

"AN INDIGENOUS DE-ADDICTION PROTOCOL THROUGH AYURVEDA: A PARADIGM SHIFT IN ADDICTION MANAGEMENT"

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ABSTRACT:

Background: Substance use disorders constitute a major global public health challenge associated with significant morbidity, mortality, and socioeconomic burden. Despite advances in pharmacotherapy and behavioural interventions, relapse rates remain high, indicating the need for comprehensive and sustainable approaches to addiction management.

Methods: A narrative review of classical Ayurvedic texts (Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam) and peer-reviewed literature (PubMed, Scopus, Google Scholar, DHARA; inception to May 2025) was conducted using the search terms: Ayurveda, addiction, Sattvavajaya Chikitsa, Shodhana, Rasayana, yoga, mindfulness, and substance dependence.

Results: An Indigenous Ayurvedic De-Addiction Protocol (IADP) was synthesised integrating four therapeutic pillars: Shodhana (biological detoxification), Sattvavajaya Chikitsa (psychotherapy), Yoga and Meditation (mind-body integration), and Rasayana (neurocognitive rejuvenation). Sattvavajaya Chikitsa was conceptualised as an indigenous psychotherapeutic model comparable to cognitive behavioural therapy (CBT), motivational enhancement therapy, and mindfulness-based relapse prevention. Its six stages — Jnana, Vijnana, Dhairya, Smriti, Sankalpa, and Samadhi — address insight, cognitive restructuring, resilience, reflective cognition, commitment, and meditative stabilisation respectively.

Discussion: The IADP addresses addiction through the Ayurvedic concepts of Prajnaparadha (failure of intellect), imbalance of Sattva, Rajas, and Tamas, and Tridosha dysregulation, integrating these with contemporary biopsychosocial models. Potential mechanisms include neuroendocrine regulation, autonomic modulation, cognitive restructuring, and neuroprotective effects of Rasayana drugs.

Conclusion: The IADP represents a promising paradigm shift from symptom suppression toward restoration of self-regulation, resilience, and holistic well-being. Multicentric randomised controlled trials are warranted to validate the protocol.

Keywords: Addiction; Ayurveda; integrative medicine; Nasha Mukh Bharat Abhiyan; Rasayana; Sattvavajaya Chikitsa; Shodhana; substance use disorder; tobacco dependence; yoga



INTRODUCTION

Addiction is a chronic relapsing disorder characterised by compulsive substance use despite harmful consequences. Tobacco, alcohol, opioids, cannabis, and other psychoactive substances contribute significantly to global disease burden and premature mortality.^{1,2,3} The World Drug Report (2023) estimated that over 296 million people globally used illicit drugs in 2021, with 39.5 million living with drug use disorders.⁴ In India, the National Survey on Extent and Pattern of Substance Use (2019) documented that approximately 22.5% of the population uses alcohol, and 20 million individuals are dependent on tobacco.⁵

Modern addiction treatment includes pharmacotherapy, counselling, behavioural therapies, and rehabilitation programs; however, relapse rates remain substantial at 40–60%, indicating the need for comprehensive and sustainable treatment strategies.^{6,7} Ayurveda, the classical Indian system of medicine, approaches health as a dynamic equilibrium of body, mind, senses, and consciousness (Sharira, Mana, Indriyas, and Atma). Unlike reductionist biomedical models, Ayurveda views addiction as a disorder affecting cognition, behaviour, emotions, and spiritual well-being, extending treatment beyond detoxification to include mental rehabilitation, lifestyle correction, and restoration of self-control.^{8,9,10}

This narrative review proposes and describes an Indigenous Ayurvedic De-Addiction Protocol (IADP) by integrating classical Ayurvedic

therapeutics with contemporary addiction neuroscience, aimed at providing a culturally relevant, multidimensional, and evidence-consonant framework for addiction management in India and globally.

METHODS

A narrative review methodology was adopted. Classical primary sources — Charaka Samhita (Sutra, Sharira, Nidana, Chikitsa, and Siddhi Sthana), Sushruta Samhita, Ashtanga Hridayam, and Ashtanga Sangraha — were reviewed in their authoritative commentated editions. Electronic databases searched included PubMed/MEDLINE, Scopus, Google Scholar, and DHARA (Digital Helpline for Ayurveda Research Articles), from database inception to May 2025.

Search terms used in Boolean combinations included: "Ayurveda addiction," "Sattvavajaya Chikitsa," "Shodhana addiction," "yoga substance dependence," "Rasayana neuroprotection," "Prajnaparadha," "mindfulness relapse prevention," and "integrative addiction medicine." Original research articles, randomised controlled trials, observational studies, systematic reviews, and classical textual references were included. Conference abstracts without full-text data were excluded. This review follows the SANRA (Scale for Assessment of Narrative Review Articles) principles.¹¹



AYURVEDIC UNDERSTANDING OF ADDICTION

Prajnaparadha: The Root Cause

According to Acharya Charaka, Prajnaparadha (failure of intellect, memory, and judgement) is a fundamental cause of disease (Charaka Samhita, Sharira Sthana, 1/102).⁸ Addiction exemplifies this concept because individuals repeatedly engage in harmful behaviours despite awareness of adverse consequences. Prajnaparadha manifests through loss of discrimination (Vivekahani), impaired decision-making, compulsive behaviour, and inability to resist cravings — characteristics that closely parallel modern descriptions of impaired executive function in substance dependence.^{12,13}

Role of the Trigunas in Addiction

Ayurvedic psychology delineates three mental attributes (Manasika Gunas): Sattva (clarity, wisdom, and equilibrium), Rajas (activity, desire, and restlessness), and Tamas (inertia, ignorance, and delusion).¹⁴ Addictive behaviour is associated with excessive Rajas and Tamas, leading to impulsivity, craving (Trishna), attachment (Moha), emotional instability, and loss of self-control. Therapeutic interventions therefore aim to restore Sattva and mental equilibrium, a construct operationally similar to improving executive control and emotional regulation in contemporary psychiatry.¹⁵

Tridosha Involvement in Addiction

Addiction affects all three Doshas: Vata Dosha manifests as anxiety, restlessness, insomnia, and withdrawal symptoms; Pitta Dosha presents as

irritability, anger, and aggression; and Kapha Dosha underlies dependence, attachment, torpor, and motivational deficits.^{8,9} Successful recovery therefore requires concurrent physiological and psychological Dosha correction across all three dimensions.

INDIGENOUS AYURVEDIC DE-ADDICTION PROTOCOL (IADP)

The IADP comprises four interrelated and sequentially integrated therapeutic pillars:

- Pillar I: Biological Restoration (Shodhana)
- Pillar II: Psychological Rehabilitation (Sattvavajaya Chikitsa)
- Pillar III: Mind–Body Integration (Yoga and Meditation)
- Pillar IV: Neurocognitive Rejuvenation (Rasayana)

Pillar I: Biological Restoration Through Shodhana

Shodhana therapies aim to eliminate accumulated toxins (Ama), restore Dosha balance, and reduce withdrawal-related discomfort. The following Panchakarma procedures are recommended:^{16,17}

Snehana (internal and external oleation): Improves tissue nourishment, softens Srotas (channels), and prepares the body for elimination therapies.

Swedana (sudation therapy): Facilitates elimination of toxins through perspiration and promotes neuromusculoskeletal relaxation.

Virechana (therapeutic purgation): Particularly useful in reducing Pitta-associated manifestations such as irritability, aggression, and metabolic

disturbances.

Basti (medicated enema): The pre-eminent Vata-pacifying procedure, specifically beneficial in Vata-dominant withdrawal symptoms including anxiety, insomnia, and restlessness.

Nasya (nasal administration of medicaments): Supports cognitive and neurological functions by direct action on cerebral pathways via the olfactory route.

Shirodhara (continuous forehead oil stream): Produces trigeminal stimulation enhancing parasympathetic tone, Samprapti Vighatana (pathogenesis disruption) by pacifying Vata's Ruksha and Chala Gunas and Pitta's Ushna Guna. Studies have demonstrated significant reductions in noradrenaline, cortisol, and DHEA levels, improved sleep quality, and reduction in POMS (Profile of Mood States) tension and anger sub-scores following Shirodhara therapy.¹⁸

Pillar II: Sattvavajaya Chikitsa — Indigenous Psychotherapy for Addiction

Sattvavajaya Chikitsa — one of the three principal Ayurvedic treatment modalities (Charaka Samhita, Sutra Sthana 11/54) — is defined as the restraint of the mind from unwholesome objects (Ahita artha ebhyo manas nigraham). It may be viewed as an indigenous psychotherapeutic model targeting cognition, emotion, and behaviour.^{14,15} The six-stage framework proposed as IADP Pillar II is described below.

Stage 1 — Padamshik Krama (Graduated Withdrawal and Replacement): Classical Ayurvedic

literature advocates gradual reduction of harmful substances rather than abrupt cessation, thereby minimising physiological disturbance and withdrawal severity. This approach, supported by contemporary neuropharmacology, facilitates neuroplastic adaptation and restoration of reward pathway homeostasis.⁸ Progressive reduction weakens conditioned behavioural responses, improves treatment compliance, and supports synaptic remodelling within mesolimbic reward circuits.

Stage 2 — Jnana (Psychoeducation and Insight): Patients receive structured education regarding health consequences of substance use, trigger identification, and mechanisms of neurobiological dependence. This stage corresponds to psychoeducation in contemporary addiction treatment.

Stage 3 — Vijnana (Applied Cognitive Understanding): Knowledge is translated into adaptive behavioural responses through cognitive restructuring, mind–body awareness training, and reflective learning, paralleling cognitive behavioural therapy (CBT).^{12,13}

Stage 4 — Dhairya (Resilience Enhancement): Interventions include motivational counselling, stress management, and positive reinforcement, comparable to motivational enhancement therapy (MET). Dhairya strengthens self-efficacy and coping ability against craving and relapse triggers.

Stage 5 — Smriti (Reflective Cognition): Patients maintain craving journals, analyse previous relapse



episodes, and identify high-risk situations — paralleling relapse prevention therapy (RPT) as described by Marlatt and Donovan.⁷

Stage 6 — Sankalpa and Samadhi (Commitment and Meditative Stabilisation): Goal-setting and behavioural commitment strategies (Sankalpa) are complemented by meditative practices (Samadhi) that improve attentional regulation, emotional control, and craving management — corresponding to mindfulness-based relapse prevention (MBRP).^{19,20,21}

Pillar III: Yoga and Meditation in Addiction Recovery

Yoga has emerged as a validated complementary intervention in addiction medicine. Systematic reviews and RCTs document reductions in stress, craving intensity, anxiety, and depressive symptoms, and improvements in quality of life with yoga and mindfulness practice.^{22,23,24,25}

Recommended practices within the IADP include:

Asanas: Tadasana, Vajrasana, Bhujangasana, and Shashankasana, aimed at neuromusculoskeletal regulation and autonomic balance.

Pranayama: Nadi Shodhana, Anulom Vilom, Bhramari, and Ujjayi, which modulate autonomic activity, reduce sympathetic hyper-arousal, and improve heart rate variability.

Meditation: Mindfulness meditation, breath-awareness practice, and Yoga Nidra, which contribute to enhanced prefrontal regulatory control over limbic craving responses.^{21,22}

Pillar IV: Rasayana Therapy and Neurocognitive

Recovery

Following detoxification and psychological stabilisation, Rasayana therapy aims to restore vitality and repair substance-related neurocognitive deficits. Key Rasayana drugs with documented neuroprotective, adaptogenic, antioxidant, and cognitive-enhancing properties include:^{26,27,28,29,30}

- Ashwagandha (*Withania somnifera*): Adaptogenic, anxiolytic, and neuroprotective via GABA-mimetic and cortisol-modulating pathways.
- Brahmi / Shankhpushpi (*Bacopa monnieri* / *Convolvulus pluricaulis*): Cognitive enhancement, antioxidant, and cholinergic modulation.
- Guduchi (*Tinospora cordifolia*): Immunomodulatory, hepatoprotective, and anti-inflammatory.
- Amalaki (*Embllica officinalis*): Rich in vitamin C; antioxidant, anti-inflammatory, and neuroprotective.

Potential clinical benefits of Rasayana therapy include: improved memory and attention, enhanced stress tolerance, better sleep quality, reduction in fatigue, and greater psychological resilience — all of which are impaired by chronic substance use.

PROPOSED MECHANISMS OF ACTION

The IADP is postulated to exert therapeutic effects through multiple convergent pathways, outlined across four domains:

Biological: Neuroendocrine regulation (HPA axis normalisation via Ashwagandha and Shirodhara);

autonomic nervous system balance (parasympathetic enhancement via yoga pranayama); reduction of oxidative stress and neuroinflammation (Rasayana drugs); and improved sleep architecture.

Psychological: Cognitive restructuring (Vijnana stage); enhancement of self-efficacy (Dhairya stage); emotional regulation (Samadhi stage and meditation); and craving reduction (MBRP-concordant practices).

Social: Family participation in Sattvavajaya counselling sessions; community support and social reintegration; and engagement with Nasha Mukh Bharat Abhiyan community networks.⁵

Spiritual: Restoration of meaning, purpose, and inner discipline through Sankalpa formation, Samadhi practice, and Sattvic lifestyle modification.

DISCUSSION

Modern addiction treatment largely operates through a biopsychosocial model, recognising the interplay of neurobiological vulnerability, psychological factors, and social determinants.^{6,12} Ayurveda broadens this perspective by addressing root causes of addiction through correction of Prajnaparadha, restoration of Sattva, and promotion of healthy lifestyle practices — constituting what may be characterised as a biopsychosocial-spiritual model.

The six-stage Sattvavajaya Chikitsa framework bears striking structural parallels with evidence-based psychotherapeutic approaches widely deployed in addiction medicine. Jnana and Vijnana correspond operationally to psychoeducation and CBT; Dhairya to MET; Smriti to RPT; and Samadhi

to MBRP. This convergence is not coincidental — it reflects the universal cognitive and emotional substrate of addiction, which both Ayurveda and contemporary psychiatry have independently mapped.^{13,19,21}

The pharmacological properties of Rasayana drugs have received increasing scientific attention. Preclinical and early clinical studies demonstrate that Ashwagandha reduces anxiety and craving-related stress responses; Bacopa monnieri enhances working memory and acetylcholine neurotransmission; and Tinospora cordifolia modulates immune responses that are frequently dysregulated in chronic substance use.^{26,27,28} However, robust phase II and III clinical trials specifically in addiction populations are lacking, representing a critical research priority.

Integration of the IADP into the Nasha Mukh Bharat Abhiyan framework offers a scalable, cost-effective, and culturally consonant model for community-level addiction management across India, particularly in settings where access to trained psychiatrists and pharmacotherapy is limited.⁵ Ayurvedic practitioners, already embedded in rural and semi-urban health infrastructure, are uniquely positioned to deliver IADP components.

Methodological limitations of this review include its narrative design and reliance on heterogeneous study types. The majority of Ayurvedic clinical studies in addiction are single-centre, small-sample, and lack standardised outcome measures. Publication bias toward positive outcomes cannot be excluded.

FUTURE RESEARCH DIRECTIONS

Future multicentric, adequately powered studies should investigate:

- Efficacy of Sattvavajaya Chikitsa compared with standard counselling and CBT in RCT design.
- Impact of structured Panchakarma on validated withdrawal severity scales (CIWA-Ar, COWS).
- Long-term (12-month) relapse prevention outcomes with the complete IADP versus standard care.
- Neurobiological correlates of meditation and Rasayana therapy using fMRI and neuropsychological batteries.
- Cost-effectiveness analyses of integrated Ayurvedic interventions versus standard pharmacotherapy.
- Community-based implementation and task-shifting feasibility under Nasha Mukta Bharat Abhiyan.

CONCLUSION

Addiction is a multidimensional disorder requiring multidimensional solutions. Ayurveda offers a culturally relevant and holistic framework capable of addressing biological, psychological, social, and spiritual dimensions of addiction. The proposed Indigenous Ayurvedic De-Addiction Protocol integrates Shodhana, Sattvavajaya Chikitsa, Yoga, and Rasayana therapy into a comprehensive model for recovery. By shifting the therapeutic focus from mere abstinence to restoration of self-regulation,

resilience, and holistic well-being — and by demonstrating point-by-point convergence with contemporary evidence-based psychotherapeutic frameworks — Ayurveda presents a promising paradigm shift in addiction management deserving rigorous scientific evaluation.

DECLARATIONS

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