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A CLINICAL STUDY TO EVALUATE THE EFFECTIVENESS OF BALA TAILA MATRA BASTI IN JANUSANDHIGATA VATA

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ABSTRACT

Sandhigata Vata is Vata Pradhana Vyadhi, which mainly occurs in Vriddhavastha due to Dhatukshaya. We can correlate Sandhigata Vata with Osteoarthritis (OA) based on clinical features. Osteoarthritis is the most common articular- degenerative type of arthritis which mainly occurs in old age characterized by loss of articular cartilage and periarticular bone remodelling. The current pharmacological management of Sandhigata Vata includes the administration of analgesics and NSAID's. It can provide either conservative or surgical treatment and is highly symptomatic and with troublesome side effects. This is study of patient who were admitted with c/o of Sandhishool, Sphutan, Akunchana Prasarna Vedana typically showing all the classical signs of Sandhigata Vata. Here Matra Basti was given with Sudha Sudha Bala Taila for 21 days which showed remarkable results in classical symptoms of Sandhigata Vata.

KEYWORDS: Sandhigata Vata, Matra Basti.

INTRODUCTION

Vata disorders (Vata Vadhi's) are emphasized heavily in Ayurvedic texts due to their widespread occurrence, especially in elderly individuals (Vriddhavastha). Aging leads to degeneration of Dhatus (tissues), resulting in vitiation of Vata and making individuals prone to several musculoskeletal disorders. One of the most common and disabling among these is Sandhigata Vata, which correlates closely with osteoarthritis (OA) in modern medicine.

Sandhigata Vata is described in classical texts such as Charaka Samhita, Sushruta Samhita, and Madhava Nidana as a condition characterized by.

- Pain in the joints (Shula)
- Swelling that feels like an air-filled bag (Vata purna druti sparsha)
- Pain during flexion and extension (Akunchana-Prasarana Vedana)
- Crepitus (Atopa)

Modern medicine treats OA mainly with analgesics, NSAIDs, and in severe cases, surgical interventions such as knee replacement. However, these approaches do not reverse the degenerative process, have side effects, and can be expensive. Ayurveda, with its holistic approach, aims at balancing vitiated Doshas, improving joint function, and preventing further degeneration.

Among Panchakarma procedures, Basti Chikitsa (medicated enema) is considered the most effective for Vata disorders. Matra Basti, a type of oil-based Anuvasana Basti, can be given to most individuals safely without complications.

The oil remains in the colon longer, allowing better absorption and systemic effects. Bala Taila (an oil formulation mentioned as "Shrestha Vatarogaharam" in Sahastrayogam) has strong Vata-pacifying properties and strengthens the joints.

Thus, the present clinical study was designed to evaluate the effect of Bala Taila Matra Basti in patients suffering from Janusandhigata Vata (knee osteoarthritis).

AIM AND OBJECTIVES

Aim: To evaluate the clinical effectiveness of Bala Taila Matra Basti in the management of Janusandhigata Vata.

Objectives: To assess improvements in cardinal symptoms such as pain (Shoola), swelling (Shotha), stiffness (Graha), crepitus (Sphutana), and painful movements (Akunchana-Prasarana Vedana).

To analyze the overall impact of treatment on joint mobility, daily activity performance, and quality of life.

METHODOLOGY

Number of patients - 42

Type of study – Single study

Administration route – Matra basti – Per Rectum

Time – After meal.

Duration – 21days

Type of basti – Matra basti

Dose – 60 ml

Follow up - 42nd day.

Sampling technique – Simple random sampling method

Location study centre - Patient selected from *Panchakarma* OPD and IPD of the YMT Ayurvedic Medical College and Hospital.

Sample size calculation - The size was determined using standard statistical formulas, ensuring an 80% power with 5% type I error. Based on this parameter, 42 subjects were recruited for the study.

Method of selection of research paper trial subjects.

- **Diagnostic criteria**

Radiological finding and use of *Kellgren-Lawrence* grading scale to measure severity of sandhigata vata.

Grade 1 - Doubtful narrowing of joint space and possible osteophytic lipping.

Grade 2 – Definite osteophytes, definite narrowing of joint space.

Grade 3 – Moderate multiple osteophytes, definite narrowing of joint space, small pseudocystic areas with sclerotic changes.

A. Subjective Criteria

1.Sandhishool

2.Sandhishotha

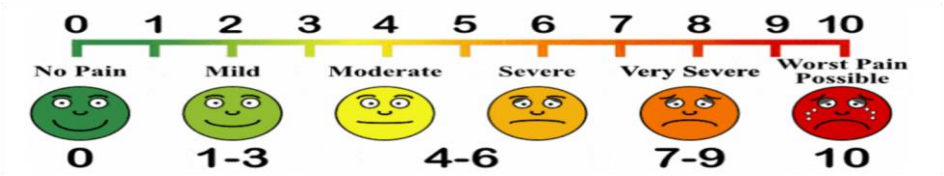
3.Sandhigraha

4.Akunchana Prasarna Vedana

5.Sandhisphutan (atopa)

OBJECTIVE CRITERIA

1.Visual Analogue Scale (VAS)



2. ROM (Range of Motion) of knee joint measured using goniometer

•**Angle of knee flexion-** normal range minimum upto 130-140 degrees.

•**Angle of knee extension-** normal range is 0-10 degree.

- **Inclusion criteria**
  - Age group 40-70yrs, irrespective of gender, religion.
  - Without any anatomical deformities.
  - Patient with pratyatma lakshan of sandhigata vata.
  - Patient who are fit for matra basti and were willing to sign the informed consent.
  - Only grade 1,2&3 of Kellgren-Lawrence scale.
  - Patient yogya for matra basti as mentioned in samhitas.

- **Exclusion Criteria**
  - Patient diagnosed with disease like Gout, Rheumatica, Aamvata, patient on steroid or anti-inflammatory.
  - Grade 4 of Kellgren -Lawrence scale.
  - Patient ayogya for matra basti as mentioned in samhitas i.e. in ajeerana and divaswapan awastha.

- **Withdrawal from the study**
  - Discontinuation of treatment during trial.
  - Occurrence of adverse effects of the given treatment, and whether the patient needs any emergency management.
  - Voluntary withdrawal by the patient.

Treatment details

- Treatment - Bala Taila Matra Basti.
- Follow up – Day 0, 7^{th} and 14^{th}

PROCEDURE

Basti Karma can be classified into three phase's viz. *Purvakarma, Pradhanakarma* and *Paschata Karma*. They can be explained as follows.

1. Purva Karma

a) Sambhara Sangraha

b) *Rogi Pariksha*: It included the selection of the patient, selection of the drugs for the *Basti karma*, its Dosage, duration and schedule.

c) Diet before *Basti* Procedure: *Matra Basti* administered after low fat diet in morning after breakfast.

d) Preparation of the Patient: It included local therapeutic massage (*Bahya Snehana)* and hot fomentation (*Svedana*).

2. Pradhana Karma

It included advice to the Patient, *Basti* administration, *Basti* retention and observing the signs & symptoms of proper, improper and excessive administration of *Basti.*

Advice to the patient

Patient was to be asked to pass his/her natural urges before *Basti* administration and not to laugh, cough, sneeze and take the yawning while administering *Basti.*

Preparation of *Basti*

a) Warmed the oil at 40 to 45°C

b) The required quantity of *sneha* was taken for each patient in a dose of 60ml.

Administration of *Basti*

It is said that *Anuvasana Basti* should be given after meals when the patients are having *Ardrapani* i.e., their hands are still wet from washing the hands after meals. Here *Ardrapani* denotes the appropriate time after taking meal for giving *Anuvasana Basti*. The same concept also be applied to *Matra Basti.*

The patient was then asked to lie down in a left lateral position on the basti table keeping his/her left hand below the head as a pillow, extending the left leg completely and flexing the right leg at the knee joint and kept it over left leg by flexing the hip joint.

Basti administration by the classical method, introduced the *Basti Netra* slowly in the direction of the vertebral column up to 1/4th part of the *Netra*. Then pressed the *putaka* gradually and instructed the patient to breathe in deeply.

After removing catheters did *Tadan Karma* (Tapping) on loins or buttock region and asked the patient to remain in the same position for 5 to 10 minutes.

The patient's legs were raised a few times to raise the waist. After a while patient was advised to get up from the table and take rest.

3. Paschat karma: – In *uttan* position, *Abhyanga* of patient was done from sole to *Pindika Pradesh*. Afterwards patient was asked to rest.
Basti Dharan Kala was noted.

DRUG REVIEW

Acharya Charak, emphasizes that no treatment for *Vata* disorders surpasses the effectiveness of oil, owing to its *Vyavayi, Usna, Guru,* and *Snigdha* characteristics.
Its efficacy is further enhanced when it is processed with medicinal substances, such as *Siddhatail with bala.*

Table no. 1.

Drug	Latin name	Guna	Rasa	Virya	Vipak	Karma
Bala	*Sida cordifolia linn.*	Guru, Singadha, Pichhila	Madhura	Sheeta	Madhura	Vataghna, Balya, Ojavardhaka
Tila	*Sesamum indicum*	Sukshama, Guru, Sara, Vyava, Snigdha, Balya	Madhura, Kashya, Tikta	Usna	Madhura	Vatahara, Balya, Bhagna Prasadaka, Rasyan,
Goksheer		Snighda, Guru,	Madhura	Shita	Madhura	Vatapittaghnna

RESULTS

Table No. 2.

Demographic profile		
AGE	40-50 Years	19%
	51-60 Years	45.2%
	61-70years	35.7%
GENDER	Female	71.4%
	Male	28.6%
OCCUPATION	Business	4.8%
	Housewife	52.4%

	Lecturer	2.4%
	Professor	2.4%
	Service	7.1%
	Retired	19%
	Teacher	11.9%
DIET	Mix	33.3%
	Vegetarian	66.7%
AKRUTI	Krusha	2.4%
	Madhyam	26.2%
	Sthoola	71.4%
PRAKRUTI	Vata-pitta	73.8%
	Vata- Kapha	11.9%
	Pitta-vata	9.5%
	Pitta-kapha	4.8%

Age distribution: Majority (45.2%) in 51-60 years age group

Gender: 71.4% female, 28.6% male

Occupation: 52.4% housewives, 19% retired individuals

Body constitution: 71.4% Sthoola (obese), 73.8% Vata-Pitta Prakriti

Diet: 66.7% vegetarian

INTRAGROUP COMPARISON OF FREQUENCIES OF *SANDHISHOOLA* * TIME (Table NO. 3)

		Time					
		BT(DAY0)	**AT(DAY21)**	**FU(DAY42)**	**TOTAL**	**Chi-Square value**	**P value of chi square test**
Sandhishoola	A	0	22	35	57	65.895	.000**
	P	38	16	3	57		
	Total	38	38	38	114		

INTRAGROUP COMPARISON OF FREQUENCIES OF SANDHISHOTHA * TIME (Table NO. 4)

		Time					
		BT (DAY0)	**AT (DAY21)**	**FU (DAY42)**	**TOTAL**	**Chi-Square value**	**P value of chi square test**
Sandhishotha	A	38	38	38	114	.	.
	Total	38	38	38	114		

INTRAGROUP COMPARISON OF FREQUENCIES OF *SANDHIGRAHA* * TIME (Table NO. 5)

		Time					
		BT (DAY0)	AT (DAY21)	FU (DAY42)	TOTAL	Chi-Square value	P value of chi square test
Sandhigraha	A	0	24	35	59	67.522	.000**
	P	38	14	3	55		
	Total	38	38	38	114		

INTRAGROUP COMPARISON OF FREQUENCIES OF *AKUNCHANA PRASARNA VEDANA* * TIME (Table NO. 6)

		Time					
		BT (DAY0)	AT (DAY21)	FU (DAY42)	TOTAL	Chi-Square value	P value of chi square test
AKUNCHANAPRASARNA VEDANA	A	0	25	36	61	72.004	.000**
	P	38	13	2	53		
	Total	38	38	38	114		

INTRAGROUP COMPARISON OF FREQUENCIES OF *SANDHISPHUTAN* * TIME (Table NO. 7)

		Time					
		BT (DAY0)	AT (DAY21)	FU (DAY42)	TOTAL	Chi-Square value	P value of chi square test
SANDHISPHUTAN	A	0	13	22	35	30.263	.000**
	P	38	25	16	79		
	Total	38	38	38	114		

INTRAGROUP COMPARISON OF VAS SCALE (Table NO. 8)

	N	Mean	Std. Deviation	Minimum	Maximum	Median	Mean rank	Chi-Square value	P value of Friedman test
VAS Scale BT	38	8.16	.495	7	9	8.00	3.00	76.000	.000*
VAS Scale AT	38	5.68	1.165	3	8	6.00	2.00		
VAS Scale FU	38	2.58	1.056	1	6	2.00	1.00		

INTRA GROUP COMPARISON OF KNEE FLEXION (Table NO. 9)

	N	Mean	Std. Deviation	Minimum	Maximum	Median	Mean rank	Chi-Square value	P value of Friedman test
KNEE FLEXION BTR	38	123.4	4.078	110	128	124.00	1.36	126.084	.000*
KNEE FLEXION BTL	38	124.47	9.081	90	132	128.00	2.54		
KNEE FLEXION ATR	38	127.37	4.334	119	134	126.00	3.07		
KNEE FLEXION BTL	38	128.74	8.529	96	136	130.00	4.50		
KNEE FLEXION ATL	38	129.0	3.179	122	134	128.00	4.01		
KNEE FLEXION FUL	38	130.89	7.735	102	138	134.00	5.53		

INTRA GROUP COMPARISON OF KNEE EXTENSION (Table NO. 10)

	N	Mean	Std. Deviation	Minimum	Maximum	Median	Mean rank	Chi-Square value	P value of Friedman test
KNEE EXTENSION BTR	38	.63	1.683	0	6	.00	3.09	32.436	.000*
KNEE EXTENSION BTL	38	.29	.956	0	5	.00	2.80		
KNEE EXTENSION ATR	38	1.26	2.202	0	8	.00	3.80		
KNEE EXTENSION BTL	38	.92	1.715	0	6	.00	3.47		
KNEE EXTENSION ATL	38	1.58	2.678	0	8	.00	4.07		
KNEE EXTENSION FUL	38	1.21	2.055	0	6	.00	3.76		

PAIR WISE COMPARISON USING WILCOXON SIGNED RANKS TEST (Table NO. 11).

TIME PAIRS	Z VALUE	P VALUE OF WILCOXON SIGNED RANKS TEST
VAS SCALE AT – VAS SCALE BT	-5.427	0.000**
VAS SCALE FU – VAS SCALE BT	-5.445	0.000**
VAS SCALE FU - VAS SCALE AT	-5.432	0.000**
KNEE FLEXION ATR – KNEE FELXION BTR	-5.434	0.000**
KNEE FLEXION FUR – KNEE FLEXION BTR	-5.455	0.000**
KNEE FLEXION ATL – KNEE FLEXION BTL	-5.298	0.000**
KNEE FLEXION FUL – KNEE FLEXION BTL	-5.421	0.000**
KNEE FLEXION FUR – KNEE FLEXION ATR	-4.375	0.000**
KNEE FLEXION FUL – KNEE FLEXION ATL	-4.764	0.000**
KNEE EXTENSION ATR – KNEE EXTENSION BTR	-2.972	0.003**
KNEE EXTENSION FUR – KNEE EXTENSION BTR	-3.354	0.001**
KNEE EXTENSION ATL – KNEE EXTENSION BTL	-2.911	0.004**
KNEE EXTENSION FUL – KNEE EXTENSION BTL	-3.269	0.001**
KNEE EXTENSION FUR – KNEE EXTENSION ATR	-2.121	0.034**
KNEE EXTENSION FUL – KNEE EXTENSION ATL	-2.060	0.039**

DISCUSSION

Age: The highest number of patients within the 51-60 age group is experiencing issues related to *Sandhigata Vata.*

Sex*: F*emales are more susceptible to *Janusandhigata Vata* in comparison to males.

Occupation: The highest number of patients consisted of housewives and individuals engaged in long-standing occupations that exert significant pressure on the knee joints, consequently resulting in *Sandhigata Vata.*

It can be established that being overweight places additional stress on the knee joint, leading to its deterioration and a reduction in joint space.

Diet: In the current study, among the 42 patients, 28 individuals (66.7%) adhered to a vegetarian diet, while 14 individuals (33.3%) followed a mixed diet.

Most patients exhibiting *Vata-Pitta* constitution displayed a predominance of *Sandhigata Vata*, with *Vata-Kapha* following closely. In summary, *Vata* is the dominant *Dosha*, which contributes to the manifestation of *Sandhigata Vata*, alongside the other *Doshas*, *Pitta* and *Kapha*. In this context, *Vata* assumes the role of an *Anubandhaya Dosha* in relation to *Sandhigata Vata*.

Changes in objective criteria are notes as below

Criteria	Before treatment day0		After treatment day 21		Follow-up day 42		result
	Present	Absent	Present	Absent	Present	Absent	
Sandhishoola	38	0	16	22	3	35	highly significant
Sandhishotha	0	38	0	38	0	38	-
Sandhigraha	38	0	14	24	3	35	highly significant
Akunchana-prasarna vedana	38	0	13	25	2	36	highly significant
Sandhisphutan	38	0	25	13	16	22	highly significant

This study specifically observes *Dhatukshayajanya Sandhigatavata*, which is why matra basti was selected as the treatment method yielding significant results. *Dhatukshya* is predominantly caused by age-related factors (*Kalaj Hetu*) and the consumption of *Vata*-aggravating substances (*Vat Dosha Vardhak nidan),* which directly contribute to the impairment of *Asthi Dhatu.*

The accumulation of vitiated vata dosha, exhibiting increased qualities such as lightness (*Laghu*), roughness (*Khar*), and dryness (*Ruksha*), diminishes the opposing properties of *Shleshak Kapha*, which possesses qualities like unctuousness (*Snigdha*), stickiness (*Picchila*), and heaviness (*guru*), ultimately leading to a depletion of *Shleshak Kapha*, a type of *Kapha Dosha* that is essential for joint nourishment.

The *Charaka* refers to taila as *'Marutaghana'*. Taila is mentioned to *Reduce Vata* without increasing *Kapha*. It also stabilizes the *Mansa Dhatu*. Due to its *Sneha* property, it balances the *Rooksha Guna* of *Vayu*, due to its *Guru Guna* treats Lag*hu Guna* of *Vayu* and due to its *Ushna Guna* takes care of the *Sheethala Guna* of *Vayu.*

The *Snigadha Guna* present in bala taila effectively alleviated the symptoms of *Sandhigraha, Sandhisphutan* and *Akunchaan Prasarna Vedana*. Furthermore, it addressed the vata, which is a contributing factor to *Sandhihshoola* is managed with *Marutaghana* property of *Bala Taila*, without increasing *Kapha* levels.

Bala Taila counteracts *Asthi Dhatu Kshaya*, or the depletion of bone tissue, in *Janu Sandhigata Vata* and gives *Sthirata*, or stability, to the joints being *Balaya. Bala Taila* exhibits analgesic and anti-inflammatory properties attributed to the chemical component, which contributes to the relief of the primary symptoms associated with *Janu Sandhigata vata.*

Bala taila, utilized for matra basti, is a unionized and lipid-soluble compound, allowing it to easily penetrate cell membranes. It has alkaloids which serve as anti-inflammatory agents. Also possess hypo analgesic effects, thereby alleviating pain. Fatty acids are beneficial for joint health and may aid in muscle regeneration.

Organic acids present in bala taila have been identified as growth promoters and are occasionally utilized as substitutes for antibiotics. Mucin minimizes friction among bones, tendons, and ligaments, facilitating smooth movement. Additionally, it aids in shock absorption and evenly distributes pressure, thereby alleviating stress on the joints.

The investigations carried out for the research indicated that the Most patients exhibited Grade-2 changes in X- ray findings within the age group of 51-60, followed by Grade-3 changes in the 61-70 age group.

CONCLUSION

In this study, patients diagnosed with Dhatukshaya Janya Sandhigata Vata were enrolled, and it was noted that none of the patients reported experiencing Sandhishoth during the Dhatukshaya condition.

The condition predominantly affected individuals within the age range of 51 to 60 years. A higher incidence was observed among female patients.

It can be inferred that *Bala Taila Matra Basti* is symptomatically beneficial for patients suffering from *Janu Sandhigata Vata*, particularly those exhibiting symptoms such as *Sandhishoola, Sandhigraha, Akunchana Prasaranjanya Vedana, And Sandhisphutan.*

No significant adverse effects were noted, despite the administration of *Sneha* daily for 21 days in the form of *Matra Basti*.

Bala Taila is described in the Sahastrayogam as "Shrestha Vatarogaharam Param," a designation that has been validated by this research findings. Hypothesis of the study i.e., *Bala Taila Matra Basti* is effective in management of *Shool* and other cardinal signs of *Janusandhigata Vata has been proven true.*

The findings of this study are promising, suggesting that further research involving a larger patient population is warranted to thoroughly evaluate and analyse the outcomes.

REFERENCES

1. Agnivesh, Charaka Samhita, Acharya Jadavaji trikamji, Choukambha publication, 2001 Varanasi Chikitsa sthana CHI. 28/37.
2. Agnivesha, Charak, Dridabala, Yadavaji trikamji, Charak samhita with ayurveda dipika commentary, Chaukhambha surbharati prakashan, Chaukhambha surbharati publication 2016 adhyay no- 16 k no- 20 page no 97.
3. Agnivesh, Charaka Samhita, Acharya Jadavaji trikamji, Choukambha publication, 2001 Varanasi Sidhi Sthana 4/53.
4. Vagbhata, Paradkar shatri, Ashtang sangraha with Sarvangasundara and ayurved rasayan commentaries, chaukhambha surbharati prakashan Varanasi, 6th edition 2000, nidansthan, adhay 19, verse no 6.
5. Agnivesha, Charak, Dridabala, Yadavaji trikamji, Charak samhita with ayurveda dipika commentary, Chaukhambha Surbharati prakashan, 3rd edition, sutra sthan adhay 17, verse no65.
6. Agnivesha, Charak, Dridabala, Yadavaji trikamji, Charak samhita with ayurveda dipika commentary, Chaukhambha Surbharati prakashan, 3rd edition, sutra sthan adhay 17, verse no 66.

7. Sushruta, Sharma anantram, Sushruta samhita with hindi commentary, Chaukhambha surbharati prakashan, Varanasi, edition 13th, Part 1, sutra sthan adhyay 15, verse no 9.
8. Joshi Y G, Kaychikitsa, Pune sahitya vitaran, edition2010, Prakaran - 78, Page no -628.
9. Sushruta, Sushruta Samhita; Dr Ambika Dutt Shastri, Vol-I, Edition, Chaukhambh Sanskrit Sansthan, Varanasi, 2007; 303: 230. (Su. Sa. Ni. 1/28)
10. Sahastrayogam, Dr. R. Nisteshwar; IInd Edition, Chaukhanbha Sanskrit Series, Varanasi, 2008; 540: (Taila Prakarana).