

Efficacy and comparison of *Shatapushpa Taila Matrabasti* with *Shatapushpa Churna* in *Kashtartava* (Dysmenorrhoea)

Research Article

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Abstract

Kashtartava (dysmenorrhoea) affects women's day to day activity and it is most common complaints amongst adolescents. 75% of adolescents experience pain during menstruation. Dysmenorrhoea can also be associated with nausea, vomiting, diarrhoea, fatigue, blotting abdomen etc. As per Ayurveda *Apanavata* is the governing force of menstruation; its vitiation gives rise to many gynaecological diseases (*yonivyapad*). Kashyapa has mentioned *Shatapushpa* (*Anethum sowa* Kurz.) as drug of choice for *Artava* related problems. So that group A is treated with *Shatapushpa churna* and group B with *Shatapushpa taila matra basti*. *Shatapushpa Churna* and *Shatapushpa taila matrabasti* showed extremely significant ($P < 0.0001$) relief in severity of pain however showed significant relief in duration of Pain, Nausea and Breast Tenderness. Overall effect of treatment on Group A showed complete remission 27.27% whereas Group B showed 63.64%. Statistically both groups are expressed significant results, whereas on the basis of clinical symptoms and overall effect of treatment illustrated in the study the *Shatapushpa taila matrabasti* is more effective than *Shatapushpa churna*.

Key Words: *Kashtartava*, Dysmenorrhoea, *Shatapushpa taila*, *Matraborti*, *Anethum sowa* Kurz.

Introduction

Ayurveda describes *Kashtartava* (dysmenorrhoea) under *Ashta Artava Vyapad* (eight menstrual problems). Because of sedentary life style and food habits this problem increases day by day worldwide. Dysmenorrhea is one of the most common complaints amongst adolescents; it affects the quality of life of many women in their reproductive age. About 25-50% of adult women and about 75% of adolescents experience pain during menstruation, with 5 - 20 % reporting severe dysmenorrhoea (1). Dysmenorrhoea can also be associated with nausea, vomiting, diarrhoea, fatigue, which disturbs routine activities. Dysmenorrhoea is the leading cause of short term school absenteeism. It is associated with a negative impact on social, academic and sports activities of many female adolescent (2).

As per Ayurveda predominant factor for dysmenorrhoea is *Vata*. *Apanavata* is the governing force of menstruation; its vitiation gives rise to many diseases like *yonivyapad's* (vaginal problems) or *Artava*. *Udavartini* being one among *yonivyapad's* in

which vitiated *Vata* moves in reverse direction leading to 'painful menstruation'. The treatment indicated is normalization of *Vata*. There are several medicines prescribed for said conditions of gynaecological disorders. *Shatapushpa* (*Anethum sowa* Kurz.) mentioned as drug of choice in any *Artava* disease by Kashyapa is selected for present study (3).

It is mentioned in Ayurveda classics that *Vasti* is an *ardha chikitsa* of *Vata* diseases, Therefore the *Matraborti* of *Shatapushpa taila* is selected for present study and compared with oral doses form of *Shatapushpa*.

Materials and Methods

After getting the Institutional Ethical committee (IEC) Clearance (Ref no. DMIMS (DU)/IEC/2017-18/6967) project started. *Shatapushpi* seeds were purchased from Nagpur market and sent to FRLHT for authentication. The voucher specimen number is FRLHT Col. No. 4578.

Participants with dysmenorrhoea are enrolled through primary questioner on Dysmenorrhoea and selected randomly in both groups. 22 Participants of 18-24 years were included in present study. Group A treated by *Shatapushpa churna* (Standard) – 10 gm in three divided doses / day for 3 days before commencement of cycle. Whereas Group B treated by *Satapushpa taila matraborti* (Test) - 30 ml matraborti once a day for 3 days before commencement of cycle. Treatment was given 3 consecutive cycles of menstruation for both groups.

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Who are taking Contraceptives or any hormonal treatment and with any Pelvic pathology excluded from the study.

Shatapushpa Taila

Shatapushpa taila prepared as per reference found in Sharangdhar samhita for taila kalpana. 1 part of Shatapushpa kalka, 4 parts of Til taila and 16 parts of drava (decoction and Godughda) are to be mixed together & heat on mandagani to prepare Shatapushpa Taila (4).

Shatapushpa churna

Shatapushpa cleaned, dried and powdered to the fineness of by fine mesh and stored in air tight container for further used.

Clinical assessments were done on the basis of subjective and objective (visual analogue scale (VAS)) parameters.

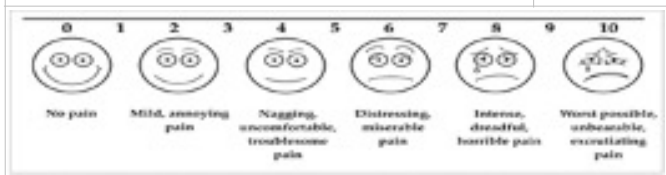
Subjective parameters

Duration of pain	
24 hours	1
48 hours	2
72 hours	3
96 hours	4
Nausea	
No nausea	0
Before menses to commencement of menses	1
One day (during menses)	2
Two days (during menses)	3
Three to four days (during menses)	4
Weakness	
No weakness	0
Before menses to commencement of menses	1
One day (during menses)	2
Two days (during menses)	3
Three to four days (during menses)	4
Blotting	
No blotting	0
Before menses to commencement of menses	1
One day (during menses)	2
Two days (during menses)	3
Three to four days (during menses)	4
Breast tenderness	
No tenderness	0
Before menses to commencement of menses	1
One day (during menses)	2
Two days (during menses)	3
Three to four days (during menses)	4

Objective parameters

Lower abdomen: VAS (visual analogue scale)

Low backache: VAS (visual analogue scale)



Overall effect of treatment assessed on the basis of subjective and objective parameters as

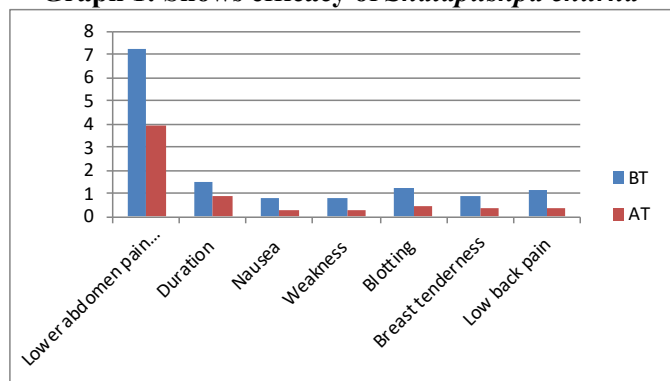
Complete remission	(76-100%)
Moderate improvement	(51-75%)
Mild improvement	(26-50%)
Unchanged	(0-25%)

Observations and Results

Table 1: Comparison between Group A and Group B

Symptoms	Group A (Mean)		Group B (Mean)	
	BT	At	BT	AT
Lower abdomen pain (Intensity)	7.27	3.91	7.45	2.82
Duration	1.55	0.91	1.64	0.81
Nausea	0.82	0.27	0.91	0
Weakness	0.81	0.33	0.82	0.28
Blotting	1.25	0.5	1.42	0
Breast tenderness	0.91	0.36	0.91	0.15
Low back pain	1.18	0.36	1.36	0.18

Graph 1: Shows efficacy of Shatapushpa churna



Graph 2: Shows efficacy of Shatapushpa taila matra basti

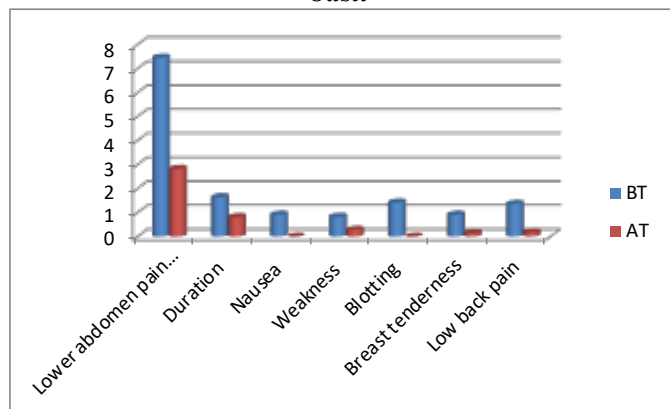


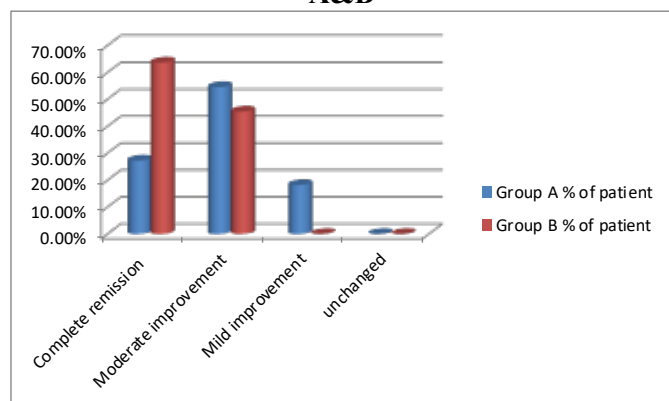
Table 2: Statistical Evaluation of results

	Group		Mean	SD	SE	t-Value	P	Significance
Pain	A	Before	7.27	1.49	0.708	4.7530	0.0001	Extremely Significant
		After	3.91	1.81				
	B	Before	7.45	1.51	0.575	8.0638	0.0001	Extremely Significant
		After	2.82	2.82				
Duration	A	Before	1.55	0.69	0.226	2.8113	0.0147	Significant
		After	0.91	0.30				
	B	Before	1.64	1.0	0.244	2.6087	0.0261	Significant
		After	0.81	0				
Nausea	A	Before	0.82	0.60	0.230	2.3717	0.0291	Significant
		After	0.27	0.47				
	B	Before	0.91	0.7	0.211	4.3033	0.0016	Significant
		After	0	0				
Weakness	A	Before	0.81	0.69	0.226	2.8113	0.0147	Significant
		After	0.33	0.1				
	B	Before	1.82	1.0	0.244	2.6087	0.0261	Significant
		After	0.28	0				
Blotting	A	Before	1.25	0.6	0.237	3.4513	0.0027	Significant
		After	0.51	0.5				
	B	Before	1.42	0.5	0.195	8.5635	0.0053	Significant
		After	0	0.4				
Breast Tenderness	A	Before	0.91	0.7	0.260	2.0953	0.0506	Significant
		After	0.36	0.5				
	B	Before	0.91	0.83	0.251	3.6274	0.0046	Significant
		After	0	0				
Low back Pain	A	Before	1.18	0.6	0.237	3.4513	0.0027	Significant
		After	0.36	0.5				
	B	Before	1.36	0.5	0.195	6.0613	0.0001	Extremely Significant
		After	0.18	0.4				

Table 3: Overall effect of treatment

	Group A	Group B
Effect of Treatment	% of patients	% of patients
Complete remission (76-100%)	27.27%	63.64%
Moderate improvement (51-75%)	54.54%	45.45%
Mild improvement (26-50%)	18.18%	0%
Unchanged (0-25%)	0%	0%

Graph 3: Shows comparative overall result of group A&B



Discussion

In Ayurveda Dysmenorrhoea i.e. Kashtartava is a symptom of various yoniroga which are described under the context of Yonivyapada. Saruja, sashoola, savedana, saruja, rajah kruchha these terms are used in samhita for kashtartava associated with various

yonivyapada. On the basis of Varna, Gandha, Matra, Kala shudhha artava is mentioned and any deviation in these parameters considered about gynaecological problem. Acharya charaka says that pain should not be present during normal menstruation, so the presence of pain during menstruation is abnormal and therefore it requires therapeutic management (5). Vitiated vata is a main cause of the Yoniroga. As pain is the main feature of Kashtartava, so it has strong relation with Vata. In classical text it is explained that due to Vega Dharana of Vata, Mutra and Purisha the Apanavata gets vitiated and it gets Udhravagami i.e. normal Anulomaka Gati of Apana Vayu changes to Pratiloma Gati and this vitiated Vata lifts the Yoni upward and causes obstruction to flow of Raja and Raja comes out with great difficulty with severe Shoola (6). There is a need to prevent or cure this emerging problem. Several herbs are described in Ayurvedic literature for management of kashtartava. Kashyapa describes *Shatapushpa* (*Anethum sowa* Roxb.) as nectar for women in various female disorders. He has described its many other medicinal effects in a

separate chapter called “*Shatapushpa Shatavari Kalpadhyaya*” in Kalpasthana.

Vata is responsible for its timely excretion through vaginal passage. Thus it appears that basic health of woman governed by Vata dosha. Vata is the main responsible factor, though other doshas only be present as Anubandhi to it. So pain is produced due to vitiation of only vata dosha or in combination with other Doshas. Ayurvedic acharyas specifically mentioned that, in the management of any yoni roga, vata dosha has to be normalized initially. Here the condition characterised with pain and difficulty in expulsion of menstrual blood, also a vataja yoni vyapath known as udavartini (7). The most appropriate treatment modality for vata dushti, is vasti (8). So that basti from Panchakarma offers a ray of hope in kashtartava. Hence *Shatapushpa siddha taila matrabasti* selected for present study.

75% of adolescents experience pain during menstruation, primary dysmenorrhoea occurs in this age group so that 18-24 age group participants were selected in present study. 25 participants were registered in present study, out of that three excluded from study because they have some pelvic pathology. Total 22 participants included which are 18-22 age groups. 9% of 18 years, 45.45% of 20 years, 27.27% of 21 years and 13.63% of 22 years. A longitudinal study on young women between the ages of 19 and 24 showed that the severity of dysmenorrhea only decreased in women who gave born to children during the previous 5 years, but was unchanged in those who remained nulliparous, or those who had miscarriage or abortion. Another study reported a significant effect of age on the severity of dysmenorrhoea. After adjusting for parity, older women were more likely to experience a decline in the severity of dysmenorrhoea, independent of childbearing. It is observed that the longer the duration of the reported dysmenorrhoeic symptoms (from 2 to 28 years), the greater is the suppression of the woman's hypothalamic-pituitary-adrenal axis, as manifested by a reduction in serum cortisol levels (9)

In the present study, the average reduction in clinical symptoms before and after treatment observed in group A treated by *Shatapushpa churna* as- Intensity of pain 7.27 to 3.91, Duration of pain decreased from 1.55 to 0.91, Nausea 0.82 to 0.27, Weakness 0.81 to 0.33, Bloating 1.25 to 0.51, Breast tenderness 0.91 to 0.36, Low backache 1.18 to 0.36 (Table 1, graph 1). Nidhi Garg in 2016 also found almost same results as significant relief in pain and associated symptoms of Kashtartava at her study (10).

Whereas in group B treated by *Shatapushpa taila matrabasti* show the results as - Intensity of pain 7.45 to 2.82, Duration of pain decreased from 1.64 to 0.81, Nausea 0.91 to 0, Weakness 1.82 to 0.28, Bloating 1.42 to 0.00, Breast tenderness 0.91 to 0.00, Low backache 1.36 to 0.18 (Table 1, graph 2). No referral study is available as such study is not undertaken.

Effect on Severity of Pain: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* showed extremely significant ($P < 0.0001$) relief in severity of pain, Hence effect of *Shatapushpa Churna* and

Shatapushpa taila matrabasti both was better in relieving the severity of pain.

Effect on Duration of Pain: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* demonstrated significant ($P < 0.0147$) and ($P < 0.0261$) respectively.

Effect on Nausea: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* demonstrated significant ($P < 0.0291$) and ($P < 0.0016$) respectively.

Effect on Blotting: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* demonstrated significant ($P < 0.0053$) and ($P < 0.0506$) respectively.

Effect on Nausea: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* demonstrated significant ($P < 0.0291$) and ($P < 0.0016$) respectively

Effect on Breast Tenderness: *Shatapushpa Churna* and *Shatapushpa taila matrabasti* demonstrated significant ($P < 0.0506$) and ($P < 0.0046$) respectively.

Effect on Low back Pain: *Shatapushpa Churna* showed significant ($P < 0.0027$), wherein *Shatapushpa taila matrabasti* showed extremely significant ($P < 0.0001$) relief in low back pain, Hence effect of *Shatapushpa taila matrabasti* is better than *Shatapushpa Churna* in relieving the low back pain.

Overall effect of treatment on Group A showed complete remission 27.27% whereas Group B showed 63.64%. Moderate improvement 54.54%, 45.45% observed in group A and group B respectively. Mild improvement 18.18% and 0% observed in group A and group B respectively. Unchanged 0% observed in both groups (Table 3, Graph 3).

Probable Mode of Action of Treatment

Action of *Shatapushpa* stated in Ayurveda is Deepana and Pachana. It is not only acts on Jatharagni level but also exhibits its action on Rasadhawagni. Thus *Shatapushpa* helps in the process of proper formation and Rasa for nourishment and develops its Upadhatu - Artava. Having good Vatanulomana property, *Shatapushpa Taila* regulates the gati (movement) of Praanavata, Vyanavata and Apanavata to maintain all essential functions in co-ordination and normalcy especially in maintaining the normal physiology of the Reproductive System. Thus it regulates the menstruation and flow.

Katu rasa, katu vipaka and ushna veerya of *Shatapushpa* acts on Ama, and nullifies it. It gives relief from nausea and blotting of abdomen. *Shatapushpa Taila* is a rich source of phytoestrogens hence the *Taila* may be suitable in regulating the hormones- LH, FSH, Oestrogen, Progesterone, and Prolactin. *Shatapushpa taila matrabasti* causes Vatanulomana thereby normalizing Apanavata. Due to that low abdomen pain and low back pain alleviates. Vedanasthapana action of *Shatapushpa* acts on breast tenderness.

Matra vasti has both local & systemic affects. Gut is a sensory organ consisting of neural, immune & sensory detectors and cells, and provides direct input to local (intra mural) regulatory systems and information that passes to CNS or other organs. Vasti may stimulate the enteric nervous system and thus it can influence CNS and all bodily organs. Vasti may act on the neuro-humoral system of body by stimulating CNS through

ENS. It thereby restores the physiology at molecular level. It can also act on the inflammatory substances like prostaglandins and vasopressin etc. The intensity of the menstrual cramps and associated symptoms of dysmenorrhea are directly proportional to the amount of PGF₂. Vasti may also help to excrete increased prostaglandins. Visceral afferent stimulation may result in activation of the Hypothalamo-pituitary-adrenal axis and Autonomous nervous system, involving the release of neurotransmitters like serotonin and hormones. Thus, it normalizes the neurotransmitters, hormonal and neural pathways and relieves all the symptom complex emerged as a result of neurohormonal imbalances in the patients of dysmenorrhoea. Spasm caused by vitiated Apana vayu causing obstruction to the flow of menstrual blood is the general underlying pathology. Taila enters into the srotas and removes the sankocha (spasm) by virtue of its sookshma, vyavayi and vikasi i.e. fast spreading nature (11).

Conclusion

Kashtartava is a symptom of many uterine diseases (Yonivyapada) caused by vitiation of Vata. Shatapushpa taila has added advantage over on Shatapushpa churna oral intake and acts against Vata and brings the Dosha in to equilibrium state. Statistically both groups are expressed significant results, whereas on the basis of clinical symptoms and overall effect of treatment illustrated in the study the Shatapushpa taila matrabasti is more effective than Shatapushpa churna.

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