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Research Article

A COMPARATIVE STUDY TO EVALUATE THE EFFICACY OF *JANUBASTI WITH ERAND TAILA* AND *KSHEERABALA TAILA* IN THE MANAGEMENT OF *JANU SANDHIGATA VATA* (KNEE OSTEOARTHRITIS): A SINGLE BLIND RANDOMIZED ACTIVE CONTROL COMPARATIVE CLINICAL TRIAL PROTOCOL

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ABSTRACT

Osteoarthritis is a chronic degenerative joint disease characterized by cartilage loss, osteophyte formation, subchondral sclerosis, and synovial changes, presenting with pain, stiffness, swelling, crepitus, and reduced mobility. In Ayurveda, it resembles *Sandhivata*, caused by *Vata* aggravation, *Dhatu kshaya*, ageing, and reduced *Shleshaka Kapha*, leading to pain, swelling, stiffness, and impaired function. Modern treatment is mainly symptomatic with limitations. Though *Charaka Samhita* describes *Erand* as *Vatahara*, evidence on *Erand Taila Janubasti* remains unavailable. **Objective:** This study is designed to evaluate and compare the therapeutic effectiveness of *Murchita Erand Taila Basti* and *Ksheerbala Taila Janu Basti* in the treatment of *Janusandhigata Vata*, which is clinically correlated with knee osteoarthritis. **Methods:** A single-blind, randomized, active-controlled clinical trial will be conducted at the PG Department of Panchakarma, CBPACS, New Delhi. Of 70 screened participants, 58 will be randomly assigned to two groups. Group A will receive *Janu Basti* with *Murchita Erand Taila* and Group B with *Ksheerbala Taila* for 15 days. Outcomes will be assessed using VAS, WOMAC, and classical *Sandhigata Vata* symptoms on days 0, 15, and 30. **Results:** The primary outcome measures will evaluate variations in pain severity and the degree of functional impairment. **Conclusions:** This study aims to generate clinical evidence on the comparative efficacy of two medicated oil–based *Panchakarma* interventions (*Janu Basti*) in the management of knee osteoarthritis and may support the development of evidence-based integrative treatment approaches.

INTRODUCTION

Osteoarthritis (OA) is a chronic degenerative joint disorder characterized by progressive loss of articular cartilage, subchondral sclerosis, and structural changes in the synovial membrane and joint capsule[1]. It commonly presents with pain, stiffness, swelling, crepitus, and restricted movement[2]. In Ayurveda, OA can be correlated with *Sandhivata*[3], a condition caused by *Vata* aggravation and *Dhatu Kshaya*, along with depletion of *Shleshaka Kapha*, leading to joint degeneration and functional impairment.

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Globally, OA affects around 365 million people, with the knee joint being the most commonly involved[4]. It predominantly affects individuals above 55 years and is more common in females. In India, its prevalence ranges from 22% to 39%, making it a major public health concern[5]. Conventional management mainly focuses on symptomatic relief but is often associated with adverse effects on long-term use[6,7].

In Ayurveda, managing *Vata* imbalance relies heavily on therapies like *Snehana*[8] and *Basti*[9]. For knee joint disorders, *Janu Basti* is a common localized *Panchakarma* treatment. While *Ksheerbala Taila* is a standard, well-documented choice for treating Vata ailments, the therapeutic effectiveness of *Erand Taila* in *Janu Basti* is not as thoroughly researched. Conducting a comparative study between these two oils is therefore essential to better understand their clinical benefits.

OBJECTIVES

Primary objective

To compare the efficacy of *Janubasti* by *Erand Taila* and *Ksheerabala Taila* in pain management in patients with *Janu Sandhigata Vata* assessed using Visual Analogue Scale (VAS)[10].

Secondary objective

To compare the effect of both the *Taila* on functional disability assessed using the WOMAC OA Index[11].

HYPOTHESIS:

Janubasti with *Erand Taila* is more effective than *Ksheerabala Taila* in the management of *Janu Sandhigata Vata* (knee osteoarthritis).

Alternate Hypothesis (H1)

Janubasti with *Ksheerabala Taila* is more effective than *Erand Taila* in the management of *Janu Sandhigata Vata* (knee osteoarthritis).

Null Hypothesis (H0)

Janubasti with *Erand Taila* is equally effective as *Ksheerabala Taila* in the management of *Janu Sandhigata Vata* (knee osteoarthritis).

METHODS:

Study design

Single blind randomized active control comparative clinical trial protocol.

Study setting

OPD and IPD of the PG Department of Panchakarma, Chaudhary Brahm Prakash Ayurved Charak Sansthan (CBPACS), Khera Dabar, New Delhi, India.

Study duration

The total duration for each participant will be 30 days, including both the intervention period of 15 days and follow-up after 15 days.

Timeline of assessments

Assessments will be conducted on day 0 (baseline), day 15 (completion of treatment), and day 30 (follow-up).

Participants

Inclusion criteria

1. Willing participants with written informed consent.
2. Classical signs of *Sandhigata Vata* (pain, swelling, stiffness, tenderness, crepitus, pain on flexion/ extension) at knee joint.
3. Age group: 40–60 years
4. Radiological evidence of knee osteoarthritis.
5. Fit for *Janu Basti* therapy.

Exclusion criteria

1. Patients aged below 40 or above 60 years.
2. Patients with uncontrolled conditions such as hypertension or diabetes.
3. Patients with systemic diseases like carcinoma, psoriatic arthritis, gout, SLE, polymyalgia rheumatica, or tuberculosis.
4. Patients not suitable for *Janu Basti* therapy.

Withdrawal criteria

1. Patients who do not adhere to the treatment protocol
2. Patients who develop any acute illness or complications will receive appropriate care and be withdrawn from the study
3. Patients who leave against medical advice (LAMA)

Sample Size

The sample size was determined using the ClinCalc sample size calculator. With a significance level (alpha) of 0.05 and a statistical power of 80%, a total of 58 participants were required, with 29 participants in each group.

Recruitment

Participants will be enrolled from the OPD and IPD of the Department of Panchakarma, CBPACS. Those meeting the eligibility criteria will be screened and included in the study after providing written informed consent.

Randomization and Allocation

Participants will be randomly assigned to two groups in a 1:1 ratio using a computer-generated simple randomization method. Allocation concealment will be ensured through the use of sequential allocation codes.

Blinding

The study will be a single blinded study with the patient unaware of the medication.

Intervention

Group A: *Erand Taila Janubasti*

Participants will undergo *Janu Basti* with *Erand Taila* once daily in the morning for 15 consecutive days. A circular reservoir will be created over the affected knee joint using black gram flour dough, and warm medicated oil will be retained in it for approximately 35 minutes, maintaining a comfortable temperature throughout the procedure. After completion, gentle massage will be administered.

Group B: *Ksheerbala Taila Janubasti*

Participants will undergo *Janu Basti* with *Ksheerbala Taila* once daily in the morning for 15 consecutive days. A circular reservoir will be created over the affected knee joint using black gram flour dough, and warm medicated oil will be retained in it for approximately 35 minutes, maintaining a comfortable temperature throughout the procedure. After completion, gentle massage will be administered.

Study drug

Erand Taila and *Ksheerbala Taila* will be sourced from a GMP-certified company. *Erand Taila* will undergo *Murchhana* by processing with the

required *Murchhana* ingredients, while *Ksheerbala Taila* will be formulated using *Bala* (*Sida cordifolia*), sesame oil, cow's milk, and appropriate decoction or paste forms, following Ayurvedic pharmacopeial standards.

Outcome Measures

Primary Outcome

Pain intensity will be assessed using the Visual Analog Scale (VAS).

Secondary Outcome

Functional disability will be evaluated using the WOMAC Osteoarthritis Index.

Assessment Criteria

Subjective criteria

Classical features of *Sandhigata Vata* such as *Shoola* (pain), *Shotha* (swelling), *Stambha* (stiffness), *Sparsha asahyata* (tenderness), *Sphutana* (crepitus), and pain during movement of the knee joint (*Akunchana–Prasarana vedana*).

Objective criteria with Interpretations

Visual Analogue Scale (VAS)

The VAS is a 10cm line, placed either horizontally or vertically, with one end indicating "no pain" and the other representing "worst imaginable pain." The patient marks a point on the line that reflects their current pain intensity.

Interpretation Distance on the scale (in mm)	Severity of pain
0 to 4	No pain
5 to 44	Mild pain
45 to 74	Moderate pain
75 to 100	Severe pain.

WOMAC OA Index (WOMAC)

Scoring: 0= None | 1= Mild | 2= Moderate | 3= Severe | 4= Extreme

Pain (5 Items)

Activity	Score (0–4)
Walking on a flat surface	0 to 4
Going up or down stairs	0 to 4
At night while in bed	0 to 4
Sitting or lying	0 to 4
Standing upright	0 to 4

Stiffness (2 Items)

Activity	Score (0–4)
Morning stiffness after waking	0 to 4
Stiffness after sitting/ lying/ rest later	0 to 4

Physical Function (17 Items)

Activity	Score (0–4)
Descending stairs	0 to 4
Ascending stairs	0 to 4
Rising from sitting	0 to 4
Standing	0 to 4
Bending to floor	0 to 4
Walking on flat surface	0 to 4
Getting in/out of car	0 to 4
Going shopping	0 to 4
Putting on socks	0 to 4
Rising from bed	0 to 4
Taking off socks	0 to 4
Lying in bed	0 to 4
Getting in/out of bath	0 to 4
Sitting	0 to 4
Getting on/off toilet	0 to 4
Heavy domestic duties	0 to 4
Light domestic duties	0 to 4

Score: /96

Data Collection and Management

All clinical information will be documented in structured case record forms. Participant confidentiality will be ensured by assigning unique identification codes. The data will be securely stored and maintained in accordance with institutional policies.

Statistical Analysis Plan

Within-group comparisons will be performed using the paired t-test or Wilcoxon matched pairs test, while between-group comparisons will be analysed using the unpaired t-test or Mann–Whitney U test. A p-value of less than 0.05 will be considered statistically significant.

Ethics Approval and Consent

Ethical clearance has been obtained from the Institutional Ethics Committee of CBPACS, New Delhi. Written informed consent will be secured from all participants. Participation will be voluntary, and individuals will have the right to withdraw from the study at any time.

Safety Monitoring

All adverse events will be recorded and managed in accordance with institutional guidelines. Participants who develop serious adverse events will be withdrawn from the study and provided with appropriate medical care.

Expected Results

Both interventions are anticipated to alleviate pain and improve functional disability. *Janu Basti* with *Erand Taila* may show comparatively better outcomes owing to the *Vrishya* and *Vatahara* properties of *Erand*.

DISCUSSION

This randomized comparative clinical trial is planned to evaluate and compare the efficacy of two different *Taila* used in *Janu Basti* for knee osteoarthritis. The results may help strengthen integrative and evidence-based Ayurvedic approaches in the management of degenerative joint conditions such as arthritis.

Dissemination Plan

The results will be shared through publication in peer-reviewed journals and presentations at scientific forums.

REFERENCES:

1. Martel-Pelletier J., Wildi, L.M. & Pelletier, J.-P. Future therapeutics for osteoarthritis. Bone 51, 297–311 (2012).
2. Spector, T.D. & Cooper, C. Radiographic assessment of osteoarthritis in population studies: whither Kellgren and Lawrence? Osteoarthritis Cartilage 1, 203–206 (1993).
3. Shastri K, editor. Charak Samhita (Vidyotini commentary). 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2013. p.697.
4. Long H, Liu Q, Yin H, Diao N, Zhang Y, Lin J et al. Prevalence trends of site-specific osteoarthritis from 1990 to 2019: Findings from the global burden of disease study 2019. Arthritis Rheumatol 2022; 74(7): 1172-1183
5. Harison principles of Internal Medicine – (Vol-II) edited by Dan L Longo, MD. [et al], 18th ed. MC Graw hill Book Company, New York, 2829
6. Hunter DJ, Bierma-Zeinstra S. Osteoarthritis. Lancet. 2019 Apr 27; 393(10182): 1745–1759. doi:10.1016/S0140-6736(19)30417-9. PMID: 31173875.
7. Glyn-Jones S, Palmer AJR, Agricola R, Price AJ, Vincent TL, Weinans H, Carr AJ. Osteoarthritis. Lancet. 2015 Jul 25; 386(9991): 376–387. doi:10.1016/S0140-6736(14)60802-3. PMID: 25748615.
8. Shastri K, editor. Charak Samhita (Vidyotini commentary). 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2013. p.703-704.
9. Shastri K, editor. Charak Samhita (Vidyotini commentary). 1st ed. Varanasi: Chaukhamba Sanskrit Sansthan; 2013. p.886-887.
10. Scott J, Huskisson EC. Graphic representation of pain. Pain.1976; 2(2): 175-84.
11. Portenoy RK, Tanner RM, editors. Visual Analogue Scale and verbal pain intensity scale. In: Pain management: theory and practice. New York: Oxford University Press; 1996.

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