



ISSN 2456-3110

Vol 6 · Issue 3

May-June 2021

Journal of  
**Ayurveda and Integrated  
Medical Sciences**

*www.jaims.in*

**JAIMS**

An International Journal for Researches in Ayurveda and Allied Sciences



**Maharshi Charaka**  
Ayurveda

**Indexed**

# Efficacy of *Ardhamatrika Basti* in the management of *Janu Sandhigata vata vis-a-vis* Osteoarthritis of Knee Joint - A Clinical Study

Dr. Indushree B. S<sup>1</sup>, Dr. Varsha Kulkarni<sup>2</sup>

<sup>1</sup>Post Graduate Scholar, Department of Panchakarma, Government Ayurveda Medical College and Hospital, Mysuru, Karnataka, INDIA.

<sup>2</sup>Professor and Head, Department of Panchakarma, Government Ayurveda Medical College and Hospital, Mysuru, Karnataka, INDIA.

## ABSTRACT

*Janu Sandhigata Vata* is a *Vatavyadhi* presenting with *Sandhi Shula*, *Sandhi Shotha*, *Sandhi Atopa* and *Prasarana Akunchana Vedana*, resulting in limited range of movements, there by reducing daily activities. *Janu Sandhigata vata* is commonly identified with Osteoarthritis of Knee Joint. Characterized by pain, swelling & impaired movements. The prevalence of Osteoarthritis rises progressively with age and it has been estimated that 45% of all people develop Knee Osteoarthritis in life. Osteoarthritis is more common in women than men. The existing line of treatment in contemporary field of medicine includes the administration of NSAIDS, Intra articular steroids and surgical intervention in the form of Knee replacement. In this regard, there is a need for exploring the safe, effective and affordable line of treatment. *Basti Karma* is a supreme treatment for *Vata Vyadhi* and also known as *Ardha Chikitsa* because of its multifaceted actions. Many *Basti* formulations are mentioned in classics among which *Ardhamatrika Basti* is best among all the *Niruha Basti's* and is said to be the best. In the present study 10 subjects were evaluated, results were found to be statistically significant.

**Key words:** *Janu Sandhigata Vata*, Osteoarthritis of Knee joint, *Ardhamatrika Basti*

## INTRODUCTION

*Sandhigata vata* is first described by Acharya Charaka as *Sandhigata Anila* with symptoms of *Shotha* (swelling) which on palpation *Vata Purna Druti Sparsha* (feels like a bag filled with air) and *Shula* (pain) on *Prasarana* and *Akunchana* (pain on flexion and extension of the joints).<sup>[1]</sup> Acharya Sushruta also mentioned *Shula* and *Shotha* in this disease leading to

the (diminution) *Hanti* of the movement at joint involved.<sup>[2]</sup> *Madhavakara* said *Atopa* (crepitus in joint)<sup>[3]</sup> as additional feature of it. The pathologic underpinnings of this disease are attributing to the aberration of *Vata* and *Kapha Dosha*, affecting the *Asthi* (bone), *Sandhi* (joint), *Mamsa* (muscle), and *Snayu* (ligament). It can be compared to osteoarthritis of knee-joint, according to modern parlance. Osteoarthritis is second most common musculoskeletal problem and it is the most frequent joint disease with a prevalence of 22% to 39% characterized by Pain, Stiffness, Swelling in joints, restricted movements and Crepitus. Osteoarthritis is more common in women. Nearly 45% of women over the age of 65 years have symptoms while 70% of those over 65 years show radiological evidence of Osteoarthritis.<sup>[4]</sup> *Snehana* and *Swedana* occupy the major place in the domain of *Samanya Chikitsa* of *Vata Vyadhi*. *Basti karma* is considered as the best line of treatment for *Vata Vyadhi*. There is a wide

### Address for correspondence:

Dr. Indushree B. S.

Post Graduate Scholar, Department of Panchakarma, Government Ayurveda Medical College and Hospital, Mysuru, Karnataka, INDIA.

E-mail: drbsindushree@gmail.com

Submission Date: 12/05/2021

Accepted Date: 17/06/2021

### Access this article online

#### Quick Response Code



Website: [www.jaims.in](http://www.jaims.in)

DOI: 10.21760/jaims.6.3.2

applicability of *Basti Chikitsa* like *Shodhana*, *Shamana*, *Brihmana* and *Lekhana* etc based on the properties of the drugs used in the procedure. Here, in this present study *Ardhamatrika Basti* is a variety of *Basti* that possess half the dosage of maximum permissible dosage for *Niruha Basti*, hence the name. It can be administered daily even after having food, without any fear of complications, even to *Sukumara*, *Vridha*, *Stree* and those who have fear towards the procedures. It is indicated in *Vatarakta*, *Kshaya*, *Kasa*, *Kushta*, *Vishamajwara*, *Asmari*, *Moothrakrichra*, *Gulma*, *Pleeha*, *Haleemaka*. It also possesses benefit as a *Vrushya Basti* increasing the quality and quantity of *Shukra*. Moreover, *Ardhamatrika Basti* is indicated in *Samsarga* and *Sannipataja Vyadhis*.<sup>[5]</sup> It also improves *Bala*, *Varna* and *Agni* of the individual. *Ardhamatrika Basti* (in *Yoga basti*) is said to be the superior *Basti* among the *Niruha basti* has been employed, as *Sandhigata Vata* is one of the degenerative disorders and there will be *Kshaya* of *Snehamsha* i.e., *Shleshaka Kapha* in the *Sandhi*. *Basti* is having *Vatahara* and *Brihmana* action nourishes the *Dhatu* and helps in relieving pain and stiffness of *Janu*, and also helps in maintaining joints in stable condition by avoiding further degeneration.

## AIMS AND OBJECTIVES

To evaluate the efficacy of *Ardhamatrika Basti* in the management of *Janu Sandhigata Vata* Vis-A-Vis Osteoarthritis of Knee joint.

## MATERIALS AND METHODS

### Source of Data

Total 10 Subjects with clinical features of *Janu Sandhigata Vata* Vis-A-Vis Osteoarthritis of Knee joint coming under the inclusion criteria approaching the out-patient and in-patient department of Government Ayurveda Medical College & Hospital Mysuru were selected for the study.

### Diagnostic criteria

- Based on *Lakshanas* of *Janu Sandhigata Vata*
- Signs and symptoms of Osteoarthritis of Knee joint

- Based on radiological evidence of Osteoarthritis of Knee joint

### Inclusion criteria

- Subject presenting with *Lakshanas* of *Janu Sandhigata Vata*
- Subject presenting with Signs and symptoms of Osteoarthritis of Knee joint
- Subject presenting with radiological evidence of Osteoarthritis of Knee joint
- Subject of either gender from the age group of 40-70 years
- Subject fit for *Basti Karma*

### Exclusion criteria

- Any systemic illness that interfere with the course of intervention
- Pregnant and lactating women

### Study design

- Single arm, open label clinical study

### Intervention

Subjects were administered *Ardhamatrika Basti* in *Yoga Basti* pattern.

### Poorva Karma

#### a. Method of preparation of *Ardhamatrika Basti*

*Madhu* 100 ml was taken in *Kalwa* and 6 grams of *Saindhava Lavana* was added to it & Continuous churning was done to make a homogenous mixture, to that homogenous mixture - 100 ml of *Murchita Tila Taila* was added slowly and stirring was continued until a uniform consistency was attained. Later 12 grams of *Shatapushpa Kalka Churna* was taken and lukewarm water is added and made in to semisolid consistency and this was added to the above mixture, *Kwatha* 400 ml made out of *Dashamoola Kwatha Choorna* was filtered through a fine sieve then added slowly and part while the churning process is continued.

**b. Preparation of patient (Athura Siddatha)**

*Abhyanga* – *Sthanika Abhyanga* was done with *Moorchita Tila Taila* followed by *Sthanika Nadi Sweda* to *Shroni, Kati, Vankshana, Pakwashaya Pradesha. Anuvasana Basti* - Given after *Laghu Ahara Sevana, Ardhamatrika Basti* - Given in empty stomach.

**Pradhana Karma**

- Patient is asked to lie in left lateral position.
- *Anuvasana* and *Niruha Basti* are given alternately as per *Yoga Basti* pattern shown in **table 1**.

1. **Anuvasana Basti** - *Moorchita Tila Taila* - 70 ml (After consuming *Laghu Ahara*)

2. **Niruha Basti** - *Ardhamatrika Basti* (On empty stomach)

**Paschat Karma**

**Anuvasana Basti:** Patients were made to lie down in supine position for 100 *Matrakala*, patting of buttocks, raising the legs (3 times each) was performed in order to retain the *Sneha* inside for a longer period.<sup>[6]</sup>

**Niruha Basti:** After this the patient was asked to lie in a comfortable position on the bed with his body in raised position by means of a pillow in such a way that the *Veerya* of the *Basti* may spread throughout the body.<sup>[7]</sup>

**Assessment criteria****Subjective assessment parameters adopted**

1. *Sandhi Shula*
2. *Sandhi Shotha*
3. *Sandhi Stabdata*
4. *Prasarana Akunchana Vedana* (**Table 2**)

**OBSERVATIONS**

Total number of Subjects registered for the study - 12

Total number of Subjects completed the study - 10

Total number of Dropouts - 2

Among 10 subjects 8 subjects had *Sandhi Shula* 6 subjects had *Sandhi Shotha* 10 subjects had *Sandhi*

*Stabdata* and 7 subjects had *Prasarana Akunchana Vedana*. In 10 subjects 4 were of *Vatapittaja Prakruti* and 6 were *Vata Kaphaja Prakruti*. Among 8 subjects of *Sandhi Shula* 7 subjects had marked improvement in *Shula* among 6 subjects of *Sandhi Shotha* all had reduction in the circumference of *Shotha*. Among 10 subjects of *Sandhi Stabdata* 5 subjects had moderate improvement. Among 7 subjects 6 subjects had moderate improvement in *Prasarana Akunchana Vedana*.

**RESULTS**

The signs and symptoms were assessed before and after the treatment based on the assessment criteria. The effect of the therapy statistically analysed by Student paired t test. (**Table 3**)

In this clinical study it was observed that 80% of the patients were suffering with *Dhatukshaya Janya Janu Sandhigatavata*. Effect of treatment on symptoms of *Janu Sandhigatavata* has shown highly significant values in relieving the symptoms.

**DISCUSSION**

Maximum number of subjects (70%) belonged to the age group of 51-60 years, which shows it's predominant in old age. Subjects with chronicity less than 1 year were 13.33% between 1 to 2 years were 26.66% and more than 2 years were 60%. Highly significant results ( $P < 0.001$ ) were obtained in all the cardinal symptoms *Sandhi Shula, Sandhi Shotha, Sandhi Stabdata, Prasarana Akunchana Vedana*.

Among *Tridoshas, Vata* is the prime *Dosha* responsible in the manifestation of the disease. *Sandhigatavata* is one among the *Vata Vyadhi* explained by our *Acharyas*, predominance of *Vata Dosha* is seen in old age which is further aggravated due to *Dhatu Kshaya* that takes place as the age advances. *Acharya Sushruta* is specific in mentioning in commencement of degenerative changes that is after 40 years which is termed as *Parihani Avastha* of *Madhyama Vaya*, where the individual starts to develop tendency to suffer from *Vata Vyadhi*.<sup>[8]</sup> If at this stage person indulges in *Vata Kara Ahara Vihara* there will be *Prakopa* of *Vata* and this *Prakaupita*



Vata takes Asharaya in Khavaigunya Yukta Srotas that is (Janu Sandhi) and causes depletion of bodily elements. As Shleshma Bhava in Sandhi is reduced leading to Sandhi Shaitilya.

When Basti is introduced into the Pakwashaya, the Veerya of Basti reaches all over the body, collects the accumulated Doshas from Nabhi, Kati, Parshwa and Kukshi Pradesha along with Shakrut, causes Snehana to the body and expels out the Dosha along with Pureesha.<sup>[9]</sup> Pakwashaya, which is the seat of Vata Dosha, can be correlated to Pureeshadharakala. According to Dalhana, Pureeshadharakala itself is Astidharakala.<sup>[10]</sup> This establishes a relationship between the large intestine and bones. Basti is having 2 actions; Veerya of Dravya should get absorbed to have its systemic action. Second major action is related with the facilitation of excretion of morbid Doshas responsible for disease into colon from where they are evacuated. All these actions can be well explained on the basis of physiological and pharmacological actions. As Ardhamatrika Basti is superior among all the Niruha Basti, Tridosahara property combats the Dosha of the Janu Sandhigatavata. The Dashamoola Kashaya also having Tridosahara property and Shothahara property works on Janu Sandhigatavata.

#### Probable mode of action of Ardhamatrika Basti

Basti as a Shodhana Karma is most important in pacifying the Vata because it is directly acting upon the origin of Vata. Ardhamatrika Basti also works by the Veerya of the ingredients present.

**Madhu:** Madhu is having Pichhilatva, Bahulatva, and also for Mangalartha purpose, it is added first.<sup>[11]</sup> Owing to its Sukshma Guna it reaches up to the micro channels, due to Yogavahithva (catalytic action) and Sookshmarganusrithva (potency to penetrate in to the minute Srotas of the body), helps honey to play a major role in the action carried out by Niruha in turn carries the drug (potency of the drug) at the molecular level through the micro channels. Further it is Tridosahara; hence it is always wholesome and can be used in Janusandhigata Roga.

**Saindhava:** Saindhava Lavana by its Teekshna property will break the Sanghata of honey; it helps to pass the drug molecules into systemic circulation through mucosa. Thus, it helps the Basti Dravya to reach up to the molecular level. It is also helpful for the elimination of waste due to its irritant property. It is capable of liquefying the viscid matter and breaking it into minute particles.

**Moorchita Tila Taila:** Then added Taila will bring Ekeebhavata. Sneha is Vatahara, Mridukara (produces softness in the channels and tissues, in turn helps for easy elimination of waste substances) and destroys the compact Mala and removes the obstruction in the channels produced by the Mala i.e., Malanam Vinihanti Sangam. Owing to the Snigdha Guna, it produces unctuousness in the body in turn helps for easy elimination and by Sukshma Guna it helps the drug (potency of the drug) to reach into the micro channels. Apart from these functions, it protects the mucous membrane from the untoward effect of irritating drugs in the Basti Dravya. Thus these three substances viz Madhu, Saindhava and Sneha helps to form a homogeneous mixture of the Basti Dravya and after administration they helps to reach the drug (potency of the drug) through the micro channels at the cellular level and to eliminate the waste substances from the body.

**Kalka:** Kalka Dravya comprising of Shatapushpa Choorna which is having Vata Kapha Hara and Shoolahara properties helps in improving the condition. Also it aids in digestion and transferring of phytochemicals of the Basti into the system.

**Kwatha:** Dashamoola Kwatha Dravya's which are having Vata Kapha Hara, Vata Pitta Hara and Tridosahara properties. The overall property of the drugs used in this Basti pacifies Tridosha, acts as Balya and Shoolahara thus alleviates Vataja symptoms in the patients of Janu Sandhigatavata. There was significant change observed clinically and statistically after the treatment and during follow ups also.

Basti Dravya when administered reaches up to the micro and macro level due to its Virya (potency) helps first to disrupt the pathogenic process and carries out

the morbid matter toward *Pakvashaya* for the elimination. Thus, it works as curative as well as purification measure. Hence present clinical study revealed statistically highly significant ( $P < 0.001$ ) effect in all the parameters of assessment.

## CONCLUSION

In present study *Ardhamatrika Basti* was proved to be effective in reducing *Lakshanas* of *Janu Sandhigatavata* and has shown good results in all assessment parameters taken into consideration. *Ardhamatrika Basti* being *Brihmana* and *Rasayana*, it helps in reducing the symptoms avoiding further deterioration of joints and increases the quality of life. The study suggests *Ardhamatrika Basti* can be taken as better choice of treatment in the management of *Janu Sandhigatavata* vis-a-vis Osteoarthritis of Knee joint. Further study can be taken up in large sample.

**Table 1: Showing the pattern of Yoga Basti**

Day	1st	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>
Basti	A	N	A	N	A	N	A	A

**Table 2: Showing Grading of Subjective parameters**

Assessment Criteria	Sandhi Shula
<i>Prakrutha</i> (Normal) (0)	No pain
<i>Mrudu</i> (Mild) (1)	Occasional pain
<i>Madhyama</i> (Moderate) (2)	Pain during excess work
<i>Daruna</i> (Severe) (3)	Constant pain disturbing routine activities
<i>Ati Daruna</i> (Extremely severe) (4)	Severe pain

Assessment Criteria	Sandhi Shotha
<i>Prakrutha</i> (Normal) (0)	No swelling
<i>Mrudu</i> (Mild) (1)	Mild swelling
<i>Madhyama</i> (Moderate) (2)	Slightly more when compared to

	milder one
<i>Daruna</i> (Severe) (3)	Covers all prominences of affected joints
<i>Ati Daruna</i> (Extremely severe) (4)	Elevated joint seems grossly deformed

Assessment Criteria	Sandhi Stabdata
<i>Prakrutha</i> (Normal) (0)	No Stiffness
<i>Mrudu</i> (Mild) (1)	Stiffness (5min - 15mins)
<i>Madhyama</i> (Moderate) (2)	Stiffness (15 – 30 mins)
<i>Daruna</i> (Severe) (3)	Stiffness (30 mins - 1hr)
<i>Ati Daruna</i> (Extremely severe) (4)	Constant Stiffness

Assessment Criteria	Prasarana Akunchana Vedana
<i>Prakrutha</i> (Normal) (0)	No painful movement
<i>Mrudu</i> (Mild) (1)	Pain without wincing of face
<i>Madhyama</i> (Moderate) (2)	Pain with wincing of face
<i>Daruna</i> (Severe) (3)	Shouts /prevents complete flexion
<i>Ati Daruna</i> (Extremely severe) (4)	Does not allow passive movements

**Table 3: Effect of therapy analysed by Paired t test**

BT-AT	Me an BT	Me an AT	M D	SD	SE	t	p	Remarks
<i>Sandhi Shula</i>	1.75	0.80	0.80	0.60	0.21	3.80	<0.001	HS
<i>Sandhi Shotha</i>	1.71	1.14	0.57	0.46	0.17	3.35	<0.001	HS
<i>Sandhi Stabdata</i>	2.14	1.14	1.00	0.14	0.05	9.02	<0.001	HS

Prasara na Akunch ana Vedana	1.50	1.00	0.5 0	0.5 0	0.1 7	4.0 8	<0.0 01	HS
--	------	------	----------	----------	----------	----------	------------	----

## REFERENCES

1. Agnivesha, Charaka, Drudabala, Chakrapanidatta, In: Acharya Y T(Ed). Charaka Samhita with Ayurveda Deepika Commentary. Varanasi: Chaukhamba Sanskrit Sansthaan. Reprint Edition, Chikitsa Sthana, Chapter 28, Verse 37,2011.
2. Sushruta, Dalhana, Gayadasa, In: Acharya YT, Narayana Ram (Ed). Sushruta Samhitha with Nibandhasangraha, Nyayachandrika Commentary. Varanasi: Chaukhamba Sanskrit Sansthaan. Reprint Edition, Sutra Sthana Chapter 1, Verse 28-29;2017.
3. Upadhaya Y (ed). Madhava Nidana. Varanasi, Chaukhamba Sanskrit Sansthaan. 13<sup>th</sup> (ed), Chapter 22, verse 21, 2002;p463.
4. <http://nhp.gov.in>
5. Vangasena, Shri Vaidya Sankaralaji Jain (ed). Vangasena with commentary of Kavivara Shri Saligramji Vaisha. Khemraj Shrikrishnadass Shri Venkateshwar Press. Reprinted (2003), Bastikarmaadhikara 193, p1001.
6. Agnivesha, Charaka, Drudabala, Chakrapanidatta. Charaka Samhita with Ayurveda Deepika Commentary. Varanasi: Chowkhamba Surabharati Prakashan. Siddhi Sthana, Chapter 3, Verse 26 In: Acharya Y T(Edi), Reprint Edition, 2011.
7. Sushruta, Dalhana, Gayadasa. Sushruta Samhitha with Nibandhasangraha, Nyayachandrika Commentary. Varanasi: Chaukhamba Sanskrit Sansthaan. In: Acharya YT, Narayana Ram (Edi), Reprint Edition, 2017.
8. Sushruta, Dalhana, Gayadasa. Sushruta Samhitha with Nibandhasangraha, Nyayachandrika Commentary. Varanasi: Chaukhamba Sanskrit Sansthaan. Sutra Sthana, Chapter 35, Verse 29, In: Acharya YT, Narayana Ram (Edi) Reprint Edition 2017.
9. Agnivesha, Charaka, Drudabala, Chakrapanidatta. Charaka Samhita with Ayurveda Deepika Commentary. Varanasi: Chowkhamba Surabharati Prakashan. Siddhi Sthana, Chapter 1, Verse 40, In: Acharya Y T(Edi), Reprint Edition, 2011.
10. Sushruta, Dalhana, Gayadasa. Sushruta Samhitha with Nibandhasangraha, Nyayachandrika Commentary. Varanasi: Chaukhamba Sanskrit Sansthaan. Kalpa Sthana, Chapter 4 Verse 40, In: Acharya YT, Narayana Ram (Edi), Reprint Edition 2017.
11. Kashyapa. Kashyapa Samhita. Varanasi, Chaukhamba Sanskrit Sansthaan. Reprint Edition, 2010, p280.

**How to cite this article:** Dr. Indushree B. S, Dr. Varsha Kulkarni. Efficacy of Ardhamatrika Basti in the management of Janu Sandhigatavata vis-a-vis Osteoarthritis of Knee Joint - A Clinical Study. J Ayurveda Integr Med Sci 2021;3:6-11. <http://dx.doi.org/10.21760/jaims.6.3.2>

**Source of Support:** Nil, **Conflict of Interest:** None declared.

\*\*\*\*\*