WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 22, 440-450. Research Article ISSN 2277–7105

A RANDOMIZED COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF LEPA WITH JATAMAYADI CHOORNA AND WAX BATH THERAPY IN JANUSANDHIGATA VATA WITH SPECIAL REFERENCE TO KNEE OSTEOARTHRITIS

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Article Received on 13 Oct. 2026,
Article Revised on 03 Nov. 2026,
Article Published on 16 Nov. 2026,
https://doi.org/10.5281/zenodo.24277022

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How to cite this Article: *[1]Dr. Pooja Mahadev Goolappanavar, [2]Dr. Mahalakshmi K. M. (2026). A Randomized Comparative Clinical Study To Evaluate The Effect Of Lepa With Jatamayadi Choorna And Wax Bath Therapy In Janusandhigata Vata With Special Reference To Knee Osteoarthritis. World Journal of Pharmaceutical Research, 15(22), 440–450
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ABSTRACT

Osteoarthritis (OA) is a common degenerative joint condition and a major cause of disability. It mainly affects the knee joint, leading to pain, stiffness, and difficulty in movement. In Ayurveda, *Janu Sandhigata Vata* shows similar features to knee osteoarthritis. This study was carried out to evaluate and compare the effect of *Jatamayadi Choorna Lepa* and Wax Bath Therapy in the management of *Janu Sandhigata Vata*. A total of 40 patients were selected and divided into two groups of 20 each. Group A was treated with *Jatamayadi Choorna Lepa* and Group B received Wax Bath Therapy for 7 days. Follow-up was done on the 15th day. Improvement was assessed based on clinical symptoms. Both groups showed improvement after treatment. In Group A, 20% of patients showed marked improvement, 35% moderate improvement, 40% mild improvement, and 5% showed no improvement. In Group B, 10% showed marked improvement, 35% moderate improvement, 45% mild improvement, and 10% showed no improvement. The results showed better improvement in Group A compared to Group B. Hence, *Jatamayadi Choorna Lepa* can be considered more effective than Wax Bath Therapy in managing *Janu Sandhigata Vata* (knee osteoarthritis).

KEYWORDS: *Janu Sandhigata Vata*, Knee Osteoarthritis, *Jatamayadi Choorna*, *Lepa*, Wax Bath Therapy.

INTRODUCTION

In Ayurveda, *SANDHIVATA,* which is one among *Vataja Nanatmaja Vyadhis*. *Acharyas* have not explained it in a separate chapter, it is described under *vatavyadhi chikitsa*.[1] Due to the present lifestyle joint pain has become common problem and it affects the day to day activities. Osteoarthritis affects almost all the joints, but the incidence of Knee osteoarthritis is more as it bears the whole body weight. According to *Ayurveda* due to *Nidanasevana, Vatadoshaprakopa* takes place and then the *prakupita vata* takes *sthanasamshraya in sandhipradesha* which eventually produces symptomps like *vatapoorna druti sparsha*[2] (palpatory feeling of air in joints or crepitus), *Sandhi Shotha*(swelling), *sandhishoola*(joint pain) and *Prasarana akunchanayo pravruttischa vedana*(painful flexion and extension) and it is called as *Sandhigata Vata.*

Sandhivatagata vata is a disease dealing with musculoskeletal system affecting major joints. The prevalence of *janusandhigata vata*, characterized by marked work disability, is foremost among the disorders which come under *sandhigata vata*.

Osteoarthritis (OA) is by far the most common form of arthritis and is a major cause of pain and disability in older people. It is characterised by focal loss of articular cartilage, subchondral osteosclerosis, osteophyte formation at the joint margin and remodelling of joint contour with enlargement of affected joints.[2]

Knee osteoarthritis also known as degenerative joint disease of knee, is result of wear and tear and progressive loss of articular cartilage.

According to WHO OA is the second commonest musculoskeletal problem in the world population after back pain.[3]

Statistically its prevalence is more among women in comparison to men. Roughly 13% of women and 10% of men 60 years older and above have symptomatic knee osteoarthritis. By the age of 40 years about 90%of the people show radiographic evidence of osteoarthritis, which may or may not cause the symptoms.[4] Among those older than 70 years of age, the prevalence of knee OA rises as high as 40%. The prevalence of *sandhigata vata* in rural India is 5.8%.[5]

The management of osteoarthritis in contemporary medicine is primarily aimed at symptomatic relief. Commonly used modalities include analgesics, non-steroidal anti-inflammatory drugs (NSAIDs), intra-articular injections, and surgical interventions in advanced cases. Which have their own limitations and side effects. This necessitates the exploration of safer and more effective therapeutic approaches.[6] So this work had the intention to give better symptomatic relief without any side effects.

As *ruja* is caused by *vata, lepa* is one of the best external procedures for *vata shamana* hence relieving the pain (*ruja*)[7], and it is also *aadhya upakrama* to *sarvashopha*.[8] Hence Lepa (topical application) plays an important role in reducing localized pain and swelling.

Jatamayadi Choorna, drugs have reference from *Sahasrayoga taila prakarana*[9] – *Balaguduchyadi taila kalka*, mentioned in classical texts, contains drugs known for their *Vatahara* and *Shothahara* properties, making it potentially beneficial in managing degenerative joint conditions.

Wax bath therapy is the physical treatment most frequently used for Osteoarthritis. It was first described by Humprhis (1919) and since then has been in general use. The principle behind the wax bath is that it works on the latent heat. And paraffin wax after solidifying on the skin gives considerable heat to the skin, thus warming it. Thermal effects stimulate superficial capillaries and arterioles causing hyperemia and reflex vasodilatation. Heating has sedative effect over nerve endings. This causes relief of pain.

So the intended work was to study the effect of *lepa* with *jatamayadi choorna* and wax bath therapy in the management of *janu sandhigata vata* and compare their efficacy.

MATERIALS AND METHODS

Source of Data: A minimum of 40 patients diagnosed with *Janusandhigatavata* from OPD and IPD of Dhanvantari *Ayurveda* Hospital, Siddapur and patients from referrals and camps were selected for the study based on Inclusion & Exclusion criteria and equally divided into 2 groups of 20 patients each for *Lepa* with *Jatamayadi choorna* and Wax Bath Therapy.

Selection Criteria: The subjects who fulfilled the inclusion criteria and exclusion criteria complying with the informed consent (IC) were selected randomly for the study.

Inclusion Criteria

1. Patients with either sex between the age group of 40-70 years being diagnosed as *janusandhigata vata.*
2. Patients suffering from *Janu sandhigata vata* having classical signs and symptoms. Such as,

a. *Janu Sandhi Shoola* - Pain in knee joint
b. *Janu Sandhi Shotha* - knee joint swelling
c. *Janu Sandhi Atopa* - Crepitus in knee joint
d. *Savedana Prasarana Akunchana Pravrutti* – Painful or restricted flexion and extension movements of knee joint

3. Patients fit for *lepa*.
4. Patient fit for wax bath therapy.

Exclusion Criteria

1. Patients with skin diseases, open lesions on knee, and infections.
2. Patients with impaired skin sensation like hypoesthesia, hyperesthesia.
3. Patients with disease such as rheumatoid arthritis, gouty arthritis.
4. Patients with any other systemic disorders which may interfere with the course of treatment will be excluded.

Design Of Study: Randomized comparative clinical study with a minimum of 40 patients fulfilling the inclusion criteria and exclusion criteria of *janusandhigata vata* were selected and equally divided into two groups i.e., 20 patients in each group for the study irrespective of gender, religion, occupation, and economic status. The signs and symptoms were assessed before and after the treatment.

Group A: 20 patients was subjected to *Jatamayadi choorna lepa* for 7 days.

Group B: 20 patients was subjected to wax bath therapy for 7 days.

PLAN OF TREATMENT

Selected 40 patients of *janusandhigata vata* were randomly and equally divided into two groups i.e., 20 patients each.

Group A: 20 patients were subjected to *lepa* with *jatamayadi choorna.*

POORVA KARMA

Preparation of the medicine

10 gm of *Choorna* used for *lepa* was added with required quantity of hot water to make it into fine paste and was kept ready.[10]

Preparation of the patient.

The part to be treated was cleaned with soap and water and moisture was be soaked with clean, soft towel.

In the beginning of procedure *svastivachana* mantra was chanted.

Patient was asked to sit with legs extended or made to lie down in a supine position with knee region adequately exposed.

Patient was advised to keep his /her body relaxed and concentrate on the procedure.

PRADHANA KARMA

Lepa was applied in the upward or opposite direction to hair follicles[11] with thickness of about 3mm[12], covering the whole part of knee and was removed before it gets dried off completely.[13]

PASCHAT KARMA

a) Gentle wiping of the knee with soft cotton dipped in *sukoshna jala*.
b) Patient was allowed to rest for 15 min.

Group B: 20 patients were subjected to wax bath therapy.[14]

POORVA KARMA

7 units of wax and 1 unit of liquid paraffin[15] was added to wax bath to lower the melting point and prevent burns. Switch was turned on half an hour prior to the treatment .Temperature was checked and maintained to 40 degree Celsius.[16]

PRADHANA KARMA

The part to be treated was cleaned with soap and water and moisture was soaked with clean, soft towel.

Patient was made to sit or lie in a supine position and expose the knee region adequately.

Then the molten wax was carefully applied to the knees with the help of brush.

After making 10 layers the knee part was wrapped with a cotton cloth to retain the heat for 20 minutes.[17]

PASCHAT KARMA

a) Cotton cloth was unwrapped and wax was removed and placed back in wax bath unit for further use.
b) Knee region was inspected for any allergy or burns.
c) Knee region was cleaned with a cotton piece.
d) Patient was allowed to rest for 15 min.

ASSESSMENT

Patients were assessed on 0^{th} day i. e before treatment, 7^{th} day- After treatment and follow up was done on 15^{th} day.

ASSESSMENT PARAMETERS

The Assessment was done based on the *Samanya Lakshana's* of *Janu Sandhigata Vata* as per *Ayurveda* Classics.

COMPLETE ASSESSMENT WAS DONE BY GRADATION AS

No improvement – 0 - < 25% relief
Mild improvement – 25% - 50% relief
Moderate improvement – 51% -75% relief
Marked improvement – >75% relief

Subjective Parameters

1. *Sandhi shoola* (Joint pain)

Objective Parameters

1. Sandhi shotha -Swelling from a fixed point over a joint in cm's.
2. Savedana prasarana akunchana (ROM)-

Goniometer reading – Degree of Flexion And Extension of Knee joints

3. Sandhi atopa(crepitus).

RESULTS AND OBSERVATIONS

Table No. 1: showing Overall response for the treatment.

Group	Response							
	Marked improvement		Moderate improvement		Mild improvement		No improvement	
	No. of patients	%	No. of patients	%	No. of patients	%	No. of patients	%
Group A	04	20	07	35	08	40	01	05
Group B	02	10	07	35	09	45	02	10

Table No. 2: Showing Comparision of Effect of Treatment in Both Groups After Treatment.

Symptoms	Test	Statistic	p	Mean diff	Effect Size (Rank biserial)
Sandhishoola	Mann-Whitney U	97.0	0.002	-1.000	0.515
Sandhishotha	Mann-Whitney U	107	0.006	-1.000	0.468
Prasarana akunchana	Mann-Whitney U	171	0.408	-1.70e−5	0.145
Sandhi atopa	Mann-Whitney U	175	0.388	-7.96e−5	0.127

Table 3: Showing Group Descriptive Statistics After The Treatment.

Time Point	Group	N	Mean	Median	SD	SE
Sandhi Shoola (pain)	1	20	0.550	1.00	0.510	0.114
	2	20	1.20	1.00	0.616	0.138
Sandhi Shotha (swelling)	1	20	0.400	0.00	0.598	0.134
	2	20	1.05	1.00	0.759	0.170
Prasarana akunchana (ROM)	1	20	0.950	1.00	0.759	0.170
	2	20	1.15	1.00	0.745	0.167
Sandhi Atopa (crepits)	1	20	1.55	2.00	0.826	0.185
	2	20	1.75	2.00	0.851	0.190

Sandhishoola -Mann-Whitney U test (U = 97.0, p = 0.002, **p < 0.05**) show a statistically significant difference in *Sandhi Shoola* Grade (Day 15) between the groups. The mean difference is with large effect sizes (rank biserial = 0.515), indicating a meaningful difference.

Group 1 had substantially lower mean scores than group 2, while medians were identical, reflecting more favorable outcomes in group 1 despite similar medians. The significant statistics and large effect indicate group 1 improved more by Day 15(after the treatment).

Sandhishotha A significant difference was observed (U = 107, p = 0.006, **p < 0.05**). with a large effect size (r = 0.468).

Group 1 showed substantially lower *Sandhi Shotha* than group 2, indicating a greater reduction in joint swelling compared to group 2.

***Prasarana akunchana* (ROM)**

No significant difference was observed (U = 171, **p > 0.05;** p = 0.408). Both groups showed similar improvement. Means were nearly identical, both medians = 1.00, and effect size remained small (rank biserial: 0.145).

Groups continued to display almost overlapping results.

***Sandhi atopa* -** No significant difference was observed (U = 175, **p > 0.05**; p = 0.388), Means, medians, and effect sizes were very similar.

DISCUSSION

Janu Sandhigata Vata, comparable to knee osteoarthritis, is a *dhatukshayajanya* (degenerative) joint disorder characterized by pain, swelling, and restricted movement due to aggravation of *Vata*.

Lepa is a *Bahirparimarjana Chikitsa* helps in removing the morbid *doshas* locally. *Acharya Sushruta* explains *alepa* under *shasthi upakrama* and importance of *alepa* in *ruja*. In *sutra sthana* 18th chapter (*vranaalepa bandhavidhi*) he explains *alepa* as *aadhya upakrama* which is common to *sarva shopha* (all inflammatory swellings).

In the present study, both *Jatamayadi choorna Lepa* and Wax Bath Therapy showed significant improvement in clinical features. However, *Jatamayadi Lepa* showed better results, especially in reducing pain and swelling.

This may be attributed to its Vata-Kapha shamaka, vedanasthapaka, and shothahara properties. *Jatamayadi Lepa dravya* have *tikta*, *katu* and *kashaya rasas*. These help to clear *ama* reduce inflammation (*shotha*), and pacify aggravated *Kapha* and *Vata dosha*.

Guna -The mix of *Laghu* and *ruksha* helps to reduce swelling and fluid accumulation, while *snigdha guna* supports tissue nourishment and lubrication.

Virya- Most ingredients possess *ushna* (hot) *virya*, except *Jatamansi* and *Chandana*, which are *sheeta* (cooling). *Ushna virya* improves circulation, disperses stagnation, and relieves pain. *Sheeta virya* soothes burning sensations commonly associated with inflamed joints.

Vipaka -Katu vipaka predominates, helping clear *ama* and supporting (*agni*), which is crucial for resolving joint inflammation and stiffness.

Karma - *Kapha-Vata Shamaka, vedanasthapaka* (analgesic), *shothahara* (anti-inflammatory/anti-edematous), which address the main symptoms and causes of osteoarthritis.

Most ingredients (Nardostachys jatamansi, Saussurea lappa, Boswellia serrata, Valeriana wallichii, Withania somnifera, Pluchea lanceolata, Pinus roxburghii) possess proven anti-inflammatory and analgesic effects through various mechanisms, including the inhibition of pro-inflammatory mediators like leukotrienes and prostaglandins, reducing joint pain and swelling in OA.

Ashwagandha (Withania somnifera) demonstrates direct chondroprotective effects. The antioxidant activities of these herbs (notably Nardostachys jatamansi, Saussurea lappa, Santalum album, Pluchea lanceolata) neutralize free radicals, preventing further oxidative damage to joint tissues and attenuating chronic inflammation in OA, Improvement of Local Circulation and Decreased swelling.

Wax Bath Therapy -The principle behind the wax bath is that it works on the latent heat. And paraffin wax after solidifying on the skin gives considerable heat to the skin, thus warming it. Thermal effects stimulate superficial capillaries and arterioles causing hyperemia and reflex vasodilatation. Heating has sedative effect over nerve endings .This causes relief of pain.

Improvement in range of motion was observed in both groups, whereas crepitus showed minimal change.

Both treatments were found to be safe and well tolerated.

Overall, Jatamayadi Lepa was more effective in the management of Janu Sandhigata Vata. Further studies with a larger sample size and longer duration are needed to confirm these findings.

CONCLUSION

When analysed statistically, both the groups showed similar effects in reducing all the signs and symptoms of Janu Sandhigata Vata. However, Improvement in the parameters viz.

reduction in *sandhishoola* (pain) and *sandhishotha*, (swelling) were better in Group A percentage-wise in comparison to Group B.

Prasarana Akunchana (ROM) improved significantly in both groups without significant difference the groups. Crepitus (*sandhi atopa*) improvements were similar in both groups, with no significant difference detected at any time.

By comparing the overall response for the treatment it can be concluded that Jatamayadi Lepa proved to be more effective than Wax Bath Therapy.

REFERENCES

1. *Acharya* vidhyadhar shukla & Prof. Ravidutt Tripathi, *Charaka Samhita* with VaidhyaManorama Commentary, Delhi, Choukamba Sanskrit Samsthana, 2012; ed. *Chikitsa Sthana*, 28.
2. *Acharya* vidhyadhar shukla & Prof. Ravidutt Tripathi, *Charaka Samhita* with VaidhyaManorama Commentary, Delhi, Choukamba Sanskrit Samsthana, 2012; ed. *Chikitsa Sthana* 28/37, page 694.
3. Manjula Y P, API Text Book of Medicine, volume -2, Osteoarthritis, 2015; ed. Page -2478.
4. Manjula Y P, API Text Book of Medicine, 9th edition, New Delhi, Jaypee Brothers Medical Publishers Ltd, 2012; Pg – 1818.
5. Boon Nicholas A, Hunter John A.A.Davidsons Principle and Practice of Medicine, 20th edition, London, Churchill Livingstone, 2008; Pg. 1096-1098.
6. Kaspe, Fausi, Hause, Longo, Jameson, Loscalzo, (Editors), Harrisons Manual of Medicine, Osteoarthritis, 2016; ed. Page -862.
7. *Sushruta Samhita* Of *Maharshi SUshruta* With English Translation Of Text and *Dalhanas* Commentary With Critical Notes, Volume -2, *Chikitsa Sthana* Chapter -1, Verse -5-6, By Dr. Vasanth.C. Patil and Rajeshwari N.M, Chokamba Publications New Delhi, Edition: First, 2018; Page No -271.
8. *Sushruta Samhita* Of With English Translation Of Text and *Dalhanas* Commentary With Critical Notes, *Sutra Sthana*, Volume – 1, Chapter -18, Verse -3, Edited And Translated By P V. Sharma, Choukamba Visvabharati Oriental Publishers And Distributors, Reprint, 2022; Page No -193.
9. *Sahasra yogam* text with English Translation By Dr. K Nishteswar and Dr. R. Vidyanath, *Taila prakarana- 14. Balaguduchyadi Taila* (2) Choukamba Sanskrit Series Office, Varanasi, Choukamba Press, Varanasi. EDITION; Third, 2011; Page No-117.

10. The *Ayurvedic* Formulary Of India Part -2,Government Of India Ministry of Health and Family Welfare Department Of Indian System Of Medicine And Homeopathy New Delhi, First English Edition. Pg No-163.
11. *Ashtanga Sangraha* Of *Vagbhata*, VOL-3, *Uttarasthana* Chapter 30, verse 6, By Prof.K.R. Srikantha Murthy, Choukamba Orientalia, Varanasi. Reprint Edition, 2016; Page No-264 – 265.
12. Kaviraj Ambika Dutta Shastri (Editor). *Sushruta Samhita of Maharshi Sushruta* Edited With Hindi Commentary *Ayurveda Tattva Sanipika; Sutasthana* Chapter 18; Verse 11-12. Choukamba Sanskrit Sansthana; Varanasi Reprint, 2016; Page No 97.
13. Ashtanga Sangraha Of Vagbhata, VOL-3, Uttarasthana Chapter 30, verse 6, By Prof.K.R. Srikantha Murthy, Choukamba Orientalia, Varanasi. Reprint Edition, 2016; Page No-264.
14. B K Choudhary, A K Bhose (2006) A hand book of Physiotherapy, Thermotherapy 1st Edition, New Delhi Jaypee Bros. Page 37.
15. Text book of Panchakarma by Prof. Vasanth C. Patil, Wax Bath or Paraffin Bath, Choukaba publications, New Delhi. Edition: second, 2012; page No -428-431.
16. Dr B. A. Lohith Textbook of Panchakarma, Choukamba Orientalia, Varanasi, First Edition, 2016; Page No- 429.
17. Kumar Praveen, Raju Parvati, Prasad Venkata, Fundamentals of Physiotherapy, Paraffin Wax bath, New Delhi, JAYPEE Brothers, 2005; Page. No 92.