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Review Article

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"PANCHAKARMA THERAPIES AS DESCRIBED IN SAMHITAS – A CRITICAL REVIEW"

Dr. Abhay Gandhi[1]

AFFLIATIONS:
1. Director, Ira Consultancy & Research Organisation, Bhosari, Pune, Maharashtra 411026

CORRESPONDENCE:
Dr. Abhay Gandhi
EMAIL ID: director@icro.co.in

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ABSTRACT

Introduction: Panchakarma, a cornerstone of Ayurvedic therapeutics, encompasses five purificatory measures—*Vamana, Virechana, Basti, Nasya,* and *Raktamokshana*. The Samhitas elaborate on these as essential strategies for both prevention and cure, aiming at detoxification, dosha balance, and rejuvenation. While Panchakarma has been practiced for millennia, recent decades have witnessed an increased interest in its clinical validation through modern research. **Methods:** A structured literature review was conducted across classical Ayurvedic Samhitas (*Charaka, Sushruta, Ashtanga Hridaya*) and modern biomedical databases (PubMed, Scopus, Web of Science). Inclusion criteria were texts, reviews, and clinical studies addressing Panchakarma's principles, indications, contraindications, and evidence-based outcomes. Studies unrelated to therapeutic applications or lacking methodological rigor were excluded. **Results:** The review highlights Panchakarma's role as a detoxification and rejuvenation protocol with systemic benefits. Evidence from Samhitas describes disease-specific and preventive applications, while contemporary studies suggest its influence on gut microbiota, immune modulation, neuroendocrine balance, and metabolic regulation. Clinical studies on Panchakarma interventions, including *Vamana* for asthma, *Virechana* for skin disorders, and *Basti* for neurological and musculoskeletal conditions, provide promising outcomes, though limitations persist in study design and standardization. **Discussion:** Panchakarma presents a unique integrative approach, emphasizing both internal cleansing and individualized treatment. While classical descriptions highlight its preventive, promotive, and curative aspects, modern evidence supports its biochemical and physiological relevance. However, gaps remain in the form of robust clinical trials, standardized protocols, and mechanistic clarity.

KEYWORDS: Basti, Detoxification, Panchakarma, Samhita, Virechana

INTRODUCTION

Panchakarma forms the quintessence of therapeutic practice in Ayurveda. Derived from the Sanskrit words "Pancha" (five) and "Karma" (actions), these therapies are designed to eliminate accumulated doshas, restore equilibrium, and promote health[1-2]. The classical Samhitas—*Charaka Samhita, Sushruta Samhita,* and *Ashtanga Hridaya*—provide elaborate descriptions of Panchakarma, integrating it within preventive, promotive, and curative healthcare frameworks. Panchakarma is not merely detoxification; it embodies a holistic approach that prepares the body, eliminates toxins, and restores physiological harmony[3-4].

Over the years, Panchakarma has gained recognition beyond traditional boundaries. Modern research attributes its benefits to improved metabolic function, immune regulation, gut-brain axis modulation, and enhanced psychological well-being[5-6]. Several clinical studies have demonstrated its efficacy in chronic diseases such as rheumatoid arthritis, diabetes, neurological disorders, and dermatological conditions. Yet, the scientific exploration of Panchakarma remains in its early stages, demanding rigorous validation[7-8].

This review aims to critically analyze the descriptions of Panchakarma in the Samhitas and correlate them with contemporary scientific evidence. The objectives are to: (1) explore classical foundations of Panchakarma, (2) analyze its clinical relevance across diseases, and (3) identify challenges and prospects for integrating Panchakarma into evidence-based practice[9-10].

MATERIALS AND METHODS

A comprehensive literature review was performed in three stages:

1. **Classical Texts:** Primary references were drawn from *Charaka Samhita, Sushruta Samhita,* and *Ashtanga Hridaya*. Commentaries such as Chakrapani's on *Charaka* and Dalhana's on *Sushruta* were included for interpretative insights[11].
2. **Databases Searched:** PubMed, Scopus, Web of Science, and Google Scholar were searched using keywords "Panchakarma," "Ayurveda detoxification," "Vamana," "Virechana," "Basti," "Nasya," and "Raktamokshana. [12]"
3. **Inclusion/Exclusion Criteria:** Studies published in English between 1990–2024 were considered. Included studies involved clinical trials, systematic reviews, experimental studies, and mechanistic research focusing on Panchakarma or its procedures. Excluded were anecdotal reports, non-clinical essays, and studies with unclear methodology[13-14].
4. **Type of Studies Reviewed:** Clinical trials, experimental studies, and review articles were prioritized. Ayurvedic classical references were treated as foundational evidence, while modern research provided correlates and critical evaluation[15].

OBSERVATION AND RESULTS

Panchakarma, as delineated in the Samhitas, represents an integrative framework of five therapeutic procedures aimed at purification, restoration of doshic balance, and prevention of diseases. The five principal therapies—*Vamana (therapeutic emesis), Virechana (therapeutic purgation), Basti (medicated enema), Nasya (nasal therapy),* and *Raktamokshana (bloodletting)*—are systematically described in *Charaka Samhita, Sushruta Samhita,* and *Ashtanga Hridaya.* Each therapy is rooted in the principle of removing vitiated doshas from their respective sites, ensuring comprehensive detoxification. Modern research correlates these interventions with physiological, biochemical, and immunological benefits.

1. Vamana (Therapeutic Emesis)

In Samhitas, *Vamana* is primarily indicated for *Kapha-dominant* disorders such as asthma, chronic cough, skin diseases, and obesity. The procedure involves administration of emetic drugs like *Madanaphala* and *Yashtimadhu,* preceded by preparatory therapies (*Snehana* and *Swedana*).

- **Classical insights:** Charaka highlights Vamana as the foremost therapy for expelling aggravated Kapha from the *Amashaya.*
- **Modern correlates:** Recent studies demonstrate its efficacy in bronchial asthma, allergic rhinitis, and psoriasis. The cleansing effect is suggested to reduce inflammatory mediators, normalize respiratory secretions, and modulate immune response.
- **Clinical evidence:** A systematic review of clinical trials indicates that Vamana

significantly improves lung function parameters, reduces symptoms of chronic bronchitis, and may contribute to weight reduction.

2. Virechana (Therapeutic Purgation)

Virechana is indicated for *Pitta-dominant* disorders including jaundice, skin diseases, bleeding disorders, and gastrointestinal ailments. The therapy involves purgative drugs such as *Trivrit, Aragwadha*, and *Haritaki.*

- **Classical insights:** Sushruta prescribes Virechana as the best therapy to eliminate Pitta from its primary site, the *small intestine.*
- **Modern correlates:** Virechana may influence bile metabolism, hepatic function, and gut microbiota. Studies have shown improvements in psoriasis, chronic constipation, and liver disorders.
- **Clinical evidence:** Controlled trials report that Virechana improves dermatological symptoms, decreases inflammatory markers, and promotes liver detoxification. Patients with psoriasis undergoing Virechana have demonstrated sustained remission compared to conventional therapy.

3. Basti (Medicated Enema)

Basti is considered the supreme therapy in Ayurveda, predominantly for *Vata-dominant* disorders. The Samhitas describe *Niruha (decoction-based)* and *Anuvasana (oil-based)* Basti, administered per rectum, to balance Vata and indirectly support all doshas.

- **Classical insights:** Charaka praises Basti as half of the entire therapeutic armamentarium due to its systemic effects.
- **Modern correlates:** Basti is linked with modulation of the enteric nervous system, gut-brain axis, and systemic circulation of phytochemicals. It may alter gut microbiota, enhance nutrient absorption, and modulate immune pathways.
- **Clinical evidence:** Trials demonstrate that Basti is effective in neurological disorders (Parkinson's disease, multiple sclerosis), osteoarthritis, low back pain, and irritable bowel syndrome. Patients report reduced pain, improved mobility, and enhanced quality of life.

4. Nasya (Nasal Therapy)

Nasya involves administration of medicated oils or powders through the nasal route, primarily for *Urdhwajatrugata* (above clavicle) disorders such as migraine, sinusitis, cervical spondylosis, and neurodegenerative conditions.

- **Classical insights:** Vagbhata emphasizes Nasya as the best therapy for head and neck disorders, purifying the channels and strengthening sensory organs.
- **Modern correlates:** The nasal mucosa provides a direct pathway to the brain through the olfactory and trigeminal nerves, enabling drug delivery across the blood–brain barrier. This aligns with modern intranasal drug delivery systems.
- **Clinical evidence:** Clinical studies support Nasya in chronic sinusitis, migraine, and cognitive decline. Trials using *Anu Taila* and *Shadbindu Taila* show significant improvements in nasal congestion, headache frequency, and memory functions.

5. Raktamokshana (Bloodletting)

Raktamokshana is employed to eliminate vitiated Rakta and associated doshas, particularly in skin diseases, varicose veins, and localized inflammations. Techniques include *Siravedha (venesection)*, *Jalaukavacharana (leech therapy)*, and *Shringa/Alabu (horn/gourd methods).*

- **Classical insights:** Sushruta, known as the father of surgery, details Raktamokshana as an essential therapy for Rakta-dushti conditions.
- **Modern correlates:** Leech therapy has been integrated into modern reconstructive and plastic surgery due to its anticoagulant, anti-inflammatory, and analgesic properties, largely attributed to hirudin and related peptides.
- **Clinical evidence:** Studies demonstrate efficacy in chronic eczema, non-healing ulcers, and osteoarthritis. Patients undergoing leech therapy reported reduced inflammation, pain, and improved circulation.

6. Preparatory and Post-therapies

All Panchakarma therapies are preceded by *Purva Karma* (Snehana, Swedana) and followed by *Paschat Karma* (dietary regimen, rest, and Rasayana). These ensure optimal dosha mobilization, safe elimination,

and restoration of strength.

- **Modern parallels:** Snehana correlates with lipid-mediated drug delivery and lubrication of tissues, while Swedana aligns with detoxification through induced perspiration. Post-therapies resemble structured rehabilitation protocols.

7. Preventive and Promotive Role

Apart from therapeutic roles, Samhitas highlight Panchakarma as a preventive strategy for seasonal purification (*Ritucharya*) and promotion of vitality (*Rasayana*). Modern wellness applications such as detox retreats, stress management programs, and integrative clinics have adapted Panchakarma principles for health promotion.

8. Safety, Challenges, and Limitations

Despite its benefits, challenges include variability in protocols, inadequate standardization, and risk of complications if improperly administered. Clinical studies often suffer from small sample sizes, lack of controls, and difficulty in blinding due to the procedural nature of therapies. More rigorous, multicentric trials are required to establish Panchakarma's therapeutic efficacy and safety profile in evidence-based medicine.

DISCUSSION

The Samhita descriptions of Panchakarma represent a comprehensive framework of detoxification, dosha balance, and rejuvenation, which continues to hold relevance in modern integrative medicine. This critical review highlights both convergences and divergences between ancient principles and contemporary evidence[16].

One of the foremost strengths of Panchakarma lies in its systemic and holistic nature. Unlike modern pharmacotherapy, which often targets specific biochemical pathways, Panchakarma addresses root causes by eliminating vitiated doshas and restoring systemic balance. This resonates with modern preventive and lifestyle medicine, which emphasizes detoxification, microbiome health, and psychosomatic well-being[17].

Modern research provides partial validation of Panchakarma's mechanisms. For example, studies on Vamana and Virechana demonstrate reductions in inflammatory cytokines and metabolic toxins, paralleling the Samhita concept of dosha elimination. Basti's effects on gut microbiota and neuroendocrine function highlight its integrative potential in managing Vata disorders. Similarly, Nasya's intranasal route correlates with advanced drug delivery systems capable of bypassing the blood–brain barrier, while Raktamokshana finds a direct correlate in modern leech therapy. These parallels suggest that Panchakarma therapies were ahead of their time in conceptualizing systemic purification[18].

However, challenges remain in translating Samhita-based procedures into modern scientific frameworks. The terminology of doshas, dhatus, and srotas does not have direct equivalents in biomedicine, leading to conceptual gaps. Furthermore, heterogeneity of Panchakarma protocols across clinics complicates reproducibility in research. Many clinical studies report positive outcomes but suffer from methodological limitations, including small sample sizes, inadequate blinding, and lack of long-term follow-up[18].

Another limitation is the absence of universally accepted biomarkers to measure Panchakarma's effects. While reductions in inflammatory markers, stress hormones, and metabolic toxins have been reported, a standardized panel of biochemical or genomic markers is yet to be established. Future research should employ omics technologies, microbiome analysis, and systems biology approaches to elucidate Panchakarma's multi-dimensional impact[19].

From a clinical perspective, Panchakarma offers unique opportunities for integrative healthcare. Its potential applications in chronic, lifestyle-related, and psychosomatic disorders align with current global health needs. Seasonal Panchakarma, as prescribed in Samhitas, resonates with modern concepts of preventive check-ups and wellness protocols. However, standardization, quality assurance, and safety monitoring must be prioritized to ensure Panchakarma's acceptance in mainstream healthcare[19].

In conclusion, Panchakarma represents a dynamic meeting point between traditional wisdom and modern science. While evidence is accumulating, further rigorous, multidisciplinary research is needed to fully realize its therapeutic and preventive potential. The integration of Panchakarma into modern healthcare could provide sustainable, individualized, and holistic approaches for managing

chronic disease burdens worldwide[20].

CONCLUSION

Panchakarma, as detailed in the Samhitas, represents a time-tested therapeutic system for both prevention and cure. Rooted in the principles of dosha elimination and systemic cleansing, it has been validated through centuries of practice and continues to hold clinical relevance today. Modern research, though still in its formative phase, provides supportive evidence of Panchakarma's role in immunomodulation, metabolic balance, and psychosomatic health.

The review highlights that while Ayurveda emphasizes individualized treatment through Panchakarma, modern evidence underscores its broader applications in chronic diseases. However, methodological challenges such as lack of standardized protocols, small sample sizes, and limited mechanistic insights remain barriers to wider acceptance. Bridging these gaps requires interdisciplinary collaboration, large-scale clinical studies, and the development of standardized Panchakarma protocols.

In conclusion, Panchakarma stands at the crossroads of tradition and modern science, offering a unique model for integrative healthcare. Its continued exploration can provide sustainable, holistic strategies for health promotion and disease management in the modern era.

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