



A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF KATIBASTI WITH BRIHAT SAINDHVADI TAILA AND CHINCHADI TAILA IN THE MANAGEMENT OF GRIDHRASI

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ABSTRACT

Katibasti is a *Bahyupakrama* which has both *Snehana* and *Swedana* effects. It is mentioned as a modified form of *Murdhni Taila*, in which warm medicated oil is kept over the *Kati* region for a certain period of time with the help of a specially formed frame ring prepared from black gram powder. *Brihat Saindhavadi Taila* is indicated in *Vatavyadhi*. It can be given in the form of *Pana*, *Abhyanga* and *Basti*. It was compared with *Chinchadi Taila* *Katibasti* in the management of *Gridhrasi*. *Gridhrasi* is one of the commonest disorders of *Vata*. It is of two types *Vataja* and *Vata Kapaja*. *Vataja Gridhrasi* includes pain starting from the *Sphik* and then radiating to *Kati*, *Prushta*, *Uru*, *Janu*, *Jangha* and *Pada* along with *Stamba*, *Toda* and *Spandana*. *Vata Kaphaja Gridhrasi* involves the features like *Arochaka*, *Gourava* and *Tandra*. The line of treatment for *Gridhrasi* includes *Snehana*, *Swedana*, *Virechana*, *Basti* and *Agnikarma*. *Acharya Charaka* mentioned *Swedana Karma* as the prime modality of treatment for number of disorders especially *Vata* and *Kapha* dominant diseases. Result of the study showed that both groups showed highly significant improvements in most subjective and objective parameters after treatment and at follow-up, with sustained and greater improvement observed at follow-up. Both treatments were effective in the management of *Gridhrasi*. *Katibasti* with *Brihat Saindhavadi Taila* showed added advantage in improving *VAS*, *Sakthyutkshepanigrahana*, and significantly greater reduction in Walking time at follow-up.

Key words: *Katibasti*, *Brihat Saindhavadi Taila*, *Chinchadi Taila*, *Gridhrasi*

INTRODUCTION

Ayurveda is an eternal science which serves the mankind in curing the disease as well as maintaining the health of the healthy being. Application of *Sneha* externally for the purpose of *Snehana* is known as *Bahya Snehana*. It is practiced as a part of *Dinacharya* and *Ritucharya* in healthy individual. In diseased it is used for *Shamana Chikitsa* also as a part of *Poorvakarma* before the administration of *Shodana*. In *Panchakarma Snehana* and *Swedana* are the procedure coming under *Poorva Karma* as well as *Pradhana Karma*.

Katibasti evolved from the modification of *Murdhni Taila*. It is considered as a *Bahya Sneha* and *Snigdha Sweda*. The procedure of applying heat to the sacral or lumbar region by retaining warm medicated oil with in a specially formed frame ring on this area is popularly known by the name *Katibasti*. It is a traditional Ayurvedic treatment used for disorders of lumbosacral region including Sciatica, Lumbar Spondylosis, Disc bulge and spinal problems. Since it has both *Snehana* and *Swedana* action *Katibasti* was selected in this study.

Brihat Saindhvadi Taila is mentioned in *Bhaishajya Ratnavali Amavatadikara*.¹ Majority of the drugs are having *Vata Kaphahara* action and it is indicated in all kind of *Vatavyadhi*. So it was selected for *Katibasti* in the management of *Gridhrasi*. *Chinchadi Taila* is mentioned in *Sahasrayogam Tailadhikara*² and *Vata Kaphahara* in action. It is used for external application for the Ayurvedic treatment of disease of *Vata*. So it was selected for the purpose of *Katibasti* in the management of *Gridhrasi*.

The disease produced by *Vata Dosha* are classified into two categories, *Nanatmaja* and *Samanyaja*.³ The word *Gridhrasi* literally indicate the typical *Gati* that resembles that of a *Gridhra*. Which means the bird vulture, where leg become tenser and slightly curved due to pain. The main treatment mentioned in classics includes *Snehana*, *Swedana*, *Virechana*, *Basti* and *Agnikarma*. It can be correlated to Sciatica in modern medicine. Sciatica refers to radiating pain along the course of the sciatic nerve from the lower back or buttock to one or both legs or an associated lumbosacral nerve root. As per studies annual incidence of 1% to 5%, lifetime incidence of 10% to 40% is reported.⁴

Acharyas mention the use of *Snehana* and *Swedana* for the treatment of *Gridhrasi*. *Katibasti* is widely being practiced as *Bahyupakrma* which has both *Snehana* and *Swedana* effects. *Snehana* acts against *Rooksha Guna* caused by *Vata*⁵ and *Swedana* mainly acts against *Sheeta Guna* and reduces *Stamba* and *Gouravata*.⁶ By action of drugs used in *Brihat Saindhavadi Taila* it helps in conquering *Vata* and *Kapha Doshas*. *Saindhava lavana* is *Tridoshashamaka*.⁷ *Eranda Taila* used as *Taila Dravya* which is *Ushna veerya* and *Kapha Vatahara*.⁸ *Chinchadi Taila* is also having *Vata Kaphaja* action and used in different kinds of *Vatavyadhis*. By considering the factors like availability of drug, *Snehana* and *Swedana* action of procedure, *Vata Kapha Shamaka* properties of drugs used and to validate a new modality of standardized treatment, a comparative study to evaluate the effect of *Brihat Saindhavadi Taila Katibasti* and *Chinchadi Taila Katibasti* in the management of *Gridhrasi* were preferred.

SELECTION OF PARTICIPANTS

Diagnostic criteria:

Signs & symptoms mentioned in Ayurveda for *Gridhrasi* such as *Ruk,Toda,Stamba, Spandana,Aruchi,Tandra, Gourava, Sakthyutksepianigrahana asaamarthyam* (SLR being positive)

Inclusion criteria:

- Participants satisfying the diagnostic criteria from both gender
- Participants who are Sneha arha and Sweda arha
- Within the age group 20-70 years

Exclusion Criteria:

- Severe systemic illness that interfere the line of treatment
- Participants diagnosed with Carcinoma, Tuberculosis and Traumatic condition of spine
- Pregnant and lactating women

MATERIALS AND METHODS

Primary Objective

- 1) To evaluate the effect of *Katibasti* with *Brihat Saindhavadi Taila* in the management of *Gridhrasi*.
- 2) To evaluate the effect of *Katibasti* with *Chinchadi Taila* in the management of *Gridhrasi*

Secondary Objective

- 1) To compare the effect of *Katibasti* with *Brihat Saindhavadi Taila* against *Chinchadi Taila* in the management of *Gridhrasi*.

STUDY DESIGN- A randomized comparative clinical study

STUDY SETTING- Institution- MVRAMCH, Parassinikadavu

Study Period- 18 months

Procedure duration- 7 days

Follow up- 15th day after treatment

STUDY POPULATION

Participants were selected from OPD and IPD of MVRAMCH, Parassinikadavu during the year 2024-2025 within the age group 20-70 years satisfying inclusion and exclusion criteria.

SAMPLE SIZE- 34 participants.

Sample size formulae

$$n = \frac{(Z\alpha + Z\beta)^2 2S^2}{d^2}$$

where $Z\alpha$ = The standard normal variate for TYPE 1 error = 1.96

$Z\beta$ = The standard normal variate for TYPE 2 error =0.84

S= Pooled variance = 1.8

d = Effect size = 1.7

$$\text{Therefore, } \frac{(Z\alpha + Z\beta)^2 2S^2}{d^2} = \frac{(1.96+0.84)^2 \times 2 \times 3.24}{(1.7)^2} = 16.8$$

So, total 34 participants (17 in each group) were selected for this study.

SAMPLING METHOD-Simple Random Sampling with equal allocation into two groups,irrespective of sex.

INTERVENTION

Table No:01: Intervention

SL NO.	PARTICULARS	GROUP A	GROUP B
1	Procedure	<i>Katibasti</i>	<i>Katibasti</i>
2	Sample size	17	17
3	Medicine	<i>Brihat Saindhavadi Taila</i>	<i>Chinchadi Taila</i>
4	Duration	7 days	7 days
5	Time	45 minutes	45 minutes

Poorvakarma:

1. *Atura Pariksha* - The patient was examined in relation to *Dasavidha Pariksha*. Then the part was examined properly and then maximum tender region was noted. It was also examined for scars and wounds.

2. *Sambhara Samgraha* - Necessary items like black gram flour-250g, cotton pads-Q.S, *Brihat Saindhvadi Taila*-150-250 ml (Group A), *Chinchadi Taila*-150-250 ml (Group B), Bowl-1, Vessel-3, Spoon-1, Water, Gas stove and Table.

Method of preparation-*Taila* for *Katibasti* was prepared according to *Bhaishajya Ratnavali* at MVRAMCH Pharmacy, Kannur.

The black gram flour was well mixed with sufficient quantity of warm water into a thick paste. It is then made into flat slab like structure having length about 45-60 cm, thickness of 3 cm and height of 5 cm.

3. *Atura Sidhata* – Patient was asked to lie in prone position over the *Droni*. The affected area was exposed properly.

Pradhanakarma: The area of application was thoroughly cleaned and a ring was pasted over the lumbosacral region. The cotton ribbon was pasted inside and outside the wall and sealed properly with flour paste to avoid leakage of the medicine. It was then allowed to set properly. The oil was warmed over the hot bath and poured slowly inside the ring. Its temperature was maintained within 43⁰C by replacing a small quantity after reheating. The procedure was continued for 45 minutes.

Paschatkarma:

After removing the dough, the area was cleaned with luke warm water and allowed to take rest for 20-30 minutes.

ASSESSMENT CRITERIA

Assessment of the results was done on the basis of signs and symptoms. The parameters are assessed one day prior to the treatment, after the treatment and on 15th day after the treatment.

Subjective criteria:

- *Ruk*
- *Toda*
- *Stamba*
- *Spandana*
- *Tandra*
- *Gourava*
- *Arochaka*

Objective criteria:

- Walking time
- Straight leg raising test

SCORING OF ASSESSMENT PARAMETERS

SUBJECTIVE PARAMETER

Ruk (Pain)

Grading of *Ruk* was given on the basis of visual analogue scale (VAS) of 10 cm. The patient was asked to mark against the number corresponding to how he/she feels the pain at that moment.

Grade 0 –no pain(scale reading -0)

Grade 1 - trivial pain (scale reading 1)

Grade 2 - mild pain(scale reading 2-4)

Grade 3 - moderate pain (scale reading 5-7)

Grade 4 - severe pain (scale reading 8-10)

Toda

Grade 0 - no pricking sensation

Grade 1- mild pricking sensation

Grade 2- moderate pricking sensation

Grade 3 – Severe pricking sensation

Stamba

Grade 0 - no stiffness

Grade 1- some times for 5-10 minutes

Grade 2 - daily for 10-30 minutes

Grade 3 - daily for 30-60 minutes

Grade 4 - daily for more than 1 hour

Spandana

Grade 0 - no twitching

Grade 1 – sometimes for 5-10 minutes

Grade 2 – daily for 10-30 minutes

Grade 3 – daily for 30-60 minutes

Grade 4 – daily more than 1 hour

Gourava

Grade 0 - absent

Grade 1 – present

Tandra

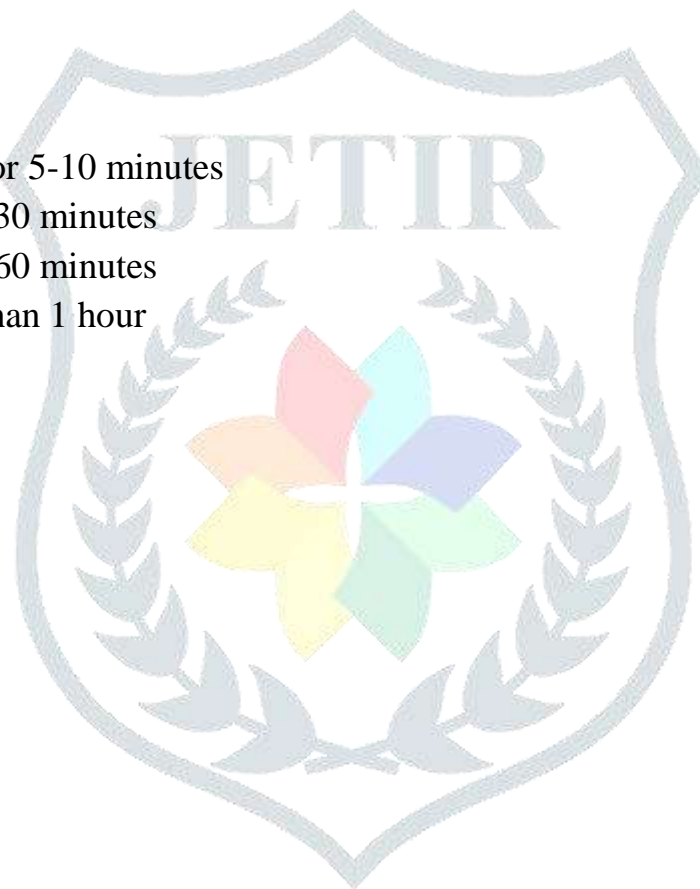
Grade 0 - absent

Grade 1 – present

Arochaka

Grade 0 - absent

Grade 1 – present

**OBJECTIVE PARAMETER**

Walking Time-Time taken by the patient to walk 20 meters in a straight way in medium speed was assessed.

Grade 0 - up to 20 seconds

Grade 1 - 21 -30 seconds

Grade 2 - 31 -40 seconds

Grade 3 - 41 -50 seconds

Grade 4 - 51 -60 seconds

Sakthyutkshepanigrahana (Straight leg raising test)

Grade 0 - up to 60 degree without pain

Grade 1 - up to 40 degree without pain

Grade 2 – up to 20 degree without pain

Grade 3 – can't lift due to pain

DATA COLLECTION METHOD

Primary data for the study was collected from the OPD and IPD in MVRAMCH,Parassinikadavu by direct observation, orally, clinical case proforma irrespective of sex.

STATISTICAL ANALYSIS

All the data were tabulated and statistical analysis were done with the following statistical tests using SPSS 27 version software. Test for the effect of therapy was analysed by using Friedman test followed by Wilcoxon Signed rank test and mann whtiney U-test.

RESULTS

Table No:02: Mann-Whitney U Test results between Group A and Group B at each treatment stage

Signs & Symptom		BT	AT	FU
Ruk	Z Value	-0.037	-1.692	-1.414
	P Value	0.970	0.091	0.157
Stamba	Z Value	-3.239	-2.787	-1.431
	P Value	0.001	0.005	0.152
Toda	Z Value	-0.220	-0.807	-0.596
	P Value	0.826	0.420	0.551
Spandana	Z Value	-0.607	-1.000	0.000
	P Value	0.544	0.317	1.000
Gourava	Z Value	-0.361	0.000	0.000
	P Value	0.718	1.000	1.000
Tandra	Z Value	-0.418	0.000	0.000
	P Value	0.676	1.000	1.000
Arochaka	Z Value	0.000	0.000	0.000
	P Value	1.000	1.000	1.000
Walking Time	Z Value	-1.440	-0.650	-2.681
	P Value	0.150	0.515	0.007
Straight leg raising test	Z Value	-0.742	-0.340	-1.787
	P Value	0.458	0.734	0.734

Table No:02:Samyak Swinna lakshana Analysis of Group A

<i>Group A</i>	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
<i>Sheethoparama</i>	100%	100%	100%	100%	100%	100%	100%
<i>Shooloparama</i>	0%	12%	35%	59%	100%	100%	100%
<i>Stamba Nigraha</i>	0%	18%	47%	47%	71%	82%	100%
<i>Gourava Nigraha</i>	0%	6%	18%	53%	71%	82%	100%
<i>Mardhavatha</i>	0%	12%	24%	35%	47%	71%	100%
<i>Sheethartitva</i>	18%	29%	53%	59%	65%	71%	100%
<i>Vyaadihaani</i>	0%	0%	12%	18%	29%	59%	100%
<i>Laghutwa</i>	0%	0%	24%	29%	53%	71%	100%
<i>Swedasrava</i>	29%	59%	59%	88%	94%	100%	100%

Table No:02:Samyak Swinna lakshana Analysis of Group B

<i>Group B</i>	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
<i>Sheethoparama</i>	100%	100%	100%	100%	100%	100%	100%
<i>Shooloparama</i>	0%	12%	24%	35%	65%	71%	100%
<i>Stamba Nigraha</i>	0%	6%	29%	35%	53%	71%	100%
<i>Gourava Nigraha</i>	0%	6%	18%	29%	47%	71%	100%
<i>Mardhavatha</i>	0%	12%	24%	29%	35%	65%	100%
<i>Sheethartitva</i>	12%	29%	29%	53%	59%	71%	100%
<i>Vyaadihaani</i>	0%	0%	6%	12%	41%	53%	100%
<i>Laghutwa</i>	0%	0%	18%	35%	47%	59%	100%
<i>Swedasrava</i>	18%	41%	59%	71%	88%	88%	100%

DISCUSSION

Swedana Karma is an effective treatment modality used both as a *Poorvakarma* and as a *Pradhana Karma*. *Katibasti* is a type of *Bahya Snehana* and *Swedana* therapy. The *Sneha* counters the *Rooksha guna* of *Vata*, while *Swedana* helps relieve *Stamba* and *Gourava*. When applied the oil penetrates through *Romakoopa* and *Dhamani*, nourishing the *Dhatus* and aiding in *Dosha Shamana* and *Dhatu poshana*. *Brihat Saindhavadi Taila* containing *Taila dravya*'s like *Eranda Taila* which is *Ushna Veerya* and *Kapha-Vatahara*. *Shatapushpa*, *Kanjika*, and *Matsu*, acts as *Vata-Kaphahara*, while *Saindhava* provides *Tridosahara* and *Vatanulomana* effects, and *Samudra Lavana* pacifies *Vata* and aids *Srotoshodana*, collectively helping to reduce the symptoms of *Gridhrasi*. *Chinchadi Taila* contains *Chincha Patra* which is *Kapha-Vataghna*, *Rooksha*, and *Ushna Veerya*, while different types of *Lavanas* also help in relieving the symptoms of *Gridhrasi*.

The skin allows easier passage of fat-soluble substances than water-soluble substances. Medicated oils, being lipid-soluble, facilitate penetration through the stratum corneum and reach deeper tissues through the dermis, sweat ducts, and hair follicles. Absorption is influenced by factors such as hydration, occlusion, temperature, blood flow, skin integrity, and duration of application. In *Katibasti*, the application of heat along with medicated oil enhances transdermal absorption by opening skin pores and promoting vasodilation. Local heat stimulation increases blood circulation, metabolic activity and oxygen delivery to the affected tissues, thereby facilitating nourishment and faster removal of metabolic waste products. This combined effect of heat and medicated oil helps in balancing *Doshas*, reducing pain and stiffness, improving mobility, and achieving better therapeutic outcomes in the management of *Gridhrasi*.

Effect on *Ruk*

Pain is the prime symptom of *Vata*. In this condition *Vata* gets vitiated along with *Kapha* or *Ama*. *Sweda* through its *Ushna Guna* counterbalances the *Sheeta Guna* of *Vata* and *Kapha* and thereby alleviating pain. Both *Brihat Saindhavadi Taila Katibasti* and *Chinchadi Taila Katibasti* act through their *Vata-Kaphahara* property. The *Ushna*, *Snigdha* and *Shothahara* actions pacify aggravated *Vata* reduce *Kapha–Ama* and relieve pain effectively.

Effect on *Stamba*

It results from vitiated *Kapha* or *Ama* obstructing *Vata*. Both *Brihat Saindhavadi Taila* and *Chinchadi Taila* act with *Vata-Kaphahara* properties. Their *Ushna* and *Teekshna gunas* counter *Sheeta* and *Guru* qualities of *Kapha–Ama* while *Deepana* and *Amapachana* actions reduce *Ama*, thereby relieving stiffness and restoring mobility.

Effect on Walking Time

The *Snigdha* and *Ushna Gunas* of the *Brihat Saindhavadi Taila* along with the *Vata Kaphahara* action of its ingredients correct *Vatagati* remove *Srotorodha*, facilitated by *Swedana*, help to relieve muscle spasm, pain, stiffness, and heaviness, thereby restoring lumbar mobility, facilitating walking, and improving quality of life.

Effect on *Sakthyutkshepanigrahana*

Brihat Saindhavadi Taila is effective in *Gridhrasi* due to its *Vata-Kaphahara*, *Ushna*, *Snigdha*, and *Vatanulomana* properties, which counteract *Ruksha* and *Sheeta gunas* of *Vata* and relieve *Srotorodha*. *Eranda Taila*, *Shatapushpa*, *Kanjika*, and *Matsu* enhance *Vata-Kapha Shamana*, improve *Agni*, and reduce pain and stiffness, while *Saindhava* and *Samudra Lavana* promote *Vatanulomana*, *Srotoshodana*, and deeper penetration due to *Sukshma guna*. Administered through *Katibasti*, these actions restore normal *Vata gati* and improve functional mobility, including *Sakthyutkshepanigrahana*.

CONCLUSION

The present comparative clinical study establishes that *Katibasti* with both *Brihat Saindhavadi Taila* and *Chinchadi Taila* is effective in the management of *Gridhrasi*. Clinically most

patients presented with chronic, gradually progressive radiating pain, predominantly unilateral, indicating long-standing *Vata* involvement influenced by occupational strain. Statistical analysis using the Friedman test, Wilcoxon Signed Rank test, and Mann–Whitney U test revealed highly significant intra-group improvement in almost all subjective and objective parameters after treatment and at follow-up, with no major inter-group differences. *Samyak Swinna Lakshanas* such as *Sheethoparama*, *Shooloparama*, *Stamba Nigraha*, *Gourava Nigraha*, *Laghutwa*, and *Swedasrava* showed progressive improvement, confirming the efficacy of both interventions. Both therapies produced significant reduction in *Ruk*, *Stamba*, *Toda*, *Spandana*, *Gourava*, *Tandra*, and *Arochaka*, with sustained relief at follow-up. Functional parameters including Walking Time and *Sakthyutkshepana Nigrahana* improved in both groups. *Katibasti* with *Brihat Saindhavadi Taila* showed a slight added advantage in VAS reduction, earlier improvement in *Sakthyutkshepana Nigrahana*, and significantly greater reduction in Walking Time at follow-up. Both treatments are effective in *Gridhrasi*, *Katibasti* with *Brihat Saindhavadi Taila* offering better and sustained functional recovery, making it a preferable option in clinical practice.

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