



Research Article

A CLINICAL COMPARATIVE STUDY TO EVALUATE THE EFFECTIVENESS OF RASNA SWADAMSTRADI KSHEERAPAKA WITH SUKUMARAM KASHAYAM IN SPASMODIC DYSMENORRHOEA

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ABSTRACT

Many women are familiar with the experience of spasmodic dysmenorrhoea, one of the commonest gynaecological conditions that affects the quality of life of many in their reproductive years. This condition manifested as painful menstruation, is the most frequently encountered gynaecological complaint and it can be included under *Udavartha yonivyapat*, caused by *Apana vata vaigunya* described in Ayurvedic classics. As the condition has significant effect on quality of life, personal health, and working hours and there are several limitations and adverse effects in modern medicine, its Ayurvedic management is of great importance. Randomized clinical study was conducted in Govt. Ayurveda College Hospital for Women and Children, Poojappura to evaluate the effectiveness of *Rasna swadamstraadi ksheerapaaka* in spasmodic dysmenorrhoea and to compare its result with that of *Sukumaram kashayam*. Total 30 patients between the age group 15-35 yrs were taken in to the study who had complaints of severe or moderate lower abdominal pain and associated complaints such as low back ache, nausea, vomiting, diarrhoea, and allocated them into two groups. Study group were treated with *Rasna swadamstraadi ksheerapaaka* and control group with *Sukumaram kashayam*. Administration of drug started 10 days before menstruation and continued till 4th day of menstruation for 3 consecutive cycles for study group and control group. Follow up without medicine was done for next 3 consecutive cycles for both the groups. Results were analyzed and compared statistically. The research drug *Rasna swadamstraadi ksheerapaaka* had shown effectiveness in controlling pain in spasmodic dysmenorrhoea and associated symptoms like low back ache and nausea, but in the case of vomiting, and diarrhoea it showed less sustained action in follow up period. The control drug *Sukumaram kashayam* had also shown effectiveness in controlling pain in spasmodic dysmenorrhoea and associated complaints nausea and low back ache. But in the case of vomiting, and diarrhoea this medicine also showed less sustained action in follow up period. On conclusion the study revealed that the research drug *Rasna swadamstraadi ksheerapaaka* and control drug *Sukumaram kashayam* are equally effective in treating spasmodic dysmenorrhoea, without any side effects.

KEYWORDS: *Apana vata vaigunya*, *Rasna swadamstraadi ksheerapaaka*, Spasmodic dysmenorrhoea, *Sukumaram Kashayam*, *Udavartha*.

INTRODUCTION

As reproduction is the fundamental requirement for the maintenance of human life, Ayurveda elucidate due importance for the care of mother at every phase of her life. As a woman bears a child and is the foundation of a society, her health should be given utmost importance and care.

✓ According to Sabdakalpadruma, *Stree* is said to be the root cause of progeny.

“*sthrayathi garbho yasyamithi sthree*”

✓ According to Raja nighantu *stree* is stated as ‘one who discharges *Arthava*’.

“*Sthree cha arthava bhavathi sravathy ithi sthree*”

From the above statements we can conclude that, *Acharyas* have denoted the single term ‘*arthava*’ in our classics to cover the entire female reproductive physiology. In females, the *Arthava chakra* is the most important aspect of femininity.

Menstruation is considered as a land mark of homeostatic condition of reproductive system. The same menstruation can create hell situation, if it is associated with unbearable pain as we are observing in cases of dysmenorrhoea. All the system of philosophy has taken origin in search of the method to relieve pain. Though dysmenorrhoea literally means painful menstruation, practical definition

includes painful menstruation of sufficient magnitude so as to incapacitate day to day activities. Primary dysmenorrhoea is one where there is no identifiable pelvic pathology.^[1] Pathogenesis of pain is attributed to a biochemical derangement.

Spasmodic dysmenorrhoea is one of the most common gynaecological complaints affecting more than 70% of teenagers and out of this 30-50% of menstruating women suffers from varying degrees of discomfort. Its prevalence is higher amongst the more intelligent and sensitive working class women. Both the local and systemic symptoms are apparently the result of increased levels of prostaglandins in the menstrual fluid. This results in uterine cramping, nausea, vomiting, back ache, diarrhoea, giddiness, syncope and fainting. It is responsible for the highest incidence of absenteeism resulting in loss of work hours and economic loss^[2]

In the classics of Ayurveda painful menstruation find its role as a sole symptom in *Udavartha yoni vyapath*, one among the twenty *Yoni vyapath*, described by various authors. Charaka while describing the features of *Udavartha* says that "arthave sa vimukthe tu tat kshanam labhate sukham"^[3] which implies an immediate relief of pain following the discharge of menstrual blood, which clearly denotes spasmodic type of dysmenorrhoea. Also the following description by Acharyas like *Krchrartava*^[4] (painful menstruation), *Rajaso gamanadurdwam*^[5], *Badha raja*^[6] (presence of clots), *samanthath varthanam vayo*^[7] (irregular uterine contractions) substantiate the similarity between *udavartha* and spasmodic dysmenorrhoea.

"Sarveshu etheshu suleshu prayena pavanaha"- *Vata* is responsible for the pain. According to Acharyas no *Yoni vyapath* occurs without involvement of *Vata dosha*^[8]. According to Ayurvedic view *Artava* or menstruation should not be associated with any sort of discomforts, so painful menstruation is not a normalcy and it needs medical attention. Normal menstruation is the function of *Apana vayu*, therefore painful menstruation is considered as *Apana vata dushti*. *Vegodavarthana* leading to *Pratiloma gati* of *Apana vata* and *Rajas* is the pathology behind *Udavartha yonivyapath*. So treatment should aim at the relief of pain by normalising the direction of menstrual flow which inturn is by normalising the vitiated *Apana vayu*. Patient and family education, life style modifications, encouraging physical activities like exercise, low fat vegetarian diet, etc also have a major role in the treatment aspect

According to modern medicine, there is no permanent cure for spasmodic dysmenorrhoea. Marriage, child birth and psycho therapy etc help to

reduce the severity of the condition. Most of the medical therapies like analgesics, antispasmodics, NSAID, and anti prostaglandins are having many side effects. Hormonal and surgical therapies are also not advisable to all type of patients, especially teenagers as it may harm their future reproductive capacity.

In the present scenario rather than the hormonal treatment belonging to contemporary science Ayurvedic herbal, nonhormonal, non toxic preparations are proved effective in dysmenorrhoea. So a quick acting medication with no side effect is the need of the hour. So the present study was planned around to find out the effectiveness of the treatment in spasmodic dysmenorrhoea which is safe, quick acting, less expensive, and having no side effects. *Rasna swadamstraadi ksheerapaaka* mentioned for *Yoni sula* by Acharyas Vagbhata and Charaka under *Yoni vyapath chikitsa*^{[9],[10]} is found to have promising result in treating spasmodic dysmenorrhoea. So this formulation is assumed to be useful in the management of spasmodic dysmenorrhoea. So the study was conducted to prove the effectiveness of the research drug, "*Rasna swadamstraadi ksheerapaaka*" in spasmodic dysmenorrhoea, on the basis of statistical analysis. To prove its effectiveness it was compared with a control drug "*Sukumaram kashayam*"^[11] which is already proven in relieving this condition.

Objectives

To evaluate the effectiveness of *Rasna swadamstraadi ksheerapaaka* in spasmodic dysmenorrhoea in comparison with *Sukumaram kashayam*.

MATERIALS AND METHODS

Study design

Randomized controlled parallel open design in which concurrent control is a positive control.

Study setting

O.P Department of Prasuthi- Streeroga, Govt. Ayurveda College Hospital for Women and Children, Poojappura, Thiruvananthapuram.

Inclusion criteria

Females of age limit 15-35 years who are diagnosed as spasmodic dysmenorrhoea.

Exclusion criteria

- Patients with Irregular menstruation
- Patients diagnosed with structural deformity of reproductive system
- Known cases of DUB
- Diagnosed cases of congestive dysmenorrhoea

Sampling

Sample size : 30 number, 15 in each group.

Sampling technique

Randomized controlled trial

Data collection

Primary data was collected by interview method.

Study tool

- Case proforma
- Semi structured questionnaire
- Pain assessment by visual analogue scale and verbal descriptive scale
- USG to rule out any pelvic pathology

Procedure

Patients diagnosed as Spasmodic dysmenorrhoea were selected from the OPD of Prasuthi streeroga and their primary data was collected by interview, observation, and relevant investigations. Their clinical symptoms were assessed before starting the treatment. They were randomly allocated into two groups. Group A study group and group B control group.

Drug Administration: *Rasna swadamstraadi ksheerapaaka* was given to study group and *Sukumaram kashayam* was given to control group as per the dose of *Kashaya* 48 ml twice daily 1 hour before food. Powdered drugs were given to the patient in each month along with a written advice.

Duration of Administration: Administration of drug started 10 days before menstruation and continued till 4th day of menstruation for 3 consecutive cycles for study group and control group.

Follow Up: Follow up was done for next 3 consecutive cycles without medicine for both the groups

Assessment: Patients were advised to report on the first day of the menstrual cycle. Patients were assessed on first day of the menstruation in each 3 cycle during study period and follow up period. Finally the data obtained from the response of both groups were analyzed statistically, compared and conclusions were drawn. Duration of study was 6 consecutive cycles.

Method of preparation

Rasna swadamstraadi ksheerapaaka: Dried medicines in equal quantity is prepared in the form of *Kashaya churna*. 12 gm *Kashaya churna* is boiled with 8 *Pala* water (8x48 ml) and 2 *Pala* (2x48 ml) milk and reduced to the quantity of milk (96 ml).

Sukumaram kashayam: *Kashaya* is prepared by boiling 48 gms of *Kashaya churna* with 768 ml of water and it is reduced to 96 ml.

Outcome variable

- Lower abdominal pain: change in the mean score value assessed by visual analogue scale and verbal descriptor scale.
- Change in associated symptoms: Nausea, vomiting, diarrhoea, low back ache, as per verbal descriptor scale.

Parameters for the assessment

Assessment: The pain was assessed before and after the treatment in both groups by visual analogue scale and verbal descriptor scale. Change in associated symptoms were assessed by verbal descriptor scale using specific grades for each symptom.

Visual analogue scale

Scoring 0 : no pain

Scoring 1-3 cm : mild pain

Scoring 4- 6 cm: moderate pain

Scoring 7-10 cm: severe pain

Verbal descriptor scale

1. Lower abdominal pain

Grade 0 - No pain

Grade 1 -Mild pain (Pain which is bearable without any drugs or medication and does not inhibit work performance)

Grade 2 - Moderate pain (Pain which is able to bear with difficulty and used hot water bag application/ analgesics to get relieved& inhibit but does not prohibit work performance)

Grade 3 - Severe pain (Inability to bear the pain, incapacitating from routine activities, had to take antispasmodic, analgesics for relief)

2. Low back ache

Grade 0 : No low back ache

Grade 1 : Mild (No interference with daily routine)

Grade 2 : Moderate (Interference with daily routine-Relief after medicines)

Grade 3 : Severe (Interference in routine – No relief after medicines)

3. Nausea, Vomiting and Diarrhoea

Grade 0 : Nil

Grade 1 : Occasionally (mild)

Grade 2 : 2-3 times /day (moderate)

Grade 3 : >3times /day (severe)

Assessment of Results

1. Significant improvement

- Complete relief of pain from severe degree to nil (grade 3 to grade 0)

2. Moderate improvement

- From severe degree to mild degree (grade 3 to grade 1)

- From moderate degree to nil (grade 2 to grade 0)
- 3. Mild improvement**
- From severe degree to moderate degree (grade 3 to grade 2)
 - From moderate degree to mild degree (grade 2 to grade 1)
 - From mild degree to nil symptom (grade 1 to grade 0)
- 4. No change**
- No reduction in pain at all (all grades persist as such grades)

Analysis: Study is statistically analysed through descriptive statistics, Wilcoxon signed rank test and Mann Whitney U test

OBSERVATIONS & RESULTS

Lower abdominal pain during menstruation was taken as the most important parameter for assessing the effectiveness of the drug. Decrease in the severity of associated symptoms were also assessed. For the final statistical assessment verbal descriptive scale was used for lower abdominal pain and associated symptoms, as per the grades 0-no symptom, 1-mild degree of symptom, 2-moderate degree of symptom and 3-severe degree of symptom.

Table 1: Percentage distribution on the severity of lower abdominal pain in study group

Pain* Score (study group)	BT		AT		AF	
	N	%	N	%	N	%
Grade 0	0	0	10	66.7	1	6.7
Grade 1	0	0	5	33.3	14	93.3
Grade 2	3	20.0	0	0	0	0
Grade 3	12	80.0	0	.0	0	0

(*0-nil,1-mild,2-moderate,3-severe)

Table 2: Comparison of effectiveness of treatment in study group

		AT - BT	AF - BT
Wilcoxon signed rank test	Z	3.508	3.573
	P	<0.001	<0.001

As per Wilcoxon signed rank test, we have statistically highly significant p value less than 0.001, which reveals the treatment is effective in reducing lower abdominal pain during study period and follow up period.

Table 3: Percentage distribution on the severity of lower abdominal pain in control group

Pain *Score (control group)	BT		AT		AF	
	N	%	N	%	N	%
Grade 0	0	.0	6	40.0	0	0
Grade 1	0	0	9	60.0	12	80.0
Grade 2	4	26.7	0	0	3	20.0
Grade 3	11	73.3	0	.0	0	0

(*0-nil,1-mild,2-moderate,3-severe)

Table 4: Comparison of effectiveness of treatment in control group

Paired comparison		AT - BT	AF - BT
Wilcoxon signed rank test	Z	3.502	3.508
	P	<0.001	<0.001

Here also p value is significant i.e. p<0.001, which means that the treatment is effective in reducing lower abdominal pain during study period and follow up period.

Table 5: Comparison of effectiveness on pain in both group (BT-AT)

Change (BT- AT)	Study Group		Control Group	
	N	%	N	%
No change	0	0.0	0	0
Mild improvement	0	0.0	2	13.3
Moderate improvement	8	53.3	9	60.0
Significant improvement	7	46.7	4	26.7
TOTAL	15	100	15	100.0

Table 6 : Comparison of effectiveness on pain in both group (BT-AF)

Change (BT- AF)	Study group		Control group	
	N	%	N	%
No change	0	0	0	0
Mild improvement	3	20.0	7	46.7
Moderate improvement	11	73.3	8	53.3
Significant improvement	1	6.7	0	.0
TOTAL	15	100.0	15	100.0

Table : 7

Comparison of change in Lower abdominal pain between study group and control group		BT-AT	BT-AF
Mann- Whitney U test	Z	1.442	1.674
	p	.149	.094

As per Mann- Whitney U test p value after treatment and after follow up ($p > .05$) showed that both the drugs are equally effective in curing lower abdominal pain

Graph 1: Effectiveness of the treatment in reducing lower abdominal pain

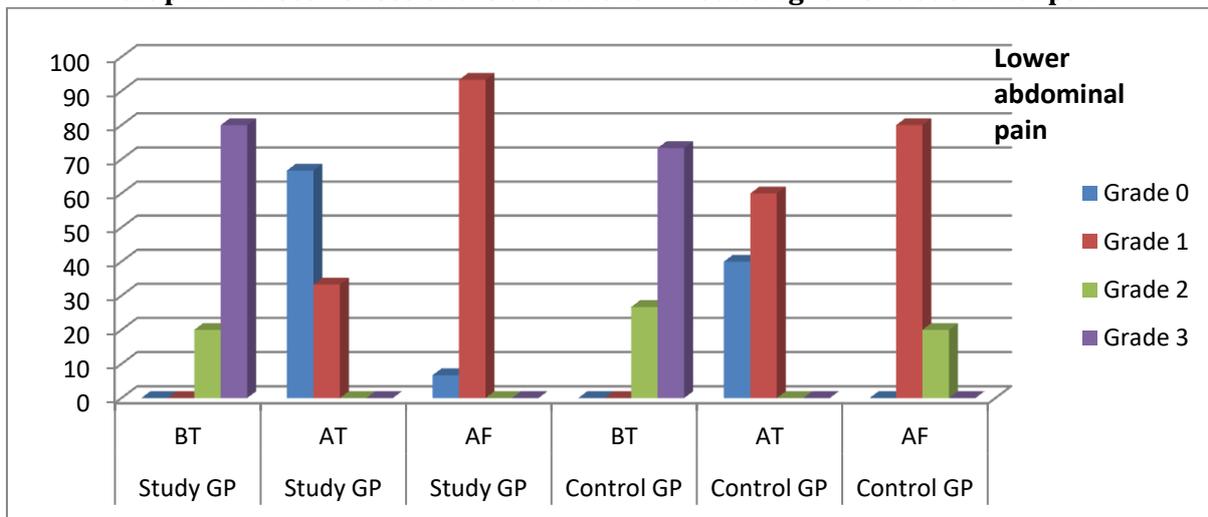


Table 8: Comparison of effectiveness on low back ache in both group (BT-AT)

Change (BT- AT)	Study group		Control group	
	N	%	N	%
*No change	3	20.0	2	13.3
Mild improvement	8	53.3	7	46.7
Moderate improvement	4	26.7	6	40
Significant improvement	0	0	0	0
TOTAL	15	100	15	100

(*3 no change in study group and 2 no change cases in control group represents those with no symptom of low back ache even before the treatment)

Table 9: Comparison of effectiveness on low back ache in both groups (BT-AF)

CHANGE (BT- AF)	STUDY GROUP		CONTROL GROUP	
	N	%	N	%
*No change	3	20.0	2	13.3
Mild improvement	9	60.0	10	66.7
Moderate improvement	3	20.0	3	20
Significant improvement	0	0	0	0
Total	15	100.0	15	100.0

(*3 no change in study group and 2 no change cases in control group represents those with no symptom of low back ache even before the treatment)

Table 10:

Comparison of change in LBA between study group and control group		BT-AT	BT-AF
Mann- Whitney U test	Z	0.795	0.290
	p	0.427	.771

Insignificant p value here (>.05) shows that both treatments are equally effective in reducing low back ache

Table 11: Comparison of effectiveness on nausea in both group (BT-AT)

CHANGE (BT- AT)	Study group		Control group	
	N	%	N	%
*No change	3	20	4	26.7
Mild improvement	7	46.7	10	66.7
Moderate improvement	2	13.3	1	6.7
Significant improvement	3	20	0	0
TOTAL	15	100	15	100.0

(* 3 no change cases in study group and 4 no change cases in control group are the cases with no nausea before treatment)

Table 12: comparison of effectiveness on nausea in both group (BT-AF)

Change (BT- AF)	Study group		Control group	
	N	%	N	%
*No change	6	40.0	8	53.3
Mild improvement	5	33.3	7	46.7
Moderate improvement	4	26.7	0	0
Significant improvement	0	0	0	0
Total	15	100.0	15	100.0

(*out of 6 no change cases in study group 3 cases had no nausea before treatment, and out of 8 no change cases in control group 4 cases had no nausea before treatment, rest in both group had nausea before treatment)

Table : 13

Comparison of change in Nausea between study group and control group		BT-AT	BT-AF
Mann- Whitney U test	Z	0.158	1.318
	p	0.217	0.188

As per Mann- Whitney U test p value after treatment and after follow up period showed that both drugs are equally effective in reducing nausea.

Table 14: Comparison of effectiveness on vomiting in both groups(BT-AT)

Change (BT- AT)	Study group		Control group	
	N	%	N	%
*No change	5	33.3	6	40
Mild improvement	9	60.0	9	60
Moderate improvement	1	6.7	0	0
Significant improvement	0	0	0	0
TOTAL	15	100	15	100

*out of 5 no change cases in study group 3 cases were not having vomiting before treatment, and out of 6 no change cases in control group 4 cases were not having vomiting before treatment, rest in both group had vomiting before treatment

Table 15: Comparison of effectiveness on vomiting in both groups(BT-AF)

CHANGE (BT- AF)	STUDY GROUP		CONTROL GROUP	
	N	%	N	%
*No change	13	86.7	14	93.3
Mild improvement	2	13.3	1	6.7
Moderate improvement	0	0	0	0
Significant improvement	0	0	0	0
Total	15	100.0	15	100.0

(* out of 13 no change cases in study group 3 cases were not having vomiting before treatment, and out of 14 no change cases in control group 4 cases were not having vomiting before treatment, rest in both group had symptom before treatment)

TABLE 16

Comparison of change in Vomitting between study group and control group		BT-AT	BT-AF
Mann- Whitney U test	Z	0.580	0.598
	p	0.562	0.550

As per Mann- Whitney U test p value after treatment and after follow up showed that both treatments have equal effect in treating vomiting.

Table 17: Comparison of effectiveness on diarrhoea in both group(BT-AT)

Change (BT- AT)	Study group		Control group	
	N	%	N	%
*No change	9	60	9	60
Mild improvement	4	26.7	6	40
Moderate improvement	2	13.3	0	0
TOTAL	15	100	15	100

(* 9 no change cases in study group and control group are the cases with no diarrhoea before treatment)

Table 18: Comparison of effectiveness on diarrhea in both group (BT-AF)

Change (BT- AF)	Study group		Control group	
	N	%	N	%
*No change	14	93.3	15	100
Mild improvement	1	6.7	0	0
Total	15	100.0	15	100.0

(*out of 14 no change cases in study group 9 cases were not having the symptom of diarrhoea before treatment, and out of 15 no change cases in control group 9 cases were not having diarrhoea before treatment, rest had diarrhoea before treatment)

TABLE :19

Comparison of change in Diarrhoea between study group and control group		BT-AT	BT-AF
Mann- Whitney U test	Z	-.288	1.000
	p	.773	0.317

As per Mann- Whitney U test p value after treatment and after follow up showed that both treatments have equal effect in treating diarrhoea.

DISCUSSION

Dysmenorrhoea is one of the commonest gynaecological conditions that affects the quality of life of many women in their reproductive years. Dysmenorrhoea when present solely as a complaint without association of any other pelvic pathologies it is called as a Spasmodic or Primary

dysmenorrhoea. *Nidana samprapthi* and *Rupa of Udavarta yonivyapat* can well explain the etiopathogenesis and clinical features of Spasmodic dysmenorrhoea. "*Arthave sa vimukthe tu tat kshanam labhate sukham*" mentioned by acharya Charaka substantiate the close similarity of *Udavarta* with

Spasmodic dysmenorrhoea. Also the following description by Acharyas like *Krchrartava*, *Rajaso gamanadurdwam*, *Badha raja*, *Samanthath varthanam vayo* (irregular uterine contractions) substantiate the similarity between *Udavartha* and spasmodic dysmenorrhoea. *Vegodavarthana* leading to *Pratiloma gati* of *Apana vata* and *Rajas* is the pathology behind *Udavartha yonivyapath*. So treatment should aim at the relief of pain by normalising the direction of menstrual flow which inturn is by normalising the vitiated *Apana vayu*. Patient and family education, life style modifications, encouraging physical activities like exercise, low fat vegetarian diet, etc also have a major role in the treatment aspect.

Discussion on data related to response of treatment

Lower abdominal Pain

The classical symptom of spasmodic dysmenorrhoea, lower abdominal pain was taken as the most important parameter for assessing the efficacy of the drug. After treatment in the study group 46.7% patients got significant improvement and 53.3 % got moderate improvement, but in control group only 26.7% of the cases got significant improvement and 60% got moderate improvement. After follow up period there was gradual recurrence of pain in both groups, i.e., only 6.7% patients of study group had significant improvement and none of them in the control group got significant improvement. Even though there is 6.7% cases with significant improvement during follow up period in study group, the data shows the less sustained action of both the drugs during follow up period.

On comparison and statistical evaluation 'p' value showed that both drugs are equally effective in curing lower abdominal pain.

Associated symptoms

Regarding the most common associated symptom low back ache, patients attained significant improvement were nil under both treatments, while patients with moderate and mild improvement after treatment was 26.7% and 53.3% respectively in study group after treatment. In the control group 40% patients showed moderate improvement (40%) and 46.7% showed mild improvement. But after follow up period there is a gradual decline in the percentage of moderate improvement patients. (20% each in both groups) which point towards the chance of recurrence in both the treatments. On comparison and statistical analysis p value here showed that both treatments are equally effective in reducing low back ache.

In the case of nausea 20% cases in study group got significant improvement after treatment,

but none of the patients in control group got significant improvement after treatment. While 13.3% and 46.7% cases in study got moderate and mild improvement respectively, 6.7% and 66.7% cases in control group had got moderate and mild improvement respectively. But after follow up none of the patients in both group had got significant improvement. In study group 26.7% got moderate improvement but in the control group not even a single patient showed moderate improvement. On comparison and statistical analysis p value after treatment and after follow up period showed that both treatments are equally effective in reducing nausea

Considering vomiting after treatment there was no single case with significant improvement in both groups. 6.7% and 60% cases of study group attained moderate and mild improvement respectively. In the control group no cases of moderate improvement was noticed, but 60% cases showed mild improvement. After the follow up period; only 13.3% of study group and 6.7% of control group showed mild improvement which is not a significant change and indicates the recurrence of the symptom. So the sustained action of the drugs are less evidenced here in both groups. On comparison and statistical analysis p value after treatment and after follow up period showed that both treatments have equal effect in treating vomiting.

In the case of diarrhoea after treatment in study group 13.3% got moderate improvement and 26.7% got mild improvement. But in control group after treatment 40% got mild improvement and none got moderate improvement. After follow up 6.7% cases in study got mild improvement, rest presented with no change, i.e., still presented as pretreatment score. After follow up in control group all patients revert back to pretreatment stage. On comparison and statistical analysis p value after treatment and after follow up period showed that both treatments have equal effect in treating diarrhoea.

Discussion on probable mode of action of drug

While considering the control drug *Sukumaram kashayam*, majority of ingredients are having *Madhura rasa*, *Ushna veerya* and *Snigdha guna* and hence these can normalise the vitiated *vata*. *Dashamula* is the other main ingredient in *Sukumaram kashayam*, and it is *Anulomana*, *Vata kapha hara*, and *Sothahara*. So it helps in bringing back the normalcy of *Vata gathi* so that *Artava* is expelled out normally. Moreover many of the ingredients are *Tridosahara*, *Anulomana*, *Sothahara*, *Garbhashaya Shodhana*, and *Rasayana*. These properties can act upon *Srotho vaigunya* such as

Sanga and *Vimarga gamana* occurred in *Artava vaha srothas* and hence can be interpreted that these drugs can overcome the obstructions in the *Gati* of *Rajas* and helps in normalizing the menstrual flow.

In the case of study drug *Rasna swadamstraadi ksheerapaka*, which is mentioned for *Yoni sula* by Acharya Charaka and Vagbhata under *Yoni vyapath chikitsa*, is composed of *Rasna*, *Swadamstra*, *Vasa* and milk only. *Rasna* is having *Ushna veerya*, *Katu vipaka* and *Kapha vata samana* property. *Margavarodha* and *Dhathukshaya* are the *Nidanas* of *Vata kopa* in this disease. *Margavarodha* can be taken as the obstruction in the normal pathway of menstruation by in coordinate muscle action. *Rasna* is the best *Vata* pacifying drug-*Vataharanam sreshtam*. Being *Vedanaasthapana* and *Vata* pacifier it will remove the *Margavarodha* thereby promoting the normal expulsion of *Artava* resulting in a normal menstrual flow without pain. *Rasna* works as a *Rasayana*, may acts on *Dhathukshaya* condition also, thereby controlling *Vatakopa* there. Bavamisra and Susrutha has mentioned its *Vimlapana* i.e., anti inflammatory property as well, which may alleviate one of the causes of spasmodic dysmenorrhoea, presacral nerve inflammation i.e., neuritis is one among the cause of excess and irregular uterine contractions. Researches have proved prostaglandin biosynthesis inhibiting activity by one of the chemical constituents diaryl heptanoids of *Rasna*. The extract of the whole plant has shown relaxant action on smooth muscles and spasmolytic action on different muscles.

Swadamstra or *Gokshura* a drug which is having its main action in the genito urinary system having *Seetha veerya*, *Tridosha hara* and *Guru Snigdha guna* property. It is *Rasayana*, *Mutrala* and *Vrshya* as well. *Gokshura* is one among the drugs of *Mootra Virechaneeya Gana* (diuretic drugs) of Charaka. Hence, it provides *Anulomanatwa* to *Apana Vata*. This corrects the *Gati* of *vata* there by influencing it in a positive way. *Vata* is the root cause of pain and *Pitta* imparts hormonal interplay to produce pain, and *Kapha* taking part in production of pain by *Badhartava* formation. So *Tridosha haratwa* property of *Gokshura* may alleviate the pain due to hormonal imbalance, or due to presacral nerve inflammation or due to *Badhartava*. It may be acting in the level of prostaglandins, which is also an aetiological factor of spasmodic dysmenorrhoea.

Vasa is having *Tikta kashaya rasa*, *Seetha veerya* and *Kapha pitta hara* property. Even though *vata* is the predominant *Dosha* which takes part in the pathogenesis of *Udavarta* we can't exclude the role of *Pitta* and *Kapha*. According to Ayurveda the secretory phase is compared to the *Rthu vyatheetha kala*. This phase is dominated by *Pitta*, because the

Artava at this phase is of *Agneya* character. In this phase dominated by *Pitta*, some derangement can be expected in the female reproductive physiology leading to the excess production of prostaglandins. The *Badhartava* explained by Acharyas denotes spasmodic dysmenorrhoea caused by clotting of menstrual blood, clots being then difficult to expel resulting in pain. Also big endometrial casts or association of mucous membrane with menstrual blood is often seen in spasmodic dysmenorrhoea, these two very well explains the association of *kapha* here. So *Vasa* by its *Kapha pitta hara* property liquefies congestive *Kapha* and inflammatory *Pitta* of menstruation thereby alleviating pain even though it is not *Vataharanam*. Many researches have proved the anti inflammatory and anti spasmodic activity of *vasa* root, relaxation producing activity and utero tonic activity also.

Milk is a balanced diet containing all the essential nutrients and minerals essential for health. It is *Jeevaneeya*, *Brmhaneeya*, *Rasayanam*, and *Balyam*. Cow's milk has the properties which are equivalent to that of *Ojas*. Above all it is a *Pathya ahara* in *Yoni roga* described in classics. *Balya*, *Rasayana*, *Jeevaneeya* and *Brmhaneeya* properties acts on *Dhathukshaya* condition, help in the improvement of general health and thereby a healthy reproductive system. Also some researchers have shown that calcium deficient muscles are more likely to be tense, which may trigger menstrual cramps, as it is an important mineral which helps in maintain normal muscle tone. Since milk is an abundant source of calcium it helps in regaining the normal uterine muscle tone thereby relieving menstrual cramps.

So with milk, these drugs act as an ideal combination for *Yoni sula*. The combined action of this *yoga* acts on *Margavarodha* and *Dhathukshaya* condition occurred in *Artava vaha srothas* and hence it can be interpreted that these drugs can overcome the obstruction in the *Gati of rajas* and helps in normalising the *Gati* of menstrual flow without pain and associated complaints. Once the obstruction in the *Gati* of *Rajas* is cleared, not only the main symptom lower abdominal pain but also the associated complaints like nausea, vomiting, low back ache, etc are also relieved.

CONCLUSION

- ❖ The research drug *Rasna swadamstraadi ksheerapaaka* had shown effectiveness in controlling pain in Spasmodic dysmenorrhoea by its *Sulahara*, *Srothorodha nivarana*, *Anulomana*, and *Rasayana* property.
- ❖ The control drug *Sukumara kashaya* had shown effectiveness in controlling pain in Spasmodic dysmenorrhoea by its *Vata kapha hara*,

Srothorodha nivarana and *Garbhasaya shodhana* property.

- ❖ Considering low back ache and nausea *Rasna swadamstraadi ksheerapaka* had shown significant effect in reducing the symptom, but in the case of vomiting, and diarrhoea it showed less sustained action in follow up period.
- ❖ *Sukumaram kashayam* also had shown significant effect in controlling low back ache and nausea, but in the case of vomiting and diarrhoea this medicine also showed less sustained action in follow up period.
- ❖ Though both drug showed equal efficacy in treating spasmodic dysmenorrhoea statistically, clinically *Rasna swadamstraadi ksheerapaka* got better action compared to *Sukumaram kashayam*
- ❖ So it can be concluded that the study drug *Rasna swadamstraadi ksheerapaka* and control drug *Sukumaram kashayam* are equally effective in treating Spasmodic dysmenorrhoea.

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