Research Article

EVALUATION OF EFFICACY OF *JALOUKAVACHARANA* AND *SIRAVYADHANA* IN THE MANAGEMENT OF *VATARAKTA*: A COMPARATIVE STUDY

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ABSTRACT

Vatarakta is the illness that exhibits different signs and symptoms based upon the *Dosha, Utthana* and *Gambheera Avastha*. Dietary habits and life style modalities play a major role in the causation of *Vatarakta*. Though various remedies are there to treat it, *Raktamokshana* is said to be an effective, and standard technique. Hence it is claimed to be an important affective tool in the management of *Vatarakta*. This study is undertaken to explore and compare the efficacy of *Jaloukavacharana* and *Siravyadhana* in *Vatarakta*.

Randomized comparative clinical trial was adopted in this study. 40 subjects fulfilling diagnostic and inclusion criteria were selected and divided into two groups. The day on which the procedure was conducted was considered as first day of the trail. Follow up was on 8th & 15th day. Total duration of Study was 15 days. In both the group there is a significant improvement of subjective and objective symptoms except on *Vaivarnya.* The collected data is statistically analysed *Jaloukavacharana* is found to be more effective in the features *Daha and Shopha. Siravydhana* is more effective in *Shoola* and *Vivarnya. Both* the procedure shows equal effect on *Sparshaasahatva.* The overall results of Group A are 82.11% and Group B is 82.76%. Both the treatments are equally effective in *Vatarakta*. Hence alternative hypothesis H3 is proved. This simple and cost-effective treatments are painless do not require any anaesthesia. Hence it can be easily performed in OPD level on day-care basis.

KEYWORDS: *Jaloukavacharana, Raktamokshana Siravydahana, Vatraakta.*

INTRODUCTION

Vatarakta is very distressing disease due to its continued relapsing and remittent nature[1]. The factors said in the classics which are responsible for the *Vatarakta* are *Viruddha Ahara* and *Mithya Vihara*. These leads to the vitiation of *Vayu* and *Rakta*. Aggravated *Vata* paves for vitiation of *Rakta* in turn leading to further aggravation of *Vata*, thus evolves condition *Vatarakta.*

In this context the modalities under scrutiny are *Siravyadhana*[2] and *Jaloukavacharana*[3] which annihilate the *Doshic* vitiation in the aforesaid condition. *Raktamokshana* is more effectual in quick action than administering *Snehana* and *Alepa*[4]*.* Expulsion or removal of vitiated *Rakta* (as well as other vitiated *Doshas)* from the body is known as *Raktamokshan*[5]. This can be done either through *Siravyadhana* (vene puncture) or with *Jaloukavacharana* (Leech therapy). Hereby, the study tries to expound the effectiveness of these two procedures on two groups of subjects.

Sushruta Acharya while explaining the *Shastiupakrama* mentioned that *Rakta Visravana* is very useful in *Vedana Upashamana* and to relive *Achirottita Shopa*[6]. So, this study is also aimed to understand which among the two procedures are more capable of removing the *Avarana.*

Objectives of the Study

1. To study in detail about *Vatarakta*
2. To study the clinical efficacy of *Jaloukavacharana* on *Vatarakta*
3. To study the clinical efficacy of *Siravyadhana* on *Vatarakta*. To compare the results of *Jaloukavacharana* as well as *Siravyadhana* and analyse the results statically.

Source of Data

Patients who attended the OPD and IPD of K.V.G. Ayurvedic Medical College and Hospital, Sullia, with signs and symptoms of *Vatarakta* were selected for this study.

Method of Collection of Data

Data regarding history, duration of illness, findings on clinical examination and other relevant information including Lab investigations were recorded in a case proforma specially designed for

this study, based on the clinical features of the disease *Vatarakta.*

Inclusion criteria
- ✓ Patients with clinical features of *Vatarakta*
- ✓ Patients with age ranging from 20-60 years

Exclusion criteria
- ✓ Patients of age below 20 years and above 60 years.
- ✓ Patients with other systemic diseases
- ✓ Patients contraindicated for *Siravyadhana* and *Jaloukavacaharana*
- ✓ Patient with the history of bleeding diathesis
- ✓ Pregnant women

Diagnostic criteria

The clinical features of "*Vatarakta*" as mentioned in Classics were taken as the diagnostic criteria.

Selected subjective and objective parameters are graded accordingly.

Pathological investigation

Routine haematological investigations like Hb%, total count, differential count, ESR, bleeding time, clotting time, RBS were done to rule out any other disease pathology as well as to evaluate safety and efficacy of the trial therapy.

Grouping and sampling

Total 40 patients of *Vatarakta* were included in this study. They were randomly divided into two groups.

Study duration
- ✓ *Jaloukavacharana*- 1 sitting, on the first day only
- ✓ *Siravyadhana*- 1 sitting, on the first day only
- ✓ Follow up- On 8th day & 15th day
- ✓ Total duration-15 days

Observation and recording of data
- ✓ First Recording-Pre-treatment examination (1st day BT)
- ✓ Second Recording-Soon after the treatment (1st day AT)
- ✓ Follow up observation- On 8th day and 15th day

Assessment Criteria

Post procedural observation of the assessment criteria was done and recorded.

Subjective parameter
- ✓ *Shoola*
- ✓ *Daaha*

Objective parameter
- ✓ *Sparshaasahatva*
- ✓ *Shopha*
- ✓ *Vaivarnya*

Table 1: *Shoola*

Shoola	Grade
Absent - no pain	0
Avara- pain of bearable in nature, but no difficulty in movement of joints, appears frequently	1
Madhyama- slight difficulty in joint movements due to severe pain requires medication and pain remain throughout the day	2
Pravara- Difficult to move the joints due to pain. Affects the sleep also	3

Table 2: *Daha*

Daha	Grade
Absent - no burning sensation	0
Avara- occasionally burning sensation	1
Madhyama- frequently burning sensation	2
Pravara - continuous burning sensation	3

Table 3: *Sparshaasahatva*

Sparshaasahatva	Grade
Absent- no tenderness	0
Avara- slight tenderness	1
Madhyama- moderate tenderness	2
Pravara- severe tenderness	3

Table 4: *Shopha*

Shopha	Grade
Absent- no swelling	0
Avara- slight swelling	1
Madhyama- moderate swelling	2
Pravara- severe swelling	3

Table 5: *Vaivarnya*

Vaivarnya	Grade
Absent- no discoloration	0
Avara	1
Madhyama	2
Pravara	3

Observation and Results

Table 6: Effect of *Jaloukavacharana on Daha* in Group A

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Daha	1.05	AT	0.45	0.60	57	0.503	0.112	2.76	<0.05
		FU1	0.30	0.75	71	0.444	0.008	3.76	<0.05
		FU2	0.00	1.05	100	0.759	0.011	6.19	<0.05

Statistical analysis showed that the mean score which was 1.05 before the treatment was reduced to 0.45 after the treatment and after follow up it became 0.00 with 100% improvement and this is a statistically significant (P<0.05).

Table 7: Effect of *Siravyadhana* on *Daha* in Group B

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Daha	0.80	AT	0.55	0.25	31	0.444	0.099	0.89	>0.05
		FU1	0.45	0.35	44	0.489	0.016	1.33	>0.05
		FU2	0.10	0.70	87.5	0.923	0.021	2.98	<0.05

Statistical analysis showed that the mean score which was 0.80 before the treatment was reduced to 0.55 after the treatment and after follow up it became 0.10 with 87.5% improvement and this is statistically significant (P<0.05).

Table 8: Effect of *Jaloukavacharana in* Group-A on *Shoola*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Shoola	2.15	AT	1.50	0.65	30	0.489	0.109	3.44	<0.05
		FU1	1.00	1.15	53	0.489	0.016	5.88	<0.05
		FU2	0.65	1.50	70	0.513	0.010	8.08	<0.05

The mean score from 2.15 to 1.50 after the treatment and after follow up it became 0.65 with 70% improvement. It is found to be statistically significant (P<0.05).

Table 9: Effect of *Siravyadhana* in Group-B on *Shoola*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Shoola	2.25	AT	1.45	0.80	36	0.410	0.092	4.07	<0.05
		FU1	1.25	1.00	44	0.324	0.009	5.75	<0.05
		FU2	0.65	1.60	71	0.503	0.011	8.89	<0.05

The mean score from 2.25 to 1.45 after the treatment and after follow up it became 0.65 with 71% improvement. It is found to be statistically significant (P<0.05).

Table 10: Effect on *Jaloukavacharana* in Group-A on *Sparshaasahatva*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Sparshaa sahatva	1.50	AT	0.95	0.55	37	0.605	0.135	2.03	<0.05
		FU1	0.50	1.00	67	0.795	0.022	3.98	<0.05
		FU2	0.10	1.40	93	0.940	0.014	5.98	<0.05

The mean score which was 1.50 before treatment reduced to 0.95 after the treatment and after follow up it became 0.10 with 93% improvement it is statistically significant (P<0.05).

Table 11: Effect of *Siravyadhana* in Group-B on *Sparshaasahatva*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Sparshaasahatva	1.50	AT	0.70	0.80	53	0.410	0.092	4.66	<0.05
		FU1	0.50	1.00	67	0.324	0.006	5.63	<0.05
		FU2	0.10	1.40	93	0.598	0.009	9.20	<0.05

The mean score which was 1.50 before treatment reduced to 0.70 after the treatment and after follow up it become 0.10 with 93% improvement study is statistically significant (P<0.05).

Table 12: Effect of *Jaloukavacharana* in Group-A on *Shopha*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Shopha	1.75	AT	1.00	0.75	43	0.444	0.099	3.00	<0.05
		FU1	0.75	1.00	57	0.795	0.019	4.02	<0.05
		FU2	0.05	1.70	97	0.923	0.016	8.11	<0.05

The mean score which was 1.75 before treatment reduced to 1.00 after the treatment and after follow up it became 0.05 with 97% improvement study is statistically significant (P<0.05).

Table 13: Effect of *Siravyadhana* in Group-B on *Shopha*

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Shopha	1.55	AT	0.95	0.60	39	0.503	0.112	2.14	<0.05
		FU1	0.60	0.95	61	0.510	0.013	3.97	<0.05
		FU2	0.15	1.40	90	0.754	0.012	6.93	<0.05

The mean score which was 1.55 before treatment reduced to 0.95 after the treatment and after follow up it become 0.15 with 90% improvement, study is statistically significant (P<0.05).

Table 14: Effect of *Jaloukavacharana* over *Vaivarnya* in Group-A

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Vaivarnya	0.95	AT	0.85	0.10	11	0.308	0.069	0.33	>0.05
		FU1	0.70	0.25	26	0.444	0.042	0.85	>0.05
		FU2	0.60	0.35	37	0.489	0.019	1.21	>0.05

The mean score which was 0.95 before treatment reduced to 0.85 after the treatment and after follow up it become 0.60 (37%) with non-significant improvement (P>0.05).

Table 15: Effect of *Siravyadhana* over *Vaivarnya in* Group-B

Symptom	Mean score				%	S.D (±)	S.E (±)	t value	p value
	BT			BT-AT					
Vaivarnya	0.50	AT	0.45	0.05	10	0.224	0.050	0.20	>0.05
		FU1	0.40	0.10	20	0.308	0.031	0.42	>0.05
		FU2	0.30	0.20	40	0.410	0.021	0.89	>0.05

Study showed statistically Non significant improvement (P>0.05). The mean score which was 0.50 before treatment reduced to 0.45 after the treatment and after follow up it became 0.30 with 40% improvement.

Fig No:1 Procedure of *Jaloukavacharana*

1- *Jalouka* in fresh water 2- *Jalouka* in *Haridra Jala* 3- Covered the body of *Jalouka* with *Pichu* 4- horse-shoe shape neck of *Jalouka* showing proper sucking 5,6- *Chardana* of *Jalouka*
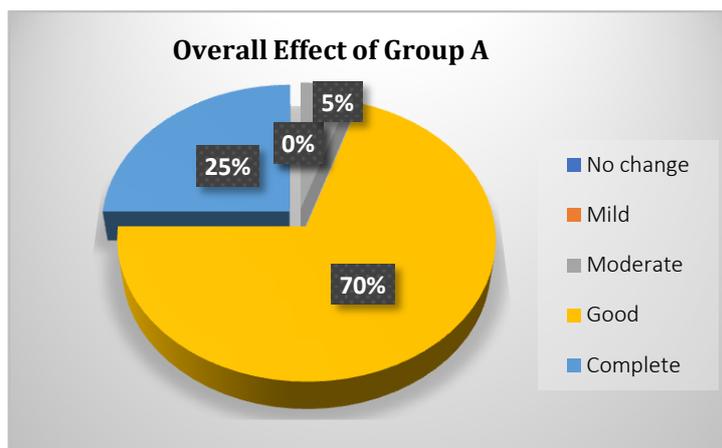

Fig.No:2 Procedure of *Siravyadhana*

1- *Sthanika Snehana* 2- *Sthanika Patta Sweda* 3- Puncturing the vein 4- Flowing of blood

Assessment of Total Effect of Therapy
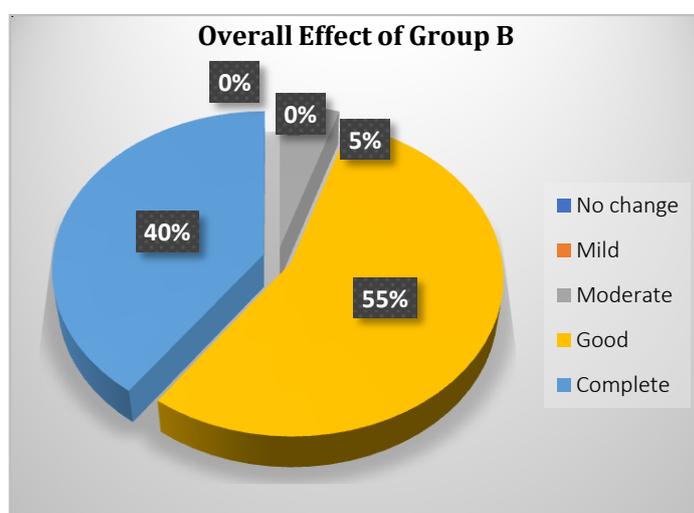
Result on Group A

Result on Group B

Table 16: Comparative results of Group-A and Group-B

Characteristics	Group-A			Group-B		
Signs and Symptoms	Mean score		Percentage of relief	Mean score		Percentage of relief
	BT	FU		BT	FU	
Daha	1.05	0.00	100	0.80	0.10	87.5
Shoola	2.15	0.65	70	2.25	0.65	71
Sparshaasahatva	1.50	0.10	93	1.50	0.10	93
Shopha	1.75	0.05	97	1.55	0.15	90
Vaivarnya	0.95	0.60	37	0.50	0.30	40

DISCUSSION

Effect of *Jaloukavachara* on *Daha* [7]

Vitiated *Rakta* and *Pitta* causes severe burning sensation, *Jalouka* is claim to be *Seetha* and *Madhura* there by *Jalouka* decreases the *Ushna, Teekshna Guna* and cures the *Daha*. The present study with the statistical analysis shows 100% eradication of *Daha* by *Jaloukavacharana*. Process is highly significant.

Effect of *Siravyadhana* on *Daha*

In the present study 87.5% improvement was seen by *Siravyadhana*. This procedure removes the *Dooshita Rakta* and decreases the *Rakta Dusti* hence this statistically significant is the result.

Effect of *Jaloukavacharana* and *Siravyadhana* on *Shoola*

Shoola is purely due to vitiated *Vata*. due to the *Vishamagni Agnimandhya* occurs and it develops the *Aama.* The *Aama* eases the blockage of *Srotas*

which in turn aggravates the *Vata* causes the *Shoola*. So, the vitiated *Vata* and *Aama* blocks the *Rakta*, by *Anyonya avarana* and the disease originates.[8]

By doing *Raktamokshana Avarana* is removed there by it decreases the pain. So, in this study both *Jaloukavacharna* and *Siravyadhana* have shown almost equal result.

The results in group A on *Shoola* says that mean score is reduced from 2.15 to 0.65 i.e. 70% improvement. The P value is less than 0.05 and treatment is statistically significant.

In *Siravydhana* group result is 71% there the mean score is reduced from 2.25 to 0.65. P value is less than 0.05 and the treatment is statistically significant.

Effect of *Jaloukavacharana* and *Siravyadhana* on *Sparshasahatva*

Sparsaasahatva is mainly the symptom of *Shonitavrta* condition[9], that too when *Vata* is predominant. When *Avarana* is removed tenderness reduces. Statistically both treatments don't show any difference. Mean score of both the treatment was 1.50 and reduced to 0.10 and the treatment shows significant result i.e., 93% improvement.

Effect on *Shopha*

Shopha is a *Tridoshaja* condition when aggravated *Vata* affects the *Kapha*, *Rakta* and *Pitta* obstruction in the *Srotas* takes place.

Jaloukavacharana

As it is a localised condition in a *Vata Rakta*, when *Jalouka* is applied it does *Shamana* of vitiated *Dosha* and removes *Dooshita Rakta*. In the present study mean score before the treatment was 1.75 and it reduced to 0.05 (P value is less than 0.05) i.e., 97% improvement was seen and treatment is statistically significant.

Siravyadhana

Visravana is helpful in removing *Achirothitta Shopha*. By *Visravana Avarodha* of *Srotas* is removed there by decrease in the *Shotha*.[10] the present study revealed that mean score before the treatment was 1.55 and after the treatment it was 0.15, and P value less than 0.05 with 90% improvement and it is statistically significant.

Effect of *Jaloukavacharana* and *Siravyadhana* on *Vaivarnya*

Prakupitha Vata and vitiated *Rakta* get *Sangha/ Avarodha* in the *Srotas.* Here *lakshanas* of *Vruddhi* of *Vata* as well as *Rakta* favoring *Vaivarnya* of skin. Along with this the *Pitta*, *Rakta* in *Ashraya-ashrayi Bhava* and *Bhrajaka Pitta* in the *Twak* also responsible for altered *Varna*.[11] Here in *Vatarakta Rakta Dhatu* does *Avarana* to *Pitta* and *Vata* which causes *Vaivarnya*. By *Raktamokshana* these *Dooshita*

Rakta and *Avarana* is removed there by *Vaivarnya* is decreased.

This study statistically shows that there is no significant improvement in *Vaivarnya* in *Vatarakta* by both procedures. *Jaloukavacharanaa* shows 37% improvement and *Siravyadhana* shows 40% improvement.

Overall effect of *Jaloukavacharanaa* on *Vatarakta*

Out of 20 subjects in group A 14 subjects show good improvement 1 shows moderate improvement and 5 subject show complete relief from the symptoms.

Overall effect of *Siravyadhana* on *Vatarakta*

Out of 20 subjects 11 show good improvement 1 moderate improvement and 8 got complete relief from the symptoms.

Comparative result of group A and group B
Daha

In the present study statistical analysis of subjective and objective parameter shows that *Jaloukavacharana* on the *Daha* shows good results (100%) and *Siravyadhana* shows 87.5 % results. *Jaloukavacharana* shows good results than *Siravyadhana* may be because *Jalouka* is *Madhura* and *Sita* which has good effect on *Daha* of *Pitta* and *Rakta*.

Shoola

Statistical analysis of result of *Jaloukavacharana* on *Shoola* shows 70% improvement and *Siravyadhana* shows 71% improvement i.e., almost equal results. It may be because, by doing both procedure *Avarana* of *Vata* and *Rakta* gets removed.

Sparshasahatva

Statistical analysis shows 93% improvement in both the groups. Both procedures are equally effective in decreasing *Avarana* of *Vata* and *Rakta* there by it reduces *Sparshashatva*.

Shopha

Statistical analysis of *Jaloukavacharana* shows 97% result and *Siravyadhana* shows 90% improvement in *Shopha*. *Jaloukavacharana* shows more improvement than *Siravaydhana* because *Visravana* is good in subsiding the *Achirothita Shotha*, Shows good effect. It is because in the local action *Jalouka* are more powerful than *Siravyadhana*.

Vaivarnya

Statistical analysis of treatment by *Jaloukavacharana* shows 37% improvement and by *Siravyadhana* 40% improvement. But both treatments are statistically not significant. It may be because one sitting of procedures is not sufficient to remove the *Vaivarnya*.

Comparative results of overall effect in Group A and Group B

Comparative analysis of the overall effect of the treatment in the both the group was done statistically with unpaired t test. It shows the treatments are statistically insignificant. Both the treatments are equally effective in *Vatarakta*.

Raktavisravana is the standard mode of treatment in *Vatarakta*. *Rakta* is the main *Dooshya* in this disease so by removing *Dooshitha Rakta* it gives good results.

Probable mode of action of *Jaloukavacharanaa*

Jalouka is one among the *Anushastra* and it is *Sheetala* and *Madhura* hence they may be used to decrease the *Pitta*.[12]

Vatarakta is a disease of *Prakupitha Vata* and *Dooshitha Rakta*. According to the texts the main treatment modality of *Vatarakta* is *Raktamokshana*. *Rakta* is having similar *Gunas* of *Pitta*. By doing *Jaloukavacharanaa* it will remove the *Dooshitha Rakta* and *Pitta Shamana* takes place. *Prakupitha Vata* also gets reduced by this treatment. The *Pitta Shamaka* effect of *Jaloukavacharana* results in the reduction of *Daha, Shopha* and *Sparsaasahatva.*

Probable mode of Action of *Siravyadhana*

Siravyadhana is indicated in *Sarvadehanusari Dooshita Rakta.* And *Raktamokshana* can treat almost all disorders resulted due to the derangement in *Mamsa, Meda, Asthi* and *Majja*. It purifies the *Dhamani* and corrects the vitiated blood. It also purifies *Rasa* and *Swedavaha srotas.*

As it is a systemic disease and thereby *Raktamokshana* reduces the symptoms of *Vatarakta*..

CONCLUSION

Based on the literature, observation and results of this clinical Study following conclusions are drawn.

Present lifestyle and dietary habits are the main contributing factors in the establishment of *Vatarakta.*

Most of the subjects were in *Uttana Avasta*.

Jaloukavacharana and *Siravyadhana* are equally effective in the case of *Vatarakta*. Thus, alternative hypothesis is proved in this study.

While considering the symptom *Daha* and *Shopha, Jaloukavacharana* is found to be more effective. Likewise, in *Shoola* and *Vivarnya Siravydhana* is more effective*. In *Sparshaasahatva* both the procedure is equally effective.

For both procedures' materials required are easily available. They are simple and cost effective. Because they are painless do not require any anaesthesia.

Hence can be easily performed in OPD level on day-care basis.

Repeated bloodletting periodically by *Jaloukavacharana* and *Siravyadhana* definitely gives good results.

All the symptoms except *Vaivarnya* responded to the treatment very well. *Vaivarnya* remained further May be because *Raktamoshana* is done only once which is not sufficient to reverse the pathology completely in such a short span.

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