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Effect of Classical *Ayurvedic* Treatment Protocol in the Management of *Trikashoola* w.s.r. to Non-Specific Low Back Pain: A Case Series

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ABSTRACT:

Trikashoola, commonly correlated with low back pain, is described under *Nanatmaja Vata Vyadhi* in classical *Ayurvedic* texts. Low back pain is a major cause of disability worldwide and significantly affects functional ability and quality of life. The present case series evaluates the clinical effect of a classical *Ayurvedic* treatment protocol in five female patients aged 47–65 years presenting with chronic low back pain of 3 months to 2 years' duration. Diagnosis was established based on classical clinical features and supported by radiological findings. Clinical assessment was performed using the Visual Analogue Scale (VAS) for pain, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) for functional disability, and WHOQOL-BREF for quality of life assessment. The treatment protocol included *Deepana, Pachana, Panchakarma* procedures and *Shamana* therapies, such as *Kostha Shodhana, Kala Basti, Kati Basti, Abhyanga* and *Nadi Svedana*, along with internal medications including *Rasna Saptaka Kvatha, Avipattikara Choorna, Dashamoola Kvatha* and *Yogaraja Guggulu*. After 30 days of treatment, all patients demonstrated marked reduction in VAS and WOMAC scores, improvement in lumbar mobility and significant relief in tenderness without any adverse effects. The improvement was sustained during the three-week follow-up period with oral medications. These findings suggest that a classical *Ayurvedic* treatment protocol may provide safe and effective management in patients with *Trikashoola*.

KEYWORDS: *Basti Cikitsā*, Lumbar Spondylosis, *Trikashoola, Vātavyādhi.*

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INTRODUCTION:

Trikashoola (low back pain) is considered one among the eighty *Nanatmaja Vata Vyadhi* described in *Ayurvedic* literature. [1] It manifests in the *Trika Pradesha* (sacroiliac region) and is characterized by symptoms such as *Shoola* (pain), *Sparsha Asahyata* (tenderness), and *Stambha* (stiffness). In contemporary clinical practice, *Trikashoola* can be correlated with non-specific low back pain.

Low back pain is one of the most prevalent musculoskeletal disorders worldwide and represents a major public health concern. Recent epidemiological data indicate that approximately 452.8 million working-age individuals are affected globally, with prevalence estimates reaching nearly 628.8 million cases [2]. The lifetime prevalence exceeds 60% in many populations, significantly affecting productivity and quality of life [3]. Although most cases are non-specific and self-limiting, recurrent and chronic presentations are common. Etiological factors include muscle strain, ligament sprain, intervertebral disc degeneration, disc herniation, and facet joint dysfunction, while serious causes such as vertebral fractures, infections, inflammatory disorders, and malignancies may occur less frequent [4].

From an *Ayurvedic* perspective, *Trikashoola* results from localization of vitiated *Vata Dosha* in the *Trika Sandhi Pradesha*, producing symptoms such as *Shoola*, *Sparsha Asahyata*, and *Stambha* [5]. Conventional management mainly provides symptomatic relief but may be associated with recurrence and adverse effects of prolonged medication use. Ayurveda offers a holistic approach aimed at correcting the underlying *Vata* imbalance through *Snigdha*, *Swedana*, and *Panchakarma* therapies [6].

Therefore, the present case series was undertaken to evaluate the effect of a classical *Ayurvedic* treatment protocol in the management of *Trikashoola* using validated clinical assessment parameters.

CASE HISTORY:

Five female patients aged between 47 and 65 years presented with chronic low back pain ranging from three months to two years' duration. All patients had previously used non-steroidal anti-inflammatory drugs (NSAIDs) for pain relief but reported only temporary improvement. At the beginning of the *Ayurvedic* treatment protocol, NSAIDs were discontinued. In all cases, vital signs were stable. The FABER test was positive, whereas the Straight Leg Raising (SLR) test was negative bilaterally. No neurological deficits were observed, and the diagnosis of *Trikashoola* was established based on clinical features

Case 1

A 52-year-old female presented with chronic low back pain persisting for eight months, aggravated by prolonged standing and walking. Morning stiffness lasted for approximately 40 minutes. No pain radiated to the lower extremities. She reported a history of a fall one year prior to presentation. The baseline pain severity was rated as 6/10 on the VAS

Scale. Local examination revealed Grade 3 tenderness over the lumbosacral region with restricted lumbar flexion and extension. MRI revealed mild thickening of the ligamentum flavum at the L3–S1 level without significant neural compression.

Case 2

A 60-year-old female presented with low back pain persisting for two years, associated with increasing stiffness and inability to stand for more than five minutes. Morning stiffness lasted for approximately 30 minutes. She had a known history of hypertension and was on regular medication. There was no history of trauma. The baseline pain severity was rated as 5/10 on the VAS Scale. Local examination revealed restricted lumbar movements with Grade 2 tenderness at the L4–L5 level. Radiological examination revealed Grade I spondylolisthesis at the L4–L5 level.

Case 3

A 47-year-old female presented with severe low back pain for three months following a minor fall. Morning stiffness lasted for approximately 40 minutes, and she reported restricted lumbar mobility with sleep disturbance due to pain. The baseline pain severity was rated as 6/10 on the Visual Analogue Scale (VAS). Local examination revealed restricted lumbar movements with Grade 3 tenderness in the lumbosacral region. Radiological examination showed a mild disc bulge at D12–L1 with posterior annular tear indenting the ventral thecal sac.

Case 4

A 65-year-old female presented with low back pain persisting for one year, associated with morning stiffness lasting approximately 50 minutes. She was a known case of type 2 diabetes mellitus under medical management. Clinical examination revealed restricted lateral bending with Grade 3 tenderness over the lumbosacral region, and the baseline pain severity was 6/10 on the Visual Analogue Scale (VAS). Radiological examination showed degenerative (spondylosis) changes at the L5–S1 level without significant canal compromise or disc herniation.

Case 5

A 55-year-old female presented with low back pain for six months, associated with difficulty in prolonged sitting and forward bending. Morning stiffness lasted for approximately 30 minutes. There was no history of trauma or systemic illness. Clinical examination revealed restricted and painful lumbar flexion and extension with Grade 2 tenderness over the lumbosacral region, and the baseline pain severity was 5/10 on the Visual Analogue Scale (VAS). Radiological examination revealed degenerative lumbar spine changes with osteophyte formation and Grade I anterolisthesis of L5 over S1 with associated spondylosis at L4.

Aṣṭavidha Parīkṣā (~Eightfold Examination)

Aṣṭavidha Parīkṣā was performed in all five patients. *Nāḍī* (~pulse) was *Vātaja* in

four cases and *Kaphaja* in one case. Mala (~bowel habit) revealed *Baddha* (~constipation) in all patients, suggesting *Apāna Vāta* involvement. *Jihvā* (~tongue) was *Nirāma* (~uncoated) in all cases. *Mūtra* (~urine), *Śabda* (~voice), *Sparśa* (~touch), and *Dṛk* (~vision) were within normal limits. *Ākṛti* (~body build) was moderate in all patients. Overall findings indicated predominance of *Vāta Doṣa* .

THERAPEUTIC INTERVENTION AND TIME LINE

The treatment protocol comprised *Deepana* , *Pachana*, *Pañcakarma* (*Kala Basti*), *Kaṭi Basti* and *Śamana, Tharpana* therapies aimed at *Vāta-śamana* and restoration of normal lumbar function. The same therapeutic protocol and duration were followed for all five cases. Therapeutic Interventions and Time Line is mentioned in table-1 and *Ayurvedic Panchakarma* treatment protocol – flowchart in Figure 1

RESULT:

After completion of the one-month treatment protocol, all patients showed significant clinical improvement. VAS [7] scores improved from moderate-to-severe pain levels (5–6) to mild pain (1–2). WOMAC [8] scores decreased markedly from baseline values of 68–86 to 12–23 after treatment. The mean WHOQOL [9] - BREF domain scores demonstrated a consistent increase from baseline (BT) to after treatment (AT) across all domains. The Physical domain improved from 9.22 to 14.02, while the Psychological domain increased from 10.50 to 13.30. Similarly, the Social domain showed a marked rise from 8.00 to 16.00, and the Environmental domain improved from 10.20 to 13.00. This increase in mean scores indicates a reduction in symptoms and overall improvement in quality of life (i.e., relief) following the intervention.

Clinical examination showed resolution of tenderness, improved lumbar range of motion, and conversion of FABER test results from positive to negative. At three-week follow-up, the improvements were maintained with continued oral medication. No adverse drug reactions or procedure-related complications were observed.

Subjective Assessment: Changes in Clinical Parameters Before, After and Follow-up (WOMAC Score, VAS, SLR, FABER's test) are shown in table 2. WHOQOL-BREF Domain Scores are mentioned in table-3

Table 1. Therapeutic Interventions and Time Line

Duration	Therapy	Medication/Procedures
5 days	*Deepana – Pachana*	*Rasna Saptaka Kvatha* 20 ml + *Shunthi Choorna* 1 g twice daily (*Niranna Kala*) *Avipattikara Choorna* 3 g twice daily before food with warm water
1 day	*Kostha Shodhana*	*Gandharvahastadi Eranda Taila* 50 ml + *Go-ghrita* 100 ml (*Koṣṭha Śodhana* was administered to all five patients using a standardized protocol, with the same dose given to each patient.)
16 days	*Kala Basti*	*Niruha Basti*: (*Madhu* 30 ml, *Saindhava* 5 g, *Sahachara Taila* 30 ml, *Prutha Yavani Kalka* 20 g, *Dashamoola Kashaya* 300 ml) Dose – 350 ml Anuvasana Basti: Sahachara Taila 80 ml
25 days	Internal Medicines	*Daśamūla Kvātha* – 40 mL, twice daily, *Niranna Kāla*
		Yogarāja Guggulu – 2 tablets, thrice daily, *Bhojanottara*, with warm water
		Compound formulation**:** *Rasāyana Cūrṇa* 2 g + *Chopacīnī Cūrṇa* 200 mg + *Godantī Bhasma* 250 mg + *Navajīvana Rasa* 250 mg, - 5 g, twice daily *Bhojanottara*, with warm water
		Eraṇḍa Bhṛṣṭa Harītakī – 5 g, at night, *Apāna Kāla* with warm water
5 days	*Shamana Snehapana*	*Rasnādi Ghṛta* – 5 mL once daily
7 days	Local Therapy	*Kaṭi Basti* with *Dhanvantari Taila* 90ML
25 days	External Therapy	*Sarvāṅga Abhyaṅga* with *Bala Taila*, followed by *Mṛdu Nāḍī Svedana***,**

Table 2. Changes in Clinical Parameters Before, After and Follow-up

Case	WOMAC Score			VAS (Pain)			SLR (Bilateral)			FABER's Test		
	BT	AT	AF	BT	AT	AF	BT	AT	FU	BT	AT	AF
1	82	23	23	6	2	2	−ve	−ve	−ve	+ve	−ve	−ve
2	73	12	12	5	1	1	−ve	−ve	-ve	+ve	−ve	−ve
3	68	12	12	6	1	1	−ve	−ve	-ve	+ve	−ve	−ve
4	86	14	14	6	1	1	−ve	−ve	−ve	+ve	−ve	−ve
5	84	16	16	6	1	1	−ve	−ve	−ve	+ve	−ve	−ve

BT – Before Treatment, AT – After Treatment, AF – After Follow-up

Table 3: WHOQOL-BREF Domain Scores

Case	Physical			Psychological			Social			Environmental		
	BT	AT	AF	BT	AT	AF	BT	AT	AF	BT	AT	AF
1	10.29	13.14	13.14	11.33	13.33	13.33	8.00	16.00	16.00	11.00	13.00	13.00
2	10.86	17.14	17.14	12.67	16.00	16.00	12.00	20.00	20.00	12.00	16.00	16.00
3	10.86	17.14	17.14	12.67	16.00	16.00	12.00	20.00	20.00	12.00	16.00	16.00
4	7.14	11.43	11.43	8.00	10.67	10.67	4.00	12.00	12.00	8.00	10.00	10.00
5	7.14	11.43	11.43	8.00	10.67	10.67	4.00	12.00	12.00	8.00	10.00	10.00

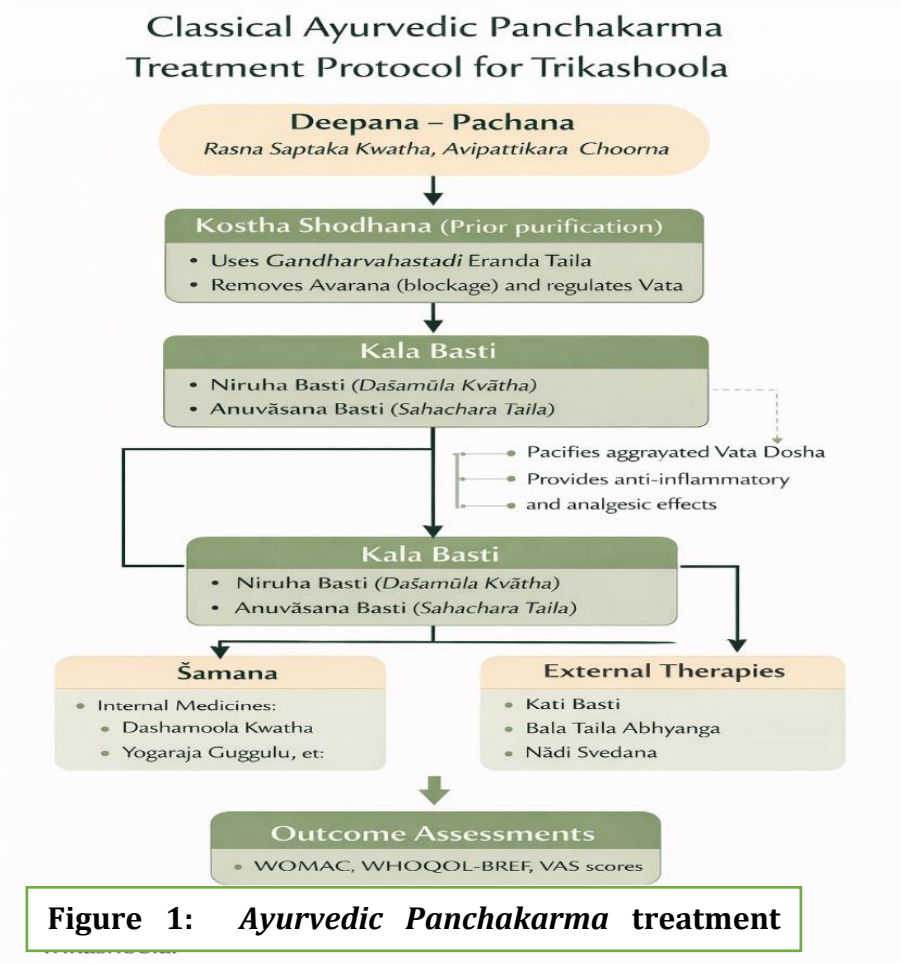

Figure 1: *Ayurvedic Panchakarma* treatment

DISCUSSION:

Trikashoola described under *Vātavyādhi* in classical *Ayurvedic* texts can be clinically correlated with non-specific low back pain. Although acute episodes may resolve spontaneously, chronic or recurrent cases often arise from degenerative changes involving the sacroiliac joint, lumbar vertebrae, intervertebral discs, ligaments, and surrounding musculature. Inadequate or delayed management may result in persistent pain and functional limitation, significantly affecting quality of life and daily activities.

From an *Ayurvedic* perspective, *Trikashoola* is primarily a *Vāta*-dominant disorder caused by vitiation and localization of aggravated *Vāta Doṣa* in the *Kaṭi* or *Trika* region. This results in symptoms such as *Śūla* (pain), *Stambha* (stiffness), and restricted mobility. Therefore, the management of *Trikashoola* focuses on *Vāta-śamana* through therapies such as *Snigdha*, *Svedana*, *Koṣṭha Śodhana*, *Basti Cikitsā*, and internal medications possessing *Vāta*-pacifying and *Brimhaṇa* properties.

In the present study, *Abhyaṅga* with *Bala Taila* followed by *Nāḍī Svedana*[10] was administered to reduce pain and stiffness. These therapies improve local circulation, promote muscle relaxation, and enhance flexibility of the affected structures [11]. *Bala Taila*, prepared from *Bala* (*Sida cordifolia* Linn.), possesses *Madhura Rasa*, *Snigdha* and *Guru Guṇa*, and exhibits *Balya* and *Brimhaṇa* properties, which help pacify aggravated *Vāta Doṣa* and nourish musculoskeletal tissues [12].

Koṣṭha Śodhana was performed in all patients prior to *Basti Cikitsā* to facilitate the elimination of aggravated *Doṣas* and enhance therapeutic efficacy [13]. A uniform protocol was followed for all patients. *Gandharvahastādi Eraṇḍa Taila* was administered as a mild purgative to regulate *Apāna Vāta* and promote bowel clearance, while *Go-Ghṛta* was used to provide internal *oleation*, reduce dryness, and prevent further aggravation of *Vāta*. According to *Ayurvedic* principles, *Koṣṭha Śodhana* helps in removing *Āvaraṇa*, improving Agni, and promoting *Vāta Anulomana*, thereby creating a favorable physiological environment for the effective action of *Basti* therapy.

Basti Cikitsā is considered the prime therapy for *Vāta* disorders [14]. In this study, *Kāla Basti* consisting of *Anuvāsana Basti* with Sahacara Taila and *Nirūha Basti* with Daśamūla Kvātha was administered. Sahacara Taila, containing Sahacara (*Barleria prionitis* Linn.), possesses *Vāta-Kapha Śāmaka*, *Vedanāsthāpana* and *Śothahara* properties, helping reduce pain and inflammation [15]. The *Snigdha* and *Uṣṇa* qualities counteract aggravated *Vāta*, while the *Vyāvāyī* and *Vikāsī* properties of *Tila Taila* enhance deeper tissue penetration [16]. According to the concept of *Āśraya–Āśrayī Sambandha*, pacification of *Vāta* supports normalization of *Asthi Dhātu*, thereby improving lumbosacral stability.

From a modern biomedical perspective, the effects of *Basti* may also be explained through rectal drug absorption and neurophysiological mechanisms. The rectal mucosa facilitates systemic absorption while partially bypassing first-pass metabolism. Additionally, stimulation of pelvic splanchnic nerves (S2–S4) may influence pain perception and autonomic regulation through the gut–brain axis [17]. *Kaṭi Basti* further enhances *Vāta-śamana* by providing sustained warmth and *oleation* to the lumbosacral region. When performed using *Dhanvantari Taila*, which possesses *Madhura Rasa*, *Snigdha Guṇa* and *Uṣṇa Vīrya*, it nourishes *Asthi* and *Majjā Dhātu* and supports restoration of joint function

Internal medications also contributed significantly to the therapeutic outcome. *Daśamūla Kvātha* and *Yogarāja Guggulu* help reduce inflammation and improve joint function, while *Rasāyana Cūrṇa, Chopacīnī Cūrṇa, Godantī Bhasma* and *Navajīvana Rasa* address chronicity and *Dhātu Kṣaya*. *Śamana Snehapāna* with *Rasnādi Ghṛta* nourishes tissues and reduces stiffness, while *Eraṇḍa Bhṛṣṭa Harītakī* promotes *Vāta Anulomana* and maintains *Apāna Vāta* balance.

Overall, the combined effect of *Pañcakarma* procedures, external therapies, and internal medications resulted in significant reduction of pain, stiffness, and tenderness in all patients. Improvements in VAS, WOMAC and WHOQOL-BREF scores indicate enhanced functional capacity and quality of life, and the sustained improvement during follow-up suggests that this integrated *Ayurvedic* treatment protocol may provide safe and effective management for patients with *Trikashoola*.

CONCLUSION:

This case series demonstrates that a classical *Ayurvedic* treatment protocol consisting of *Pañcakarma* procedures, external therapies, and internal medications may provide effective management of *Trikashoola* (non-specific low back pain). Significant improvements were observed in pain intensity, functional capacity, and quality of life without adverse effects. However, larger controlled studies are required to further validate these findings.

Limitation of study:

This study is limited by the small sample size and absence of a control group. Further randomized controlled studies with larger sample sizes are required to confirm the effectiveness of this treatment protocol.

Declaration of patient consent

The written informed consent has been taken from the patients before stating the treatment and for publication of data without disclosing the identity

Conflict of interest: The author declares that there is no conflict of interest.

Guarantor*:* The corresponding author is the guarantor of this article and its contents.

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