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Review Article

CLINICAL APPLICABILITY OF CHARAKA SIDDHANTAS IN CONTEMPORARY MEDICAL PRACTICE: A SYSTEMATIC NARRATIVE REVIEW WITH TRANSLATIONAL PERSPECTIVES IN SYSTEMS BIOLOGY AND INTEGRATIVE MEDICINE

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ABSTRACT

As global healthcare increasingly adopts precision medicine and systems-oriented approaches, re-examining these principles through the perspective of modern biomedical science is warranted. **Objectives:** This review assesses the clinical applicability of the principle (*Charaka Siddhantas)*, comparing their structure to contemporary systems biology, genomics, epidemiology, and integrative medicine. Additionally, it identifies research gaps and proposes directions for future investigation. **Methods:** A PRISMA-style narrative review was conducted utilizing PubMed, Scopus, Web of Science, Google Scholar, and *Dhara* Online Classical texts, including *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridayam*, were reviewed as primary sources, peer-reviewed studies **Results:** *Vata Prakriti* is associated with enhanced expression in gene sets related to neuronal activity, ion channel function, and neurotransmitter signalling pathways. *Pitta Prakriti* individuals show enrichment of genes involved in metabolic and inflammatory processes, including pathways regulating enzymatic catalysis, bile acid metabolism, and oxidative phosphorylation. *Kapha Prakriti* is characterized by upregulation of genes involved in structural components, lipid storage, extracellular matrix formation, and immunomodulation. *Tridosha* physiology corresponds to neural signalling enzymatic metabolism and structural homeostasis at the molecular level. *Agni* physiology demonstrates notable parallels with gut microbiome dynamics. **Conclusion:** The *Charaka Siddhantas* constitute a robust and rigorous clinical system. Integration with modern biomedical science is both feasible and necessary.

INTRODUCTION

The increasing prevalence of non-communicable diseases (NCDs), multimorbidity, antimicrobial resistance, and pandemics illustrates the limitations of a reductionist biomedical model. The World Health Organization's Traditional Medicine Strategy 2019–2025 emphasizes the role of traditional systems in Universal Health Coverage and advocates for their evidence-based integration. Ayurveda, as the oldest system of individualized medicine, warrants renewed consideration within this evolving context.

The shift from a 'one-drug-fits-all' paradigm to precision medicine, patient-centered care, and systems-level therapeutics closely mirrors frameworks articulated millennia ago in the *Charaka Samhita* [1]. *Charaka* defines *Siddhanta* [20] as the truth established through exhaustive examination and rational proof [2]. This epistemological rigor positions the *Siddhantas* as dynamic clinical tools with enduring heuristic value (*Yukti*), rather than mere historical artifacts.

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Rationale and Scope

Despite increasing international interest in integrative medicine, a substantial gap remains between classical Ayurveda scholarship and the global scientific literature. Existing reviews are often confined to descriptive commentary or apply biomedical categories to Ayurveda concepts without critical evaluation. The present review aims to address this gap by applying international academic standards, such as critical analysis, methodological triangulation, and systematic identification of research gaps, to assess the core *Charaka Siddhantas* and their relevance in contemporary clinical [21] practice.

The *Siddhantas* examined in this review are:

1. *Pramana Vigyana* (knowledge framework)
2. *Samanya-Vishesha* (principle of similarity and difference).
3. *Tridosha Siddhanta* (three-part physiology)
4. *Dashavidha Pariksha* (tenfold assessment)
5. *Janapadodhvansa* (epidemiology).

These doctrines were selected for their scientific significance and contemporary relevance. A structured, PRISMA-aligned narrative review methodology was employed. The following describes the search strategy:

Databases Searched:

Databases Searched: PubMed/Medline, Scopus, Web of Science, Google Scholar, *Dhara* Online (*Ayurveda* Classical Literature Repository), *AYUSH* Research Portal, JAIMS (Journal of *Ayurveda* and Integrative Medicine, Scopus-indexed). [22]

Search Terms: "*Charaka Samhita* and clinical applicability", "*Tridosha* and systems biology", "*Prakriti* and genomics", "Ayurgenomics and precision medicine", "*Janapadodhvansa* and epidemiology", "*Agni* and gut microbiome", "*Dashavidha Pariksha* and personalized medicine", "*Samanya Vishesha* and homeostasis."

Inclusion Criteria

- Peer-reviewed publications from 2000 to April 2026.
- Classical primary texts: *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridayam.*
- Studies correlating Ayurveda principles with biomedical frameworks.
- Review articles in Scopus/PubMed-indexed journals.

Exclusion Criteria

- Non-peer-reviewed, grey literature without academic affiliation.
- Studies with sample size <10 (for clinical studies).
- Articles not available in English or Sanskrit/Hindi with English abstract.

Results of Search: 187 records identified; 54 duplicates removed; 133 screened; 89 assessed for eligibility; 47 studies included in the final synthesis. Primary classical sources 4 were supplemented by 43 peer-reviewed publications.

Classical Conceptual Framework

***Pramana Vigyana*: The Epistemological Architecture of Clinical Reasoning**

The clinical methodology of *Charaka* is grounded in *Pramana Vigyana* (science of valid knowledge), establishing three primary epistemological sources that govern diagnostic reasoning: *Aptopadesha* (testimony of authority), *Pratyaksha* (direct perception), and *Anumana* (inference) [2].

- *Aptopadesha* (Authoritative Knowledge): Validated clinical guidelines derived from the testimony of seasoned practitioners- equivalent to evidence-based clinical guidelines.
- *Pratyaksha* (Direct Observation): Sensory examination through *Ashtasthana Pariksha* (eightfold examination of the body, including observation, touch, and questioning) and patient interrogation (*Prashna*; direct questioning)- analogous[23] to history-taking and physical examination.
- *Anumana* (Logical Inference): Deduction of internal physiological states from observable manifestations- corresponding to inferential laboratory and imaging diagnostics.

The synthesis of these three sources produces *Yukti*- rational clinical judgment, in which *Charaka* defines as 'the intellect that perceives the outcome of a combination of multiple causative factors'[2]. In modern clinical practice, *Yukti* is the precise analogue of clinical decision-making under multimorbidity, where algorithmic protocols may conflict, and physician judgment becomes indispensable.

Sushruta Samhita complements this framework through *Trividha Pariksha* (three-fold examination) comprising *Darshana* (visual inspection), *Sparshana* (palpation), and *Prashna* (interrogation)[3], while *Ashtanga Hridayam* of *Vagbhata* systematizes *Ashtavidha Pariksha* (eight-fold examination), emphasizing *Nadi* (pulse diagnosis) as a real-time physiological indicator [4].

***Samanya-Vishesha Siddhanta*: The Bioregulatory Principle**

Charaka articulates *Samanya* (similarity) and *Vishesha* (difference) as foundational principles

underlying all therapeutic interventions. *Samanya* is posited to induce augmentation, in which substances that share qualities with the body enhance those attributes. Conversely, *Vishesha* is understood to facilitate reduction, as substances with opposing qualities diminish excesses. [24]

This is not a metaphysical proposition but a pharmacodynamic principle with direct equivalence to receptor agonism (*Samanya*) and antagonism (*Vishesha*) in modern pharmacology. The principle underpins all *Ayurveda* dietetics, pharmacotherapy, and lifestyle modification [5,6].

Table 1: *Samanya-Vishesha* vs. Modern Pharmacological Concepts

Ayurveda Concept	Classical Definition	Modern Biomedical Equivalent	Clinical Example
Samanya	Similarity → increase	Receptor agonism; supplementation therapy	Iron supplementation in anaemia (*Rakta Kshaya*)
Vishesha	Dissimilarity → decrease	Receptor antagonism; anti-inflammatory therapy	*Tikta Rasa* (bitter) for *Pitta* excess; analogous to antipyretics
Samanya + *Vishesha* equilibrium	Homeostatic balance	Allostasis; hormetic response	Balanced dietary modification for metabolic syndrome
Dravya-Guna-Karma	Substance-quality-action triad	Structure-activity relationship (SAR)	Drug-receptor binding kinetics

Tridosha Siddhanta: Tri Humoral Physiology and Systems Biology

The *Tridosha* framework- *Vata* (movement and nervous system), *Pitta* (metabolism and transformation), *Kapha* (structure and cohesion)- represents *Ayurveda's* theoretical model of physiological regulation. *Charaka* establishes that these three entities govern all bodily processes, and their equilibrium (*Dosha Samya*; balance of *doshas*) constitutes health, while their disharmony (*Dosha Vaishamya*; imbalance of *doshas*) constitutes disease [2].

Sushruta Samhita introduces the dual cosmological basis: *'Agni* functions in the body as *Pitta*; *Soma* functions as *Kapha'*, grounding *Tridosha* theory in material reality [3]. *Ashtanga Hridayam* states, the *Doshas* sustain the body [4]. The molecular biology correlates are:

- *Vata* (movement, signalling): Neural transmission, ion channel dynamics, neurological signalling pathways.
- *Pitta* (transformation, energy): Enzymatic catalysis, oxidative phosphorylation, hepatic metabolic pathways.
- *Kapha* (structure, cohesion): Structural matrix proteins, mucosal integrity, fluid homeostasis. [7]

Ashtanga Hridayam's aphorism all diseases arise from impaired *Agni* [4] resonates precisely with the gut-brain-immune axis, where intestinal dysbiosis is now implicated in metabolic syndrome, autoimmune disease, psychiatric disorders, and neurodegeneration[8].

Conceptual Diagram 2- *Tridosha*–Systems Biology Interface:

Vata (movement/signalling) ↔ neurological signalling networks, ion channel pathophysiology → neurodegenerative disorders.

Pitta (transformation/energy) ↔ enzymatic metabolism, oxidative stress cascades → inflammatory/metabolic disorders.

Kapha (structure/cohesion) ↔ extracellular matrix proteins, mucosal barrier integrity → metabolic syndrome, fibrosis.

Tridosha samya (balance) ↔ systemic homeostasis / allostasis.

Dashavidha Pariksha: The Tenfold Clinical Assessment

Described in *Vimana Sthana* Chapter 8 of *Charaka Samhita*, the *Dashavidha Parikshya Bhava* provides a comprehensive clinical framework evaluating both the patient (*Rogi*) and the disease (*Roga*) [2,9]:

Table 2: *Dashavidha Pariksha*- Classical Parameters and Contemporary Correlates

Siddhanta	Classical Definition (*Charaka Samhita*)	Contemporary Biomedical Equivalent	Research Relevance
Prakriti	Genetic-phenotypic constitution at birth	Genomic phenotype; constitutional medicine	Ayurgenomics; SNP-*Prakriti* correlations
Vikriti	Current pathological deviation	Disease phenotype; biomarker profiling	Multi-omics disease stratification

Sara	Tissue excellence; vital reserve	Functional reserve; immune competence	Frailty indices; immune senescence
Samhanana	Compactness of body structure	Body composition (BMI, muscle mass, bone density)	DEXA scan; sarcopenia indices
Pramana	Anthropometric measurements	Biometric profiling; organ sizing	Echocardiography; CT volumetry
Satmya	Adaptability; dietary suitability	Epigenetic adaptability; drug tolerance	Pharmacogenomics; food sensitivity panels
Satva	Mental resilience	Psychometric evaluation; patient-reported outcomes	PHQ-9, GAD-7, cognitive assessments
Ahara-shakti	Digestive and metabolic power	Gut microbiome diversity; metabolic rate	Microbiome sequencing; metabolomics
Vyayama-shakti	Exercise tolerance	Cardiorespiratory fitness; VO2 max	6-Minute Walk Test; CPX testing
Vaya	Age-related physiological status	Biological age vs. chronological age	Telomere length; epigenetic clocks

Janapadodhvansa: Classical Epidemiology and One Health

The most prescient of all *Charaka Siddhantas* is the *Janapadodhvansa* doctrine, providing the world's first organized framework for population-level disease management [2,11]. The term literally signifies 'mass destruction of populations'- a clinical concept of epidemic/pandemic disease.

Charaka identifies four universal environmental vectors of epidemic disease (*Samanya Lakshana*):

1. *Vayu* (Air): Vitiated airborne conditions- airborne pathogens, aerosolized pollutants.
2. *Jala* (Water): Contaminated water sources- waterborne infections.
3. *Desha* (Land/Environment): Environmental disruption- zoonotic spillover, habitat fragmentation.
4. *Kala* (Time/Season): Temporal-climatic dysregulation- seasonal disease cycles, climate change.

The hierarchy of severity established by *Charaka- Kala* (most severe) > *Desha* > *Jala* > *Vayu* - demonstrates sophisticated epidemiological reasoning: systemic climatic dysregulation (*Kala Vaishamya*) is harder to reverse than localized environmental contamination [2]. This maps directly onto modern climate-health science. The identification of *Adharma* (collective *Pragya-Paradha*- intellectual transgression against nature) as the root cause of epidemics anticipates the One Health framework and the modern understanding that zoonotic pandemics like COVID-19 emerge from anthropogenic disruption of ecosystems[11,12].

Contemporary Scientific Evidence

Ayurgenomics: Genomic Validation of *Prakriti*

The most stringent scientific validation of *Charaka Siddhantas* to date comes from the field of Ayurgenomics. Govindaraj et al. (2015) conducted a landmark genome-wide SNP analysis (Affymetrix 6.0 array) involving 262 well-classified male subjects (screened from 3,416 individuals) representing three *Prakriti* types [13]. The study identified 52 SNPs ($p \leq 1\times10^{-5}$) that differ markedly between *Prakriti* groups and, notably, found that PGM1 (phosphoglucomutase 1) specifically correlates with the *Pitta Prakriti* phenotype- the first genome-wide evidence that *Charaka's* phenotypic classification of *Prakriti* has a definitive genetic basis [13,14].

Subsequent Ayurgenomics research using GWAS, exome sequencing, and transcriptomics has demonstrated *Prakriti*-specific enrichments in ontological gene sets related to immunity, metabolism, and neurological function [14]. The integration of SNP analysis with *Prakriti* classification has been proposed as a method to identify 'actionable variations and associated composite phenotypes for risk stratification'- directly operationalizing *Charaka's* principle *'Purusham Purusham Vikshya'* (treatment must be individualized to each person) [2,14].

Tridosha and Molecular Physiology

A growing body of molecular biology literature supports the *Tridosha* framework at the subcellular level. *Vata*-dominant individuals demonstrate upregulation of genes associated with neurological signalling and ion transport; *Pitta*-dominant individuals show enrichment in pathways for enzymatic catalysis, bile acid metabolism, and hypoxia-inducible factors; *Kapha*-dominant subjects exhibit greater expression of structural matrix proteins and

lipid storage regulators [7,15]. *Sushruta Samhita's* dual cosmological model (*Agni-Soma* as *Pitta-Kapha* precursors) finds molecular resonance in the recognition that catabolic (*Agni*/*Pitta*) and anabolic (*Soma*/*Kapha*) metabolic axes govern the fundamental energetic economy of the cell [3,15].

Agni and the Gut Microbiome

Ashtanga Hridayam's declaration *'Sarve Rogau Api Mandagnau'* [4]- all diseases arise from impaired *Agni*- represents perhaps the most clinically validated *Ayurveda* principle in modern biomedical science. The human gut microbiome, comprising 38 trillion microorganisms governing digestion, immune modulation, neuroendocrine signalling, and systemic inflammation, serves as the functional analogue of *Agni* [8,16]. The tripartite *Kostha* classification of Ayurveda shows a striking correspondence with modern enterotype classification, where gut microbiome composition follows constitutional patterns shaped by diet, genetics, and lifestyle [16]. Disturbances in *Agni* (manifesting as *Ama* formation- undigested metabolic waste) correspond mechanistically to dysbiotic shifts, leaky gut syndrome, and systemic endotoxemia [8,16].

Janapadodhvansa and COVID-19: A Case Study in Translational Epidemiology

The COVID-19 pandemic provided an unprecedented opportunity to validate the *Janapadodhvansa* framework. Multiple peer-reviewed analyses have confirmed the correspondences summarized in Table 3 [11,12,17].

Table 3: *Janapadodhvansa* vs. Modern Epidemiological Framework (COVID-19 Case Study)

***Charaka* Concept**	**Classical Description**	**COVID-19 Correlate**	**Modern Epidemiological Term**
Vayu Vaishamya	Vitiated air, airborne spread	Aerosol transmission of SARS-CoV-2	Airborne pathogen transmission
Adharma / Pragya-Paradha	Transgression against natural order	Zoonotic spillover from wildlife	One Health failure; ecological transgression
Kala Vaishamya	Seasonal-climatic dysregulation	COVID-19 seasonality and variants	Temporal epidemiology; climate-pathogen nexus
Balam	Individual resilience	Host susceptibility factors	Immune competence; comorbidity index
Ojas Vyapat	Vital essence vitiation	Long COVID syndrome	Post-acute sequelae of SARS-CoV-2 (PASC)
Rasayana Chikitsa	Rejuvenation therapy	Immunomodulatory rehabilitation	Post-acute rehabilitation; immune reconstitution
Sadvritta	Ethical conduct / hygiene	Non-pharmaceutical interventions	Behavioral epidemiology; PPE and isolation

Clinical studies utilizing *Rasayana* formulations (such as *Bharangi Guda*) in post-COVID subjects demonstrated significant improvement in parameters related to *Pranavaha Srotas* (respiratory channels), with reduced fatigue, improved respiratory function, and enhanced *Ojas* [18,19].

Critical Analysis and Theoretical Integration

Epistemological Strengths of the *Charaka* Framework

The fundamental strength of *Charaka Siddhantas* lies in their epistemological integrity. The *Pramana* framework constitutes a coherent theory of knowledge that is not merely pre-scientific but represents a distinct epistemological tradition with specific methodological rigour [2]. This distinguishes *Ayurveda* from empirical folk medicine and places it within the domain of systematic rational inquiry.

The *Dashavidha Pariksha* provides a holistic clinical phenotyping system that modern medicine is only now beginning to approximate through multi-omics approaches, patient-reported outcomes, and integrative biomarker panels[9,10]. Its particular strength lies in integrating psychological parameters (*Satva*), adaptive capacity (*Satmya*), and metabolic vitality (*Ahara-Shakti*) into a single diagnostic encounter.

Critical Limitations and Methodological Challenges

1. Standardization of Subjective Parameters: *Prakriti* assessment remains operator-dependent. Validated tools such as the Ayusoft *Prakriti* Analysis Tool and CCRAS *Prakriti* Assessment Questionnaire have been widely adopted in recent research, employing structured scoring systems for body constitution phenotyping. Studies have utilized protocols involving dual or triple independent raters, with inter-rater reliability commonly quantified using Cohen's kappa coefficients, which show moderate to substantial agreement. Despite these advances, inter-rater reliability continues to be a methodological

concern in multicenter studies, highlighting the need for further standardization and cross-validation of assessment protocols.

2. Translational Nomenclature Gap: The absence of universally accepted English equivalents for key *Siddhantas* (e.g., *Ojas*, *Ama*, *Srotas*) impedes integration into ICD-11 coding and clinical trial design.
3. Reductionist Critique: Isolating individual *Siddhantas* for scientific testing may violate Ayurveda's holistic epistemology, in which principles function as an integrated system.
4. Publication Bias: The majority of Ayurveda clinical studies are conducted in India, with small sample sizes and limited follow-up periods, limiting generalizability.
5. Absence of Mechanistic Pathways: While associative evidence for *Prakriti*- Genomics is robust, mechanistic explanations of how *Dosha* imbalances produce molecular changes remain speculative. To address this, future research should prioritize mechanistic studies using advanced molecular biology approaches such as transcriptomics, metabolomics, and proteomics, as well as cell and organoid models. Experimental designs could include in vitro manipulation of cell cultures under conditions simulating *Vata*, *Pitta*, and *Kapha* imbalances, followed by multi-omics profiling to identify downstream molecular signatures. Animal models designed to mimic *Dosha* perturbations could further delineate causal relationships. Integration of machine learning methods with these datasets can help identify biomarkers and pathways specifically linked to *Dosha* variations, facilitating translational validation and the development of targeted interventions.

Theoretical Integration: Bidirectional Translational Model

The theoretical integration proposed here is bidirectional: *Charaka Siddhantas* provide conceptual hypotheses that drive biomedical research questions, while genomic, microbiome, and metabolomic findings validate and refine classical concepts. This avoids both uncritical subordination of Ayurveda to biomedicine and isolationist preservation of classical texts as culturally inviolable.

Conceptual Diagram 3- Bidirectional Translational Research Model

Charaka Siddhantas [Conceptual Translation] → Operational Hypotheses → Clinical/Lab Studies → Biomarker/ Omics Evidence → [Reverse Translation/ Validation] → Classical Text References → Integrative Medicine Practice. Outcome: Transdiagnostic, Patient-Centered, Systems-Oriented Healthcare.

Research Gaps

A systematic analysis of the extant literature reveals the following critical research gaps:

1. **Absence of Mechanistic RCTs:** No double-blind, placebo-controlled, mechanistically designed RCTs have evaluated *Samanya-Vishesha* pharmacodynamics using validated molecular endpoints (e.g., receptor-binding assays, proteomics).
2. **Limited Longitudinal Cohort Studies:** The long-term predictive validity of *Prakriti*-based risk stratification for NCDs (cardiovascular disease, diabetes, cancer) is supported by limited large-scale, prospective cohort data.
3. ***Agni*-Microbiome-Disease Axis:** No interventional study has systematically correlated specific *Agni* impairment types (*Sama*, *Vishama*, *Tikshna*, *Manda Agni*) with quantitative gut microbiome changes using shotgun metagenomic sequencing.
4. **AI-Assisted *Dashavidha Pariksha* Standardization:** No validated AI/ML algorithm exists for standardized *Prakriti* and *Vikriti* assessment using multi-modal inputs (clinical features, digital phenotyping, wearables).
5. ***Janapadodhvansa* as a Pandemic Preparedness Framework:** Despite its conceptual richness, no formal public health policy framework has adopted *Janapadodhvansa* as a One Health guideline for epidemic risk stratification.
6. **Cross-Cultural Validation of *Prakriti*:** Ayurgenomics studies have predominantly enrolled Indian populations. Global validation of *Prakriti* typologies across diverse ancestries is absent.
7. ***Ojas* as an Immunological Construct:** The concept of *Ojas* as a system-level immunological parameter awaits rigorous operationalization; no validated *Ojas* biomarker panel exists. Operationalization strategies should prioritize the development of composite indices that integrate measurable immunological and metabolic markers reflective of the theoretical functions of *Ojas*. Candidate biomarkers could include serum immunoglobulin levels (e.g., IgG, IgM), circulating cytokine profiles (e.g., IL-10, IL-6, TNF-alpha), high-sensitivity C-reactive protein (hs-CRP) as a marker of systemic inflammation, natural killer (NK) cell activity, as well as metabolic measures such as serum albumin, total antioxidant capacity, and vitamin D status. A composite *Ojas* Index could

be constructed by statistically weighting these parameters according to their associations with clinically recognized states of vitality, resilience, and immune competence. Prospective validation studies should correlate such composite scores with Ayurveda clinical *Ojas* assessments and health outcomes across diverse populations.

8. **Interdisciplinary Curriculum Integration:** There are no internationally standardized frameworks for integrating Ayurveda clinical reasoning into undergraduate and postgraduate medical education globally.

Future Research Directions

1. **Transdisciplinary Omics Studies:** Longitudinal multi-omics (genomics, transcriptomics, metabolomics, microbiomics) studies stratified by *Prakriti* across diverse global populations, using standardized *Prakriti* assessment tools validated against genetic phenotyping.
2. **AI-Assisted *Prakriti* Phenotyping:** Development and validation of machine learning models for automated *Prakriti* and *Vikriti* assessment using digital phenotyping data (wearable biometrics, EHRs, tongue/pulse diagnostics via image recognition).
3. **Mechanistic *Samanya-Vishesha* Pharmacology:** In-vitro and in-vivo studies evaluating receptor-level mechanisms of key Ayurveda drug-pair interactions, using SPR, molecular docking, and pharmacokinetic modelling.
4. ***Janapadodhvansa* as a WHO One Health Framework:** A proposal for incorporation of the *Janapadodhvansa* ecological risk model into global pandemic preparedness frameworks (WHO IHR 2005 revision, One Health Joint Plan of Action).
5. ***Agni*-Microbiome Interventional Trials:** Clinical trials using pre/post gut metagenomics and metabolomics to assess the impact of *Deepana-Pachana* therapies on specific microbiome dysbiosis patterns.
6. ***Rasayana* in Long COVID Rehabilitation:** Multi-site, placebo-controlled clinical trials assessing standardized *Rasayana* formulations for PASC recovery, with validated endpoints for fatigue, cognition, and immune function.
7. **Comparative Effectiveness Research:** Head-to-head comparative effectiveness studies of *Dashavidha Pariksha*-guided individualized therapy versus standard guideline-based therapy for common NCDs.
8. **International Curriculum Framework:** Collaboration between AYUSH institutions, WHO, and international integrative medicine bodies to develop a competency-based curriculum for *Charaka Siddhanta* integration in global medical education.

CONCLUSION

The *Charaka Siddhantas* represents a clinically sovereign system of medical reasoning whose relevance to contemporary healthcare has been significantly underestimated in the global biomedical literature. This review demonstrates that the core doctrines of *Charaka Samhita- Pramana Vigyana*, *Samanya-Vishesha*, *Tridosha*, *Dashavidha Pariksha*, and *Janapadodhvansa*- are not merely historical curiosities but epistemologically rigorous frameworks that anticipate, parallel, and in some instances transcend modern biomedical constructs.

The genomic validation of *Prakriti* through Ayurgenomics, the molecular biology correlates of *Tridosha*, the gut-microbiome analogy for *Agni*, the *Janapadodhvansa* framework's applicability to pandemic preparedness, and the clinical utility of *Dashavidha Pariksha* in personalized medicine collectively demonstrate that these *Siddhantas* are translationally viable. Operationalizing their full clinical potential requires a paradigm shift from narrative exposition to mechanistic investigation, from cross-sectional association to longitudinal intervention, and from national to global research collaboration.

The *Charaka Samhita's* vision of the physician as one who views the patient as 'a text to be read with multiple instruments of knowledge' (*Pramanas*)- and not merely a disease carrier- is precisely the patient-centered, systems-oriented vision that 21st- century medicine strives to achieve. In this sense, the 'Clinical Sovereignty' of *Charaka* is not a relic of antiquity but a template for sustainable, equitable, and truly integrative global healthcare.

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