Clinical Research

A comparative study of Dashamoola Taila Matra Basti and Tila Taila Matra Basti in Kashtartava (dysmenorrhea)

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Abstract

Kashtartava is a broad term which covers all the problems and ailments that a woman may suffer from during or around menstruation. It includes both primary and secondary types of dysmenorrhea. For this study, however, we considered only primary dysmenorrhea under the term Kashtartava to cover a larger population and to make a pin-pointed assessment criteria. Thus, 40 patients in the age-group of 15–25 years suffering from primary dysmenorrhea were registered for the study. Of these patients, 35 completed the course of treatment. The selected patients were randomly allotted into two groups. Group A received Dashamoola Taila Matra Basti and group B received Tila Taila Matra Basti. These treatments were selected for the Vatashamaka, Yonisula Prashaman, and Shothahara properties of the drugs. The dose was 60 ml per day and the duration of treatment was for 7 days each cycle for two consecutive cycles. Results were assessed according to a specially prepared grading system for pain, Alpartava, Yatochitkaladarshana, Praseka, Chhardi, Vibandha, Atisara, Vankshana, Kati, Janu Shula, Shiroshula, Swedadhikya, and Tamodarshana. Significant improvement was seen in symptoms in both groups, and on comparing the results in the two groups we found that the results were almost equivalent. There was complete remission of symptoms in 38.89% in group A and in 35.39% in group B, while there was marked improvement in 50% in group A and 47.65% in group B. However, there was a marked difference between the two groups with regard to recurrence of symptoms during the follow-up period of 2 months, with recurrence being significantly more in group B. The study suggests that Matra Basti can be a reliable treatment for relieving the symptoms of primary dysmenorrhea. We recommend that more research be done to confirm the findings of this study.

Key words: Kashtartava, primary dysmenorrhea, Matra Basti, Dashamoola Taila, Tila Taila

Introduction

Dysmenorrhea is the most common gynecological problem faced by women during their adolescence. It causes significant discomfort and anxiety for the woman as well as her family. A systematic review of studies from developing countries revealed that about 25%–50% of adult women and about 75% of adolescents experience pain during menstruation, with 5%–20% reporting severe dysmenorrhea or pain that is severe enough to prevent them from carrying out their day-to-day activities.[1] The word Kashtartava itself gives an idea of the difficulty experienced during menstruation.[2] Kashtartava can be taken to be the same as the ‘dysmenorrhea’ of modern medicine. For the present study we only considered primary dysmenorrhea as Kashtartava so that we would have clear-cut inclusion and exclusion criteria when selecting patients and to facilitate statistical analysis of data. Primary dysmenorrhea is a condition which causes painful menstruation without any demonstrable pelvic pathology.[3] In addition to menstrual pain, many woman experience associated symptoms such as headache, constipation, nausea, vomiting, fatigue, and leg pains.

The etiology of uterine pain in primary dysmenorrhea is still not established. But several risk factors have been identified, such as young age, early menarche, positive family history, nulliparity, stress/depression, and smoking. There are many theories regarding the pathophysiology of the condition,[4] with the prostaglandin theory being the one that is most generally accepted.

The treatment usually advocated in modern medicine, i.e., analgesics, antispasmodics, and/or oral contraceptive pills,[5] does not provide a long-lasting solution and, besides, may lead to serious adverse effects. As yet there is no treatment regimen that can relieve the entire symptom complex of primary dysmenorrhea. Hence, there is a need to find a safe

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Aims and Objectives

The aims of the study were to find out the efficacy of Matra Basti on the symptom complex of Kashtartava (primary dysmenorrhea) and to compare the efficacies of the two selected drugs in relieving Kashtartava.

Materials and Methods

Preparation of drugs
The ten ingredients of dried Dashamoola were collected from the pharmacy of Gujarat Ayurved University, Jamnagar. Microscopic examination of the powder showed the presence of root as well as stem bark of the plants. Equal amounts of the ten ingredients were taken and made into an oil. The ten ingredients were collected from an oil mill at Jamnagar. An analytical study of both the oils was carried out with the help of the Pharmaceutical Chemistry laboratory, IPGT and RA, before using them in the clinical study.

Selection of patients
The subjects for the study were selected from among the outpatients and inpatients of the department of Striroga and Prasooti Tantra, IPGT and RA, Gujarat Ayurved University, Jamnagar. Patients in the age-group of 15–25 years, with the chief complaint of painful menses for at least three cycles, with scanty or normal amount of bleeding. Patients below 15 years and above 25 years, patients with chronic illness, patients using an intrauterine contraceptive device, and patients with menorrhagia or any uterine pathology (fibroid, adenomyosis, endometriosis, etc.) were excluded from the study.

Investigations
Routine hematological and urinary examinations were done before and after treatment. Sonography to rule out uterine and adnexal pathology was done as per need.

Follow-up
After completion of the treatment course the patients were requested to report for follow-up every 7 days for 2 months.

Method of administration of Matra Basti
The patient was advised to have a light meal on the day of treatment. Before administration of Basti, Abhyanaga (massage) with Tila Taila was done of the back and lower abdomen.

Thereafter, Nadi Sweda (sudation) was performed. After this Purvakarma, the patient was asked to lie down in the left lateral position with the left lower extremity extended and the right lower extremity flexed at the knees and hips. Then 60 ml of lukewarm oil was loaded in an enema syringe. A rubber catheter oculated with oil was attached to the enema syringe. After any air in the enema syringe had been expelled, the rubber catheter was passed through the anus of the patient up to a length of 4 inches and the drug was administered. The patient was asked to take deep breaths during the passage of the catheter and the administration of the drug. The entire oil in the syringe was not administered in order to avoid entrance of Vayu into the Pakvashaya so as to make the patient to feel the tugging sensation. After administration of Basti, the patient was advised assume the supine position. While in this position, the patient’s buttocks were gently tapped and the legs were raised for a few minutes so as to raise the waist. These measures were intended to prevent the administered fluid from flowing out too soon. After a short time the patient was allowed to get up from the table 1, and she was then advised to rest in bed for at least ½ an hour.

Table 1: Posology

| Time period       | Starting from mid-cycle (in morning hours) |
|-------------------|-------------------------------------------|

| Rout              | Rectal (Matra Basti)                      |
|--------------------|-------------------------------------------|
| Drug               | Tila Taila                                |
| Dose               | 60 ml per day                             |
| Duration           | Given for 7 days in each cycle for two consecutive cycles |

Assessment

Scoring for different parameters was done as follows

Pain (dysmenorrhea)

1. Severity of pain (multidimensional scoring pattern)
   0 Menstruation is not painful and daily activity is unaffected.
   1 Menstruation is painful but daily activity is not affected. No analgesic required.
   2 Menstruation is painful and daily activity is affected. Analgesic drug is needed.
   3 Menstruation is so painful that patient is unable to do even the routine work and has to miss class/office during menses. Has to take analgesic, but without much relief.

2. Duration
   0 No pain during menstruation
   1 Pain persists for less than 12 h
   2 Pain persists for 12–24 h
   3 Pain persists for more than 24 h

Associated symptoms

1. Artava Pramana (assessment by number of pads used)
   0 6–7 pads/cycle
   1 4–5 pads/cycle
   2 2–3 pads/cycle
   3 Spotting or 1 pad/cycle
2. **Rajasrava Avadhi**
   0. Duration of menses 4–7 days
   1. Duration of menses 3 days
   2. Duration of menses 2 days
   3. Duration of menses 1 day

3. **Praseka (nausea)**
   0. No Praseka (nausea)
   1. 2–3 times/day
   2. 4–5 times/day
   3. >5 times/day

4. **Chhardi (vomiting)**
   0. No Chhardi
   1. Occasionally
   2. 1–2 times/day
   3. More than 2 times/day

5. **Vibandha (constipation)**
   0. No Vibandha
   1. Frequency of stool once in a day, but hard stools passed
   2. Frequency of stool alternate days and patient has difficulty in defecation
   3. Patient cannot pass stool without the help of a purgative even after 3–4 days

6. **Atisara (diarrhea)**
   0. No Atisara
   1. Occasionally
   2. 2–3 times/day and Drava Mala Pravritti
   3. More than 3 times/day and Drava Mala Pravritti

7. **Shrama (fatigue)**
   0. No Shrama
   1. Fatigue induced by having to even single extra work in addition to the daily routine
   2. Fatigued by the normal daily routine
   3. Severe fatigue even without work

8. **Aruchi (loss of appetite)**
   0. Takes a full diet and also has proper appetite at the next meal time
   1. Presence of moderate appetite and promote appearance of appetite in next meal time
   2. Presence of low appetite but delayed appearance of appetite in next meal time
   3. Persisting low appetite or frequent loss of appetite; unable to consume even the minimum required diet

9. **Shirashula (headache)**
   0. No headache
   1. Headache once during each menstruation; persists for less than 6 h
   2. Frequent headache 2–3 times per menstruation; daily activity not affected
   3. Persistent headache throughout the menstruation; daily activity affected

10. **Vankshana Shula** (tenesmus of the bladder), **Kati Shula**, and **Janu Shula**
    0. No pain
    1. 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

11. **Swedadikya (excessive sweating)**
    0. No sweating
    1. Occurs only on working in a hot environment or doing hard work
    2. More in the day time / associated with or following hot flushes only
    3. Excessive sweating to the extent that the patient needs to change her clothes or have a bath

12. **Tamodarshana (faints)**
    0. No faints
    1. Occasionally, once per menstruation
    2. Faints once during each menstruation
    3. More than once during each menstruation

**Criteria for the assessment of overall effect of the therapies**

For assessing the total effect of the therapy we took into consideration the overall improvement in signs and symptoms. The patients were categorized as follows:

- **Complete remission**: 76%–100% relief in the signs and symptoms
- **Marked improvement**: 51%–75% relief in the signs and symptoms
- **Improved**: 26%–50% relief in the signs and symptoms
- **Unchanged**: Below 25% relief in the signs and symptoms

**Observations**

A total 40 patients registered for the study and out them 35 completed the full course of treatment: 18 in group A and 17 in group B. Five patients discontinued treatment. The general observations are shown in figure 1.

**Results and Discussion**

For the present study, only primary dysmenorrhea was considered under Kashtartava. We did this in order to exclude the pathological cases; however, no disease can be primary according to Ayurvedic principles as every disease has a certain pathology underlying it. Although it is not absolutely correct to say a disease is ‘primary’ in Ayurvedic terminology, we overlooked this so that we would have clear-cut inclusion and exclusion criteria and also to facilitate statistical analysis of data.

For the purposes of this study, therefore, we made an effort to classify all disorders with any type of pain or discomfort related to menstruation as either primary or secondary. All menstrual disorders in which pain or discomfort was the most prominent feature were categorized as primary dysmenorrhea; those in which there were local features such as inflammation or systemic features such as fever were considered as secondary dysmenorrhea. There are several conditions, including Vatala, Vatuja Artavadushti, Udavarta, Suchimukhi, and Artavakshaya,
in which there is pain associated with menstruation along with backache, pain in groins, stiffness, etc. But no abnormality of menstruation other than perhaps a decrease in the amount of flow or the duration. This picture suggests that these conditions are a form of primary dysmenorrhea, without any pelvic pathology. Other diseases such as Samnipatik, Pariputha, Ausrudhara, and Krishna Artava Dushy show specific menstrual irregularities, i.e., heavy bleeding, intermenstrual bleeding, yellow or green colored discharge, yellow or green discoloration, or abnormal odor, etc., along with dysmenorrhea. Some are also associated with fever. Thus, these conditions can be classified as secondary dysmenorrhea, where there is involvement of Dosha other than Vata.

The risk factors for Kashtartava that we identified in this study were similar to those mentioned for dysmenorrhea [Figure 2]. Early onset of menarche and early age at menarche, which are mentioned as risk factors for dysmenorrhea, were found in 68.57% and 77.14% of patients, respectively. The theory postulated to explain this finding is that the pituitary and other endocrine gland do not attain their maturity till the age of 20 years. This can lead to hormonal imbalance and, thus, dysmenorrhea. A positive family history of dysmenorrhea was found in 77.24% of patients, which supports the concept of ‘Kulaja’ in Ayurveda. This is considered as a risk factor in modern science also. Nulliparity, which is considered a risk factor for dysmenorrhea was found in 85.71% of patients. Vaginal delivery removes any stenosis of the cervical canal and thus facilitates the flow of menstrual blood. History of smoking was not found in any patient. This is not surprising as smoking is uncommon among Indian women.

Nidana

Almost all the patients were consuming the causative factors of Vata vitiation [Figure 3]. Vishamashana (improper dietary habits) was found in 54.28% patients. It is a very important factor for aggravation of Vata. Other Vata-vitiating dietetic factors were also found in some patients, such as intake of Laghu and Raksha Guna (light and ununctuous) diet in 22.85% and intake of Shita (cold) diets in 17.14%. Katu Rasa dominance was found in 34.28% of patients and this is also known to vitiate Vata. Thus, Vata Vardhaka Nidanas are important factors for causing Kashtartava. With regard to the Manasika Nidanas (psychological factors), Chinta (worry), Shoka (grief), and Bhaya (fear) were found in 54.28%, 40%, and 31.42% of patients, respectively. These are Vatavardhaka factors and are becoming commoner in young girls because of changing lifestyles. This is an era of competition and young girls have to face more challenges today than in the past.

Associated symptoms

Though hypomenorrhea and oligomenorrhea are not mentioned as the associated symptoms of dysmenorrhea in modern texts, it is described in the Ayurvedic classics as Yathochitakala Adarshnam (oligomenorrhea) and Alpartava (hypomenorrhea). In our study, 22.85% of patients had Alpartava and 37.14% had oligomenorrhea [Figure 4]. Thus, the data regarding this observation are suggestive of the Ayurvedic approach of relation of Alpartava with Kashtartava. This relationship can be very well explained on the basis of vitiation of Vata, as both Alpartava and Kashtartava are the outcome of Vata Vridhhi. Aruuchi, Shrama, Vibandha, and Shirosula were found in 54.28%, 74.28%, 54.28%, and 45.71% patients, respectively. These are symptoms of Vata vitiation and are again indicative of the relationship of Kashtartava with Vata.

Effect of therapy

The effect of therapy on severity and duration of pain is shown in figure 5. Encouraging results were found in the associated features of disease also, with improvement in the symptoms of Vibandha, Vankshama Kati Janu Shula, and Shrama, as well as improvement in Alpartava [Figure 6]. The overall results in both the groups are equivalent, as 38.89% in group A and 35.39% in group B had complete remission. In the same way, 11.11% and 50% in group A and 17.64% and 47.65% patients in group B had marked improvement and mild improvement, respectively [Figure 7]. It denotes that this therapy is effective for relief of pain as well as of the associated symptoms. Thus, the results suggest that Matra Basti can be established as an effective treatment for most of the complaints related to Kashtartava. It supports to fulfill the main objective of the study.

Probable mode of action of Dashamoola Taila

According to the concept of Viryasamkrtti (transformation of potency) described by Acharya Charaka,[15] the potency of

![Figure 1: General observations in the 35 patients](image1)

![Figure 2: Risk factors of patients](image2)
and Prabhava. It has being proven that Dashamoola has anti-inflammatory, analgesic, and antipyretic actions.

**Probable mode of action of Tila Taila**

Tila Taila is of Madhura Rasa and Vipaka, Balya, and Rasayana in Karma; it nourishes and strengthens all the Dhatus, checks Dhatushaya, and thus alleviates Vata. Snigdha and Guru Guna decreases Rukshata of Vata[13] and with the help of Ushna, Guna, and Veerya it alleviates Vata; the Vikasi property reduces the spasms. Sukshshmata dilates the channels and Vishada prevents stickiness of the channels and thus helps in normal flow of menstrual blood. Garbhshasya Shodhana, Artavajanana properties[15] of Tila Taila indicates its specific action on genital tract and regulates function of Apana Vayu on particular system. Especially when administered in the form of Basti, Tila Taila directly works on Apana Vata, and by its Yonishula Nashana action it works upon Kashtartava. Sesame oil (Tila Taila) is a good source of vitamin E (1.4 mg/100 g)[15] and it also contains magnesium, copper, calcium, iron, zinc, and vitamin B₆, all of which have being reported as having beneficial effects in dysmenorrhea[16] by several pharmacological and clinical trials.

In this study Snehana and Swedana also influence the results. Matra Basti on Kashtartava deals mainly with the Apana Vayu as the organs situated nearby are its seat. Snehana and Swedana prior to Matra Basti does its Anulomana and thus Matra Basti...
becomes more efficacious. Modern science too has recognized that local heat has a good effect on primary dysmenorrhoea.[17]

Follow-up
During the follow-up period we found a marked difference between the groups. Most of the patients, who were treated with the Tila Taila returned with the same complaint. This suggests that the effect of Dashamoola lasts longer than that of Tila Taila. The difference between the groups with regard to recurrence of symptoms could be due to the strong anti-inflammatory and analgesic properties of Dashamoola. It is a proven drug, effective in primary neurological disorders and is known to improve nerve conduction velocity.[19] This effect of Dashamoola on the nervous system may be the factor responsible for its lasting effect.

Conclusion
Kashtartava can be co-related with all the types of dysmenorrhoea but when it is due to only Vata, it has the same features as primary dysmenorrhoea. Matra Basti is found to be efficacious in the whole symptom complex of Kashtartava. Tila Taila Matra Basti and Dashamoola Taila Matra Basti are both highly effective in Kashtartava. Dashamoola Taila Matra Basti also helps to prevent recurrence of dysmenorrhoea. With further research, Matra Basti can be established as the preferred line of treatment in Kashtartava.

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हिन्दी सारांश
कष्टार्तव में मात्रा बस्ति का अध्ययन
कोमर्डी करुणागोदा  कामायनी शुक्ला (उपाध्याय)  शिल्पा दोंगा  चन्द्रिका तत्त्र  एल.पी.देई
कष्टार्तव महिलाओं में पायी जाने वाली सर्वाधिक व्यापक समस्या है। इसके लिये अभी तक लक्षणिक विकित्सा ही प्रयुक्त की जाती है। यह एक साथ अनेक देवना तथा लक्षणों से उच्च होने के कारण जटिल विकित्सा हो जाती है। इस तथ्य को ध्यान में रखते हुए एक ऐसी विकित्सा विधि का निर्धारण करने हेतु जो एक साथ सभी लक्षणों का शमन कर सके मात्रा बस्ति को एक वात शामक उपाय के रूप में प्राथमिक कष्टार्तव को वात व्यायाम नातक अर्थात हेतु चलित किया गया। कुल 35 स्वार्यों जिनकी आवश्यकता 25-35 वर्ष के मध्य थी दो वार्षिकों में विस्तारित किया गया। प्रामाण्य वर्ष में दक्षि० तौल मात्रा बस्ति तथा द्वितीय वर्ष में तिरल से मात्रा बस्ति दी गयी। विकित्सा की अवधि 2 मही तथा बस्ति की मात्र 60 मिली. थी। एक मही में कुल 7 बस्ति दी गयी। परीक्षणों के अनुसार वो वैज्ञानिक आधार भरने हेतु विशेष रूप से ग्रेडियंग क्रम बनाया गया। दोनों ही वार्षिकों में अपनी उपसाजनक एवं सनातनी परीक्षण प्राप्त हुए। किन्तु 2 मही की अवधि में द्वितीय वर्ष में लक्षणों का पुनरुत्पत्त करना गया। अतः इन अवधयों के पश्चात यह कहा जा सकता है कि मात्रा बस्ति कष्टार्तव के सभी लक्षणों के एक साथ शमन करने के लिये एक उपयोगी विकित्सा सिद्ध हो सकती है।