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ORIGINAL RESEARCH ARTICLE

COMPARATIVE CLINICAL STUDY OF KATI BASTI, PATRAPINDA SVEDA AND MATRA BASTI IN KATI SHOOLA (LOW BACKACHE)

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ABSTRACT

Background: Low back pain can be medically and economically devastating and is the number one cause for disability in patients younger than forty five years of age and number three cause for disability in patients older than forty-five years of age. This problem, supposedly has a favourable natural history, although it can be remarkably disabling, has challenged the health care providers. The medical system often fails to identify this disease early and thus leads to disproportionate amount of medical and economic expenses. **Objectives:** 1.To study the comparative effect of Kati Basti, Patra Pinda Sveda and Matra Basti in Kati Shoola. 2. To study the safety of the Kati Basti, Patra Pinda Sveda and Matra Basti. **Methods:** Kati Basti, Patra Pinda Sveda and Matra Basti administered in 108 patients of Kati Shoola. The assessment was done using subjective and objective parameters. **Results:** Group A,B & C has shown equal effect in reduction of pain by 50% each. Group A, 41.2% patients are found relief in stiffness whereas group B & C 50% patients are found relief in stiffness each. Group A & B 50% has relieved from tenderness and group C 100% patients are relieved from tenderness with significant improvement. In group A 47.1% has found relief in fatigue with a significant improvement, In group B, 44.1% has found relief in fatigue with a significant improvement and in Group C total 47.5% patients found relief in fatigue. **Conclusion:** All the selected therapies provided significant results statistically. But clinically Kati Basti (Group A) and Abhyanga & Patrapinda sweda (Group C) provided better results in reduction of Pain, Stiffness, Tenderness, and restricted movements compared to Matra Basti.

Keywords: Katishoola, Low backache, Panchakarma, Kati Basti, Abhyanga, Patra Pinda Sveda, Matra Basti

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INTRODUCTION:

Ageing is ongoing process along with degeneration in body systems. But today's fast food and altered life style is bringing the process of degeneration too early for the age. The incidence of degenerative changes in youngsters is alarming. Disorder accounting for 30% to50% of musculoskeletal system has high prevalence rate. The faulty dietary habits, extremes of sedentary life style or physical activity, wrong sitting posture, continuous sitting work in software and I.T. professionals are making the system prone to degeneration. It is resulting in development of degenerative diseases especially of vertebral column, most common being arthritis, spondylosis, PID, low back pain etc.

Low back pain can be medically and economically devastating and is the number one cause for disability in patients younger than forty-five years of age and number three cause for disability in patients older than forty-five years of age. This problem, supposedly has a favorable natural history, although it can be remarkably disabling, has challenged the health care providers. The medical system often fails to identify this disease early and thus leads to disproportionate amount of medical and economic expenses.

Low back pain is common. The main cause for low back pain is a strain of the muscles, or other soft structures (eg ligaments and tendons) connected to the back bones (vertebrae). Sometimes it is the cushion between the bones (intervertebral disc) which is strained, and which bulges out (herniates) and presses on the nearby nerves (as in sciatica).

Low back pain is pain affecting the lower part of the back. It is described as:

- *Acute* if it has lasted less than 6 weeks.
- *Sub-acute* if it has lasted 6-12 weeks.

For the purpose of *Kati Basti*[1], *Matra Basti*, and *Abhyanga* with *Sahacharadi Taila*, which is indicated in the management of *Vata Vyadhi* by Acharya Vagbhata[2] was selected. All the drugs included in *Sahacharadi Taila*[3] were having *Vata-kapha shamaka, Shulahara* and *Vedanasthapana* properties. Taking all these points into consideration, this study was planned with following aims and objectives.

AIMS AND OBJECTIVES

1. To study the comparative effect of *Kati Basti*, *Patra Pinda Sveda* and *Matra Basti* in *Kati Shoola*.
2. To study the safety of the *Kati Basti*, *Patra Pinda Sveda* and *Matra Basti*

MATERIALS AND METHODS

Study Design: this is a comparative, open labeled, parallel, randomized clinical study.

Source:

Literary source: All the classical, modern literatures and contemporary texts including the journals & website about the disease, drug

and procedure was reviewed and documented for the intended study

Drug source: The drugs were selected from local areas, markets after proper identification and the *Sahacharadi Taila* was prepared in – Shree Hans Ayurved Bhavan pharmacy, Haridwar

Sample source:

1. Patients were selected from OPD and IPD of Patanjali Ayurveda & Yoga Research, Patanjali Yogpeeth Haridwar.
2. Medical camps and other referrals.

Sample size: 108

Criteria for Diagnosis:

- Pain
- Tenderness
- Restricted movements of Lumbo-sacral/Hip– Forward bending, Backward bending, Left Lateral Flexion, right Lateral Flexion, Rotation

INCLUSION CRITERIA

1. Patients aged between 18-60 years
2. Patients of *Kati Shoola*

EXCLUSION CRITERIA

1. Patients of age less than eighteen or more than sixty years
2. Clinical evidence of spinal canal stenosis Pregnancy

GROUPING:

The selected patients will be randomly divided into 3 groups.

Intervention:

Group A: this group will be given *Kati Basti*[4] with *Sahacharadi Taila* for 15 days.

Group B: this group will receive *Abhyanga* with *Sahacharaditaila*, *Dashamula Nadi Sveda*[6] and *Matra Basti*[5] with *Sahacharadi Taila* (72ml) for 15 days.

Group C: this group will be given *Abhyanga* with *Sahacharaditaila*, followed by *Patra Pinda Sveda* for 15 days.

Follow up: At the end of first week and two weeks after the completion of treatment

PROCEDURE:

Group A- *Kati Basti* (KB) Group:

Materials Required: Black gram flour- 350gms, Suitable oil- 150-250ml, Vessel- 3, Spoon-1, Cotton- Q.S., Hot waterbath-1, Therapist-1

Procedure: Make thick dough with black gram powder by mixing with adequate quantity of water. Using the thick dough make a rim and fix it firmly on the low back (lumbo-sacral) region where the highest pain is present. Take the specified oil, warm it and pour on the inner wall of rim taking care not to spill out. When oil becomes cool, remove it with cotton & again refill with warm oil. Uniform temperature should be maintained throughout the procedure. Time and duration of the procedure varies according to the disease condition. Usually *Kati Basti* is done for 30-45 minutes.

Group B – *Matra Basti* (MB) Group:

The patients of this group were administered *Matra Basti* of *Sahacharadi Taila* in the dose of 72 ml once a day for 14 days.

Method of Administration of *Matra Basti*:

Purvakarma: The patients were instructed to come after taking light diet (neither too *Snigdha* nor too *Ruksha*) and after elimination of stool and urine. The patients were also advised not to take diet more than $3/4^{th}$ of routine quantity. The patients were mainly subjected for local *Abhyanga* and *Mrudu Swedana* prior to the administration of *Matra Basti*.

***Abhyanga*:** The local *Abhyanga* over abdomen, buttock and thighs for 5–10 minutes was done by lukewarm oil.

***Swedana*:** After *Snehana*, the patients were subjected for local *Mrudu Sweda*, by using *Nadi Sweda* or wet towel soaked in hot water. *Swedana* was done on abdomen, buttocks and on thighs for 5 – 10 minutes.

Pradhana Karma: After this *Purva Karma* the patient was advised to lie down on left lateral position on the *Basti* (enema) table with left lower extremity straight and right lower extremity flexed on knee and hip joint. The patient was asked to keep his left hand below the head. *Sahacharadi Taila* was applied to anus in small amount. 60 – 70ml of lukewarm *Sahacharadi Taila* (as per built of the patient) was taken in enema syringe. Rubber catheter smeared with *Sahacharadi Taila* was attached to enema syringe. After removing the air from enema syringe, rubber catheter was administered into the anus up to the length of 4 inches. The patient was asked to take deep breath and not to shake his body while introducing the catheter and the oil.

Pashchat Karma: After the administration of *Basti*, the patient was advised to lie in supine position with hand and legs freely spread over the tale. Thereafter patient's both legs were raised few times so as to raise the waist and gently tapped over the hips. Simultaneously taps were also given on his soles, over elbow and palms, so that the *Matra Basti* may spread throughout the body and may be retained for the required period. After sometime patient was advised to get up from the table and take rest in his bed and also not to take day sleep. *Basti Pratyagamana Kala*[7] was noted in each case.

Group C- *Abhyanga* and Patrapinda Sveda (APPS) group:

Patra used– *Eranda (Ricinous Communis), Arka (Calotropis Procera), Nirgundi (Vitex Negundo), Chincha (Tamarindus Indica) and Sigru (Moringa Oliefera)*, (Handful of chopped leaves each).

Grated coconut *(Cocus nucifera)* - 100gm

Sliced lemon (*Citus medica*)- 2

Sahacharadi Taila- quantity sufficient for frying the *Patra*

Cotton cloth- (45 cm X 45cm) 2 pieces

Taila used– *Sahacharadi Taila* 50ml per day for *Sthanika Abhyanga*.

Preparation of Potli: Patras, lemon and grated coconuts are fried with *Sahacharadi Taila*. This mixture was made in to two *Pottali.*

Preparation of patient *Sthanika Abhyanga* to the *Kati Pradesha* was carried out by using *SahacharadiTaila*. At first *Abhyanga* should be done to the affected parts with the prescribed oil. Then prepared boluses are put into a pan containing sufficient medicated oil and are heated over mild fire for few minutes. When they become hot, one of them is taken out, should be applied on the back of palm to check heat and then applied to the affected part. When the temperature of bolus decreases, it is to be heated again on the pan, and the *Swedana* is continued with other bolus. The procedure is continued up to 10 to 20 minutes or till proper *Swedana*.

Replacement of *Pottali*- once in three days.

Time duration- till *samyak swinna lakshana*[8]

Total duration- 15 days

The treated area is cleaned and then patient is asked to take luke warm water bath. Later patient were advised with *Pathya* and *Apathya*

Diet and Restrictions: In all the groups any special diet was not mentioned. Patients were kept on their routine diet in home and in routine hospital light diet when they get admitted.

Follow up: At the end of first week and two weeks after the completion of treatment

Criteria for assessment

Objective criteria

1. Straight leg raising test.
2. Tenderness
3. flexion
4. Extension
5. lateral flexion
6. Rotation

II. ***Subjective criteria***

1. Pain
2. Stiffness.

Grading:

Tenderness	
0	No Pain
1	Patient says its paining
2	patient winces
3	Patient winces and withdraws the part
4	Patient does not allow to touch the part
Lateral flexion	
0	Can do lateral flexion easily
1	can lateral flexion with difficulty
2	Cannot perform lateral flexion
Rotation	
0	Can rotate easily
1	rotation with difficulty
2	Cannot rotate
Stiffness	

0	No stiffness
1	Sometimes for 5-10 minutes
2	Daily for 10- 30 minutes
3	Daily for 30- 60 minutes
4	Daily more than 1 hour
Pain	
0	NO Pain
1	Occasional Pain
2	Mild pain but difficulty in walking
3	Moderate pain and slight difficulty in walking
4	Severe pain with severe difficulty in walking
S.L.R. Test	
0	More than 90
1	71-90 degree
2	51-70 degree
3	31-50 degree
4	Up To 30 degree
Radiological Changes	
0	Normal X –ray
1	Mild changes of Degeneration
2	Moderate changes of Degeneration
3	Severe changes of Degeneration
Physicians estimate	
0	Inactive
1	Minimally active
2	Moderately active
3	Severely active
Patients estimate	
0	Fine
1	Almost well
2	Pretty good
3	Pretty Bad
ADL	
0	All activity without difficulty
1	Most activity but with difficulty
2	Few activity cares for self
3	Little self care mainly on chair & bed
Fatigue	
0	No fatigue
1	Work full time despite fatigue
2	Patient must interrupt work to rest
3	Fatigued at rest

Statistical Analysis: Descriptive and inferential statistical analysis has been carried out in the present study. Results on continuous measurements are presented on Mean $\pm$ SD (Min-Max) and results on categorical measurements are presented in Number (%). Significance is assessed at 5 % level of significance. Assumptions: 1.Dependent variables should be normally distributed, 2. Samples drawn from the population should be random, Cases of the samples should be independent Chi-square/ Fisher Exact test has been used to find the significance of study parameters on categorical scale between two or more groups.

Significant figures

+ Suggestive significance (P value: 0.05<P<0.10)

* Moderately significant (P value:0.01<P ≤ 0.05)

** Strongly significant (P value : P≤0.01)

RESULTS

Table no.1: Fatigue: An outcome assessment in three groups of patients studied

Fatigue	During Treatment		During Follow up		% change @ FU
	Before Treatment	After Treatment	Before Treatment	After Treatment	
Group A (n=34)					
No Fatigue	0(0%)	0(0%)	0(0%)	16(47.1%)	47.1%
Work full time despite fatigue	0(0%)	17(50%)	0(0%)	18(52.9%)	52.9%
Patient must interrupt work to rest	17(50%)	17(50%)	18(52.9%)	0(0%)	-50.0%
Fatigued at rest	17(50%)	0(0%)	16(47.1%)	0(0%)	-50.0%
Group B (n=34)					
No Fatigue	0(0%)	0(0%)	0(0%)	15(44.1%)	44.1%
Work full time despite fatigue	0(0%)	14(41.2%)	0(0%)	19(55.9%)	55.9%
Patient must interrupt work to rest	17(50%)	20(58.8%)	19(55.9%)	0(0%)	-50.0%
Fatigued at rest	17(50%)	0(0%)	15(44.1%)	0(0%)	-50.0%
Group C (n=40)					
No Fatigue	0(0%)	0(0%)	0(0%)	19(47.5%)	47.5%
Work full time despite fatigue	0(0%)	1(2.5%)	1(2.5%)	21(52.5%)	52.5%
Patient must interrupt work to rest	29(72.5%)	30(75%)	21(52.5%)	0(0%)	-72.5%
Fatigued at rest	11(27.5%)	9(22.5%)	18(45%)	0(0%)	-27.5%
P value	0.065+	<0.001**	1.000	1.000	-

Table no.2: ADL: An outcome assessment in three groups of patients studied

ADL	During Treatment		During Follow up		% change @FU
	Before	After	Before	After	

	Treatment	Treatment	Treatment	Treatment	
Group A (n=34)					
All activity without difficulty	0(0%)	0(0%)	0(0%)	19(55.9%)	55.9%
Most activity but with difficulty	12(35.3%)	27(79.4%)	13(38.2%)	15(44.1%)	8.8%
Few activity cares for self	15(44.1%)	7(20.6%)	15(44.1%)	0(0%)	-44.1%
Little self care mainly on chair & bed	7(20.6%)	0(0%)	6(17.6%)	0(0%)	-20.6%
Group B (n=34)					
All activity without difficulty	0(0%)	0(0%)	0(0%)	16(47.1%)	47.1%
Most activity but with difficulty	0(0%)	17(50%)	2(5.9%)	18(52.9%)	52.9%
Few activity cares for self	18(52.9%)	17(50%)	20(58.8%)	0(0%)	-52.9%
Little self care mainly on chair & bed	16(47.1%)	0(0%)	12(35.3%)	0(0%)	-47.1%
Group C (n=40)					
All activity without difficulty	0(0%)	0(0%)	0(0%)	22(55%)	55.0%
Most activity but with difficulty	0(0%)	20(50%)	0(0%)	18(45%)	45.0%
Few activity cares for self	21(52.5%)	20(50%)	19(47.5%)	0(0%)	-52.5%
Little self care mainly on chair & bed	19(47.5%)	0(0%)	21(52.5%)	0(0%)	-47.5%
P value	<0.001**	0.017*	<0.001**	0.784	-

Table no.3: **Patients Estimate: An outcome assessment in three groups of patients studied**

Patients Estimate	During Treatment		During Follow up		% change @ FU
	Before Treatment	After Treatment	Before Treatment	After Treatment	
Group A (n=34)					
Fine	0(0%)	0(0%)	0(0%)	16(47.1%)	47.1%
Almost well	0(0%)	24(70.6%)	0(0%)	18(52.9%)	52.9%
Pretty good	16(47.1%)	10(29.4%)	17(50%)	0(0%)	-47.1%
Pretty Bad	18(52.9%)	0(0%)	17(50%)	0(0%)	-52.9%
Group B (n=34)					

Fine	0(0%)	0(0%)	0(0%)	17(50%)	50.0%
Almost well	0(0%)	17(50%)	0(0%)	17(50%)	50.0%
Pretty good	17(50%)	17(50%)	17(50%)	0(0%)	-50.0%
Pretty Bad	17(50%)	0(0%)	17(50%)	0(0%)	-50.0%
Group C (n=40)					
Fine	0(0%)	0(0%)	0(0%)	20(50%)	50.0%
Almost well	0(0%)	21(52.5%)	0(0%)	20(50%)	50.0%
Pretty good	19(47.5%)	19(47.5%)	20(50%)	0(0%)	-47.5%
Pretty Bad	21(52.5%)	0(0%)	20(50%)	0(0%)	-52.5%
P value	1.000	0.186	1.000	0.971	-

Table no.4: Pain: An outcome assessment in three groups of patients studied

Ruk (Pain)	**During Treatment**		**During Follow up**		**% change@ FU**
	Before Treatment	**After Treatment**	**Before Treatment**	**After Treatment**	
Group A (n=34)					
No Pain	0(0%)	11(32.4%)	0(0%)	17(50%)	50.0%
Occasional Pain	11(32.4%)	11(32.4%)	0(0%)	17(50%)	17.6%
Mild pain but difficulty in walking	11(32.4%)	12(35.3%)	17(50%)	0(0%)	-32.4%
Moderate pain and slight difficulty in walking	12(35.3%)	0(0%)	17(50%)	0(0%)	-35.3%
Group B (n=34)					
No Pain	12(35.3%)	12(35.3%)	0(0%)	17(50%)	14.7%
Occasional Pain	11(32.4%)	11(32.4%)	17(50%)	17(50%)	17.6%
Mild pain but difficulty in walking	11(32.4%)	11(32.4%)	0(0%)	0(0%)	-32.4%
Moderate pain and slight difficulty in walking	0(0%)	0(0%)	17(50%)	0(0%)	0.0%
Group C (n=40)					
No Pain	0(0%)	0(0%)	0(0%)	20(50%)	50.0%
Occasional Pain	14(35%)	14(35%)	20(50%)	20(50%)	15.0%
Mild pain but difficulty in walking	13(32.5%)	26(65%)	0(0%)	0(0%)	-32.5%

Moderate pain and slight difficulty in walking	13(32.5%)	0(0%)	20(50%)	0(0%)	-32.5%
P value	<0.001**	<0.001**	<0.001**	1.000	-

Table no.5: Stiffness: An outcome assessment in three groups of patients studied

Stambha (Stiffness)	During Treatment		During Follow up		% change @ FU
	Before Treatment	After Treatment	Before Treatment	After Treatment	
Group A (n=34)					
No stiffness	0(0%)	12(35.3%)	0(0%)	14(41.2%)	41.2%
Sometimes for 5-10 minutes	12(35.3%)	11(32.4%)	0(0%)	17(50%)	14.7%
Daily for 10- 30 minutes	11(32.4%)	11(32.4%)	17(50%)	3(8.8%)	-23.6%
Daily for 30- 60 minutes	11(32.4%)	0(0%)	17(50%)	0(0%)	-32.4%
Group B (n=34)					
No stiffness	0(0%)	17(50%)	0(0%)	17(50%)	50.0%
Sometimes for 5-10 minutes	16(47.1%)	17(50%)	17(50%)	17(50%)	2.9%
Daily for 10- 30 minutes	18(52.9%)	0(0%)	17(50%)	0(0%)	-52.9%
Daily for 30- 60 minutes	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
Group C (n=40)					
No stiffness	0(0%)	0(0%)	0(0%)	20(50%)	50.0%
Sometimes for 5-10 minutes	0(0%)	19(47.5%)	0(0%)	20(50%)	50.0%
Daily for 10- 30 minutes	19(47.5%)	21(52.5%)	20(50%)	0(0%)	-47.5%
Daily for 30- 60 minutes	21(52.5%)	0(0%)	20(50%)	0(0%)	-52.5%
P Value	<0.001**	<0.001**	<0.001**	0.270	-

Table no.6: SLR Test: An outcome assessment in three groups of patients studied

SLR Test	During Treatment		During Follow up		% change @ FU
	Before Treatment	After Treatment	Before Treatment	After Treatment	
Group A (n=34)					
More than 90	0(0%)	8(23.5%)	0(0%)	17(50%)	50.0%

71-90 degree	8(23.5%)	13(38.2%)	17(50%)	17(50%)	26.5%
51-70 degree	13(38.2%)	13(38.2%)	17(50%)	0(0%)	-38.2%
31-50 degree	13(38.2%)	0(0%)	0(0%)	0(0%)	-38.2%
Group B (n=34)					
More than 90	0(0%)	0(0%)	0(0%)	17(50%)	50.0%
71-90 degree	0(0%)	17(50%)	0(0%)	17(50%)	50.0%
51-70 degree	17(50%)	17(50%)	17(50%)	0(0%)	-50.0%
31-50 degree	17(50%)	0(0%)	17(50%)	0(0%)	-50.0%
Group C (n=40)					
More than 90	0(0%)	10(25%)	0(0%)	20(50%)	50.0%
71-90 degree	10(25%)	15(37.5%)	0(0%)	20(50%)	25.0%
51-70 degree	15(37.5%)	15(37.5%)	20(50%)	0(0%)	-37.5%
31-50 degree	15(37.5%)	0(0%)	20(50%)	0(0%)	-37.5%
P value	0.013*	0.013*	1.000	1.000	-

Table no.7: Tenderness: An outcome assessment in three groups of patients studied

Tenderness	**During Treatment**		**During Follow up**		**% change @ FU**
	Before Treatment	**After Treatment**	**Before Treatment**	**After Treatment**	
Group A (n=34)					
No Pain	0(0%)	9(26.5%)	0(0%)	17(50%)	50.0%
Patient says its paining	9(26.5%)	21(61.8%)	0(0%)	17(50%)	23.5%
Patient winces	21(61.8%)	4(11.8%)	17(50%)	0(0%)	-61.8%
Patient winces and withdraws the part	4(11.8%)	0(0%)	17(50%)	0(0%)	-11.8%
Group B (n=34)					
No Pain	0(0%)	19(55.9%)	0(0%)	17(50%)	50.0%
Patient says its paining	19(55.9%)	15(44.1%)	0(0%)	17(50%)	-5.9%
Patient winces	15(44.1%)	0(0%)	17(50%)	0(0%)	-44.1%

Patient winces and withdraws the part	0(0%)	0(0%)	17(50%)	0(0%)	0.0%
Group C (n=40)					
No Pain	0(0%)	13(32.5%)	0(0%)	40(100%)	100.0%
Patient says its paining	13(32.5%)	23(57.5%)	12(30%)	0(0%)	-32.5%
Patient winces	23(57.5%)	4(10%)	28(70%)	0(0%)	-57.5%
Patient winces and withdraws the part	4(10%)	0(0%)	0(0%)	0(0%)	-10.0%
P value	0.042*	0.042*	<0.001**	<0.001**	-

Table no.8: Lateral Flexion: An outcome assessment in three groups of patients studied

Lateral Flexion	**During Treatment**		**During Follow up**		**% change @FU**
	Before Treatment	**After Treatment**	**Before Treatment**	**After Treatment**	
Group A (n=34)					
Can do lateral flexion easily	0(0%)	16(47.1%)	0(0%)	34(100%)	100.0%
Can lateral flexion with difficulty	16(47.1%)	18(52.9%)	22(64.7%)	0(0%)	-47.1%
Cannot perform lateral flexion	18(52.9%)	0(0%)	12(35.3%)	0(0%)	-52.9%
Group B (n=34)					
Can do lateral flexion easily	0(0%)	16(47.1%)	0(0%)	34(100%)	100.0%
Can lateral flexion with difficulty	16(47.1%)	18(52.9%)	22(64.7%)	0(0%)	-47.1%
Cannot perform lateral flexion	18(52.9%)	0(0%)	12(35.3%)	0(0%)	-52.9%
Group C (n=40)					
Can do lateral flexion easily	0(0%)	19(47.5%)	0(0%)	40(100%)	100.0%
Can lateral flexion with difficulty	19(47.5%)	21(52.5%)	28(70%)	0(0%)	-47.5%
Cannot perform lateral flexion	21(52.5%)	0(0%)	12(30%)	0(0%)	-52.5%
P value	1.000	1.0000	0.902	1.000	-

Table no.9: Radiological Changes: An outcome assessment in three groups of patients studied

Radiological Changes	**During Treatment**	**During Follow up**	**% change**

	Before Treatment	After Treatment	Before Treatment	After Treatment	@FU
Group A (n=34)					
Normal X –ray	0(0%)	20(58.8%)	21(61.8%)	34(100%)	100.0%
Mild changes of Degeneration	20(58.8%)	14(41.2%)	13(38.2%)	0(0%)	-58.8%
Moderate changes of Degeneration	14(41.2%)	0(0%)	0(0%)	0(0%)	-41.2%
Severe changes of Degeneration	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
Group B (n=34)					
Normal X –ray	17(50%)	34(100%)	21(61.8%)	34(100%)	50.0%
Mild changes of Degeneration	17(50%)	0(0%)	13(38.2%)	0(0%)	-50.0%
Moderate changes of Degeneration	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
Severe changes of Degeneration	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
Group C (n=40)					
Normal X –ray	20(50%)	40(100%)	25(62.5%)	40(100%)	50.0%
Mild changes of Degeneration	20(50%)	0(0%)	15(37.5%)	0(0%)	-50.0%
Moderate changes of Degeneration	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
Severe changes of Degeneration	0(0%)	0(0%)	0(0%)	0(0%)	0.0%
P value	<0.001**	<0.001**	1.000	1.000	-

DISCUSSION

Effect of therapy: The effect of therapy was assessed on each sign and symptom of the disease. These sign and symptoms were given scoring pattern before treatment and after treatment and were assessed statistically to see the significance. The effect of therapy in all the groups in each sign and symptom is below.

Effect of Therapy on Fatigue: In group A 47.1% has found relief in fatigue with a significant improvement, In group B, 44.1% has found relief in fatigue with a significant improvement and in Group C total 47.5% patients found relief in fatigue. When the values between the groups are comparedGroup C & A has shown significant improvement over Group B.

Effect of Therapy on ADL: In Group A, 55.9% patients has found improvement in ADL (All activity without difficulty), In Group B, 47.1% patients has found improvement in ADL (All activity without difficulty) and Group C , 55% patients has found improvement in ADL (All activity without difficulty). When the values between the groups are compared group A followed by Group C has shown significant improvement over Group B

Effect of Therapy on Patients Estimate: Group A, 47.1% patients are absolutely fine on patients estimate, In group B 50% patients are absolutely fine on patients estimate and Group C 50% patients are absolutely fine on patients estimate. When the values between the groups are compared Group B & C has shown significant improvement over Group A

Effect of Therapy on Pain: Group A, B & C has shown equal effect in reduction of pain by 50% each. When the values between the groups are compared each group has shown similar effect with significant improvement.

Effect of Therapy on Stiffness: Group A, 41.2% patients are found relief in stiffness whereas group B & C 50% patients are found relief in stiffness each. When the values between the groups are compared group B & C has shown improvement over group A

Effect of Therapy on SLR: Group A, B & C has shown same improved in SLR about each. When the values between the groups are compared each group has shown similar effect with significant improvement.

Effect of Therapy on Tenderness: Group A & B 50% has relieved from tenderness and group C 100% patients are relieved from tenderness with significant improvement. When the values between the groups are compared group C has highly significant improvements over group A & B

Effect of therapy on Lateral flexion: Group A, B & C 100% patients are able to easily flex laterally with highly significant improvement. When the values between the groups are compared each group has shown similar effect with significant improvement

Effect of therapy on Radiological changes: In group A, more changes (58%) seen radiological after the *Kati Basti* treatment which is highly significant compared to Group B and Group C.

From the above data, it is observed that all the Groups, the selected therapies provided significant results statistically. But clinically *Kati Basti* (Group A) and *Abhyanga* & *Patra Pinda Sweda* (Group C) provided better results in reduction of Pain, Stiffness, Tenderness, restricted movements and improvement of ADL compared to *Matra Basti* (Group B). As in these both groups *Bahya Snehana* and *Bahya Swedana* occurs simultaneously, which is effective in reducing the above said symptoms of *Katishoola*, a pain predominant *Vata vyadhi*. *Matra Basti* may give best results if

given for 2 to 3 courses and its effects will be long lasting compared to the *Kati Basti* and *Patra Pinda Sweda*. As the follow up period taken was short, so the effects of *Matra Basti* was less compared to *Kati Basti* and *Patra Pinda Sweda*.

Mode of Action on Signs and Symptoms

Pain and Tenderness: It is the cardinal symptom of *Vata* and *Kapha*, *Bahya* and abhyantara *Snehana* and *Swedana*[9] are the line of management of *Vata* Vyadhi, *Kati Basti*, *Matra Basti* and *Patra Pinda Sweda* which is used for this study is *Snehana* as well as *Swedana*. *Sahacharadi Taila* is *Vata Kaphahara*[10], by the combined effect of *Snehana* and *Swedana* it gives a better effect in all the three groups.

Movement of Lumbar spine: Bahya *Snehana* and *Swedana* helps more in relieving muscle spasm and contribute in easing the lumbar movements.

Probable mode of action *Kati Basti*: *Kati Basti* is a procedure basically developed from *Shirobasti*. It is *Bahya Sthanika Snehana* and *Swedana* procedure. *Snehana* mainly acts against the *Ruksha Guna* caused by *Vata* and *Swedana* mainly acts against the *Sheeta Guna*. It also reduces the *Sthambha.* Sushrutha describes that, out of four *Tiryak Dhamani*, each *Dhamani* divides into hundred and thousand times and become innumerable. These *Dhamani* form a network and spread all over body. They have their openings in the *Loma Koopa*. The *Dravya* applied over the skin is absorbed through these openings and undergo *Pachana* by the help of *Bhrajaka Pitta* which is situated in the skin.[11] *Shoola* is one among the features of *Kati Shoola* which is almost present in all the patients. The properties of *Sahacharadhi Taila* such as *Snigdha, Guru*, and *Ushna* are totally opposite to the properties of *Vata*. Thus these properties of *Sahacharadhi Taila* acts against Vata and help in subsiding the *Shoola*.

Probable mode of action of Matra Basti: *Matrabasti* with *Sahacharadi Taila* comprises mainly *Sahachara, Devadaru, Sunthi* and *Tila Taila*. All these drugs possess mainly *Snigdha Guna, Ushna Virya* and *Vata-kaphashamaka* properties, thus provided significant effect on almost all the symptoms of *Katishoola*.

Probable mode of action of Patra Pinda Sweda: It can be explained under following headings:

Thermal effect: Diffusion through the skin is a temperature dependent process (According to Kligman), so raising the skin temperature will enhance the Transdermal delivery of various drugs by increasing skin permeability, body fluid circulation, blood vessel wall permeability, drug solubility. External heating will dilate the penetration pathways in the skin, increases kinetic energy and movement

of particles in the treated area and facilitate drug absorption.

Local heating of the cutaneous tissues doesn't generally affect the body core temperature. However will result in a local increase in subcutaneous blood flow rather than a body wide redistribution of systemic blood flow. Heating the tissue results in increased blood flow, increased metabolic activity and stimulation of neural receptors in the skin or tissues and having many other indirect effects.

Procedural effect: Massage is exceedingly beneficial to the skin as it works directly on the lymphatic system. This system is supplementary to the blood vascular system and offers an alternative route for the return of tissue fluid to the blood stream. By stimulating lymphatic flow and generating heat through friction (rubbing) and application of the oils, massage cleanses and vitalizes the body without causing the build-up of toxins. Thus oil massage quickens the circulation of blood and lymph and dislodges the toxins and increases the vitality of the tissues.

Drug effect: The *Patras* used for the *Patra Pinda Sweda* is mentioned in the *Swedopaga Gana* according to Acharya Caraka. The drugs are having *Vatahara* property and all the drugs used here have *Ushna Veerya, Snigdha*, and *Sukshma Guna*. Thus the drugs act on the *Vata* directly.

CONCLUSION

All the selected therapies provided significant results statistically. But clinically *Kati Basti* (Group A) and *Abhyanga* & *Patra Pinda Sweda* (Group C) provided better results in reduction of Pain, Stiffness, Tenderness, and restricted movements compared to *Matra Basti*.

REFERENCES

1. Patil Vasant. Principles & Practice of Panchakarma, Atreya Ayurveda Publications, 3rd Edition, Ilkal;2010;167
2. Kaviraj Atridev Gupt :Vidyotani Hindi commentary Astangahrudayam of Vagbhat of ChikitsaSthan Chapter 21,Sloka no.56, edi.fourth , Varanasi: Chowkhambha Sanskrit Series;2003:420
3. Kaviraj Atridev Gupt :Vidyotani Hindi commentary Astangahrudayam of Vagbhat of ChikitsaSthan Chapter 21,Sloka no.67-69, edi.fourth , Varanasi: Chowkhambha Sanskrit Series;2003:421
4. Patil Vasant. Principles & Practice of Panchakarma, Atreya Ayurveda Publications, 3rd Edition, Ilkal;2010;208
5. Kashinath Sastri .Vidyotini Hindi Commentary: Ayurveda Deepika of Chakrapani on Charaka Samhita of Charaka, Siddhi Sthan, chapter 4, Sloka no.52-54,Seventh edition, Varanasi: Chowkhambha Sanskrit Series;2002;931
6. Patil Vasant. Principles & Practice of Panchakarma, Atreya Ayurveda Publications, 3rd Edition, Ilkal;2010;215

7. Patil Vasant. Principles & Practice of Panchakarma, Atreya Ayurveda Publications, 3rd Edition, Ilkal;2010;440
8. Kaviraj Atridev Gupt :Vidyotani Hindi commentary Astangahrudayam of Vagbhat of SutraSthan Chapter 17,Sloka no.15, edi.fourth , Varanasi: Chowkhambha Sanskrit Series;2003:113
9. Kashinath Sastri .Vidyotini Hindi Commentary: Ayurveda Deepika of Chakrapani on Charaka Samhita of Charaka, ChikitsaSthan, chapter 28, Sloka no.188,Seventh edition, Varanasi: Chowkhambha Sanskrit Series;2002;719
10. Kashinath Sastri .Vidyotini Hindi Commentary: Ayurveda Deepika of Chakrapani on Charaka Samhita of Charaka, Chikitsa Sthana, chapter 28, Sloka no.187, Seventh edition, Varanasi: Chowkhambha Sanskrit Series;2002;719
11. Yadavaji Trikamji, Editor, Sushruta Samhita of Sushruta, Shareera Sthana, Chapter , Verse No. 4, 2nd edn, Varanasi: Chowkhambha Sanskrit Series;2002

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