

**A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF *DASHMOOL KWATH NADI SWEDA* AND LOCAL STEAM BATH IN *SANDHI- GATA-VATA*****[Namita Patel](#)<sup>1</sup>, Durgawati Devi<sup>2</sup>, Kamalesh Kumar Sharma<sup>3</sup>**

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**Article Received:** 15/05//2022 - **Peer Reviewed:** 31/05/2022 - **Accepted for Publication:** 09/06/2022**ABSTRACT**

*Sandhigata Vata* is the commonest form of a particular disorder. It is a type of *Vata Vyadhi* that mainly occurs in *Vridha Vastha* due to *Dhatukshaya*. It limits daily activities such as walking, dressing, bathing, etc. thus making the patient disabled/handicapped. The symptoms of *Sandhigata Vata* are closely resembled osteoarthritis. Also called degenerative joint disease (DJD), is the most common form of chronic disorder of synovial joints. It is characterized by progressive degenerative changes in the articular cartilages over the years, particularly in weight-bearing joints. In this study total of 60 patients having the complaints of *Sandhigata-Vata* were randomly divided into 2 groups. The Control group was given *Dashmool Kwath Nadi Sweda* and the test group was given a local steam bath. Results were found significant on all the subjective parameters. Inter group comparison showed that *Dashmool kwath Nadi Sweda* was more effective as compared to the steam bath.

**Keywords:** *Dashmool Kwath, Nadi Swada, Osteoarthritis, Steam bath, Sandhigata -Vata*

## INTRODUCTION

Dhatukshya occur in Vridha avastha In Vridh-  
dhavastha, leading to Vata Prakopa and making in-  
dividual prone to many diseases. Sandhi-Gata-Vata  
is one of them at the top of the list. Acharya Charaka  
was the first to describe the disease called " Sandhi-  
gata-Anila" separately, but he did not include it under  
80 Vata Nanatmaja Vikara<sup>1</sup>. The foremost descrip-  
tion of Sandhi- Gata -Vata is given in Charaka Sam-  
hita. Vata Purnadritispar, Shotha, and Prasaran  
Aakunchana Pravriti Savedana (pain during flexion  
and extension of the joint) are the clinical features of  
Sandhi-Gata-Vata. Sthansamshraya of vitiated Vata  
Dosha at Sandhi (joint) results in the development of  
a disease termed Sandhi -Gata-Vata. The line of  
treatment for Sandhi - Gata - Vata is mainly focused  
on the alleviation of Vata Dosha. Acharya Charaka  
explains that vitiated Vata can be best treated with  
the use of oil <sup>2</sup> Use of Snehan with Swedan over the  
affected part is also advised in the treatment of Vata  
Vyadhi which alleviate pain stiffness and improves  
flexibility.<sup>3</sup> From an Ayurveda point of view,  
Swedana Dravya possesses Ushna, Tikshna, Sara,  
Snigdha, Suskshma properties. Nadi swedana karma  
itself mainly possesses Ushna and Snigdha properties  
which are opposite to Vata and so can easily pacify it.  
Swedana Dravya enhances the effects of Swedana  
karma. Steam bath is a form of Swedana where plain  
water is to be used. So, it has been considered therapy  
in naturopathy for OA. In modern medical studies,  
Sandhi-Gata-Vata resembles osteoarthritis. Osteoar-  
thritis (OA) is the most common Musculo skeletal  
abnormality commonly occurring by the age of 70  
years. It is a condition that affects especially major  
joints. In weight-bearing joint, some pathological  
changes occur by the age of 40 years in almost all  
people, and symptoms of osteoarthritis are commonly  
seen in 25% female. and 16% males. More rate of OA  
in the knee is observed in Indian population than that  
in the Western population. It induces interference  
with work disability by inducing limitations due to  
pain while carrying out daily activities such as walk-  
ing, dressing, and bathing. The prevalence is higher  
than many well-known diseases such as diabetes,

AIDS, and cancer. Osteoarthritis is the most common  
form of arthritis, accounting for more disability  
among the elderly than any other disease. Joint pain,  
joint malfunction, and restricted mobility lead to con-  
siderable compromise in quality of life. The chronic  
pain of arthritis is a common presentation in clinical  
orthopedic practice. It presents not only with the  
crippling and incapacitating effect but also with an  
emotional, economic, and social problem. Often the  
course of the disease cannot be altered. Analgesics  
are the only mode of treatment. Commonly used an-  
algesics and anti-inflammatory drugs have their limi-  
tations on short-term and prolonged use. In addition,  
there may be individual variation in analgesic effects.  
Intra articular steroids are widely used in OA, these  
injections may provide marked symptomatic relief for  
weeks to a month. Research studies on animal models  
reveals that Glucocorticoids produce cartilage dam-  
age associated with a joint breakdown in humans; the  
injection should generally not be repeated in a given  
joint more often than every 4 to 6 months. Even sur-  
gical management does not provide permanent relief.  
So, the world is looking towards Ayurveda as a safe  
and effective medication for the treatment of Sandhi-  
Gata-Vata. In summary, joint pain is highly preva-  
lent, disabling, and economically costly to societies  
worldwide. Allopathic treatment has its limitation in  
managing this disease. It can provide either conserva-  
tive or surgical treatment and is highly symptomatic  
and with troublesome side effects. Therefore, the fol-  
lowing two therapies to treat these disorders are cho-  
sen which includes. Local application of Dashmool  
tail and Dashmool Kwath Nadi Sweda were selected  
for the present study as it has shown best for the Vata  
Vyadhi. Here local application was given with  
Dashmool tail because Dashmool tail, and Nadi  
Sweda are having Vata shamaka and Rasayana prop-  
erties. In another group, a local application of  
Dashmool tail and local steam bath were given to the  
patients. In this study, both therapies that are Nadi  
Sweda and local steam bath has been tested and com-  
pared. Observations and results have been statistical-  
ly analyzed and documented.

**Aims And Objectives:** - To compare the effect between *Nadi Sweda* and local steam bath therapy in *Sandhi-Gata-Vata*.

**Material And Method**

**Conceptual study:** A detailed study of the classical and contemporary text available in Ayurvedic and Modern literature reviewed in detail.

**Clinical study:** Evaluation of *Nadi Sweda* and local steam bath in *Sandhigata Vata*.

**Source of Data** (Population of interest); Patients suffering from *Sandhigata Vata* fulfilling the inclusion and diagnostic criteria were selected from O.P.D and I.P.D of National Institute of Ayurveda Hospital, Jaipur, Rajasthan.

**Study design:** Open Randomized parallel clinical trial.

**Sample size:** 60 patients were registered, and they were equally divided into group A and group B.

**Treatment Period:** 3 months

**Follow-Up Period:** Weekly

**Inclusion criteria:**

- Patients beyond 18 years of age of either sex.
- Patients having complaint of single or multiple joint pains.

**Exclusion criteria:**

- History of trauma /injury/tumor/ infection and non-mechanical cause.
- Patients of *Amavata*, *Vatarakta* and involvement of *Pitta* or *Rakta Dosh*.
- Diagnosed patients suffering with Hypertension, Heart disease, Diarrhea, and Disc herniation of the Vertebral column.
- Pregnancy, Lactation, and during Menstruation.
- Chronic and systemic ailment or any anatomical condition.

**Diagnostic criteria: -**

The Patients were diagnosed on the base of both *Ayurvedic* classical signs and symptoms of *Sandhigata Vata*–

- *Prasarana Akunchan Pravriti Swedana* (Pain in joints during flexion & extension)
- *Sandhishotha* (Swelling in joints)
- *Hanti Sandhigraha / Stambh* (Stiffness)
- *Sandhisphutana* (crepitus)

- *Sandhisparsaashyata*

**Discontinuation Criteria:**

- Any major illness requiring any intervention.
- Patient does not want to continue the trial.

**Base line investigations:** RA factor, Uric acid, RBS

**Details of intervention:**

1. Group A has been given-
  - a. *Yogaraj Guggulu*- 2 tab. TDS with Luke-warm water
  - b. *Dashmool Kwath Nadi Sweda* for 10-15 min. on affected Joint /joints after application of *Dashmool tail* once a day.
2. Group B has been given-
  - a. *Yogaraj Guggulu*- 2 tab. TDS with Lukewarm water
  - b. Local steam bath for 10-15 min. on affected joint/joints after application of *Dashmool tail* once a day.

Any illness during the trial: Patients have been advised to take medicine from a related consultant.

**Methods of administration of therapy:**

Group A Patient was kept in sitting position on stool/chair. *Dashamool Kwatha* has been prepared according to guidelines. Approximately; 2 liters of prepared *Kwatha* was taken into the pressure cooker and started to be boiling it for steam generation. The cooker was closed with a lid without a pressure regulator. A rubber tube is used in an LPG gas cylinder connected to the steam tube of the lid. The length of the tube was 6-8 feet. *Dashamool tail* was applied on affected joint/joints for 1-2 minutes. After that generated steam of *Dashamool Kwatha* was applied to affected joint/joints through the tube with sufficient distance. The steam should be continued move on the affected area until proper *Swedana lakshana* were produced or for the duration of 10-15 minutes. After *Swedana* steamed area should be cleaned with a towel and take rest for 10-15 minutes.

**Group B**

A local steam bath was given to this group. The same procedure was applied except medium of *Swedana* was plain water. Plain water was taken, and its steam was applied to affected joint/joints as group A

**Assessment Criteria: -**

**Subjective:**

1. *Prasarana Akunchan Pravriti Swedana* (Pain in joints during flexion & extension)
2. *Sandhishotha* (Swelling in joints)
3. *Hanti Sandhigraha / Stambh* (Stiffness)
4. *Sandhisphutana* (crepitus)
5. *Sandhisparsaashyata*

6. WOMAC Osteoarthritis Index (Modified CRD Pune version)

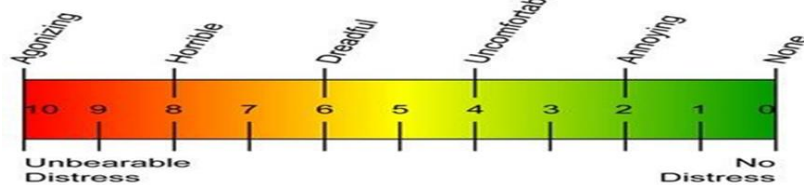
7. Neck disability index

**Objective:** CBC, ESR, CRP

Grading for the assessment of symptoms: - A) Subjective criteria:

- *Prasarana Akunchan pravriti Savedna* (Pain in joints during flexion & extension)

Pain intensity of knee joints was assessed by using of VAS scale.



**Table 1**

S.No.	Symptoms	Grading
1	No pain	00
2	Distress	01
3	Annoying	02-03
4	Uncomfortable	04
5	Dreadful	05-06
6	Horrible	08
7	Unbearable	09
8	Agonizing	10

**Table 2**

<i>Sandhishotha</i> (Swelling over joint)	Grade
Nil, no swelling	0
Mild, feeling of swelling with heaviness joints-	1
Moderate apparent swelling	2
Severe, huge swelling	3

**Table 3**

<i>Hanti Sandhigraha / Stambh</i> (Stiffness)	Grade
Nil, no morning stiffness	0
Mild, morning stiffness of 5-10minutes duration	1
Moderate, morning stiffness of 10-15 minutes duration	2
Severe, morning stiffness of 15-30 minutes duration	3

**Table 4**

<i>Sandhisphutana</i> (Crepitus)	Grade
No crepitus	0
Mild, perception of touch	1

Moderate, audible on attention	2
Severe audible	3

**Table: 5**

<i>Sprashashayata</i> (Tenderness)-	Grade
No tenderness	0
Mild, elicited on moderate pressure	1
Moderate, elicited on moderate pressure	2
Severe, elicited even on slight touch	3

Womac Osteoarthritis Index (Modified Crd Pune Version) Womac *Stabdhata* (Stiffness), *Hanti Sandhigata* (Loss of function), and Functional Capacity were measured by WOMAC criteria of arthritis. OA Grading 0-None, 1-Mild, 2-Moderate, 3-Severe, 4-Extreme WOMAC OA INDEX (Marks)

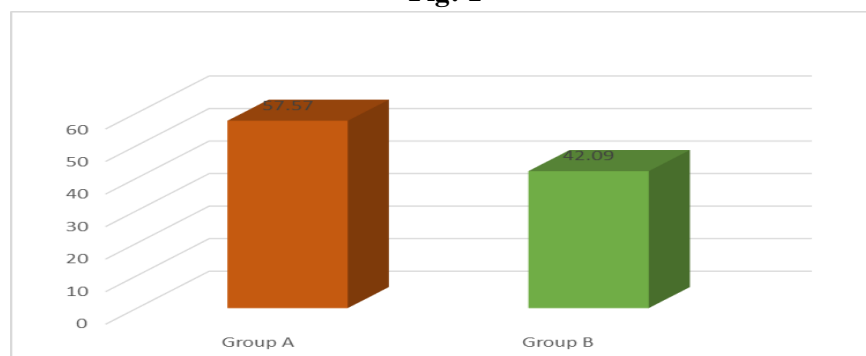
None: 0 Mild: 1-24 Moderate: 24-48 Severe: 48-72 Extreme: Above 72 Western Ontario & McMaster Universities Osteoarthritis index (WOMAC) has a total of 24 questions in itself. **Result:** After treatment investigation could not be done due to COVID -19.

**Table 6:** Compare the overall effect of therapy in both groups

S. No	Sign & symptoms	Relief of percentage	
		Group A	Group B
1.	<i>Prasaran aakunchan pravriti savedna</i>	64.44	38.53
2.	<i>Sandhisotha</i>	45.83	53.84
3.	<i>Sandhistambh</i>	70.51	38
4.	<i>Sandhisphutana</i>	50	41.66
5.	<i>Sandhisparsaashyata</i>	69.23	50
6.	WOMAC index score	51.45	30.51
	<b>Average</b>	<b>58.57</b>	<b>42.09</b>

In the study, the average percentage improvement was maximum in Group A (60.63%), and minimum relief in Group B (42.09%). So, from this data, it is clear that in *Sandhigatavata*, Group A is more effective than Group B.

**Fig: 1**



## DISCUSSION

In classic, *Sandhigata Vata* is included under *Vatavyadhi* in all Samhita is a separate clinical entity. There is an important sign prasarana akunchana vedana as mentioned in *Sandhigata Vata*. Vitiating of *Vata Dosha* takes place due to various Nidana like *Aharaja*, *Viharaja*, *Manasa*, etc. *Sandhigata Vata* is a disease which usually occurs in *Vridhastha*. Vitiating of *Vata* also occur in two ways i.e. *Dhatukshayajanya* and *Avaranajanya*. *Dhatukshya* which leads to *Vata Prakopa*. *Vata* and *Asthi* have *Ashraya-Ashrayi Sambandha* which means *Vata* is situated in *Asthi*. An increase in *Vata* diminishes *Sneha* from *Asthi Dhatu* due to its *Viparita gunas* (opposite qualities) to *Sneha*. So, in *Sandhigata Vata*, *Rakta srotas (snehadigunashoonya)* are present apart from *Sleshaka kaphakshaya* (lack of synovial fluid) in the *Asthi* which is responsible for the production of *Sandhigatavata*. *Sandhigatavata* can be correlated with osteoarthritis in modern medical science. In modern science, analgesics including NSAIDs, and anti-inflammatory drugs are the treatment choice for Osteoarthritis. There is symptomatic relief to some extent which also have a great adverse effect. In the end-stage joint replacement is the ultimate solution. so, this suggest special Ayurvedic management as the patient is increasing day by day. So, a clinical study was done to know the effect *Dasmool kwatha Nadi Sweda* and local steam. In this study majority of the patients i.e., 17 each were in the age group of 60-69 years (35.41%) and 13 patients were in the age group 50-59 years (27.08%) and 12 patients were in the age group 40-49 years (25%) and only 6 patients were in the age group 30-39 year. (12.5%). According to Ayurveda old age is a period of aggravation of *Vata Dosha*. During old age vitiated *Vata Dosha* resulting *Dhatu Kshaya*. Prevalence of OA is very much common in the above 60 years age group. It is also supported by various studies. Majority of patients (56.25%) was female i.e., 27 and the rest 21 patients were Male (43.75%). In this study majority of patients were House worker i.e., 21, while 19 were Office

workers, 3 each were Labour and agriculture while 2 patients were related to Businessmen. Household activities involve regular bending and prolonged care negligence which leads to joint degeneration that predisposes OA. Sedentary jobs were also performed by people who were more likely to become osteoarthritic. Occupation plays an important role in terms of risk factors for OA development. In this study majority of 35 patients were on a vegetarian diet (72.91%) and the remaining 13 were on a mixed diet (27.08%). It may be due to maximum patients belonging to the Hindu religion and people usually Rajasthan follow a vegetarian diet, rest patients were taking the mixed type of diet. A vegetarian diet inhibits calcium, absorption in the GIT. It may be a risk factor for *Sandhigata Vata*.

### Probable mode of action of Steam Bath-

Studies show that a steam bath/ sauna bath both relaxes muscles and soothes aches and pain in muscles and joints. Under high heat body releases endorphins which have a mild tranquilizing effect and the ability to quell the pain of arthritis. It also eliminates lactic acid and other toxins from the body. Raised temperature causing blood vessels to dilate and circulation to increase the increased blood flow accelerates the body's natural healing process. Overall steam bath reduces the symptoms of *Sandhigata Vata* or osteoarthritis by-

1. Increasing blood circulation because there is an association between decrease blood flow and pain. Long-term local heat treatment may have improved blood flow in a particular tissue, resulting in pain relief in osteoarthritis.
2. Increasing collagen fiber extensibility.
3. It produces analgesic effects due to an increase in the pain threshold.
4. Effecting muscles metabolism.
5. In Vivo study has relieved that an increase in the cartilage temperature promotes proteoglycan production as a cartilage Matrix component. So, it may be helpful in the improvement of cartilage damage in the synovial joint.



6. Changes the water content in the cartilage which is associated with the increasing weight-bearing resulting from an improved working ability of the new joint. This also represents an improvement in cartilage degeneration.

#### Probable mode of action of Nadi Sweda

Sweda is the *Updhatu* of *Meda Dhatu* which dominates in *Jala Mahabhuta*. The Sweda produces *Kleda* in the body which is also *Apa Mahabhuta pradhana*. The *Udaka Dhatu* is present in the body in various forms like faeces, urine, sweat, skin, lymph, blood, etc. It performs important functions like *Jivana*, *Tarpana*, *Mala shodhana*, etc. when *Swedavaha Srotas* is vitiated; it leads manifestation of various symptoms like irregular production of sweating, roughness of the skin, burning sensation all over the body, etc. Sweat consists of sodium chloride, water, urea, lactic acid, potassium, calcium, etc. These all substances are present in the extra cellular fluid also, which provide nutrition to cells. Excessive sweating in the body leads to depletion of contents of extracellular fluid. Sodium chloride is one of the major substances which are lost during sweating. Due to its loss feeling of exhaustion or weakness in the body occurs. *Swedana* by its qualities like *Ushna*, *Tikshna*, etc., does stimulation the body. It increases the metabolic rate in the body. *Ushna Guna* of *Sweda* dilates the capillaries thus it increases circulation. Increased circulation leads more elimination of waste products and more absorption of *Sneha* or drugs through the skin. Also, it stimulates muscles and nerves which promotes its renovation. Heat administration by *Swedana* may produce a hypo analgesic effect by diverted stimuli. Sweating controls the heat production, water and electrolyte balance in the body.

In short *Swedana Karma* acts by-

1. Producing sedative/ tranquilizing effect and thus results in relieving the pain.
2. Relieving stiffness.
3. Relieving coldness.
4. Relieving heaviness.
5. Stimulating sweat glands.

*Swedana Dravya* enhances the power of the steam bath and relieves the symptoms of *Sandhigata Vata* more effectively.

#### CONCLUSION

In Inter-group comparison of *Prasaran aakunchan pravriti Savedna*, *Sandhistambh*, WOMAC index score, the result was statistically Extremely significant and *Sandhishotha*, *Sandhisphutana*, *Sandhispar-saashyata* was the nonsignificant result. Both therapies are effective in *Sandhi-Gata-Vata*, and significant difference are found in *Dashmool Kwath Nadi Sweda* and local steam bath, but *Nadi Sweda* is better in *Sandhi-Gata-Vata*.

#### REFERENCE

1. Charakasamhita with "Charak Chandrika"-hindi commentary, Chikitsasthana, 28/37, by Dr. BrahmanandTripathi, 2008, vol-2, ChaukhambaSurbharatiPrakashan, Varanasi-221001, pp-942
2. Charakasamhita with "Charak Chandrika"-Hindi commentary, Chikitsasthana, 28/181, by Dr. BrahmanandTripathi, 2008, vol-2, ChaukhambaSurbharatiPrakashan, Varanasi-221001, pp - 970
3. Charakasamhita with "Charak Chandrika"-Hindi commentary, Chikitsasthana, 28/181, by Dr. BrahmanandTripathi, 2008, vol-2, ChaukhambaSurbharatiPrakashan, Varanasi-221001, pp - 952

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