uterine junctional zone (JZ), including irregular thickening, smooth muscle hyperplasia, reduced vascularity, and resultant junctional zone hyperplasia, produce dysperistalsis and uterine hyperactivity, contributing to pain. Increased sympathetic nervous system activity causes hypertonicity of the circular muscle fibers at the uterine isthmus and internal os, leading to painful contractions; relief after cervical dilatation or vaginal delivery is attributed to damage of adrenergic nerve fibers. The principal mechanism in ovulatory cycles is excessive endometrial prostaglandin production following progesterone withdrawal, which activates the arachidonic acid–cyclooxygenase (COX) pathway. Elevated prostaglandins, particularly PGF₂α and PGE₂, increase uterine tone, high-amplitude contractions, vasoconstriction, myometrial ischemia, and pain. Increased vasopressin release further enhances prostaglandin synthesis and directly stimulates uncoordinated myometrial contractions, causing uterine ischemia and hypoxia. Endothelins promote contraction of the myometrial smooth muscle at the junctional zone and stimulate PGF₂α production, aggravating uterine ischemia and dysperistalsis. Increased concentrations of platelet-activating factor (PAF) and leukotrienes, both potent vasoconstrictors that stimulate myometrial contractions, also contribute to the pathogenesis of primary dysmenorrhea.

Etiology of clot formation

During normal menstruation, endometrial vessels rupture, platelets aggregate and fibrin clots are initially formed to control bleeding. The endometrium releases tissue plasminogen activator (tPA) and Urokinase plasminogen activator (uPA) to convert plasminogen into plasmin. Plasmin breaks down fibrin (fibrinolysis), keeping menstrual blood fluid.¹⁴

But when menstrual flow is temporarily heavy blood accumulates within the uterine cavity. Fibrinolytic activity (plasmin-mediated clot breakdown) is insufficient relative to the volume of blood. Thus blood remains stagnant in the uterus or vagina for some time. In these situations, blood escapes before complete fibrinolysis occurs, resulting in visible clots.

Saptasara Kashaya¹⁵

It is a yoga mentioned in Sahasrayoga Kashayaprakarana.

Saptasara Kashaya comprises seven ingredients, namely Varshabhu (Boerhavia diffusa Linn), Bilva (Aegle marmelos Linn), Kulattha (Dolichos biflorus Linn.), Eranda (Dolichos biflorus Linn.), Sahachara (Barleria prionitis Linn.), Sunthi (Zingiber officinale), and Agnimantha (Clerodendrum phlomidis Linn.f). The Prakshepa Dravyas include Guda, Kana, Saindhava (Patu), Hingu, and Ajaji, which are added according to the clinical condition (Yatharham). The present study, however, focuses only on the use of Guda and Saindhava as Anupana.

The Phalasruti of Saptasara Kashaya includes conditions such as Vidbandha, Vahini Mandya, pain in the Yoni, Hrut, Kukshi, Prishtha, and Sroni, as well as Gulma, Jatharashteela, and Pleeha. However, rather than emphasizing its Phalasruti, it is more relevant to examine the Ayurvedic properties and modern pharmacological actions of its individual ingredients to understand the rationale behind the efficacy of Saptasara Kashaya in relieving menstrual clots.

Table No:2 Ayurvedic properties of the ingredients of Saptasara Kashaya

Dravya	Rasa	Guna	Virya	Vipaka	Karma	Doshaghnata
Punarnava ¹⁶	Tikta	Laghu, Ruksha	Ushna	Katu	Sothanashaka, Pandughna	Pitta-Kaphahara
Bilva ¹⁷	Kashaya, Tikta	Laghu, Ruksha	Ushna	Katu	Sothahara, Chardighna, Sulahara	Vata-Kaphahara
Kulatha ¹⁸	Kashaya	Laghu, Ruksha, Tikshna	Ushna	Katu/Amla	Lekhana, Mutrala, Swedajanana, Medohara, Bhedana, Sulahara,	Kapha-Vatahara
Eranda ¹⁹	Madhura, Katu, Kashaya	Guru, Snigdha	Ushna	Madhura	Rechana, Sulahara, Sothahara, Sirapidahara	Vatahara (Agrya), Pitta-Kaphahara
Sahachara ²⁰	Tikta, Madhura	Laghu, Snigdha	Ushna	Katu	Sulahara, Sothahara, Deepana	Vata-Kapha Shamaka
Sunthi ²¹	Katu	Laghu, Snigdha	Ushna	Madhura	Sulahara, Vibandahara, Deepana, Pachana	Vata-Kaphahara
Agnimantha ²²	Tikta, Katu, Kashaya, Madhura	Laghu, Ruksha	Ushna	Katu	Sothahara, Deepana	Kapha-Vatahara

Table No :3 Pharmacological action of the ingredients of Saptasara Kashaya

Drugs	Pharmacological action
Punarnava ²³	Anti inflammatory, Spasmolytic, Anti fibrinolytic
Bilva ²⁴	Analgesic, Anti inflammatory
Kulatha ²⁵	Anti spasmodic, Diuretic, Antistress, Anti lipideamic
Eranda ²⁶	Anti inflammatory
Sahachara ²⁷	Analgesic, Anti inflammatory, COX-1 & COX-2 inhibitor, Supress prostaglandin production
Sunti ²⁸	Analgesic, COX and LOX inhibitor, Supress prostaglandin production
Agnimantha ²⁹	Analgesic, Anti inflammatory

Anupana

1. Saindhava³⁰ 31

Saindhava Lavana is one of the Pancha Lavana. Although Lavana Rasa predominates, it also possesses a mild Madhura Rasa. The Samanya Guna of Lavana Varga include Tikshna, Ushna, Sukshma, and Srishtamala. In addition, Lavana Rasa exhibits Chedana, Bhedana, Tikshna, Sara, and Marga Vishodhana properties, while being comparatively less Guru and Snigdha. These attributes facilitate the removal of obstructions and promote the normal flow through the body channels.

2. Guda³²

Guda possesses Madhura Rasa, Snigdha Guna, Nati Shita Virya, and Madhura Vipaka. It exhibits Svadukara, Raktashodhaka, Raktavardhaka, Natipittajit, Balya and Vrishya guna. Owing to these attributes, Guda predominantly exerts a Vatahara effect and serves as an effective Anupana in this condition.

It possesses saraguna as it belongs to Ikshuvarga³³

Discussion

In Udavartini Yonivyapad, Acharya Indu and Yogaratnakara have described Badha Raja and Kapha Samsrishta Artava, respectively, which may be correlated with the passage of menstrual blood clots. Although the passage of clots is not considered a cardinal clinical feature of primary dysmenorrhea, studies have reported that menstrual clots are also observed in women with this condition.

Most of the ingredients are predominantly Tikta and Kashaya Rasa, while a few possess Madhura Rasa. All the ingredients have Ushna Virya and Katu Vipaka, except Kulatha, which has Amla Vipaka³⁴. Thus, the formulation exhibits Kaphahara action due to its Tikta-Kashaya Rasa, Ushna Virya, and Katu Vipaka (Laghu and Ruksha Guna), while its Vatahara action is attributed to Madhura Rasa and Ushna Virya. Overall, Saptasara Kashaya possesses Kapha-Vatahara properties.

Punarnava (Boerhavia diffusa)

Its Shothahara property helps alleviate inflammation associated with dysmenorrhea. The Laghu-Ruksha Guna and Tikta Rasa results in Kaphaharatwa, thereby relieving Margavarodha to Apana Vata. Thus

restores the normal Anuloma Gati of Apana Vata, and Raja facilitating the painless and unobstructed flow of menstrual blood.

Punarnava exhibits anti-inflammatory, spasmolytic, antifibrinolytic, and antioxidant activities. Its spasmolytic effect helps relax uterine smooth muscles, thereby reducing the excessive uterine contractions responsible for menstrual pain. The anti-inflammatory activity may reduce inflammatory mediators, particularly prostaglandins, involved in dysmenorrhea. Additionally, its **antifibrinolytic** activity may help prevent the formation of menstrual clots (Badha Raja).

Fibrinolysis is the physiological enzymatic process responsible for the degradation of fibrin within a blood clot by plasmin, thereby dissolving the clot and restoring normal blood flow³⁵

Bilva (*Aegle marmelos*)

Bilva possesses Kashaya-Tikta Rasa, Laghu-Ruksha Guna, Ushna Virya, and Katu Vipaka, and exhibits Vata-Kaphahara properties. Its Shoolahara and Shothahara Karma help relieve pain and inflammation associated with dysmenorrhea. Furthermore, its Ushna Virya and Laghu-Ruksha Guna contribute to Kaphahara action, thereby removing Avarana and facilitating the normal function of Apana Vata.

Kulatha (*Dolichos biflorus*)

Kulatha possesses Kashaya Rasa, Laghu-Ruksha-Tikshna Guna, Ushna Virya, and Amla Vipaka, and exhibits Kapha-Vatahara properties. Among the ingredients of Saptasara Kashaya, Kulatha plays a pivotal role owing to its Lekhana, Bhedana, Swedajanana, and Shoolahara Karma. These properties promote Kaphahara action, relieve Sanga in the Artavavaha Srotas, and facilitate unobstructed menstrual flow, thereby reducing menstrual clots (Baddha Raja/Kapha Samsrishta Artava). Its Lekhana Karma may facilitate easy endometrial shedding, contributing to pain relief in Udavartini Yonivyapad, while Swedajanana Karma suggests the clearance of Srotorodha.

Its bioactive constituents exhibit antispasmodic, antistress, and hypolipidaemic activities. The antispasmodic effect helps reduce excessive uterine contractions, while the antistress activity may improve the pain threshold. The hypolipidaemic activity may contribute to the reduction of Kaphavarana, thereby collectively aiding in the relief of dysmenorrhea.

Eranda (*Ricinus communis*)

Eranda possesses Madhura, Katu, and Kashaya Rasa, Guru-Snigdha Guna, Ushna Virya, and Madhura Vipaka, and is considered one of the most effective Vatahara drugs. Despite its Guru-Snigdha Guna, its Ushna Virya, along with Katu-Kashaya Rasa, Rechana, Shothahara, and Shoolahara Karma, effectively pacifies aggravated Vata without promoting Kapha. Thus, Eranda exerts the combined effects of Vatanulomana, Srotoshodhana, and Shoolahara, making it beneficial in the management of dysmenorrhea. The presence of Ricinoleic acid, Ricinine and Lupeol imparts anti-inflammatory and analgesic activities.

Sahachara (*Barleria prionitis*)

Sahachara possesses Tikta-Madhura Rasa, Laghu-Snigdha Guna, Ushna Virya, and Katu Vipaka, and exhibits Vata-Kapha Shamaka properties. It has Shoolahara, Shothahara, and Deepana Karma. The Madhura Rasa, Snigdha Guna, and Ushna Virya promote the normal Anuloma Gati of Apana Vata, whereas the Tikta Rasa, Ushna Virya, and Katu Vipaka help alleviate Kaphavarana. Through its combined

Vatanulomana and Srotoshodhana actions, Sahachara relieves dysmenorrhea and supports a smooth and unobstructed menstrual flow.

Studies have shown that extracts of Sahachara inhibit both **COX-1 and COX-2 enzymes**, leading to decreased prostaglandin synthesis. Since elevated prostaglandin levels are the primary cause of uterine hypercontractility and pain in primary dysmenorrhea, this pharmacological action contributes significantly to the reduction of menstrual pain.³⁶

Agnimantha (Clerodendrum phlomidis)

Agnimantha possesses Kapha-Vatahara properties. Its Deepana Karma improves Agni, while its Shothahara Karma helps reduce inflammation. Owing to its Tikta, Katu, and Kashaya Rasa, Laghu-Ruksha Guna, Ushna Virya, and Katu Vipaka, it relieves Srotorodha resulting from Kaphavarana in the Artavavaha Srotas. Consequently, the normal Anuloma Gati of Apana Vata is restored, promoting painless and unobstructed menstrual flow.

Agnimantha is rich in bioactive constituents, including apigenin, hispidulin, clerodin, clerosterol, and flavonoids, which possess anti-inflammatory and analgesic activities. These pharmacological properties help alleviate uterine inflammation and play an important role in reducing the symptoms of dysmenorrhea.

Role of Anupana

- **Anupana** used are Guda and Saindhava.
- Guda³⁷ causes Vata anulomana due to its Madhura Rasa and Snigdha guna. And it is Raktavardhaka³⁸ and Rakta Sodhaka. Thus it enhances the quality of Artava also.
- The Sara guna³⁹ of **Guda** (since it belongs to ikshu varga) helps in enhancing menstrual flow and keeps the fluidity of menstrual blood without any clots. Also Saraguna brings Anulomana⁴⁰. Thus it cures the Badha Raja or Kapha samsrishta Artava along with curing Kricchrata of Artava pravritti in Udavartini
- **Saindhava**⁴¹ also is Vatahara, Chedana, Bhedana in Karma, Tikshna and Sara in guna due to its Lavana Rasa and Snigdha guna. It clears Margavarodha (Margan Visodhayati) due to its Chedana, Sukshma and Tikshna guna. Thus it helps in easy endometrial shedding.
- Apart from the pharmacological actions of its individual ingredients, the Kashaya Kalpana itself possesses Ruksha guna, which help in Kaphaharatwa and relieve Margavarodha in the pathogenesis. The Anupana used in this formulation, namely Guda and Saindhava, counteracts the Vata aggravation that may result from the Rukshata of the Kashaya Kalpana, owing to their Snigdha, Madhura, and Vatahara properties.
- Along with these effects Anupana helps in improving bioavailability⁴² (Sukha Parinama) and quick spread (Asu Vyvayi) of remaining drugs in the medicine.⁴³

Conclusion

Overall, Saptasara Kashaya exerts its therapeutic effect through Kapha-Vatahara and Vatanulomana actions. In addition, the antifibrinolytic activity of Punarnava may help prevent the formation of menstrual clots, while the Lekhana Karma of Kulatha facilitates easy endometrial shedding, thereby promoting unobstructed menstrual flow. The Anupana, namely Guda and Saindhava, further enhances the efficacy of the formulation. Owing to its Sara Guna, Guda helps maintain the fluidity of menstrual blood, whereas

Saindhava, through its Vatanulomana and Marga Vishodhana properties, aids in the removal of Kapha-induced obstruction, thereby facilitating the normal flow of Artava.

1. Sabdakalpadruma
2. Agnivesha. *Charaka Samhita* of Agnivesha, revised by Charaka and Dridhabala, with **Ayurveda Dipika** commentary by Chakrapanidatta. In: Yadavji Trikamji Acharya, editor. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2022. Chikitsa Sthana, Chapter 30, Verses 15–16.
3. Agnivesha. *Charaka Samhita* of Agnivesha, revised by Charaka and Dridhabala. In: Yadavji Trikamji Acharya, editor. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2022. Chikitsa Sthana. Chapter 30, Verses 25–26.
4. Vagbhata. *Ashtanga Sangraha* with **Sasilekha Sanskrit Commentary (Indu)**. In: Shivaprasad Sharma, editor. 3rd ed. Varanasi: Chaukhambha Sanskrit Series Office; 2012. Uttara Sthana. Chapter 38, Verse 36.
5. Yogaratnakara. In: Lakshmipati Shastri, editor. *Yogaratanakara* with *Vidyotini Hindi Commentary*. Varanasi: Chaukhambha Prakashan; 2019. Yoniroga Adhyaya.
6. Sushruta. *Sushruta Samhita* with the *Nibandhasangraha* commentary of Dalhanacharya and the *Nyayachandrika Panjika* commentary of Gayadasa. Uttara Tantra. Chapter 38, Verse 9. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2022.
7. Vagbhata. *Ashtanga Sangraha* with the *Sasilekha* Sanskrit commentary by Indu. Uttara Sthana. Chapter 38, Verse 36. Edited by Shivaprasad Sharma. Reprint ed. Varanasi: Chaukhambha Sanskrit Series Office; 2016.
8. Vagbhata. *Ashtanga Hridaya* with the commentaries *Sarvangasundara* of Arunadatta and *Ayurveda Rasayana* of Hemadri. Uttara Sthana. Chapter 33, Verses 33–34. Edited by Harisastri Paradakara Vaidya. Reprint ed. Varanasi: Chaukhambha Orientalia; 2022.
9. Lakshmipati Sastri. *Yogaratanakara* with Vidyotini Hindi commentary. Yoniroga Adhikara. Edited by Brahmashankar Sastri. Reprint ed. Varanasi: Chaukhambha Prakashan; 2019.
10. Agnivesha. *Charaka Samhita* of Agnivesha, revised by Charaka and Dridhabala, with *Ayurveda Dipika* commentary by Chakrapanidatta. In: Yadavji Trikamji Acharya, editor. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2022. Chikitsa Sthana. Chapter 30, Verses 110–112.
11. Dutta DC. DC Dutta's Textbook of Gynecology including Contraception. 8th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2020,p;147-153
12. Kural M, Noor NN, Pandit D, Joshi T, Patil A. Menstrual characteristics and prevalence of dysmenorrhea in college going girls. J Family Med Prim Care. 2015 Jul-Sep;4(3):426-31. doi: 10.4103/2249-4863.161345. PMID: 26288786; PMCID: PMC4535108.
13. Dutta DC. DC Dutta's Textbook of Gynecology including Contraception. 8th ed. New Delhi: Jaypee Brothers Medical Publishers (P) Ltd; 2020,p;147-153
14. Jain V, Chodankar RR, Maybin JA, Critchley HOD. Uterine bleeding: how understanding endometrial physiology underpins menstrual health. Nat Rev Endocrinol. 2022 May;18(5):290-308. doi: 10.1038/s41574-021-00629-4. Epub 2022 Feb 8. PMID: 35136207; PMCID: PMC9098793.
15. Nishteswar K, Vidyanath R, editors. *Sahasrayogam: Text with English Translation*. Reprint ed. Varanasi: Chaukhambha Sanskrit Series Office; 2011. Kashaya Prakarana. *Saptasara Kashaya*; p. 4.
16. Sastry JLN. Illustrated Dravyaguna Vijnana (Study of the Essential Medicinal Plants in Ayurveda). Vol. II. Reprint ed. Varanasi: Chaukhambha Orientalia; 2012. ISBN: P;437,438

17. Sastry JLN. Illustrated Dravyaguna Vijnana (Study of the Essential Medicinal Plants in Ayurveda). Vol. II. Reprint ed. Varanasi: Chaukhambha Orientalia; 2012. ISBN: P;108,109,110
18. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 3. Revised ed. New Delhi: Chaukhambha Publications; 2020. p.343,344,345
19. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 2. Revised ed. New Delhi: Chaukhambha Publications; 2020. p.228 -235
20. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 2. Revised ed. New Delhi: Chaukhambha Publications; 2020. p.591-596
21. Sastry JLN. Illustrated Dravyaguna Vijnana (Study of the Essential Medicinal Plants in Ayurveda). Vol. II. Reprint ed. Varanasi: Chaukhambha Orientalia; 2012. ISBN: P; 49,50
22. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 2. Revised ed. New Delhi: Chaukhambha Publications; 2020.
23. Mishra S, Aeri V, Gaur PK, Jachak SM. Phytochemical, therapeutic, and ethnopharmacological overview for a traditionally important herb: Boerhavia diffusa Linn. Biomed Res Int. 2014;2014:808302. doi: 10.1155/2014/808302. Epub 2014 May 14. PMID: 24949473; PMCID: PMC4053255.
24. Purnendu Panda, Banamali Das, G.C. Bhuyan, M.M. Rao. Therapeutic uses of Vilwa (Aegle marmelos) in Ayurveda with Pharmacological Evidence. Research Journal of Pharmacology and Pharmacodynamics. 2021; 13(2):51-4. doi: 10.52711/2321-5836.2021.00011
25. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 3. Revised ed. New Delhi: Chaukhambha Publications; 2020. p.343,344,345
26. Hegde PL, Harini A. A Text Book of Dravyaguna Vijnana. Vol. 2. Revised ed. New Delhi: Chaukhambha Publications; 2020. p.228 -235
27. D. Banerjee, A.K. Maji, S. Mahapatra and P. Banerji, 2012. Barleria prionitis Linn.: A Review of its Traditional Uses, Phytochemistry, Pharmacology and Toxicity. Research Journal of Phytochemistry, 6: 31-41.
28. Rondanelli M, Fossari F, Vecchio V, Gasparri C, Peroni G, Spadaccini D, Riva A, Petrangolini G, Iannello G, Nichetti M, Infantino V, Perna S. Clinical trials on pain lowering effect of ginger: A narrative review. Phytother Res. 2020 Nov;34(11):2843-2856. doi: 10.1002/ptr.6730. Epub 2020 May 20. PMID: 32436242; PMCID: PMC7754412.
29. Yogita Chowdhary. Chemical Composition of Clerodendrum Phlomidis: A Review. Asian Journal of Research in Pharmaceutical Sciences. 2022; 12(2):133-6. doi: 10.52711/2231-5659.2022.00022
30. Ashtanga Hridaya. Sutrasthana. Chapter 6, Verse 143. In: Ashtanga Hridaya. Commentaries by Arunadatta (*Sarvangasundara*) and Hemadri (*Ayurveda Rasayana*). Edited by Harisastri Paradakara Vaidya. Reprint ed. Varanasi: Chaukhambha Orientalia; 2022.
31. Charaka Samhita. Sutrasthana. Chapter 26, Verse 42(3). In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
32. Government of India, Ministry of Health and Family Welfare, Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH). The Ayurvedic Pharmacopoeia of India. Part I, Vol. VI. 1st ed. New Delhi: The Controller of Publications; 2008. ISBN: 978-81-905952-1-6,p;220

33. Charaka Samhita. Sutrasthana. Chapter 27, Verses 237–238. In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
34. Vagbhata. Astangahrdaya: Principles of Ayurveda explained in dexterous verse. Sutrasthana-I. Vol. 1. 5th ed. Thrissur (Kerala): Publication Department, Harisree Hospital; 2015. Chapter 6, Verse 19, p.134
35. Weitz JI. Blood coagulation and anticoagulant, fibrinolytic, and antiplatelet drugs. In: Brunton LL, Hilal-Dandan R, Knollmann BC, editors. *Goodman & Gilman's The Pharmacological Basis of Therapeutics*. 14th ed. New York: McGraw-Hill Education; 2023. Chapter 36.
36. Charaka Samhita. Sutrasthana. Chapter 27, Verses 136–137. In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
37. Government of India, Ministry of Health and Family Welfare, Department of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (AYUSH). The Ayurvedic Pharmacopoeia of India. Part I, Vol. VI. 1st ed. New Delhi: The Controller of Publications; 2008. ISBN: 978-81-905952-1-6, p;220
38. Charaka Samhita. Sutrasthana. Chapter 28, Verse 238. In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
39. Charaka Samhita. Sutrasthana. Chapter 27, Verses 136–137. In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
40. Vagbhata. *Ashtanga Hridaya* with the commentaries **Sarvangasundara** of Arunadatta and **Ayurveda Rasayana** of Hemadri. Sutrasthana. Chapter 1, Verse 18. Edited by Harisastri Paradakara Vaidya. Reprint ed. Varanasi: Chaukhambha Orientalia; 2022.
41. Charaka Samhita. Sutrasthana. Chapter 27, Verse 300. In: Charaka Samhita of Agnivesha with *Ayurveda Dipika* commentary by Chakrapanidatta. Edited by Yadavji Trikamji Acharya. Reprint ed. Varanasi: Chaukhambha Surbharati Prakashan; 2020.
42. Singh S, Tripathi JS, Rai NP. An appraisal of the bioavailability enhancers in Ayurveda in the light of recent pharmacological advances. *Ayu*. 2016 Jan-Mar;37(1):3-10. doi: 10.4103/ayu.AYU_11_15. PMID: 28827948; PMCID: PMC5541464