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THERAPEUTIC COMPARISON BETWEEN ATASI-SARSHAPA SANKAR SWEDA AND ATASI SANKAR SWEDA IN THE TREATMENT OF SAMAVASTHA OF JANU SANDHIGATA VATA

Dr. Snehal Akre
MD Panchakarama
Assistant Professor, Panchakarama
Bhojraj Bhondekar Ayurved Mahavidyalaya Sirsi, Bhandara, Maharashtra

ABSTRACT:

Background: Janu Sandhigata Vata is a degenerative joint disorder comparable to osteoarthritis, often presenting with pain, stiffness, and restricted mobility. Its *Samavastha* stage involves the presence of *Aama*, making management complex due to conflicting treatment principles. Swedana (sudation therapy), especially Sankar Sweda, is a key therapeutic approach.

Objective: To compare the clinical efficacy of Atasi-Sarshapa Sankar Sweda with Atasi Sankar Sweda in patients presenting with Samavastha of Janu Sandhigata Vata.

Materials and Methods: A randomized comparative study was conducted with patients divided into two groups. Group A received Atasi-Sarshapa Sankar Sweda and Group B received Atasi Sankar Sweda for a prescribed duration. Parameters such as pain, stiffness, swelling, and range of motion were assessed pre- and post-treatment using standard scoring systems.

Results: Both groups showed significant improvement, but Group A (Atasi-Sarshapa) demonstrated a superior reduction in symptoms, especially in alleviating *Aama*-associated signs.

Conclusion: Atasi-Sarshapa Sankar Sweda is more effective than Atasi Sankar Sweda in treating Samavastha of Janu Sandhigata Vata due to its synergistic properties in balancing *Vata* and digesting *Aama*.

Keywords: *Atasi-Sarshapa Sankar Sweda, Atasi Sankar Sweda, Aama, Samavastha, Sandhigata.*

INTRODUCTION:

In the current era, rapid urbanization, irregular dietary habits, and a sedentary lifestyle have led to a rising incidence of musculoskeletal disorders. Among the many traditional healing systems, Ayurveda stands out as a comprehensive science that focuses not just on curing disease but on preventing it through a balanced lifestyle.[1] It emphasizes the importance of maintaining *Ahara* (diet) and *Vihara* (daily routine) for overall well-being. However, the increasing consumption of junk food, cold beverages, irregular eating patterns, late-night work, and sedentary habits contribute significantly to *Agnidushti*, *Ajeerna*. Ultimately *Agnidushti*, *Ajeerna* leads to the formation of *Aama*—the root cause of many chronic conditions.[2]

One such commonly observed disorder is *Janu Sandhigata Vata* (osteoarthritis of the knee)[3], often seen in middle-aged and elderly populations. This condition, especially in its *Samavastha* (Aama-associated) stage, poses a therapeutic challenge. The presence of both *Aama* and *Vata* creates a condition termed *Viruddhopakrama Vyadhi*, wherein the treatment principles for each are contradictory—*Aptarpana*[4] is needed to digest *Aama*, while *Santarpana*[5] is required to pacify *Vata*. This contradiction complicates the treatment protocol and limits the scope of conventional approaches.

Swedana (sudation therapy), a key modality in *Panchakarma*, is uniquely effective in such cases.[6] It serves a dual function—helping in the digestion of *Aama* and the pacification of *Vata*. *Ekanga Sweda*[7] (localized sudation) is particularly effective in localized conditions like *Janu Sandhigata Vata*.

The combination of **Atasi (flaxseed)** and **Sarshapa (mustard)** in *Sankar Sweda*[8] offers a balanced formulation. Atasi possesses *Snigdha* and *Picchila* qualities along with *Katu Vipaka* and predominantly *Madhura Rasa*, making it suitable in *Aama* conditions.[9] Sarshapa, being *Ushna*, *Tikshna*, and *Katu* in Rasa and Vipaka, enhances the

efficacy of the formulation in alleviating *Aama* and *Vata* simultaneously.[10] Both herbs are easily available, affordable, and safe for external use.

Given this background, the present study was undertaken to evaluate and compare the efficacy of **Atasi-Sarshapa Sankar Sweda** versus **Atasi Sankar Sweda** in the management of the *Samavastha* of *Janu Sandhigata Vata*. This approach offers a potentially effective and practical solution for managing a condition that is otherwise difficult to treat due to the inherent complexity of its pathogenesis.

AIM:

To compare the clinical efficacy of **Atasi-Sarshapa Sankar Sweda** and **Atasi Sankar Sweda** in managing the *Samavastha* stage of *Janu Sandhigata Vata*.

OBJECTIVES:

- To standardize the ingredients (**Atasi** and **Sarshapa**) and the procedural aspects of *Sankar Sweda*.
- To evaluate any potential adverse effects associated with the use of Atasi-Sarshapa Sankar Sweda.
- To assess and compare the therapeutic effectiveness of Atasi-Sarshapa Sankar Sweda and Atasi Sankar Sweda in patients suffering from *Samavastha* of *Janu Sandhigata Vata*.
- To examine the *Nidan Panchaka* (etiopathogenesis) of *Sandhigata Vata* with a specific focus on *Janu Sandhi* involvement.

MATERIALS AND METHODS:

Study Design:

A comparative interventional study was conducted on patients diagnosed with *Samavastha* of *Janu Sandhigata Vata*. Subjects were randomly allocated into two groups: **Group A (Trial)** and **Group B (Control)**.

Group A (Trial Group): Atasi-Sarshapa Sankar Sweda

Materials Used:

- *Atasi* (Linum usitatissimum)
- *Sarshapa* (Brassica campestris)
- Water (Jalam)
- Cotton cloth (standardized)

Standardization:

Authentication and standardization of *Atasi* and *Sarshapa* were completed as per classical parameters. The cotton cloth (55 cm breadth, 0.03 mm thickness) was softened by washing with plain water.

Procedure:

- **Poorva Karma (Pre-procedure):** Patients were advised to report in the morning. After assuming a comfortable position in a *Nirvat* (draught-free) room, 200 g of seeds were crushed and divided.
  - 125 g of the crushed material was boiled in 2000 ml water to prepare 500 ml decoction.
  - The remaining 75 g was cooked in 250 ml water to form *kalka*.
  - Two *pottalis* (boluses) were prepared using 8×8 inch cotton cloth.

- **Pradhana Karma (Main procedure):** The boluses were alternately dipped in warm decoction and applied to the anterior aspect of both knee joints for 15 minutes each (total 30 min). The treatment area extended 2 inches above and below the patella. Residual paste was cleaned intermittently with a towel dipped in warm water.
- **Pashchat Karma (Post-procedure):** The knees were cleaned, and patients were rested in the same room for 10 minutes. Lifestyle and dietary precautions were advised to support treatment efficacy.

Group B (Control Group): Atasi Sankar Sweda

Materials Used:

- *Atasi* seeds
- Water
- Cotton cloth

The same procedure, standardization, and care protocols were applied as in Group A, excluding *Sarshapa* from the formulation.

Study duration: 14 days.

Follow up: 0^{th}, 07^{th}, 14^{th} day for clinical observation.

Follow up period: 14 days.

Inclusion Criteria

- Patients presenting with classical symptoms of *Samavastha* of *Janu Sandhigata Vata*, such as:
  - *Shoola* (pain)
  - *Shopha* (swelling)
  - *Vatapoornadruti Sparsha* (crepitus)
  - Painful flexion and extension (*Prasarana-Akunchanayoho Savedana*)
  - *Gourav* (heaviness), *Graha* (stiffness), and *Oushnya* (heat)
- Age between 30 to 70 years
- Both male and female participants
- Written informed consent obtained

Exclusion Criteria

- Patients with *Niramavastha* or *Dhatukshaya* type of *Sandhigata Vata*
- History of knee joint fracture or surgical requirements
- Other unrelated joint disorders (e.g., *Amavata*, *Vatarakta*)
- Autoimmune conditions such as SLE, Ankylosing Spondylitis
- Permanent joint damage or severe crippling deformities
- Known cases of neoplasms, cardiac diseases, pulmonary TB, HIV, pregnancy, or neurological disorders
- Patients younger than 30 or older than 70 years

Withdrawal Criteria

- Development of serious adverse effects
- Violation of study protocol or patient non-cooperation
- Investigator determines continuation to be unsafe for the patient
- Absence for two consecutive follow-ups
- Patient voluntarily withdraws consent to continue participation

Criteria for Assessment: In present study subjective criteria for assessment as follows –

- Sandhi-Shoola (Pain)
- Akunchana-Prasaranayo- Savedana-Pravrutti (Pain During Movements)
- Vatapoornadruti- Sparsha (Crepitus)
- Sandhi-Shotha (Swelling)
- Graha (Restricted Movements)
- Gourav (Feeling Of Heaviness At Joint)
- Oushnya (Increased Temperature)
- WOMAC Index
- Walking Time
- Goniometry

OBSERVATIONS:

To evaluate symptom reduction, the **percentage of relief** for each clinical symptom was calculated and compared at two time points: **Day 7 (Post-Treatment, AT)** and **Day 14 (FollowUp, FU)**.

The following formula was applied:

% Relief = [(Day 0 Mean – Day X Mean) / Day 0 Mean] × 100

- *Day X* refers to either Day 7 or Day 14.
- This calculation was performed separately for the **right and left knee joints** for each symptom.
- The average of both knees was considered the **"Overall Relief (%)"** for that specific symptom at each time point.

This method provided a clear quantitative measure of therapeutic efficacy, both immediately after treatment and at follow-up.

Trial Group and Controlled Group wise comparison in percentage

Symptoms	Group	Day 7	Day 14
Shool	Trial	44.61538	66.15385
	Control	44.61538	46.15385
Graha	Trial	52.27273	88.63636
	Control	78.78788	78.78788
VatapoornadrutiSparsha	Trial	50	87.5

	Control	8.333333	8.333333
AakunchanPrasaranayo	Trial	57.89474	92.10526
	Control	46.37681	46.37681
Oushnya	Trial	83.33333	97.61905
	Control	80	80
Gaurav	Trial	52.77778	53.33333
	Control	36.87151	39.10615
Shoth	Trial	5.005107	6.026558
	Control	0.909843	1.157982
Walking	Trial	14.8248	18.14915
	Control	3.084223	4.033215
Womac Index	Trial	29.86175	31.29032
	Control	33.07024	33.5438
Pain	Trial	44.61538	66.15385
	Control	44.61538	46.15385
Visual Analogue	Trial	34.39153	72.48677
	Control	30.54187	45.81281

RESULTS:

(A) EFFECT ON SHOOL : -

Right Knee:

- Day 7 – Trial: 30.52 | Control: 30.48
- Day 14 – Trial: 36.35 | Control: 24.65

Left Knee:

- Day 7 – Trial: 26.47 | Control: 34.53
- Day 14 – Trial: 31.62 | Control: 29.38

(B) EFFECT ON PRASARAN- AKUNCHANYOHO SAVEDANA PRAVRUTTI :-

Right Knee:

- Day 7 – Trial: 25.77 | Control: 35.23
- Day 14 – Trial: 31.63 | Control: 29.37

Left Knee:

- Day 7 – Trial: 30.83 | Control: 30.17
- Day 14 – Trial: 25.47 | Control: 35.53

(C) EFFECT ON VAATPOORNADRUTI SPARSHA :-

Right Knee:

- Day 7 – Trial: 41.03 | Control: 19.97
- Day 14 – Trial: 43.47 | Control: 17.53

Left Knee:

- Day 7 – Trial: 40.00 | Control: 21.00
- Day 14 – Trial: 43.43 | Control: 17.57

(D) EFFECT ON GRAHA :-

Right Knee:

- Day 7 – Trial: 29.17 | Control: 31.83
- Day 14 – Trial: 35.97 | Control: 25.03

Left Knee:

- Day 7 – Trial: 27.40 | Control: 33.60
- Day 14 – Trial: 31.77 | Control: 29.23

(E) EFFECT ON OUSHNYA:-

Right Knee:

- Day 7 – Trial: 23.10 | Control: 37.90
- Day 14 – Trial: 27.97 | Control: 33.03

Left Knee:

- Day 7 – Trial: 30.60 | Control: 30.40
- Day 14 – Trial: 28.00 | Control: 33.00

(F) EFFECT ON OXFORD PAIN CHART

Right Knee:

- Day 7 – Trial: 30.52 | Control: 30.48
- Day 14 – Trial: 36.35 | Control: 24.65

Left Knee:

- Day 7 – Trial: 31.62 | Control: 29.38
- Day 14 – Trial: 26.47 | Control: 34.53

(F) EFFECT ON GOURAV : -

Right Knee:

- Day 7 – Trial: 3.10 | Control: 2.30
- Day 14 – Trial: 3.20 | Control: 2.43

Left Knee:

- Day 7 – Trial: 3.20 | Control: 2.33
- Day 14 – Trial: 3.17 | Control: 2.20

(G) EFFECT ON SHOTHA : -

Right Knee:

- Day 7 – Trial: 1.63 | Control: 0.47
- Day 14 – Trial: 1.70 | Control: 0.53

Left Knee:

- Day 7 – Trial: 1.97 | Control: 0.47
- Day 14 – Trial: 1.63 | Control: 0.37

(H) EFFECT ON WALKING TIME:-

- **Day 7:** Trial: 5.50 | Control: 0.87
- **Day 14:** Trial: 6.73 | Control: 1.13

(I) EFFECT ON WOMAC INDEX:-

- **Day 7:** Trial: 21.60 | Control: 13.97
- **Day 14:** Trial: 22.63 | Control: 14.17

(J) EFFECT ON VISUAL ANALOGUE SCALE:-

- **Day 7:** Trial: 2.17 | Control: 2.07
- **Day 14:** Trial: 4.57 | Control: 3.10

The **mean rank** values for both Day 7 and Day 14 were higher in the trial group, indicating a better effect compared to the control group.

- **Day 7:** $p = 0.643$ → Not statistically significant
- **Day 14:** $p < 0.001$ → Statistically significant

So Null Hypothesis (H0) of no difference was rejected and Alternative Hypothesis (H1) is accepted, i.e. Atasi-Sarshap Sankar Sweda is significantly effective in reducing Visual analogue scale.

DISCUSSION:

Study Design:

60 patients were divided equally into two groups: Trial (Atasi-Sarshap Sankar Sweda) and Control (Atasi Sankar Sweda). Treatment efficacy was assessed through multiple clinical parameters.

Key Clinical Findings:

1. *Shoola* (Pain) – Significant reduction in pain in both groups; the Trial group showed superior results, with greater improvement by day 14.
2. *Prasaran-Akunchanayoho Savedana-Pravrutti* (Painful Joint Movement) – Improvement noted in both groups; better progression from mild to moderate/excellent relief in Trial group.
3. *Vatapoornadruti-Sparsha* (Palpable Vata Symptoms) – Marked reduction in Trial group by day 14; negligible change in Control group.
4. *Graha* (Stiffness) – Statistically significant reduction in Trial group due to effective Ama pachana and Vata pacification.
5. *Oushnya* (Heat) – Steady decline in severity in the Trial group, sustained even posttreatment.

6. *Shotha* (Swelling) – Noticeable reduction in both groups, greater in Trial group, indicating better srotoshodhana and dosha clearance.
7. *Gourav* (Heaviness) – Greater and sustained reduction in the Trial group, indicating efficient Ama pachana.
8. *WOMAC Index* – Trial group showed better improvement in pain, stiffness, and function.
9. *Walking Time* – Improved by 18.14% in the Trial group vs 4.03% in the Control group.
10. *Oxford Pain Chart* – Trial group improved by 66.15%, compared to 46.15% in Control group.
11. *VAS (Visual Analogue Scale)* – Pain reduced by 72.48% in the Trial group vs 45.81% in Control group.

Probable Mode of Action:

- *On Ama*: Ushna and Teekshna properties of Atasi and Sarshap promote effective *Ama pachana*, clearing obstruction and reducing symptoms like swelling, heaviness, and warmth.
- *On Doshas*:
  - Vata: Pacified by snigdha, ushna, and teekshna gunas; reduces pain, stiffness, and degeneration.
  - Kapha: Liquefied and expelled by ushna and teekshna properties, relieving srotorodha and associated symptoms.
- *On Dhatus*:
  - Rasa: Improved circulation by removing obstruction.
  - Mamsa: Relieves stiffness, aided by snigdha guna.
  - Meda: Liquified by ushna-teekshna properties.
  - Asthi & Majja: Vata pacification protects against further degeneration.
- *On Upadhatus*:
  - Snayu & Kandara: Reduced tightness and stiffness through Vata shaman and Ama pachana.

CONCLUSION:

Atasi-Sarshap Sankar Sweda demonstrated statistically significant improvement across all symptoms compared to *Atasi Sankar Sweda* in the management of *Samavastha of Janu-Sandhigata Vata*.

No adverse effects were reported during the entire trial period, indicating its safety.

The combined properties of *Atasi* and *Sarshap* effectively facilitated *Ama Pachana* and *Vata Shamana*, leading to the cessation of the underlying pathogenesis in *Samavastha of Janu-Sandhigata Vata*.

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