



Case Report

Case Series on the Therapeutic Use of a Vedanasthapana-Based Ayurvedic Anal Suppository in Primary Dysmenorrhea

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Abstract

Primary dysmenorrhea is a common gynaecological problem marked by painful menstrual cramps that negatively affect daily activities and quality of life. Conventional treatments may cause side effects, leading to interest in Ayurvedic pain-relieving therapies. *Vedanasthapana* drugs are traditionally used in Ayurveda to relieve pain. This study aimed to evaluate the effectiveness of a *Vedanasthapana*-based Ayurvedic anal suppository in managing primary dysmenorrhea. Methods: This was an open-label, prospective pilot study conducted on five women diagnosed with primary dysmenorrhea. Each participant received a 3-gram *Vedanasthapana* anal suppository twice daily for five days, starting seven days before menstruation, for two consecutive menstrual cycles. Pain severity and symptom relief were assessed using the WaLIDD score, Visual Analogue Scale (VAS), associated symptom scores, and the SF-36 quality-of-life questionnaire. Laboratory tests and ultrasonography were performed to rule out secondary causes of dysmenorrhea. Results: All patients showed a noticeable reduction in menstrual pain after treatment. The mean WaLIDD score decreased from 9.6 before treatment to 3.2 after two treatment cycles. The mean VAS pain score reduced from 7.8 to 3.0. Associated symptoms such as nausea, headache, fatigue, and gastrointestinal discomfort also improved. Quality-of-life scores showed better physical functioning, reduced pain, improved emotional well-being, and overall health. No adverse effects were reported during the study. Discussion: The findings suggest that the *Vedanasthapana* anal suppository is effective in reducing menstrual pain and associated symptoms in primary dysmenorrhea. The rectal route may provide faster pain relief due to improved absorption and avoidance of first-pass metabolism. The observed improvements in pain scores and quality of life support the potential role of this Ayurvedic formulation as a safe and effective alternative therapy for primary dysmenorrhea.

Keywords: Anal suppository, *Kashtartava*, Primary dysmenorrhea, *Vedanasthapana*.

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Introduction

Primary dysmenorrhea (PD), or painful menstruation with no detectable pelvic disease, is among the most common gynaecologic complaints encountered in young women worldwide. PD is defined as cramping lower abdominal discomfort that usually occurs just prior to or during menstruation and may be associated with nausea, fatigue, headache, and gastrointestinal upset. Prevalence of PD varies from 60% to 73%

among menstruating women and greatly compromises daily activities, academic performance, and quality of life.

Traditional therapies, including non-steroidal anti-inflammatory drugs (NSAIDs) and hormonal contraceptives, are the most frequent. But they are also frequently linked with side effects and short-term acceptance, particularly among adolescents. This has given impetus to increasing demand for complementary therapies, including those based on Ayurveda.

Primary dysmenorrhea, in Ayurvedic medicine, is referred to as *Kashtartava*, which is mainly caused by the vitiation of *Apana Vata*, the sub-type of *Vata Dosha* that is involved with pelvic and menstrual activity. Treatment involves pacifying *Vata*, getting rid of pain (*Vedana*), and re-establishing equilibrium in the reproductive system. Among the different classes of herbs, *Vedanasthapana Dravyas*—a class of herbs used for pain relief—are mentioned in classical works such as Charaka Samhita and are

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characterized by their *Vatashamaka*, *Shothahara* (anti-inflammatory), and *Srotoshodhana* (channel-clearing) activities.

The clinical effectiveness of an Ayurvedic anal suppository containing methanolic extracts of *Vedanasthapana* Gana herbs for primary dysmenorrhea treatment is investigated in this study. The anal route was selected to take advantage of both the local and systemic actions through rectal absorption, a mode known in both Ayurveda (*Guda Marga*) and conventional pharmacology for effective avoidance of hepatic first-pass metabolism and prompt relief of symptoms (1).

The research seeks to evaluate not just the analgesic efficacy of this new formulation but also its effectiveness on accompanying symptoms and overall quality of life in women with primary dysmenorrhea.

Drug review

The ingredients of *Vedanasthapana gana* used for the preparation of the suppository, along with their botanical names, families, and parts used, are presented in Table 1. The formulation includes *Shala* (*Shorea robusta* L.), *Katphala* (*Myrica nagi* L.), *Kadamba* (*Anthocephalus indicus* L.), *Padmaka* (*Prunus cerasoides* L.), *Shalmali* (*Salmalia malabarica* L.), *Shirisha* (*Albizia lebeck* L.), and *Ashoka* (*Saraca ashoka* L.), primarily utilizing resin, stem bark, or hardwood as specified. *Tumba* (*Lagenaria siceraria* L.), *Vanjula* (*Salix tetrasperma* L.), and *Elavaluka* (*Prunus avium* L.) were excluded from the formulation due to controversies regarding their identification. The concept of *Pratinidhi Dravya* and the controversies related to the identification of *Tumba*, *Vanjula*, and *Elavaluka* are described in classical Ayurvedic texts such as *Bhavaprakasha Nighantu* (2). and *Dravyaguna Vijnana* (3). However, these *dravyas* were not used in the present study and were excluded from the formulation

Table 1: Ingredients of Vedanasthapana gana

Sr No	Drugs	Botanical name	Family	Part used
1	Shala	<i>Shorea robusta</i> L.	Dipterocarpeae	Resin
2	Katphala	<i>Myrica nagi</i> L.	Myricaceae	Stem bark
3	Kadamba	<i>Anthocephalus indicus</i> L.	Rubiaceae	Stem bark
4	Padmaka	<i>Prunus cerasoides</i> L.	Rosaceae	Hard wood
5	Tumba	<i>Langenaria siceraria</i> L.	Cucurbitaceae	-
6	Shalmali	<i>Salmalia malabarica</i> L.	Bombacaceae	Stem bark
7	Shirisha	<i>Albizia lebeck</i> L.	Leguminoseae	Stem bark
8	Vanjula	<i>Salix tetrasperma</i> L.	Salicaceae	-
9	Elavaluka	<i>Prunus avium</i> L.	Rosaceae	-
10	Ashoka	<i>Sarraca Ashoka</i> L.	Leguminoseae	Stem bark

Here we excluded *Tumba*, *Vanjula*, *Elavaluka* as there are controversies regarding their identification

Aim and objective

To assess the efficacy of *Vedanasthapana* anal suppository in Primary dysmenorrhea

Materials and Methods

Medicine Preparation: The drugs of *Vedanasthapana Gana* (Table 1), sesame oil, and paraffin wax were obtained from a licensed local vendor, Swastik Enterprise, Raopura, Vadodara, Gujarat (Invoice No. SE12170). Methanol was procured from Neelkanth Hari Chemical, Karelbaug, Vadodara, Gujarat (Invoice No. NHC/130/23-24). Cocoa butter was purchased from the online commercial platform Minimal Confections, holding a valid FSSAI license (No. 1072031000120).

All raw materials were authenticated by the Department of Dravyaguna, Parul Institute of Ayurved, Parul University, Vadodara. The authentication certificate number was PU/PIA/certi-242.

The *Vedanasthapana* anal suppository was prepared in the GMP-certified pharmacy of Parul Institute of Ayurved & Research, Ishwarpura, Waghodia, Vadodara, Gujarat. The formulation was prepared following standard pharmaceutical procedures. Cocoa butter and paraffin wax, in the specified quantities (Table 2), were melted using a water bath. After complete melting, the required quantity of sesame oil was added and mixed thoroughly. The semi-solid *Vedanasthapana* extract was then added and homogenized properly. The mixture was immediately poured into suppository molds and allowed to cool for 15–20 minutes. After solidification, the suppositories were removed from the molds, wrapped in aluminum foil, and stored in a cool chamber (Figure 1).

The suppository was standardised using pharmaceutical and physicochemical parameters like Organoleptic Evaluation, Weight Uniformity Test, pH Determination, Stability Study etc. A methanolic extract of *Vedanasthapana gana* was used instead of an aqueous extract because Methanol efficiently extracts both polar and moderately non-polar phytoconstituents such as flavonoids, phenolics, tannins, alkaloids, and glycosides. Methanolic extracts provide higher extractive value and better reproducibility compared to aqueous extracts. Also improved stability, potency, and consistency of the final formulation are achieved (4). Before clinical application, the formulation was standardised by fixing the dose (3000 mg per suppository) based on pilot pharmaceutical trials, confirming safety and tolerability through preliminary observation for local irritation or discomfort. Pharmaceutically acceptable excipients (cocoa butter and paraffin wax) were selected to ensure stability, smooth insertion, and controlled drug release.

Figure 1: Image of Vedanasthapana Suppository



Table 4: Grading of clinico-functional characteristics associated with *Kashtartava*

Sr No.	Clinico-functional characteristics	Grade 0	Grade 1	Grade 2	Grade 3
1	Vedana (Pain)	Menstruation is not painful and patient can carry out her daily activities.	Menstruation is painful but daily activity is not affected	Menstruation is painful and patient uses an analgesic drug to get relief.	Menstruation is very painful that the patient is unable to carry out her daily works.
2	Artavapramana (Amount of bleeding)	6-7 pads/cycle	4-5pads/cycle	2-3 pads/cycle	Spotting during menses, 1 pad/cycle
3	Praseka (Nausea)	No Praseka (nausea)	2-3 times/day	4-5 times/day	>5 times/day
4	Chardi (Vomiting)	Absent	Occasional	1-2 episodes of vomiting	Vomiting present when pain occurs and persists throughout menstruation
5	Atisara (Diarrhoea)	Absent	occasional	2-3 times/day	More than 3 Episodes of diarrhoea/day
6	Vibandha (Constipation)	Absent	Stool passed dailybut constipated	Stool passed on alternate days	Stool not passed even for 3-4 days
7	Shrama (Fatigue)	Absent	Fatigue induced by even single extra work in addition to the daily routine	Fatigue induced by doing simple routine work	Severe fatigue even without work
8	Aruchi (Loss of appetite)	Takes a full diet and also has proper appetite at the next meal time	Moderate appetite and appearance of appetite for next meal	Low appetite and delayed appearance of appetite in next meal	Persisting low appetite or frequent loss of appetite; unable to consume even the minimum required diet
9	Shirashula (Headache)	Absent	Headache once during each menstruation; persists for less than 6 h	Frequent headache 2-3 times per menstruation; daily activity not affected	Severe Persistent headache throughout the menstruation; daily activity affected
10	Vankshana Shula (Tenesmus of the bladder), Kati Shula, and Janu Shula	Absent	Presence of all three for less than 1 h / any two features for less than 6 h / any one feature for less than 12 h	Presence of all three for 1-2 h / any two features for 6-12 h / any one feature for more than 12 h	Presence of all three for more than 2 h / any two features for 12-24 h / any one feature for more than 24 h
11	Swedadhikya (Excessive sweating)	Absent	Occurs only on working in a hot environment or doing hard work	More in the day time / associated with or following hot flushes only	Excessive sweating to the extent that the patient needs to change her clothes or have a bath
12	Tamodarshana (Faints)	Absent	Occasionally	Faints once during each menstruation	More than once during each menstruation

The overall severity of associated symptoms was determined based on the cumulative score, as shown below.

Number of symptoms observed	Severity grade
0	Grade 0
1-12	Grade 1
13-24	Grade 2
25-36	Grade 3

This grading system enabled systematic evaluation of associated symptoms and their progression over the course of treatment.

4. Quality of Life Improvement- SF-36 (RAND) questionnaire Score: SF-36 (RAND) questionnaire is a popular instrument to measure the health-related quality of life, and its scores may be used to measure improvements over time. Scores are from 0 to 100, with higher scores representing better health status. The survey assesses eight areas of health: physical functioning,

limitations in role due to physical health, limitations in role due to emotional issues, social functioning, emotional well-being, energy/tiredness, pain, and overall health perceptions.

Intervals of Assessment: Assessments were conducted at predefined intervals. An initial baseline assessment was performed at the time of enrolment (BT), followed by evaluations during the first menstrual cycle (MC1) and the second menstrual cycle (MC2). Post-treatment follow-up assessments were then carried out over the next two consecutive menstrual cycles, referred to as AT1 and AT2.

Results

All patients (n=5) belonged to the age group 21-30 years and Hindu religion. One patient was involved in field work; the rest were working at desk levels. Educational level consisted of one primary educated and four postgraduates. Distribution based on socioeconomic status was one from the lower class and four from

the middle class. Family history of dysmenorrhea was present in two patients; four had analgesic consumption in the past. Tobacco dependency was present in one patient.

Table 5: The baseline demographic, socio-economic, and clinical characteristics of the patients

Sr no.	Data	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
1	Age	30	22	21	22	22
2	Religion	Hindu	Hindu	Hindu	Hindu	Hindu
3	Occupation	Field work	Desk job	Student	Desk job	Desk job
4	Education	Primary	Postgraduation	Postgraduation	Postgraduation	Postgraduation
5	Socio-economic status	Lower class	Middle class	Middle class	Middle class	Middle class
6	Marital Status	Married	Un-married	Un-married	Un-married	Married
7	Family History of PD	Absent	Present	Absent	Present	Absent
8	Addiction	Tobacco	None	None	None	None
9	H/O analgesics	No	Yes	Yes	Yes	Yes

Table 6: The table shows changes in WaLIDD scores of five patients from baseline through successive menstrual cycles and follow-up periods

Timeline Patient	Before Treatment	Menstrual Cycle-1	Menstrual Cycle -2	Follow up-1	Follow up -2
Patient 1	11	7	6	3	3
Patient 2	9	9	8	5	4
Patient 3	9	7	5	4	3
Patient 4	10	8	7	6	3
Patient 5	9	8	8	5	3

Table 7: The table depicts changes in VAS pain scores of five patients from before treatment through successive menstrual cycles and follow-up visits

Timeline Patient	Before Treatment	Menstrual Cycle-1	Menstrual Cycle -2	Follow up-1	Follow up -2
Patient 1	9	8	5	3	2
Patient 2	8	7	5	4	3
Patient 3	6	5	4	3	3
Patient 4	8	8	6	4	4
Patient 5	8	3	3	1	3

Table 8: The table presents changes in associated symptom scores of five patients from baseline through successive menstrual cycles and follow-up periods

Timeline Patient	Before Treatment	Menstrual Cycle-1	Menstrual Cycle -2	Follow up-1	Follow up -2
Patient 1	28	25	14	12	12
Patient 2	24	22	16	11	8
Patient 3	30	21	15	6	6
Patient 4	34	29	18	12	12
Patient 5	26	22	18	14	11

Table 9: The table shows the grading of associated symptom severity in five patients at different time points from before treatment to follow-up

Timeline Patient	Before Treatment	Menstrual Cycle-1	Menstrual Cycle -2	Follow up-1	Follow up -2
Patient 1	3	3	2	1	1
Patient 2	2	2	2	1	1
Patient 3	3	2	2	1	1
Patient 4	3	3	2	1	1
Patient 5	3	2	2	2	1

Grade 0: 0, Grade 1: 1-12, Grade 2: 13-24, Grade 3: 25-36

Table 10: The table summarizes changes in SF-36 RAND quality-of-life scores of five patients before treatment and after treatment follow-up

Parameter	Patient 1		Patient 2		Patient 3		Patient 4		Patient 5	
	BT	AT	BT	AT	BT	AT	BT	AT	BT	AT
Physical functioning	35	75	25	70	100	100	25	75	50	75
Role Limitations due to physical health	0	75	0	100	25	100	25	100	25	100
Role limitations due to emotional problems	0	67	33	100	33	100	0	100	67	100
Energy/fatigue	25	70	30	70	65	70	75	90	40	55
Emotional Well being	44	68	35	70	56	64	60	72	52	72
Social functioning	50	63	25	75	75	100	50	75	50	88
Pain	33	68	48	75	68	90	33	68	35	68
General Health	20	60	50	70	45	65	60	70	55	70
Health change	25	75	25	75	25	75	50	75	75	100

Note: BT-Before Treatment, AT-After Treatment Follow up

Interpretation and Results

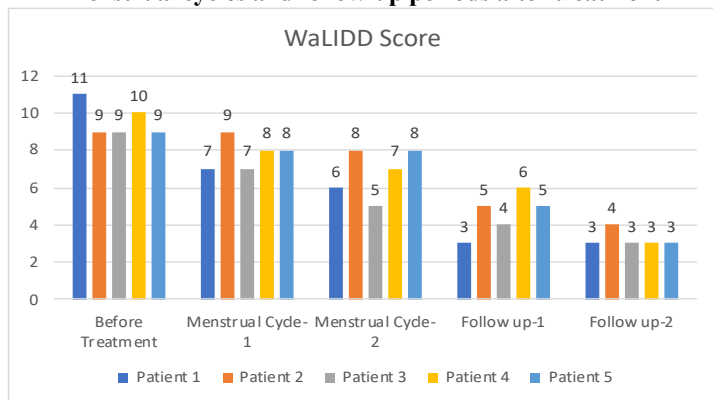
1. WaLIDD Score Analysis

The WaLIDD score, measuring working ability, site of pain, pain severity, and duration of dysmenorrhea, showed a considerable decrease after treatment. The average WaLIDD score during pre-treatment (BT) was 9.6, reflecting severe dysmenorrhea. Following two treatment cycles of remedy (AT-2), the average score decreased to 3.2, reflecting a shift to mild dysmenorrhea. The reduction seen reflects the effectiveness of Vedanasthapana anal suppository for the relief of menstrual pain. (Table-1)

- o Pre-treatment Mean Score: 9.6
- o AT-2 Mean Score: 3.2
- o Mean Reduction: 6.4 points

All five patients showed a persistent reduction in WaLIDD scores over subsequent menstrual cycles, in support of the intervention's ongoing efficacy (Fig.3).

Figure 3: The bar chart shows the progressive reduction in WaLIDD scores of five patients from baseline through successive menstrual cycles and follow-up periods after treatment



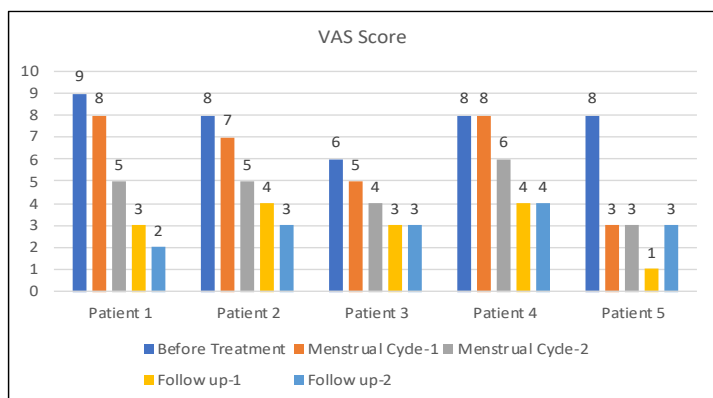
2. Visual Analogue Scale (VAS) Score Analysis

The VAS score, a direct indication of the intensity of pain, also showed significant improvement after the treatment. The pre-treatment mean VAS score was 7.8, which is indicative of mild-to-severe pain. After two cycles of treatment, the mean score had reduced to 3.0, which is indicative of mild pain.

- o BT Mean Score: 7.8
- o AT-2 Mean Score: 3.0
- o Mean Reduction: 4.8 points

All patients had progressively reduced intensity of pain throughout cycles, with the greatest improvements between MC-1 and AT-2 (Fig.4).

Figure 4: The bar chart illustrates changes in VAS pain scores of five patients before treatment, during successive menstrual cycles, and at follow-up visits, showing an overall reduction in pain severity over time



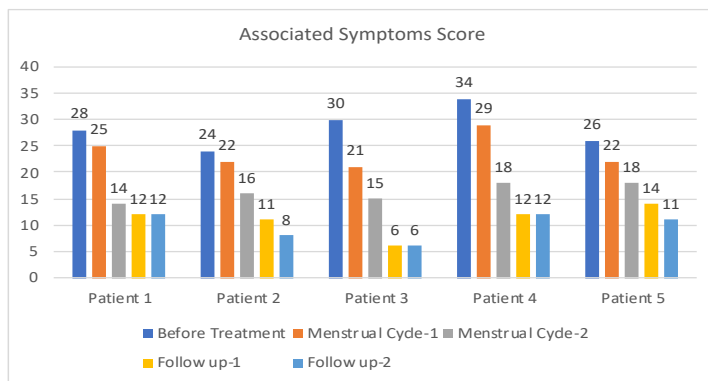
3. Associated Symptoms Score Analysis

The associated symptoms (nausea, headache, tiredness, gastrointestinal upsets, etc.) improved significantly over treatment duration. The mean total symptom score at pre-treatment was 28.4, which decreased to 9.8 at AT-2, a significant decrease in symptom severity.

- o BT Mean Score: 28.4
- o AT-2 Mean Score: 9.8
- o Mean Reduction: 18.6 points

Patients with serious symptoms (Grade 3) at baseline alleviated to Grade 1 or less, supporting the efficacy of the intervention in the relief from dysmenorrhea complications (Fig 5).

Figure 5: The bar chart depicts changes in associated symptom scores of five patients from baseline through successive menstrual cycles and follow-up periods, demonstrating a consistent reduction in symptom severity after treatment



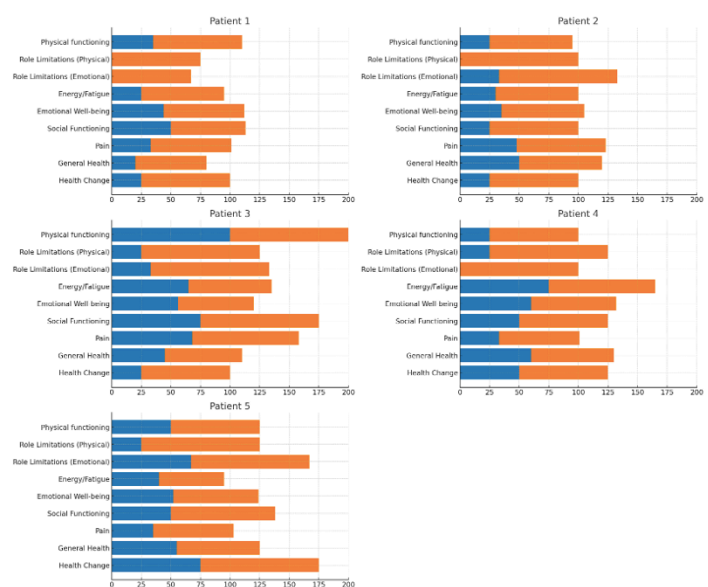
4. Quality of Life (SF-36 RAND) Analysis

The SF-36 RAND survey, which assesses physical functioning, emotional well-being, pain, and overall health, showed significant improvement in all areas.

- o Physical functioning enhanced from a mean of 47% (BT) to 79% (AT-2).
- o Pain scores increased from 43.4% to 73.8%, reflecting a significant decrease in perceived pain effect.
- o Perception of general health improved from 46% to 67%.
- o Physical health and emotional well-being role limitations improved from 16% and 30% to 95% and 82%, respectively.

The overall improvement in SF-36 parameters highlights the intervention's positive influence on general well-being and everyday functioning (Fig 6).

Figure 6: The figure compares health-related quality-of-life parameters of five patients before treatment (BT) and after treatment (AT), showing overall improvement across physical, emotional, social, and pain domains following intervention



Discussion

The resultant decrease in WaLIDD and VAS scores points towards a major decrease in menstrual pain intensity after the use of the Vedanasthapana anal suppository. Also supporting its therapeutic advantage are the changes in related symptoms and quality of life

scores. The trend of continuous relief of symptoms across cycles points toward persistent efficacy, as postulated in the hypothesis that this Ayurvedic preparation presents a worthwhile alternative for primary dysmenorrhea treatment. Probable mode of action can be summarised as follows-

According to Ayurveda, primary dysmenorrhea (*Kashtartava*) mainly occurs due to aggravation of *Vata Dosha*, especially *Apana Vata*, which is responsible for the downward movement of menstrual blood. When *Vata* becomes vitiated, it causes *Srotorodha* (obstruction of channels), leading to severe pain, cramps, and difficulty in the normal flow of menstruation. The herbs described in *Charaka Samhita* possess *Vedanasthapana* (analgesic), *Shothahara* (anti-inflammatory), and *Srotoshodhana* (channel-clearing) properties, which together help in relieving menstrual pain and restoring normal function.

Shala pacifies aggravated *Vata* and shows analgesic and anti-inflammatory activity, helping to reduce menstrual pain and discomfort (10,11). *Katphala* helps in regulating menstrual flow and relieves irritation associated with dysmenorrhea (12,13,14). *Kadamba* improves blood circulation in the pelvic region and reduces pain (15,16). *Padmaka* has a cooling effect, balances aggravated *Pitta*, and provides soothing relief from discomfort (17,18). *Katutumbi* exhibits analgesic and antispasmodic actions, thereby reducing uterine cramps (19,20,21). *Mocharasa* (*Shalmali* gum) acts as a demulcent and helps in reducing inflammation (22,23). *Shirish* has muscle-relaxant properties and relieves uterine spasms (24,25,26). *Vanjula* helps in preventing excessive uterine contractions (27,28), while *Elavaluka* strengthens reproductive tissues and prevents spasmodic pain (29). *Ashoka* acts as a uterine tonic and relieves dysmenorrhea by pacifying *Apana Vata*, thereby supporting normal menstruation (30).

The anal suppository acts through Ayurvedic principles by facilitating absorption through the rich rectal venous plexus, allowing direct action on *Apana Vata* via the *Nabhi Marma* and *Guda Marga*. The *Vatashamak* and *Vedanasthapana* herbs help reduce pain and spasms, while *Shothahara* herbs such as *Ashoka* and *Shirish* decrease inflammation and excessive uterine contractions. The *Srotoshodhana* action clears obstructions in the channels, promotes smooth menstrual flow, prevents clot formation, and ultimately reduces cramps and pain during menstruation.

According to Contemporary Scientific Perspective rapid pain relief is achieved through the rectal route, as the rectal mucosa allows direct absorption of the herbal constituents into systemic circulation while bypassing first-pass metabolism. This results in faster onset of action compared to oral medications and provides quicker relief from menstrual pain (31).

The anti-inflammatory and analgesic effects of the formulation are mainly due to the presence of flavonoids, alkaloids, and tannins in the herbal extracts. These compounds act as cyclo-oxygenase (COX) inhibitors and reduce prostaglandin synthesis, which is a key factor responsible for uterine contractions and pain during menstruation. Herbs such as *Shirish* (32), *Ashoka* (33), and *Kadamba* (34) further inhibit inflammatory pathways, thereby reducing uterine cramping and associated pain.

Uterine muscle relaxation and antispasmodic effects are produced by herbs like *Mocharasa* (35), *Ashoka* (36), and *Shirish*, which possess smooth muscle relaxant properties and help prevent excessive uterine contractions responsible for dysmenorrhea. In addition, triterpenoids and saponins present in these herbs act on

calcium channels, thereby reducing excessive contraction of uterine muscles.

Pain relief is also supported through modulation of neurotransmitters, as *Vanjula* (37) and *Padmaka* (38) act as natural serotonin modulators and influence pain perception at the level of the central nervous system. Flavonoids present in these herbs further contribute a mild opioid-like analgesic effect, which helps in reducing the intensity of menstrual cramps.

Conclusion

Administration of the *Vedanasthapana* anal suppository produced considerable improvements in menstrual pain intensity, concomitant symptoms, and quality of life in primary dysmenorrhea patients. Decreases in *WaLIDD* and *VAS* scores along with improvements in *SF-36* parameters are indicative of the clinical efficacy of this Ayurvedic treatment.

The results of the present study offer positive evidence favouring the inclusion of Ayurvedic suppositories in clinical practice for treating primary dysmenorrhea. The absence of invasive procedures and side effects from the suppository makes it an effective option for individuals opting for holistic therapies. Larger population samples, long-term impacts, and comparisons with conventional allopathic treatments need to be investigated in future studies to confirm these initial findings.

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Conflicts of interest: There are no conflicts of interest.

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