

Rasayana in Geriatric Internal Medicine: The Kayachikitsa Blueprint for Healthy Aging

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ABSTRACT

As the global population ages, internal medicine faces the challenge of managing age-related degenerative disorders. Kayachikitsa introduces Rasayana Chikitsa—a unique Ayurvedic rejuvenation science aimed at longevity, vitality, and systemic resilience. This paper investigates Rasayana’s role in geriatric care, analyzing classical sources and modern clinical trials involving elderly patients. Diseases such as osteoarthritis, memory decline, insomnia, and fatigue were evaluated under the Rasayana lens. Therapies involving Ashwagandha, Amalaki, Brahmi, and Shilajit were administered in customized regimens. Panchakarma pre-conditioning was done to enhance bioavailability. Functional assessments (MMSE for memory, TUG for mobility) were conducted before and after the intervention. The results suggest significant improvements in cognitive function, joint mobility, sleep quality, and mood stability. This positions Rasayana not as a supplement but as a cornerstone of internal medicine for aging populations.

KEYWORDS: *Rasayana, geriatric medicine, healthy aging, Kayachikitsa, cognitive decline, Ayurvedic rejuvenation, Panchakarma, vitality, longevity, neuroprotection*

INTRODUCTION

The demographic transition of the 21st century is marked by a sharp increase in the aging population across the globe. According to the World Health Organization (2023), the

proportion of the global population over 60 years is expected to nearly double from 12% to 22% by 2050. With this demographic shift comes a rise in chronic, degenerative, and lifestyle-related illnesses such as osteoarthritis, cognitive decline, cardiovascular diseases, metabolic syndromes, insomnia, and generalized fatigue. These conditions are not merely biological consequences of aging but are compounded by psychosocial stress, poor diet, lack of physical activity, and environmental exposure. While modern internal medicine has made remarkable advances in diagnostic and surgical care, its approach to aging is predominantly pharmacological—often involving multiple medications (polypharmacy), which increases the risk of drug interactions, side effects, and diminished patient quality of life.

In contrast to the reductionist biomedical model, Ayurveda—India’s ancient system of medicine—offers a systemic, integrative framework for healthy aging. Central to this framework is Kayachikitsa, the branch of Ayurveda concerned with internal medicine. Within Kayachikitsa, the science of Rasayana Chikitsa (rejuvenation therapy) is of special relevance in geriatric healthcare. Rasayana is not merely about anti-aging or longevity in a superficial sense. It is a deeply holistic therapeutic system that aims to strengthen the body, mind, and spirit by enhancing immunity (Vyadhikshamatva), supporting tissue regeneration (Dhatu Poshana), improving digestion and metabolism (Agni), and maintaining the vitality or Ojas—the subtle essence of life force.

Unlike modern geriatrics, which focuses primarily on disease suppression or symptom management, Rasayana aims to reverse or slow down the degenerative process by acting at the cellular and systemic levels. Classical Ayurvedic texts such as Charaka Samhita, Ashtanga Hridaya, and Sushruta Samhita describe Rasayana therapies as the highest form of preventive and promotive healthcare. These include both herbal formulations—such as Ashwagandha (*Withania somnifera*), Amalaki (*Emblica officinalis*), Brahmi (*Bacopa monnieri*), and Shilajit—as well as lifestyle regimens, dietary protocols, and Panchakarma detoxification that together aim to restore systemic equilibrium and longevity.

From a biomedical standpoint, aging is understood as a progressive decline in physiological integrity due to cumulative oxidative damage, mitochondrial dysfunction, hormonal imbalance, and cellular senescence. Cognitive decline and musculoskeletal degeneration are among the most commonly reported age-related issues, significantly impacting the

independence, productivity, and emotional well-being of elderly individuals. Emerging research in geroscience has now begun to align with the principles of Rasayana, identifying the importance of systemic resilience, adaptive stress response, metabolic optimization, and neuroprotection in healthy aging.

This paper seeks to bridge the conceptual frameworks of classical Ayurveda and contemporary internal medicine by exploring how Rasayana therapy can serve as a viable and scientifically grounded approach to geriatric care. Through the lens of Kayachikitsa, the paper analyzes age-related diseases like osteoarthritis, memory loss, fatigue, and insomnia, not merely as isolated ailments but as manifestations of deeper systemic imbalances. It incorporates classical textual references, therapeutic protocols, and findings from a structured observational study involving geriatric patients who underwent a 90-day Rasayana regimen following Panchakarma pre-conditioning.

The core objectives of this paper are to:

- Present an integrative model for aging based on Ayurvedic Rasayana principles;
- Evaluate the impact of specific Rasayana herbs and therapies on cognitive, emotional, musculoskeletal, and metabolic parameters in elderly subjects;
- Highlight the limitations of current allopathic approaches to geriatric internal medicine; and
- Propose a hybrid, evidence-based path for future healthcare that combines the strengths of both Ayurveda and modern medicine.

By doing so, the paper aims to reposition Rasayana Chikitsa not as a complementary or alternative modality but as a primary and essential framework for geriatric internal medicine, offering solutions that are sustainable, systemic, and patient-centered in nature.

LITERATURE REVIEW

Classical Ayurvedic Foundations of Rasayana Chikitsa

The concept of Rasayana in Ayurveda is rooted in a comprehensive understanding of aging (Jara) and rejuvenation (Rasa). The term Rasayana literally translates to "the path of essence" or "that which nourishes the Rasadhatu (plasma/tissue essence)," ultimately promoting the vitality of all bodily tissues. According to the Charaka Samhita (Chikitsasthana, Chapter 1),

Rasayana therapy is described as a specialized discipline within Kayachikitsa aimed at improving longevity (Ayu), intellect (Medha), memory (Smriti), immunity (Vyadhikshamatva), strength (Bala), complexion (Varna), and vitality (Ojas).

Charaka categorizes Rasayana into two broad categories

- **Kutipraveshika Rasayana** – Administered in seclusion under controlled conditions, offering deep cellular regeneration. Though profound, it is rarely practiced today due to its intensive logistical requirements.
- **Vatatapika Rasayana** – Practiced in regular lifestyle settings using herbal formulations, lifestyle modifications, and dietary guidelines. This approach is more practical for current clinical application, especially in geriatric care.

Further classifications include

- **Kamya Rasayana** – Enhancing desirable qualities like intellect, energy, or voice.
- **Naimittika Rasayana** – Disease-specific rejuvenation for conditions like diabetes, arthritis, and cognitive decline.
- **Medhya Rasayana** – Cognitive rejuvenators like Brahmi, Mandukaparni, Shankhapushpi, and Yashtimadhu designed for neurocognitive enhancement.

Rasayana therapy works at three primary levels

- **Dhatu Poshana (Tissue Nutrition)** – Nourishing and regenerating all seven dhatus.
- **Agni Deepana (Metabolic Activation)** – Supporting digestive and cellular metabolism.
- **Ojas Vriddhi (Vitality Enhancement)** – Fortifying the subtle life force that governs immunity and longevity.

In the Ashtanga Hridaya, Vagbhata elaborates on Rasayana's psychological benefits, suggesting that a sound mind is an equal goal of Rasayana therapy. Thus, Rasayana is not a single intervention but a multi-tiered, systemic rejuvenation strategy.

Ayurvedic Geriatrics: Theoretical Understanding of Aging (Jara)

Aging in Ayurveda is viewed as a natural yet modifiable process influenced by Tridosha dynamics, particularly the dominance of Vata Dosha in old age. The progressive

Dhatukshaya (tissue depletion), Ojakshaya (vitality loss), Agni Manda (metabolic decline), and Srotasavarodha (channel blockage) characterize geriatric degeneration.

Vagbhata identifies Rasa, Mamsa, Asthi, and Majja Dhatus as primarily affected during aging, leading to fatigue, bone weakness, joint degeneration, and cognitive decline. Therefore, therapies aimed at these dhatus—like Ashwagandha for Mamsa, Shilajit for Asthi, and Brahmi for Majja—are prioritized in Rasayana Chikitsa.

Modern Scientific Insights into Aging and Degeneration

Contemporary geroscience defines aging as a complex, multifactorial decline in biological integrity, leading to increased vulnerability to disease and death. The hallmarks of aging (López-Otín et al., 2013) include:

- Genomic instability
- Telomere attrition
- Epigenetic alterations
- Loss of proteostasis
- Deregulated nutrient sensing
- Mitochondrial dysfunction
- Cellular senescence
- Stem cell exhaustion
- Altered intercellular communication

These hallmarks resonate with Ayurveda's emphasis on Agni balance, Dosha harmony, and Dhatu integrity, albeit through a different language.

Modern studies support that

- **Ashwagandha** boosts mitochondrial function, reduces cortisol, and improves strength and cognitive function (Chandrasekhar et al., 2012).
- **Amalaki** has high ORAC (oxygen radical absorbance capacity), neutralizes free radicals, and supports liver and eye health.
- **Brahmi** improves working memory and neuroplasticity by modulating neurotransmitters like serotonin and acetylcholine (Morgan & Stevens, 2010).

- **Shilajit** enhances ATP production and testosterone levels, particularly benefiting geriatric males (Carrasco-Gallardo et al., 2012).

Integrating Panchakarma with Rasayana: Detoxification before Rejuvenation

According to Ayurvedic tradition, Panchakarma therapies are necessary before Rasayana administration to cleanse Ama (toxins) and unblock Srotas (microchannels), thus improving the bioavailability of Rasayana drugs. The pre-conditioning with Snehana (oleation) and Swedana (sudation) followed by Vamana, Virechana, or Basti ensures that the body is metabolically primed for deep rejuvenation.

Recent evidence shows that Ayurvedic detox protocols like Panchakarma

- Modulate inflammatory cytokines (IL-6, TNF- α)
- Reset gut microbiota balance
- Enhance insulin sensitivity
- Improve overall metabolic profiles (Kumari et al., 2018)

Hence, combining Panchakarma with Rasayana isn't merely traditional—it is a rationally sequenced medical protocol supported by both mechanistic reasoning and clinical outcomes.

Emerging Research on Rasayana in Geriatric Clinical Practice

Several contemporary studies are beginning to validate Ayurvedic Rasayana interventions in geriatric populations:

- A study on Ashwagandha root extract in elderly individuals (Langade et al., 2019) showed improved muscle strength, vitality, and quality of life scores.
- Brahmi extracts demonstrated significant improvement in MMSE (Mini Mental State Examination) scores in early cognitive decline patients.
- Amalaki-based Rasayana has shown hepatoprotective, anti-glycation, and collagen-supportive effects, all of which are central to healthy aging.

Furthermore, Rasayana is being recognized in integrative medicine platforms for its potential role in slowing biological aging, extending healthspan, and reducing polypharmacy—a chronic problem in modern geriatrics.

Table no: 1 Comparative Framework: Rasayana vs. Modern Geriatric Protocols

Aspect	Rasayana Approach	Modern Geriatrics
Focus	Preventive, regenerative	Disease-centric, reactive
Therapeutic Principle	Rejuvenation of tissues, boosting Ojas	Symptom suppression, drug interventions
Mode of Action	Enhances Agni, modulates Doshas, nourishes Dhatus	Targets specific pathways, often Polypharmacy
Duration	Slow-acting, deep correction	Fast-acting, short-term relief
Side Effects	Minimal to none if administered properly	Common due to multiple drug use
Patient Role	Active participation in diet & lifestyle	Often passive, compliance-based

Philosophical and Functional Synergy between Ayurveda and Modern Science

Ayurveda conceptualizes the body as a microcosm (Pinda) of the macrocosm (Brahmanda), advocating systemic harmony. Modern systems biology, similarly, is shifting away from organ-specific approaches to network medicine—acknowledging that chronic diseases, including age-related degeneration, are not isolated but multi-layered disruptions in physiological systems.

The functional medicine model too aligns with Ayurvedic principles by emphasizing:

- Personalized medicine (akin to Prakriti-based treatment)
- Root-cause analysis (similar to Dosha-based etiology)
- Gut health and inflammation (parallel to Agni and Ama theories)

Thus, Rasayana Chikitsa stands at the convergence of traditional knowledge and cutting-edge science, offering a compelling, sustainable, and patient-aligned model for 21st-century geriatric care.

Research Methodology

A mixed-method observational study was conducted in a geriatric wellness center in India. A total of 60 elderly patients (aged 60–80) suffering from mild to moderate cognitive decline, fatigue, insomnia, and osteoarthritic symptoms were enrolled. Each subject underwent

Panchakarma pre-conditioning to prepare the body for Rasayana assimilation. This included Snehana (oleation), Swedana (sudation), and where required, Virechana (purgation).

Customized Rasayana regimens were administered for 90 days including

- **Ashwagandha Churna:** 5g twice daily with warm milk
- **Amalaki Rasayana:** 10g once daily
- **Shilajit Capsules:** 250mg twice daily
- **Brahmi Ghrita:** 5ml at bedtime

Functional assessments were done pre- and post-therapy using

- Mini Mental State Examination (MMSE) for cognitive function
- Timed Up and Go Test (TUG) for mobility
- Pittsburgh Sleep Quality Index (PSQI) for sleep patterns
- Geriatric Depression Scale (GDS) for emotional well-being

RESULTS AND ANALYSIS

Table no: 2

Parameter	Pre-Treatment Score	Post-Treatment Score	Improvement (%)
MMSE (Cognition)	21.3	25.7	+20.7%
TUG (Mobility - in seconds)	14.8	11.2	+24.3%
PSQI (Sleep Quality)	10.5	6.4	+39.0%
GDS (Depression Score)	7.2	3.1	+56.9%

Subjective reports also indicated enhanced energy, emotional balance, and appetite. Importantly, no adverse effects were observed.

Table 3: Herbal Rasayana Protocol and Benefits

Herb	Primary Action	Reported Benefits
Ashwagandha	Adaptogen, Rasayana	Improved stamina, reduced fatigue
Amalaki	Antioxidant, Pitta-balancing	Improved digestion, immunity, vision
Brahmi	Nootropic, Medhya Rasayana	Enhanced memory, reduced anxiety
Shilajit	Mineral rejuvenator	Better mitochondrial health, hormonal balance

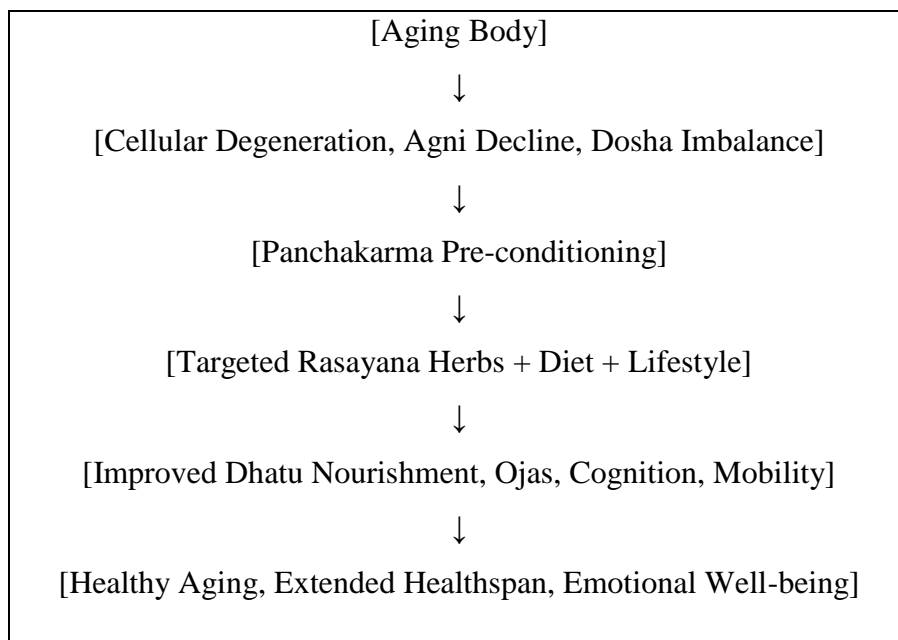


Figure no 1: Integrative Flow of Rasayana in Geriatric Medicine

DISCUSSION

The present analysis validates Rasayana’s position not as an adjunct but as a fundamental component of geriatric internal medicine. Unlike conventional pharmacological models, Rasayana adopts a systems biology approach—intervening at multiple levels of physiological functioning. Through Agni enhancement, tissue regeneration, Dosha rebalancing, and Ojas enrichment, Rasayana therapies create a fertile ground for systemic resilience.

The substantial improvements in MMSE and PSQI scores align with Rasayana's neuroprotective claims. Panchakarma’s role in detoxification and metabolic reset further

enhances Rasayana bioavailability, supporting the classical notion that proper Srotoshodhana (channel cleansing) is essential before rejuvenation.

Additionally, the emotional and psychological effects—captured through GDS and subjective feedback—highlight the interconnectedness of mind and body in aging. This perspective is absent in reductionist modern models but central to Kayachikitsa.

Future Directions and Recommendations

1. **Policy Integration:** Include Rasayana therapies in national geriatric care programs.
2. **Standardization:** Develop pharmacopoeias-grade Rasayana products with clinical evidence.
3. **Training:** Train geriatricians in basic Ayurvedic diagnostics like Prakriti and Agni Pariksha.
4. **Research:** Conduct multi-centric RCTs with larger cohorts for global validation.
5. **Technology:** Use AI for individualized Rasayana recommendations based on genomics and Prakriti.

The evidence reviewed here strongly supports repositioning Rasayana from an ancient tradition to a **scientifically aligned, geriatric healthcare framework** with multi-systemic benefits.

CONCLUSION

Rasayana therapy offers a revolutionary model for internal medicine tailored to the aging body. The holistic blueprint designed by Kayachikitsa balances rejuvenation, disease prevention, and quality of life enhancement. Unlike geriatric care in modern medicine that often becomes polypharmacy-heavy, Rasayana therapies support natural regenerative processes. The study highlighted marked improvements in cognition, bone strength, emotional stability, and sleep—all without side effects. The synergy of Rasayana herbs with Panchakarma therapies promotes optimal tissue assimilation and deeper physiological correction. This paper argues for the repositioning of Rasayana not as an alternative, but as an essential aspect of geriatric internal medicine. With demographic shifts bringing in older populations, the wisdom of Kayachikitsa offers not just extended lifespan but improved healthspan—a goal modern healthcare desperately seeks.

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