



EVALUATION OF THE EFFECT OF SHATAHVADITAILA MATRABASTI IN JANUSANDHIGATA VATA W.S.R. TO KNEE JOINT OSTEOARTHRITIS- A PILOT STUDY

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ABSTRACT:

Background: *Sandhigataavata* is the most common form of joint disorder in the elderly people which affects functions of the joints especially weight bearing joints like knee joint. *Sandhigataavata* can be compared with Osteoarthritis of con-temporary medical science. The reported prevalence of osteoarthritis in India is among 1,065,070,607 people 78,314,013 are suffering from osteoarthritis. Basti is said to be the most effective treatment modality to treat any kind of *Vatavyadhi*, since *Sandhigataavata* is one among the *Vatavyadhi*, here an attempt was made to assess the effect *Satavhaditailamatrabasti* in alleviating the *doshas* and giving relief to cardinal symptoms like *sandhi ruja* and *shopha*. This may be because of the properties of *Shatahavaditaila* which causes reduction in severity of the disease. **Methods:** It is a simple single group clinical trial. The study was conducted on 10 patients. For *matrabasti* 80 ml of *Shatahavaditaila* was used for 10 days. Patients were subjected to *sthanika abhyanga* and *swedana* prior to procedure. For assessing the results, used subjective parameters were, *Ruk*(Pain), *Graha*(Stiffness), *Sparshaakshamatva*(Tenderness), *Shotha*(Swelling), *Atopa* (Crepitation) and objective parameters were Visual Analogue Scale (VAS) and Range of movements. The assessment parameters were noted before the treatment, after the treatment(30th day) and follow up(60th day). To assess the results, paired t test statistical analysis methods was used. **Results:** According to the statistical analysis Parameters *SparshaAsahyata*, *Sandhi graham* and *Sandhi Shotha* were better responded with p value <0.001 as compared to other parameters. Overall there was an improvement of 31.31% in all the assessment parameters.

Keywords: *ShatahvadiTaila*, *Matrabasti*, *Sandhigataavata*, Osteoarthritis

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INTRODUCTION:

Sandhigataavata is a type of *Vatavyadhi* characterized by *vatapurnadruti sparsha*, *Shotha*, *Vedanaduring* *Prasarana* and *Akunchana*^[1]. *Sandhigataavata* is the most common form of joint disorder in the elderly people which affects functions of the joints especially weight bearing joints like knee joint. *Sandhigataavata* can be compared with Osteoarthritis of contemporary medical science. The reported prevalence of osteoarthritis in India is among 1,065,070,607 people 78,314,013 are suffering from osteoarthritis.

Acharya *Bhavamishra* while explaining *Vatavyadhi* explained about *Sandhigataavata*^[2]. Acharya *Sushruta*^[3] and *Madhavakara* ^[4] have added *Sandhi Shoola*, *Atopa*, *Sandhi Hanti*.

The trouble of *Sandhi* by *Prakupita Vata* is the main phenomenon in *Samprapti* of *SandhigatVata*. *Sandhis* come under the *MadhyamaRogaMarga* and thus, involvement of *MadhyamaRogaMarga*, *VataDosha* and *Dhatukshaya* figures disease *KashtaSadhya*. In this point of view, Ayurveda has a unique approach to cure i.e. two fold strategies comprising of 1) *Samshodhana* or Bio purification by Panchakarma therapy & related measures. 2) *Samshamana* or Palliation of imbalances by appropriately planned diet, drug, & lifestyle interventions.

In Ayurveda, all Acharyas have given prime importance to *SnehanaChikitsa* in the management of *Sandhigataavata*. *Snehana* can be performed both *Bahya* and *Abhyantara*^[5]. *Bahyasnehana* include *abhyanga*, *tarpana*, *murdhnitaila* etc and *Abhyantara snehana* include *bhojana*, *pana*, *nasya* and *Anuvasan Basti*. Acharya *Charaka* has mentioned *Shatahvadi Taila* in the management of *Vata diseases* ^[6] Hence the present study, *Shatahavaditaila Matrabasti* has been planned in the management of *Sandhigataavata*.

AIM AND OBJECTIVES:

To evaluate the effect of *Shatahavaditaila Matrabasti* in the management of *JaanuSandhigataavata*.

MATERIALS AND METHODOLOGY:

Study Design: A single group clinical pilot study

Sample selection method: Patients were selected randomly with symptoms of *Janusandhigataavata*

Selection of Patients: 10 Patients were selected randomly with symptoms of *Janusandhigataavata* irrespective of sex, religion, age etc. from OPD and IPD Department of Panchakarma, Shri Veer Pulikeshi Rural Ayurvedic Medical College and Hospital, Badami. Patients were then subjected to detailed clinical history based on specially prepared case proforma. Then the

patients were subjected to 80ml of *Shatahvaeditaila matrabasti* for 10 days. Date of commencement of study: 10/04/2018 and date of completion of study: 07/07/2018

Study duration: Clinical assessment was done at baseline and after follow up of 30 and 60 days. Clinical Data obtained from the trial was analyzed with paired t -test method & the results are presented.

Inclusion Criteria: -

1. Patients having textual symptoms of *Sandhigata vata – niramaavastha* with special reference to *janu sandhi* were taken as a subject to study.
 - *Sandhi Shoola*
 - *Sandhi Shotha*
 - *Vatapurna Druti Sparsha*
 - *Graha* (Restricted movement)
2. Patients who are fit for *matrabasti*.
3. Patient who were ready to give written consent.

Exclusion Criteria:

1. Patients with other joints deformities or diseases which are not related to *JanuSandhigata vata*, such as *Amavata*, *Vatarakta*.
2. Patient with rheumatic arthritis, tubercular arthritis, infective arthritis, syphilitic arthritis, gout, traumatic arthritis, and gonorrheal arthritis,

fracture of Knee joint and those who needed surgical care were excluded.

3. Neoplasm
4. Permanent joint damage.
5. Known cases of Cardiac disease, Pulmonary TB, Pregnancy, DM, Paralysis, HIV, Neurological disorders.
6. Having severe crippling deformity.

Interventions:

Poorva karma:

Preparation of the patient:

The patient was clearly explained about the procedure and treatment was started only after he/she was convinced about the treatment. Above mentioned specific investigations were done apart from the routine investigations.

- *Sthanika Abhyanga* with *Moorchita Taila* and *nadiswedana* were performed over the abdomen.
- Light meal was given to patient prior to Basti.

Pradhana karma:

Administration of *Matrabasti* with *Shatahvadi Taila* (80 ml)

Paschat Karma : The patients were advised to avoid talking loudly, travelling, walking long distance, sitting in a single posture for long duration, eating unwholesome food, sleeping in day time and sexual activities.

Assessment Criteria

Assessment of the result was done based on the following grading.

Sandhishula(Pain) **Grade**

- No pain 0
- Mild pain 1
- Moderate pain but no difficulty in walking 2
- Severe pain and difficulty in walking 3

SparshaAsahyata(Tenderness) **Grade**

- No tenderness 0
- Patient feels tenderness 1
- Winching of face on touch 2
- Does not allow to touch the joint 3

Sandhigraha(Stiffness) **Grade**

- No stiffness 0
- Mild stiffness 1
- Moderate stiffness 2
- Severe stiffness 3

Sandhishotha(Swelling) **Grade**

- No swelling 0
- Mild swelling 1
- Moderate swelling 2
- Severe swelling 3

Sandhisphutana(Crepitus) **Grade**

- No crepitus 0
- Palpable crepitus 1
- Audible crepitus 2

Restriction of movement (ROM) **Grade**

- Absence of movement restriction. 0
- Restriction of movement <25% 1
- Restriction of movement 25% - 50% 2
- Restriction of movement > 50% 3

Visual Analogue Scale (VAS): **Grade**

- 0 cm. 0
- 1-3 cms 1
- 4-6 cms. 2
- 7-10 cms. 3

Overall assessment of clinical response:

- Good Response: 75 % and more improvement in overall clinical parameters.
- Moderate Response: 50%-75% improvement in overall clinical parameters.
- Mild Response: 25%- 50% improvement in over- all clinical parameters.
- No Response: Nothing has been changed

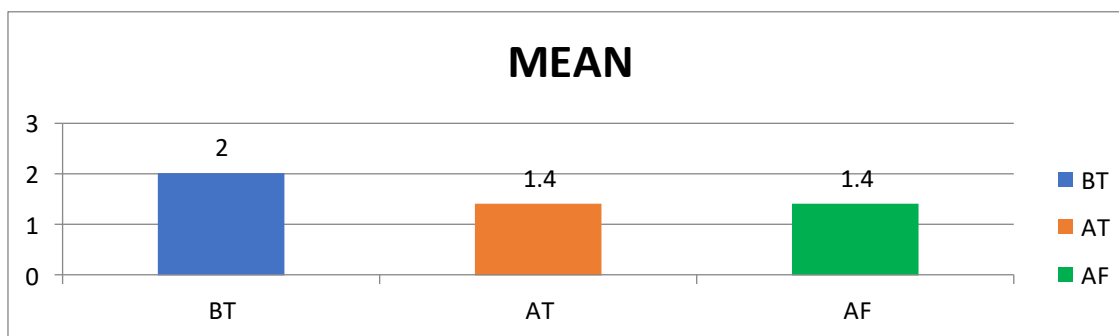
OBSERVATIONS AND RESULTS:

Effect of the Treatment on different Parameters

1. Sandhi Shoola

Table 1: Showing Comparison of effect of Treatment on Parameter *Sandhi Shoola*

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T- value	P- value	Remark
2	AT	1.4	0.6	30	0.51	3.67	<0.01	HS
	AF	1.4	0.6	30	0.51	3.67	<0.01	HS



Graph 1: Showing Comparison of effect of Treatment on Parameter Sandhi Shoola

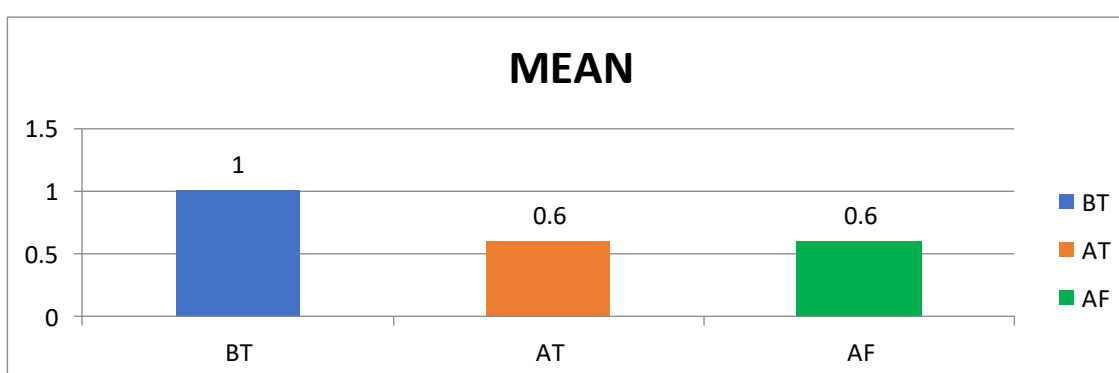
statistical analysis of *janusandishoola* shows that the mean score which was 2 before the treatment was reduced to 1.4 after the treatment with 30% improvement and it is

statistically highly significant with T test ($p < 0.001$) and after follow up there was no changes in the grading

2. Sparsha Asahyata

Table 2: Showing Comparison of effect of Treatment on Parameter *SparshaAsahyata*

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P-value	Remark
1	AT	0.6	0.4	40	0.51	2.44	<0.05	S
	AF	0.6	0.4	40	0.51	2.44	<0.05	S



Graph 2: Showing Comparison of effect of Treatment on Parameter *SparshaAsahyata*

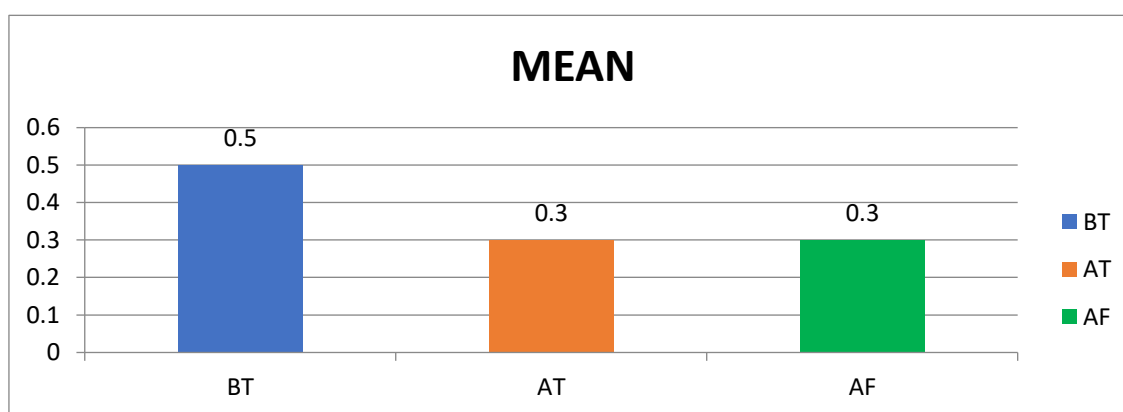
Statistical analysis of *Sparsha Asahyata* shows that the mean score which was 1 before the treatment was reduced to 0.6 after the treatment with 40% improvement and it is

statistically significant with T test ($p < 0.05$) and after follow up there was no changes in the grading

3. Sandhigraha

Table 3: Showing Comparison of effect of Treatment on Parameter *Sandhigraha*

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P- value	Remark
0.5	AT	0.3	0.2	40	0.42	1.5	>0.05	NS
	AF	0.3	0.2	40	0.42	1.5	>0.05	NS



Graph 3: Showing Comparison of effect of Treatment on Parameter *Sandhigraha*

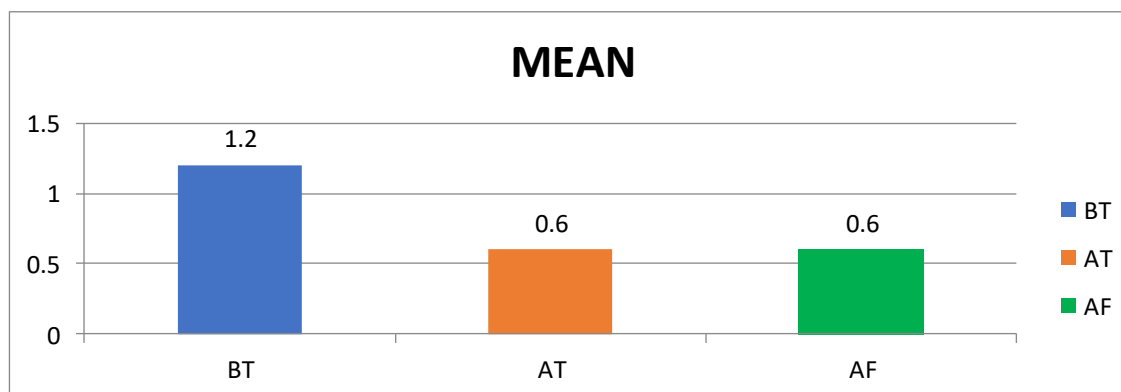
Statistical analysis of *Sandhigraha* shows that the mean score which was 0.5 before the treatment was reduced to 0.3 after the treatment with 40% improvement and it is

statistically not significant with T test ($p > 0.05$) and after follow up there was no changes in the grading.

4. Sandhi Shotha

Table 4: Showing Comparison of effect of Treatment on Parameter *Sandhi Shotha*

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P- value	Remark
1.2	AT	0.6	0.6	50	0.51	3.67	<0.01	HS
	AF	0.6	0.6	50	0.51	3.67	<0.01	HS



Graph 4: Showing Comparison of effect of Treatment on Parameter *Sandhi Shotha*

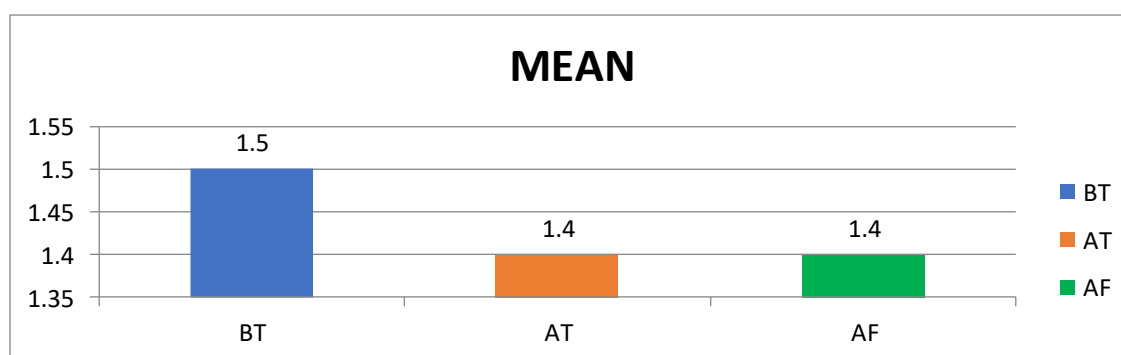
Statistical analysis of *Sandhi shotha* shows that the mean score which was 1.2 before the treatment was reduced to 0.6 after the treatment with 50% improvement and it is

statistically highly significant with T test ($p < 0.01$) and after follow up there was no changes in the grading

5. *Sandhi Sphutana*

Table 5: Showing Comparison of effect of Treatment on Parameter *Sandhi Sphutana*

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P-value	Remark
1.5	AT	1.4	0.1	6.67	0.31	1	>0.05	NS
	AF	1.4	0.1	6.67	0.31	1	>0.05	NS



Graph 5: Showing Comparison of effect of Treatment on Parameter *Sandhi Sphutana*

Statistical analysis of *Sandhi Sphutana* shows that the mean score which was 1.5 before the treatment was reduced to 1.4 after the

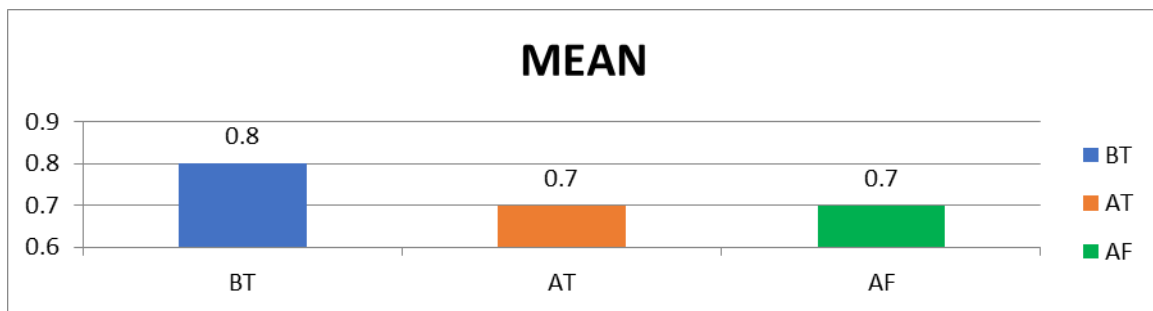
treatment with 6.67% improvement and it is statistically not significant with T test ($p > 0.05$)

and after follow up there was no changes in the grading

6. Range of Movement (ROM)

Table 6: Showing Comparison of effect of Treatment on Parameter Range Of Movement

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P- value	Remark
0.8	AT	0.7	0.1	12.5	0.31	1	>0.05	NS
	AF	0.7	0.1	12.5	0.31	1	>0.05	NS



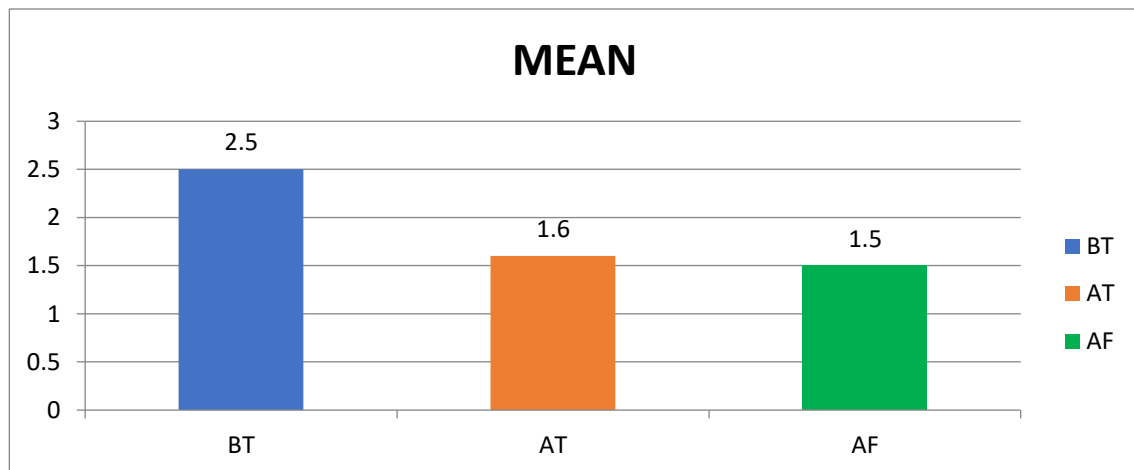
Graph 6: Showing Comparison of effect of Treatment on Parameter Range Of Movement

Statistical analysis of Range of Movement shows that the mean score which was 0.8 before the treatment was reduced to 0.7 after the treatment with 12.5% improvement and it is statistically not significant with T test ($p>0.05$) and after follow up there was no changes in the grading

7. Visual Analogue Scale (VAS)

Table 7: Showing Comparison of effect of Treatment on Parameter Visual Analogue Scale (VAS)

Mean BT	Mean		Mean difference	improve %	Paired t test			
					SD	T-value	P- value	Remark
2.5	AT	1.6	0.9	36	0.31	9.0	<0.01	HS
	AF	1.5	1	40	0.47	6.7	<0.01	HS



Graph 7: Showing Comparison of effect of Treatment on Parameter Visual Analogue Scale (VAS)

Statistical analysis of Visual Analogue Scale shows that the mean score which was 2.5 before the treatment was reduced to 1.6 after the treatment with 36% improvement and it is

statistically significant with T test ($p < 0.01$) and after follow up was reduced to 1.5 with 40% improvement, it is statistically highly significant with t test ($p < 0.01$)

Table 8: Showing the Improvement in Percentage of all parameters

Parameters	Improvement In Percentage
<i>Sandhishula</i>	30
<i>SparshaAsahyata</i>	40
<i>Sandhi graha</i>	40
<i>Sandhi Shotha</i>	50
<i>Sandhi Sphutana</i>	6.67
ROM	12.5
VAS	40
Average	31.31

DISCUSSION:

Sandhigata vata is a disease of the *madhyamarogamarga* involving the *asthisandhis* of the body. *Asthis* are the *ashraya* of the *Vata dosha* and the vitiation of *Vata* hampers the nourishment of *asthis*, which reflects in *Sandhis*. Such a mal-

nourishment involves the reduction of the *Sleshakakapha* and deterioration of the *Sleshmadharakala*. *Snehana* provides the *Snehabhava* needed for the nourishment of these in turn controls the vitiated *Vata*. *Stambha* means stiffness, this attribute is a resultant of excess of *seethaguna* and also

influence of factors such as *Samanavata*, *Shleshakakapha*, *Ama*, *Mamsa*, *Vasa* and *Medas*, which were contributory to occurrence of *Stambha*. *Samanavata* is *Rookshagunapradhana* and in vitiated state it does excessive *Shoshana* of *shareera* there by resulting in contractures and stiffness. *Sleshakakapha* is *Snigdha* and *Picchila* and in decreased state (*Kshaya*) results in less lubrication of joints causing Stiffness. *Shatahvaeditaila* being *Snigdha* and *Ushna* corrects both these deranged *Dosha ghatakas* and relieves stiffness, thereby results in *sampraptivighatana*. The ingredients of *Shatahvaeditaila* are *Shatahva*, *Yava*, *Bilva*, *Kanji* and *Tila*. *Shatahva* is having *Katu* and *Tikta rasa*, *Katuvipaka*, *ushnaveerya*. *Yava* is having *Kashaya* and *madhura rasa*, *katuvipaka*, *sheetaveerya*. *Bilva* is having *Kashya* and *Tikta rasa*, *Katuvipaka*, *Ushnaveerya*. *Kaanji* is having *Laghu* and *teekshnaguna*. *Tilataila* is having *Madhura* and *Tikta rasa*. So the prepared *Shatahvaeditaila* because of its ingredients possesses properties viz *Vatashamaka*, *Kaphashamaka* and possessing actions like *Vedanashamaka*, *Shotahara* and *Vatanulomana* play vital role in correcting the pathology. It can be presumed that *basti dravya* after entering the large intestines the fluids may transfer because of Osmosis from hypotonic solutions i.e. *Basti*

dravya along with the toxic material dragged from intracellular and extra cellular level into large intestines and throws out from the body. The rectum has rich blood and lymph supply with its vascularity and venous plexus, providing a good absorbing surface; with this many soluble substances produce their effect more quickly. Medicines which are absorbed in rectum and large intestine can cross through the rectal mucosa like other lipid membranes.

Conclusion:

Shatahvaeditailamatrabasti was found to be effective in the management of *Jaanusandhigata vata* with an average improvement of 31.31% in all the parameters which is an encouraging result. However Parameters *Sandhi Graha*, *SandhiSphutana* and Range Of Movement (ROM) were statistically not responded well by the treatment.

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