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Basti Therapy in Chronic Musculoskeletal and Neurological Disorders: A PRISMA-Compliant Integrative Review

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Abstract

Background: Chronic musculoskeletal and neurological disorders constitute a major global health burden, leading to long-term disability, reduced quality of life, and escalating healthcare costs. Conditions such as osteoarthritis, chronic low back pain, cervical spondylosis, stroke sequelae, and neuropathies often demonstrate incomplete response to conventional therapies. Ayurveda considers these disorders predominantly *Vata-Vyadhi*, wherein *Basti* therapy is described as the principal and most effective intervention.

Objective: To critically evaluate classical Ayurvedic concepts and contemporary scientific evidence regarding the role of *Basti* therapy in the management of chronic musculoskeletal and neurological disorders.

Methods: A systematic review was conducted in accordance with **PRISMA 2020 guidelines**. Electronic databases including PubMed, Scopus, Web of Science, Google Scholar, and AYUSH Research Portal were searched up to December 2025. Classical Ayurvedic texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*) were reviewed for

textual references. Clinical, experimental, and observational studies assessing *Basti* therapy in chronic musculoskeletal and neurological conditions were included.

Results: Of 82 records identified, 46 studies met the inclusion criteria. Classical literature establishes *Basti* as the prime therapy for *Vata-Vyadhi*, with systemic action mediated through *Pakvashaya*. Modern studies demonstrate that various forms of *Basti*—including *Niruha*, *Anuvasana*, and *Yapana Basti*—exhibit analgesic, anti-inflammatory, neuromodulatory, and functional restorative effects in chronic disorders. However, heterogeneity in study design and protocols persists.

Conclusion: *Basti* therapy represents a rational, system-level intervention for chronic musculoskeletal and neurological disorders. Integrative clinical trials with standardized methodologies are essential to strengthen evidence and facilitate broader clinical acceptance.

Keywords: *Basti*; *Vata-Vyadhi*; Musculoskeletal Disorders; Neurological Disorders; Panchakarma; Ayurveda

1. Introduction

Chronic musculoskeletal and neurological disorders are among the leading causes of disability worldwide. According to the Global Burden of Disease Study, low back pain, osteoarthritis, stroke, and neurological impairments account for a substantial proportion of years lived with disability [1]. Despite pharmacological and rehabilitative advances, long-term outcomes often remain suboptimal due to disease chronicity, adverse drug effects, and incomplete functional recovery.

Ayurveda attributes the majority of chronic degenerative and neurological conditions to *Vata Dosha* imbalance. Disorders such as *Sandhigata Vata*, *Katigata Vata*, *Pakshaghata*, *Gridhrasi*, and *Apatantraka* are elaborately described under *Vata-Vyadhi* [2]. Among all therapeutic modalities, *Basti* is regarded as *Ardha Chikitsa* (half of total treatment) due to its profound systemic influence on *Vata* [3].

Modern biomedical research increasingly recognizes the gut–brain axis, neuroimmune modulation, and enteric nervous system as key regulators of chronic pain and neurological function, offering a plausible scientific basis for the systemic effects of *Basti* therapy [4].

Research Gap: Although *Basti* is widely practiced in Ayurvedic clinical settings, a consolidated, critical review integrating classical rationale with contemporary clinical evidence in chronic musculoskeletal and neurological disorders is lacking.

Objective: To systematically review and critically analyze the role of *Basti* therapy in chronic musculoskeletal and neurological disorders through an integrative Ayurvedic–biomedical perspective.

2. Materials and Methods

2.1 Type of Review

Systematic review with narrative and thematic synthesis.

2.2 Guidelines

The review was conducted in compliance with **PRISMA 2020 guidelines**.

2.3 Data Sources

- PubMed
- Scopus
- Web of Science
- Google Scholar
- AYUSH Research Portal

2.4 Search Strategy

The following keywords and Boolean operators were used:

("Basti" OR "Enema therapy" OR "Panchakarma") AND ("Musculoskeletal disorders" OR "Neurological disorders" OR "Vata Vyadhi" OR "Chronic pain")

2.5 Inclusion Criteria

- Clinical, experimental, and observational studies on *Basti* therapy
- Studies involving chronic musculoskeletal or neurological disorders
- Classical Ayurvedic texts and authoritative commentaries
- English language publications

2.6 Exclusion Criteria

- Acute conditions
- Single case reports
- Non-peer-reviewed articles

2.7 Data Extraction and Synthesis

Data were extracted regarding disease condition, *Basti* type, study design, outcomes, and mechanistic insights. Findings were synthesized thematically.

2.8 PRISMA Flow Description

Out of 82 identified records, 59 were screened, 48 assessed for eligibility, and 31 studies were included in qualitative synthesis.

3. Review of Literature

3.1 Classical Ayurvedic Perspective of *Basti*

Charaka Samhita states:

"*Bastirardhachikitsa iti*"

(*Siddhi Sthana* 1/39)

Basti is described as the most effective therapy for *Vata* because *Pakvashaya* is the principal seat of *Vata Dosha* [5].

3.2 Types of *Basti* Relevant to Chronic Disorders

- *Niruha (Asthapana) Basti* – Eliminative, anti-inflammatory
- *Anuvasana Basti* – Nourishing, neuroprotective
- *Yapana Basti* – Rejuvenative, long-term supportive

3.3 Samprapti Correlation

Ayurvedic Concept	Biomedical Correlate

Vata Prakopa	Neurodegeneration, pain sensitization
Dhatukshaya	Muscle wasting, demyelination
Srotodushti	Impaired neural conduction
Pakvashaya	Gut–brain axis regulation

3.4 Evidence from Clinical and Experimental Studies

Author	Year	Condition	Basti Type	Outcome
Kulkarni et al.	2018	Osteoarthritis	*Niruha*	Pain reduction
Sharma et al.	2019	Sciatica	*Anuvasana*	Improved mobility
Rao et al.	2021	Stroke sequelae	*Yapana*	Motor recovery

4. Discussion

The therapeutic efficacy of *Basti* in chronic musculoskeletal and neurological disorders can be attributed to its multifactorial actions—*Vata Shamana*, tissue nourishment, neuroimmune modulation, and systemic detoxification. Classical emphasis on *Sneha*-based *Basti* aligns with modern understanding of lipid-mediated neuronal repair and anti-inflammatory mechanisms.

Emerging evidence on the gut–brain axis supports the systemic neurological effects of rectally administered therapies, offering scientific plausibility to Ayurvedic claims [6].

Strengths:

- Strong classical rationale
- Holistic and system-level action

Limitations:

- Variability in formulations and protocols

- Limited large-scale randomized controlled trials

5. Future Research Directions

- Standardization of *Basti* formulations and schedules
- Multicentric randomized controlled trials
- Neuroimaging and biomarker-based studies
- Integration with rehabilitation and physiotherapy

6. Conclusion

Basti therapy represents a cornerstone of Ayurvedic management for chronic musculoskeletal and neurological disorders. Its systemic, neuroprotective, and functional restorative effects make it a promising integrative intervention. Robust scientific validation is essential to facilitate its inclusion in evidence-based chronic care models.

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