

**EVALUATION OF POOTEKATINTRINYADI TAILA BANDAGE IN ALLEVIATING SYMPTOMS OF KNEE JOINT OSTEOARTHRITIS****<sup>1</sup>Dr. Archana S. L., <sup>2</sup>Dr. K. Gangadharanand and <sup>3</sup>Dr. Sreelekha M. P.**<sup>1</sup>Final Year Ms Scholar, Department of Shalyatantra, Government Ayurveda College, Kannur.<sup>2</sup>Professor and HOD, Department of Shalyatantra, Government Ayurveda College, Kannur.<sup>3</sup>Associate Professor, Department of Shalyatantra, Government Ayurveda College, Kannur.**\*Corresponding Author: Dr. Archana S. L.**

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**ABSTRACT**

Osteoarthritis (OA) of the knee is one of the leading causes of mobility impairment worldwide. Conventional treatments include physiotherapy, patient education, weight management, and medication therapy, which comprises non-opioid analgesics, topical agents, opioids, and intra-articular steroid injections. Severe cases may require knee replacement surgery. However, these methods often present challenges related to side effects and long-term efficacy. In Ayurvedic medicine, knee osteoarthritis aligns with the condition *Janu Sandhigata Vata*. In this, “*Janu*” refers to the knee, “*Sandhi*” to the joint, and “*Vata*” denotes the air element. With aging, *Vata* dosha exacerbates, causing the gradual deterioration of the joint. Symptoms like *sandhi shoola* (joint pain) and *sandhi shotha* (joint swelling) are characteristic of this condition. *Pooteekatinrinyadi Taila* is a classical Ayurvedic medicated oil, rich in anti-inflammatory and analgesic properties, traditionally applied externally and followed by *Swasthika Bandhana* (therapeutic bandaging) for three weeks. The oil is prepared as per Sharangadhara *Taila Paka Vidhi* and utilizes herbs known for their *Vata-Kapha hara* (alleviating *Vata* and *Kapha*) properties. This study evaluates the effect of *Pooteekatinrinyadi Taila* bandaging in the management of knee osteoarthritis.

**KEYWORDS:** Osteoarthritis knee, Janu Sandhigata Vata, Pooteekatinrinyadi Taila.**INTRODUCTION**

Osteoarthritis (OA) is a degenerative joint disease affecting millions globally. While modern medical interventions focus on symptomatic relief, achieving side-effect-free, long-term management remains a challenge. Ayurveda, with its holistic approach, provides alternatives for managing OA by addressing the root cause of the condition.

*Janu Sandhigata Vata* is described in Ayurveda as a disorder involving degeneration of the knee joint due to aggravated *Vata dosha*. This condition disrupts the *Marma-asthi-sandhi* (bone-joint axis) in the *Madhyama Roga-marga* (vital internal pathways), leading to pain, stiffness, and restricted movement. The present study explores the efficacy of *Pooteekatinrinyadi Taila* and *Swasthika Bandhana* as a treatment approach, based on classical Ayurvedic principles.

**METHODOLOGY**

Eight cases of knee osteoarthritis (diagnosed via X-ray) attending the OPD of the Shalyatantra department at GAC, Kannur, were selected. Severity was classified using Kellgren and Lawrence grading system

*Pooteekatinrinyadi Taila* was applied externally, followed by therapeutic *Swasthika Bandhana* for three weeks.



### Research Medicine: *Pooteekatintrinyadi Taila* Ingredients

1. Pooteeka twak
2. Tintrini patra
3. Devadaru
4. Kushta
5. Shunti
6. Jeeraka
7. Tila taila

### Method of Preparation

1. Pooteeka Twak Kashaya: Crushed Pooteeka bark is boiled with 16 times water and reduced to 1/4<sup>th</sup> volume over low heat (Mandagni).
2. Tintrini Patra Swarasa: Fresh juice is extracted by macerating Tintrini leaves.
3. Kalka Preparation: Devadaru, Kushta, Shundi, and Jeeraka are finely powdered, mixed with water, and blended into a uniform paste.
4. Taila Preparation: The ingredients are combined as per Sharangadhara Taila Paka Vidhi to obtain Pooteekatintrinyadi Taila

### Action of Dravya

*Tila taila*: Possesses *sookshma* (subtle) and *vyavayi* (penetrative) properties, aiding deeper absorption.

Other Ingredients: With *laghu guna* (lightness), they penetrate deeper tissues, providing strength and stability. Majority of the herbs exhibit *Kapha-Vatahara* properties, reducing inflammation, alleviating pain, and improving joint mobility.

### Procedure

1. Preparation of the Patient: The patient was seated in a comfortable position with the affected knee joint exposed. Gentle massage was performed around the knee to relax the muscles and enhance the absorption of the medicated oil.
2. Application of Pooteekatintrinyadi Taila: Approximately 10–15 ml of the oil was applied to the knee joint in a circular motion, ensuring even distribution over the joint and surrounding areas. The application was performed for 5- 10 minutes to allow deeper penetration of the oil into the tissues.
3. Bandaging with Swasthika Bandhana: A clean, sterile cotton cloth or a specifically designed bandage was soaked in Pooteekatintrinyadi Taila. The bandage was then wrapped securely around the knee in a crisscross or spiral manner, ensuring adequate compression without causing discomfort or impeding blood circulation. The bandaging technique immobilized the joint, providing stability and allowing the medicated oil to exert its therapeutic effects over an extended period.
4. Duration and Maintenance: The bandage was left in place for five days, during which patients were advised to avoid excessive movement of the knee joint. Bandages were replaced every five days, for a duration of 3 weeks.

5. Follow-Up Care: After three weeks of therapy, the bandages were removed, and patients were guided to perform mild knee exercises to restore mobility and strengthen the joint. Patients were also counseled on dietary and lifestyle modifications to complement the treatment and prevent recurrence of symptoms.

### OBSERVATIONS

- Among eight patients (age: 45–70 years), five had Grade 2 OA and three had Grade 3 OA.
- Grade 2 OA cases demonstrated significant relief in pain, swelling, and stiffness within three weeks.
- Grade 3 OA cases showed marked improvement in stiffness and pain, with some requiring longer periods of immobilization due to comorbidities like obesity.
- On the 21<sup>st</sup> day assessment it was found that there is no considerable stiffness. It may be due to the *ushna veerya* & *vata-kaphahara* property of Pooteekatintrinyadi taila.
- The combined effects of Dravyas along with taila enhances collagen synthesis, reduces the degeneration on tendons, improves tissue repair and also reduces oxidative stress.

### DISCUSSION

Ayurveda emphasizes treatments like *Snehana*, *Upanaha*, *Bandhana*, *Agnikarma*, and *Unmardana* for managing *Janu Sandhigata Vata*. *Pooteekatintrinyadi Taila*, enriched with *vatakaphahara* and *balya* properties, is effective in reducing inflammation and pain.

The bandaging technique employed (*Swasthika Bandhana*) immobilized the joint, promoting rest and stability, which are crucial for tissue healing. Immobilization also prevented further degeneration and stress on the knee joint, allowing the active ingredients of *Pooteekatintrinyadi Taila* to work more effectively.

The *Ushna veerya* (hot potency) and *sookshma guna* (subtle nature) of the medicated oil enabled it to penetrate deep into the tissues, directly addressing pain and inflammation at the site. Herbs like *Kushta* and *Devadaru* enhanced anti-inflammatory action, while *Shundi* improved blood circulation and reduced stiffness.

In Grade 2 cases, the therapeutic approach resolved symptoms like pain, stiffness, and mild swelling quickly due to the absence of severe degeneration. However, in Grade 3 cases, symptoms like chronic stiffness and inflammation took longer to respond, requiring additional care. Overall, the treatment showed potential as a holistic and side-effect-free alternative to conventional methods.

### RESULTS

The therapeutic combination of *Pooteekatintrinyadi Taila* and *Swasthika Bandhana* provided significant relief.

1. Grade 2 OA: Pain relief was observed within one week of therapy. Improvement in joint mobility was

significant, with patients reporting a reduction in stiffness and enhanced daily activities.

- Grade 3 OA: Pain reduction took two weeks but was marked by gradual improvements. Although mobility improved, patients required lifestyle modifications and ongoing care to sustain the results. These outcomes demonstrate the potential of Ayurvedic interventions in not only symptomatic relief but also improving the quality of life for OA patients.

## CONCLUSION

The study establishes the combined effect of bandage and intervention medicine *Pooteekatintrinyadi taila* is found to be effective to reduce the pain, swelling, improve ROM by reducing stiffness in knee osteoarthritis, aligning with Ayurvedic principles of *Janu Sandhigata Vata Chikitsa*. The oil's anti-inflammatory, analgesic, and tissue-nourishing properties, combined with the supportive role of bandaging, deliver holistic care by addressing both symptoms and underlying pathology.

The findings suggest that this treatment can be a viable alternative to conventional therapies, particularly in early to moderate stages of OA. It also offers a side-effect-free, cost-effective solution for symptom management and joint rehabilitation. Future research on a larger sample size and over extended follow-up periods can help establish its broader applicability and long-term benefits in chronic degenerative conditions like osteoarthritis.

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