

A comparative clinical study on Matra Basti with Kshirabala Taila and Ketakadya Taila in Janu Sandhigata Vata

Research Article

Yamini S¹, Ratnang D², Parappagoudra M^{3*}, Anjali G¹, Dash G¹

1. PG Scholar, 3. Associate Professor, Department of Panchakarma, Parul Institute of Ayurved, Parul University, Limda, Vadodara. Gujarat. India.
2. Government Medical Officer (CI-2) Dist. Devbhoomi Dwarka, Gujarat. India.

Abstract

Osteoarthritis is a form of arthritis that occurs due to the gradual deterioration of joints, including the articular cartilage and subchondral bone. Common symptoms include joint pain, stiffness, and reduced range of motion, leading to a loss of flexibility in the affected joints. Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly prescribed to manage the symptoms of Osteoarthritis which help in reducing pain, inflammation, and stiffness. Ayurvedic texts suggest various treatments for this condition among which Basti is considered a crucial part of the overall therapy. The Matra Basti is a specific form of Basti that is relatively easier to administer without any complications. In this study, an attempt was made through Matra Basti with Kshira Bala Taila and Ketakadya Taila mentioned in Vata Vyadhi Chikitsa specifically. This is an open-label, randomized comparative clinical trial conducted on 30 patients diagnosed with Sandhigata Vata. These patients were divided into two groups i.e., in Group A, 15 patients were given Abhyanga, Baspa Swedana followed by Matra Basti with Kshira Bala Taila, and in Group B, 15 patients were given Abhyanga, Baspa Swedana followed by Matra Basti with Ketakadya Taila for 15 days. Statistically significant results i.e. $p < 0.05$ were seen in following symptoms like Sparsha Asahatva (tenderness), Sandhi Sphootana (crepitus), ROM (Range of Motion), Sandhi Shoola (pain), Akunchan Prasaranajanya Vedana (pain during flexion and extension) and Sandhishotha (swelling).

Keywords: Degenerative Joint Disease, *Ketakadya taila*, *Kshirabala taila*, *Matra Basti*, Osteoarthritis, *Sandhigata Anila*.

Introduction

Sandhigata Vata is described in all *Samhitas* and *Sangraha Granthas* as a separate clinical entity under the heading of *Vata Vyadhi*. It is noteworthy that *Acharya Charaka*, in his compilation, did not include *Sandhigata Vata* among the 80 types of *Nanatmaja Vatika Vikara* (different forms of *Vata* disorders) (1). However, he did describe the disease separately as "*Sandhigata Anila*" (2). *Acharya Sushruta*, on the other hand, was the first to provide a dedicated treatment line for *Sandhigata Vata* (3). According to *Acharya Charaka's* definition, the disease is characterized by symptoms such as swelling (*Shotha*) that can be felt like an air-filled bag (*Vata Purna Driti Sparsha*), along with pain upon flexion and extension of the joints (*Akunchana Prasarane Vedana*). (4)

Sandhigata Vata is a condition that predominantly occurs in *Vridhnavastha*, also known as the *Parihanikala* (old age). *Sandhigata Vata Vyadhi* commonly affects major joints such as the hip, knee,

shoulder, and others. Among these, the knee joint is frequently involved due to its weight-bearing function. In cases of *Janusandhigata Vata*, typical symptoms include *Shool* (pain), *Shotha* (edema or swelling), and *Chankramana Kashtata* (difficulty or pain during movement). These symptoms are characteristic manifestations of *Sandhigata Vata* in the knee joint. (5) In modern science, a similar condition affecting the joints is known as osteoarthritis. Osteoarthritis is sometimes referred to as Degenerative Joint Disease. This condition primarily affects the cartilage, which is the smooth tissue that covers the ends of bones within a joint. Healthy cartilage enables smooth movement and acts as a shock absorber. However, in Osteoarthritis, the outer layer of cartilage breaks down and deteriorates. As a result, the bones beneath the cartilage can rub against each other, leading to pain, swelling, and reduced joint mobility. Over time, the affected joint may change its shape, and bone spurs may develop along the joint's edges. Additionally, small fragments of bone or cartilage can detach and float within the joint space, causing further pain and damage. Osteoarthritis can be classified into two types: Primary (Idiopathic), which occurs without a specific underlying cause, and Secondary, which arises as a result of another condition or injury. (6) According to the World Health Organization (WHO), Osteoarthritis ranks as the second most prevalent musculoskeletal problem worldwide, affecting approximately 30% of the global population. It

* Corresponding Author:

Parappagoudra M

Associate Professor,
Department of Panchakarma,
Parul Institute of Ayurved, Parul University, Limda,
Vadodara. Gujarat India.
Email Id: mahesh.parappagoudra26812@paruluniversity.ac.in

follows back pain, which is the most common musculoskeletal issue, impacting around 50% of the population. (7)

Initially, Osteoarthritis is often asymptomatic in individuals between the ages of 20-30. However, as people reach middle age and beyond, symptoms tend to manifest. Up until the age of 55, osteoarthritis occurs at a similar frequency in both men and women. However, after the age of 55, it becomes more prevalent in women. In modern medicine, Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) are commonly prescribed as the primary treatment for Osteoarthritis. While NSAIDs can provide relief from pain and inflammation, it is important to note that they can also be associated with various side effects.(7)

In the management of osteoarthritis, it is crucial to focus on strengthening the surrounding tissues, including muscles, ligaments, and tendons, as they play a vital role in joint stability. Strengthening these tissues is important to prevent or alleviate the symptoms of osteoarthritis. When the joint is weak, even minimal loads can lead to further damage. Therefore, an effective treatment approach for osteoarthritis should aim to strengthen the surrounding tissues.

Acharya Charaka has outlined common treatment approaches for *Vatavyadhi*, which involve the repeated application of *Snehana* (oleation) and *Swedana* (sudation), as well as the utilization of *Basti* (medicated enema) and *Mriduvirechana* (mild purgation). (8) *Acharya Sushruta* has provided a clear treatment protocol for *Sandhigatavata*. According to his teachings, the treatment involves the application of *Snehana*, *Upanaha* (herbal poultices or bandages), *Agnikarma* (thermal therapy), *Bandhana* (bandaging), and *Unmardana* (massage) (9). According to *Acharya Charaka*, *Basti Chikitsa* is considered the most effective treatment for managing *Vata* disorders. It is described as half of the complete treatment. (10) *Anuvasana Basti* is a type of *Basti* in which *Sneha dravya* is administered through the enema. *Matra Basti* is a specific type of *Anuvasana Basti*. *Matra Basti* is considered versatile and suitable for almost everyone, regardless of the season. It is described as *Nishpariharya*, meaning it can be administered with maximum ease and without complications (11). For the present study, *Kshira Bala taila*, which is indicated for the treatment of *Vatavyadhi* and previous studies have also been conducted which prove so, and *Ketakadya taila*, indicated for *Asthigata Vata*, were selected for the administration of *Matra Basti* in the management of *Janu Sandhigata vata*.

Aim

To evaluate the efficacy of *Matra Basti* using *Kshira Bala Taila* and *Ketakadya Taila* in the management of *Janu Sandhigata Vata*

Objectives

- To observe the efficacy of *Matra Basti* using *Kshira Bala Taila* in *Janu Sandhigata Vata*.
- To observe the efficacy of *Matra Basti* using *Ketakadya Taila* in *Janu Sandhigata Vata*.

- To compare the efficacy of *Matra Basti* using *Kshira Bala Taila* and *Ketakadya Taila* in the management of *Janu Sandhigata Vata*.

Materials and methods

IEC approval: No.PU/PIA/IECHR/2017/36 (date: 17/04/2017)

CTRI NO.: CTRI/2018/10/016111

Sources of data: Patients diagnosed with *Janu Sandhigata Vata* from OPD and IPD of Parul Ayurved Hospital and Khemdas Ayurved Hospital, Waghodia, Vadodara, were selected for the study on the basis of inclusion and exclusion criteria.

Method of collection Data: In this clinical study total 30 patients (15 patients in two separate groups) were selected on the basis of simple randomized sampling procedure according to the inclusive criteria.

Type of Study: Open labelled clinical trial.

Selection of Patient: Computer Randomization

Sample Size: As per the incident rate of *Janu Sandhigata Vata* patient recorded in central IPD register of Parul Ayurved Hospital Vadodara, Duration of study, Inclusion criteria and Exclusion criteria of study, the sample size was restricted to 30 (i.e. 15 in each group).

Table 1: Study Design

	Group – A	Group- B
Drug	<i>Kshirabala Taila</i>	<i>Ketakadya Taila</i>
Dose	60ml	60ml
Duration	15 <i>basti</i> , once daily after food intake	15 <i>basti</i> , once daily after food intake
Route of administration	Anal route	Anal route
Follow Up	Every 15 days for one month	Every 15 days for one month

A. Sample Source: Patients suffering from *Janusandhigata Vata* were selected from the OPD and IPD of Parul Ayurved Hospital and Khemdas Ayurved Hospital in Waghodia, Vadodara.

B. Drug Source: *Kshirabala taila* (12) and *Ketakadya Taila* (13), Both the drugs were taken from *Ashtanga Hridaya* and *Sahasra Yoga* respectively, and prepared according to *Taila Paka vidhi* (14) described in the classics at GMP Certified Parul Ayurved Pharmacy, Vadodara, Gujarat.

C. Diagnostic criteria: Individuals were selected as per the classical *Lakshanas* (symptoms) of *Sandhigata Vata* i.e. (*Sandhishoola*, *Akunchan Prasaranajanya Vedana*, *Sparsha Asahatva*, *sandhisphutana*, *sandhishotha*) (15), (16) and based on signs and symptoms of osteoarthritis of contemporary science i.e. ROM. Patients were selected randomly fulfilling the diagnostic and inclusion criteria of *Janu Sandhigata Vata* of either sex irrespective of caste, religion, and locality. The selected patients were subjected to detail clinical history and complete physical examination before undergoing the clinical study.

Inclusion criteria

- According to Ayurvedic classics, to follow the literary symptomatology viz. *Shoola, Shotha, Akunchana Prasarana Vedana*, etc. at the knee Joint.
- Patients should be between the age group 30-70 years.
- Patients without any fractural deformity should be included.

Exclusion criteria

- Below 30 and above 70 years of age.
- Fracture of Knee Joint
- Cancer Patients
- Major systemic disorders like TB, uncontrolled DM, moderate obesity, severe Obesity, etc.
- Rheumatoid Arthritis
- Psoriatic Arthritis
- *Vata Rakta*

Assessment criteria

Subjective criteria

- *Sandhi Shoola* (Pain)
- *Akunchan Prasaranajanya Vedana* (Pain during Flexion and Extension)
- *Sparsha Asahatva* (Tenderness)
- *Sandhisphutana* (Crepitus)
- *Sandhi Shotha* (Swelling)

Objective criteria

- Range of Motion (ROM) measured with Goniometer

Table 2: Scoring pattern of assessment criteria

<i>Sandhishula</i> (Pain)	No pain	0
	Mild pain	1
	Moderate pain but no	2
	Slight difficulty in walking	3
	Severe difficulty in	4
<i>Akunchana Prasaranajanya Vedana</i> (Pain during Flexion and Extension)	No pain	0
	Pain without winching of	1
	Pain with winching of face	2
	Prevent complete flexion	3
	Does not allow passive	4
<i>Sparsha Asahatva</i> (Tenderness)	No tenderness	0
	Patient says tenderness	1
	Winching of the face on	2
	Does not allow to touch the	3
<i>Sandhisphutana</i> (Crepitus)	No Crepitus	0
	Palpable Crepitus	1
	Audible Crepitus	2
<i>Sandhishotha</i> (Swelling)	No Swelling	0
	Slight Swelling	1
	Moderate Swelling	2
	Severe Swelling	3
ROM of Knee Joint (Flexion)	130 Degrees	0
	125 Degrees	1
	120 Degrees	2
	115 Degrees	3
	110 Degrees	4
	105 Degrees	5
	100 Degrees	6

Table 3: Intervention

Intervention details			
Group	Procedure	Drug	Dose
Group-A (15 patients)	<i>Matra Basti</i>	<i>Kshira Bala Taila</i>	60ml
Group-B (15 patients)	<i>Matra Basti</i>	<i>Ketakadya Taila</i>	60ml

Materials required for the study

- The equipment and materials required for administering *Matra Basti* include a gas stove, cylinder, lighter, vessels, rubber catheter, enema syringe, *Kshira Bala Taila, Ketakadya Taila*, latex hand gloves, *Droni, Khalwa Yantra*, measuring jar, *Peshani*, and cotton swabs.

Methodology of the study

- The eligible patients who met the inclusion criteria underwent a comprehensive examination to assess both subjective and objective parameters. ROM of the affected joints was measured using a goniometer, and the severity of symptoms was graded and recorded. Before initiating the treatment, informed consent was obtained from the patients.

Method of administration of *Matra Basti*:

- *Purva Karma*: Before the administration of the *Basti, Sthanik Abhyang* followed by *Nadi Sweda* (on *Janu Sandhi* and *Udara*) was done on every patient. For the administration of *Matra Basti*, 60ml of oil is measured and placed in a measuring jar. The oil is then warmed to a lukewarm temperature using indirect heat. The lukewarm oil is loaded into an enema syringe, and a rubber catheter is connected to the mouth of the syringe. The tip of the rubber catheter is coated with the oil at the entry point. After that, the patient is positioned on a *Droni* in the left lateral position, with the right knee flexed. The patient's *Gudabhaga* is examined for any fissures or piles, and then the *Guda* is coated with the oil.
- *Pradhana Karma*: The patient is instructed to breathe through the mouth, and with a gentle and slow motion, the rubber catheter is inserted into the *Guda*. The oil is then gradually and uniformly pushed into the rectum, taking care to remove any air bubbles that may be present. This ensures a smooth and effective administration of the oil enema
- *Paschat Karma*: Following the administration of the *Matrabasti*, the rubber catheter is gently and gradually removed. The buttocks are lightly patted to provide comfort to the patient. The patient is then instructed to raise their legs three times and subsequently asked to lie down in a supine position for 15 minutes. Throughout the treatment process, the time of administration and expulsion of the *Basti Dravya, Samyak Anuvasita Lakshanas (Sapureesha snehanivruti, Sanila snehanivruti, Swapnanuvriti, Laghuta, Balam and Srishtavega)* (17) and any complications is observed and documented daily.

Observations and results

Table 4: Observations of Assessment criteria's

		On 8 th day	On 15 th day
Sandhishula (Pain)	GROUP A	63.16%	33.22%
	GROUP B	66.67%	35.71%
Akunchana Prasaranajanya Vedana (Pain during Flexion and Extension)	GROUP A	67.55%	32.44%
	GROUP B	69.23%	38.46%
Sparsha Asahatva (Tenderness)	GROUP A	89.65%	44.85%
	GROUP B	86.70%	50.00%
Sandhisphutana (Crepitus)	GROUP A	52.95%	17.65%
	GROUP B	50.00%	37.50%
Sandhishotha (Swelling)	GROUP A	94.78%	73.69%
	GROUP B	95.28%	52.42%
ROM of Knee Joint (Flexion)	GROUP A	35%	11.87%
	GROUP B	33.35%	8.35%

In Group A, the percentage of patients experiencing relief from *Sandhishula* decreased from 63.16% to 33.22%. In Group B, it decreased from 66.67% to 35.71%. For *Akunchana Prasaranajanya Vedana*, the percentage of relief in Group A decreased from 67.55% to 32.44%, while in Group B, it decreased from 69.23% to 38.46%. *Sparsha Asahatva* showed relief from 89.65% to 44.85% in Group A and from 86.70% to 50.00% in Group B. The percentage of relief from *Sandhisphutana* decreased from 52.95% to 17.65% in Group A and from 50.00% to 37.50% in Group B. For *Sandhi Shotha*, relief was observed from 94.78% to 73.69% in Group A and from 95.28% to 52.42% in Group B. Lastly, ROM showed relief from 35% to 11.87% in Group A and from 33.35% to 8.35% in Group B. These results indicate that both Group A and Group B experienced a decrease in symptoms and improvement in their condition after the therapy. However, the specific percentages show the extent of relief observed for each symptom or parameter measured in the study.

Table 5: Results

Cardinal Symptoms	GROUP	Mean Score		Z value	P value
		BT	AT		
Sandhishoola	GROUP A	3.18	0.921	3.578	<0.001
	GROUP B	3.47	0.729	3.624	<0.001
Akunchana Prasaranajanya Vedana	GROUP A	2.135	0.48	3.53	<0.001
	GROUP B	2.36	0.55	3.45	<0.001
Sparsha Asahatva	GROUP A	1.86	0.31	3.771	<0.001
	GROUP B	2.03	0.58	3.689	<0.001
Sandhisphutana	GROUP A	1.34	0.42	3.001	<0.003
	GROUP B	1.26	0.73	2.132	<0.033
Sandhishotha	GROUP A	1.78	1.06	3.578	<0.001
	GROUP B	1.57	1.25	3.520	<0.001
ROM of Knee Joint	GROUP A	2.58	1.65	3.457	<0.001
	GROUP B	2.23	1.73	3.352	<0.001

In the given context, a "P" value of less than 0.001 was considered statistically highly significant, indicating that the observed results are highly unlikely to have occurred due to chance alone. Conversely, a "P" value greater than 0.05 was considered non-significant, suggesting that the observed results could have occurred by chance and may not be statistically meaningful. The "Z" value shown in the Table No.5 is a statistic that measures the standard deviations between the observed data and the mean. The results shown in Table No. 5 indicate the changes observed after the treatment. In Group A, *Sandhishula* (joint pain) decreased significantly from 3.18 to 0.921 ($z = 3.578, P < 0.001$), while in Group B, it decreased from 3.47 to 0.729 ($z = 3.624, P < 0.001$). *Akunchana Prasaranajanya Vedana* (pain with movement) also significantly reduced from 2.135 to 0.48 ($z = 3.53, P < 0.001$) in Group A and from 2.36 to 0.55 ($z = 3.45, P < 0.001$) in Group B. *Sparsha Asahatva* (tenderness upon touch) decreased from 1.86 to 0.39 ($z = 3.771, P < 0.001$) in Group A and from 2.03 to 0.58 ($z = 3.689, P < 0.001$) in Group B. *Sandhisphutana* (crepitus) reduced from 1.34 to 0.42 ($z = 3.001, P < 0.003$) in Group A and from 1.26 to 0.73 ($z = 2.132, P < 0.033$) in Group B. *Sandhishotha* (joint swelling) decreased from 1.78 to 1.06 ($z = 3.578, P < 0.001$) in Group A and from 1.57 to 1.25 ($z = 3.520, P < 0.001$) in Group B. Additionally, the ROM of the knee joint decreased significantly from 2.58 to 1.65 ($z = 3.457, P < 0.001$) in Group A and from 2.23 to 1.73 ($z = 3.352, P < 0.001$) in Group B. The p-values indicate that these changes were statistically significant.

Table 6: Effect of Therapy(as per feedback given by the patients on follow-up)

S. No.	Effect of Therapy	No. of Patients		Total no. of patients
		Group-A	Group-B	
1	Cured	1	1	2
2	Markedly Improved	8	9	17
3	Improved	4	6	10
4	Unchanged	0	1	1

Based on results and feedback of patients taken at the time of follow up the effect of therapy can be stated as in the present study, after the completion of therapy, it was found that 7% of patients were completely cured. Additionally, 60% of cases showed marked improvement in their condition. Another 30% of cases experienced some level of improvement, while 3% of cases did not experience any noticeable change in their condition. These results indicate that *Matra basti* given in both the groups had an overall positive effect on many of the cases, with a significant proportion of patients experiencing either a complete cure or marked improvement.

Discussion

The process of the pathogenesis of the disease *Sandhigata Vata* in old age according to Ayurveda is as follows,

Ketakadya taila

Ketaki (Pandanus odoratissimus)	<i>Rasa: Tikta, Madhura, katu</i> <i>Guna: Laghu, snigdha</i> <i>Veerya: ushna</i> <i>Vipaka: Katu</i> <i>Doshakarma: kaphapittashamaka,</i>
Bala (Sida cordifolia)	<i>Rasa: Madhura</i> <i>Guna: Guru, snigdha, picchila</i> <i>Veerya: Sheeta</i> <i>Vipaka: Madhura</i> <i>Doshakarma: Vatapittasamaka</i>
Atibala (Abutilon indicum)	<i>Rasa: Madhura, tikta, katu</i> <i>Guna: Guru, snigdha</i> <i>Veerya: Picchila</i> <i>Vipaka: Madhura</i> <i>Doshakarma: Vatapittashamaka</i>
Tila (Sesamum indicum) taila	<i>Rasa: Madhura</i> <i>Guna: Tikshna, Vyavayi, Suksma, Usna,</i> <i>Veerya: ushna</i> <i>Vipaka: Madhur</i> <i>Doshakarma: Vatakaphahara</i>

Ketakadya taila contains *Ketaki moola* (*Pandanus odoratissimus*), *Bala (Sida cordifolia)*, *AtiBala (Abutilon indicum)*, *Kanji* and *Tila Taila (Sesamum indicum)*(14). Most of the drugs are *Madhura* in *Rasa* and *Vipaka* and *Vata Kapha hara* in nature. The *Snigdha Guna* helps in lubricating the joint, reducing friction, and promoting smoother movement. The *Ushna Virya* provides warmth to the affected area, which can help alleviate pain and stiffness. The *Vata Kaphanashaka* property helps to balance *Vata* and *Kapha doshas*, which are associated with joint-related disorders. The *Balya* property strengthens the joint and surrounding tissues, promoting stability, and reducing strain. The *Rasayana* property contributes to the overall rejuvenation and healing of the joint. With the combination of these properties, *Ketakadya taila* has shown significant effectiveness in addressing the various symptoms of *JanuSandhigata vata*. It provides relief from pain, reduces inflammation, improves joint mobility, and enhances the overall health of the knee joint.

Ksheerabala Laila

Tila (Sesamum indicum)	<i>Rasa : Madhura, Katu, Tikta, Kashaya</i> <i>Guna : Guru, Snigdha</i> <i>Veerya : Ushna</i> <i>Vipaka : Madhura</i> <i>Doshakarma: Vatashamaka, Kaphapittashamak</i>
Bala (Sida cordifolia)	<i>Rasa : Madhura</i> <i>Guna : Laghu, Snigdha, Pichhila</i> <i>Virya : Sheeta</i> <i>Vipaka : Madhura</i> <i>Doshakarma : Vatapittashamak</i>

Administering *Ksheerabala Taila* as *Matra Basti* facilitates the processes of *Snehana* and *Brimhana* throughout the body, including the joints. The *Snehana* action of *Ksheerabala Taila* nourishes the *Kapha dosha*, counteracting the dryness and roughness associated with imbalanced *Vata dosha*. It also promotes the proper alignment and stability of the joints through *Sandhi Samshleshana* (joint lubrication). Additionally, it provides *Sthirata* to the joints. Through its *Brimhana* action, it helps address the depletion of *Asthi Dhātu* occurring in the *JanuSandhi* affected by *Vata* imbalances. *Bala*, an ingredient in *Ksheerabala Taila*, has been proven to possess analgesic and anti-inflammatory properties, which aid in relieving *Janu Shoola* and *Shotha*. (18)

Sandhi Shoola primarily occurs due to an imbalance of *Vata dosha*. Both *Ketakadya Taila* and *Ksheerabala Taila* possess properties such as *Snigdha* and *Vataghana*. These properties aid in reducing the localized *Vata dosha* imbalance and provide relief from *Sandhi Shoola*.

Akunchana Prasarana Janya Vedana refers to pain that arises from degenerative changes in the knee joints. These changes lead to a decrease in synovial fluid, causing increased friction during flexion and extension movements. The application of local *Abhyanga*, *Swedana*, and *Matra Basti* can help alleviate and balance the vitiated *Vyan Vayu* and potentially increase the production of synovial fluid. Additionally, as the *Snigdha Guna* increases, it can also balance the *Kapha dosha*. *Shleshmaka Kapha* responsible for joint lubrication, is involved in this process. The properties mentioned above not only help reduce passive pain but can also be beneficial in alleviating active pain associated with *Akunchana Prasarana Janya Vedana*.

Vata and *Pitta doshas* are primarily responsible for the occurrence of *Shotha*, which refers to swelling or edema. In this study, the *Vatahara* properties of the *Taila* help reduce swelling. Additionally, local *Swedana Karma* has also shown effectiveness in reducing *Shotha*.

Sprasha Ashahatva, which refers to sensitivity or tenderness upon touch, is a symptom associated with the involvement of *Pitta, Rakta, and Vata doshas*. The properties of *Sneha* help decrease *Vata dosha*. *Kshira Bala Taila* contains *Kshira* as an ingredient, which is known to pacify vitiated *Pitta, Rakta, and Vata doshas*.

Sandhi Sphutana, also known as crepitus, is characterized by the crackling or popping sound that occurs within joints. *Vata dosha* is responsible for the production of sound (*Shabda Utpatti*) and, when imbalanced it can lead to increased degeneration and friction within the joints. Excessive degeneration can result in audible sounds during joint movement. The *Snigdha Guna* of *Taila* helps increase lubrication within the joints. This lubrication involves the participation of *Shleshaka Kapha* which is responsible for joint lubrication. By improving lubrication, the ROM of the joint is enhanced. *Taila's* properties normalize *Vata dosha*, allowing for proper joint motion and reducing the occurrence of crepitus.

Patients exhibiting signs and symptoms of *Sandhigatavata*, as described in Ayurvedic texts, were

carefully chosen for this study. The selected patients were from different age groups i.e., 30-40yrs, 41-50yrs, 51-60yrs and 61-70yrs . Before initiating the treatment, Routine Hematological, Urine, and Biochemical investigations like TLC, DLC, and ESR were conducted on all patients. These investigations aimed to evaluate the current health status of the patients and rule out any other underlying specific pathologies. Joint examinations were performed on all patients both before and after the treatment to assess the therapeutic effects of the intervention.

Conclusion

Both groups showed significant improvements in their symptoms after completing the therapy. This indicates that *Matra Basti* effectively addresses the therapeutic needs of *Sandhigatavata*. No complications were observed during the study, leading to the rejection of the null hypothesis and validation of the research hypothesis. *Kshira Bala Taila* given Significant result in *Sparshasahatva*, *Sandhi Sphutana* and Range of Movement. *Ketakadya Taila* given significant result in *Sandhi Shoola*, *Akunchana Prasarana janya Vedana* and *Shotha*. Both *Ketakadya Taila* and *Kshira Bala Taila* demonstrated significant effects in treating *Janu Sandhigata Vata*. Furthermore, the trial drug used in this clinical study, *Matra Basti* with *Ketakadya Taila*, proved to be an effective treatment for *Sandhigatavata*. However, it is important to note that this study had a small sample size and a limited duration, making it challenging to draw definitive conclusions. Therefore, it is recommended that further research be conducted with larger sample sizes and longer treatment durations to provide more conclusive results.

Conflict of Interest: None.

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