

Critical Review of Classical *Shodhana* Methods of *Manashila* (Realgar) in Rasashastra Literature

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Abstract

Manashila (Realgar; As₂ S₂), a potent arsenical mineral widely described in *Rasashastra*, possesses significant therapeutic utility but remains inherently toxic in its raw form, making *Shodhana* (purification) an essential pharmaceutical process for rendering it safe, bioacceptable, and therapeutically suitable. The present review critically analyzes and compares classical *Manashila Shodhana* procedures described in authoritative *Rasashastra* texts, with emphasis on their evolution, purification media, methodologies, and pharmaceutical significance. A systematic literary review was conducted by screening classical texts, extracting relevant references, and categorizing procedures based on *Bhavana*, *Swedana*, or combined techniques, followed by chronological analysis to understand their development and standardization. The review revealed a distinct transition from *Swedana*-dominant methods practiced in early literature (7th–12th century), mainly aimed at removing gross impurities, to later *Bhavana*-oriented procedures emphasizing detoxification and bio-transformation through the use of specific media such as *Agastya*, *Ardraka*, *Jayanti*, and *Bhringaraja*. The repeated use of these media reflects a strong pharmacological rationale within classical pharmaceuticals. Contemporary scientific observations further support these traditional concepts by indicating that purification media can alter arsenic speciation and bioavailability, thereby reducing toxicity. Thus, classical *Manashila Shodhana* represents a systematically evolved pharmaceutical framework that closely aligns with modern toxicological principles and offers a strong basis for standardization, safety assessment, and future research.

Keywords: Manashila, Shodhan, Rasashastra

Introduction

Rasashastra, a specialized branch of *Ayurveda*, extensively utilizes metals and minerals for therapeutic purposes after subjecting them to specific pharmaceutical processing. Among these processes, *Shodhana*¹ occupies a pivotal position as an essential pharmaceutical procedure aimed at detoxification and purification of raw materials. Since most *Rasadravyas* are procured directly from the earth, they are often associated with physical impurities, heterogeneous composition, and inherent toxicity². *Shodhana* not only removes these undesirable attributes but also renders the substances biologically acceptable and suitable for further pharmaceutical processing.

Arsenical compounds have a long-standing history of medicinal application in traditional systems of medicine³. Despite their inherent toxicity, classical *Ayurvedic* literature documents their judicious internal and external use following appropriate processing procedures. *Manashila*, commonly known as Realgar and chemically identified as arsenic disulphide (As_2S_2), is one such mineral drug widely employed in herbo-mineral formulations. Along with *Haratala* and *Gouripashana*, *Manashila* holds a significant place in *Rasashastra* due to its potent therapeutic efficacy.

Classical references of *Manashila* are found in the *Brihatrayi* as well as in *Vedic* literature, indicating its antiquity and sustained medicinal relevance. *Ayurvedic* texts classify *Manashila* under *Uparasa Varga*⁴, *Parthiva Dravya*, or *Paradaadi Varga*⁵, and describe its various varieties, pharmacological attributes, and therapeutic indications. It is traditionally indicated in conditions such as *Krimi Roga*, *Kushta*, *Kasa*, and *Swasa*, and is used both internally and externally⁶ after proper pharmaceutical processing.

Owing to the presence of Arsenic, *Manashila* is inherently toxic in its raw form and may produce adverse effects if administered without purification. Classical Acharyas have therefore unanimously emphasized the necessity of *Shodhana* prior to its therapeutic use. Improperly processed *Manashila* is known to cause complications such as *Ashmari*, *Mutrakrichra*, *Mandagni*, and *Malabandha*, whereas properly purified *Manashila* is described as safe, effective, and therapeutically potent.

A wide range of *Shodhana* procedures for *Manashila*—employing *Swedana* and *Bhavana* with diverse herbal, animal, and acidic media—are described across *Rasashastra* literature. These methods reflect a systematic approach toward detoxification and pharmaceutical transformation. However, a consolidated comparative analysis considering parameters such as media, processing techniques, duration, and probable impact on safety and efficacy remains limited. Therefore, the present review aims to compile and critically compare classical *Shodhana* methods from authoritative texts. This analysis highlights similarities, variations, and pharmaceutical relevance, thereby offering a structured and comprehensive reference for researchers and *Ayurvedic* pharmaceutical practitioners.

Materials and Methods

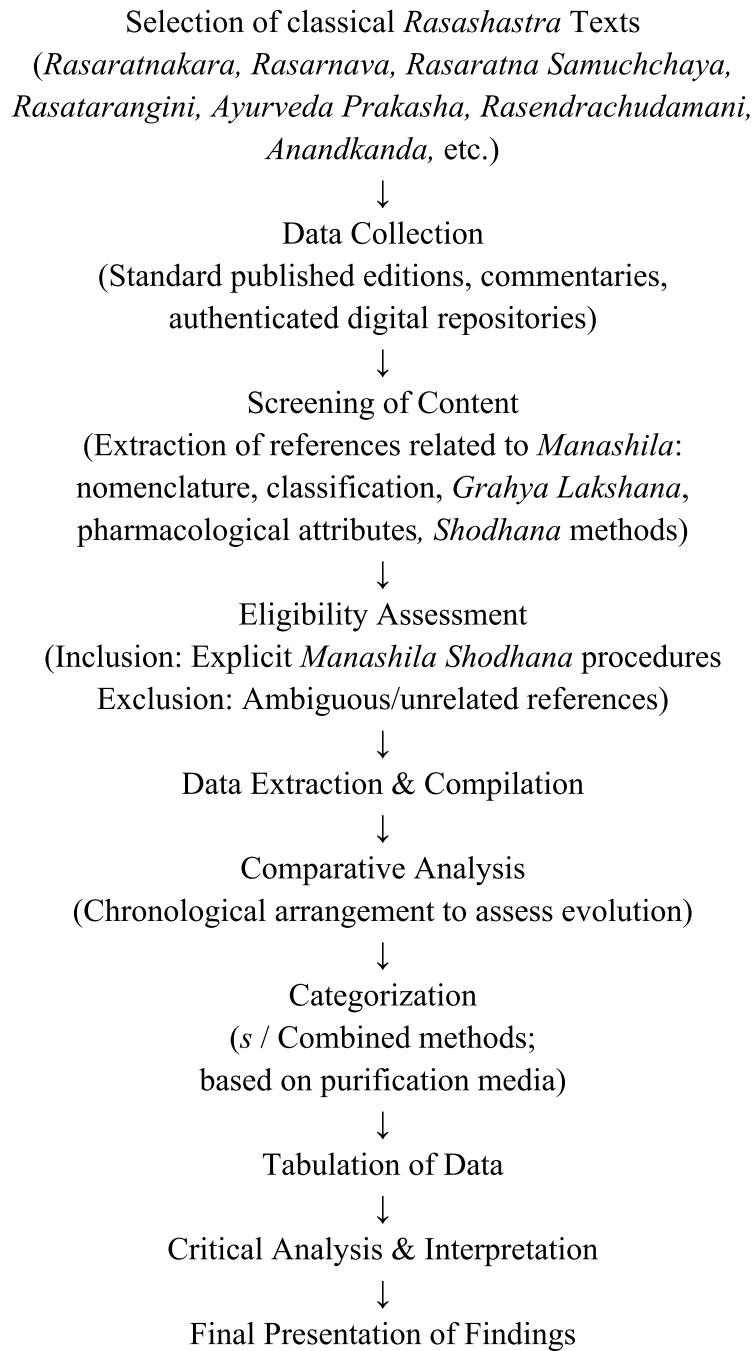
The present study was designed as a classical literary review on *Manashila Shodhana*. Relevant *Rasashastra* texts were systematically reviewed, and data on purification procedures were collected, screened, and analyzed. The extracted information was categorized, tabulated, and critically interpreted to assess the evolution and standardization of *Shodhana* methods.

Identification of Study Design



Classical Literary Review on *Manashila Shodhana*





Vernacular Names of Manashila

Manashila is known by different vernacular names in various languages, reflecting its wide geographical distribution, traditional familiarity, and extensive therapeutic use across regions. The commonly used vernacular names of *Manashila* as documented in classical and regional literature are summarized in Table 1.

Table 1. Vernacular Names of *Manashila* in Different Languages⁷

Sanskrit	<i>Manashila, Naipali, Kunati</i>
Hindi	Manasila
Bengali	Manchala

Marathi	Manasila
Gujarati	Manasila
Parsi	Jharnokha surkha
Telugu	Manasila
Tamil	Manosilai
English	Realgar

Synonyms of *Manashila*⁸

Classical Rasashastra literature describes *Manashila* under a variety of synonymous names that reflect its physical characteristics, origin, and therapeutic significance. These include *Manahshila* (found in stone form), *Kunati* (used as facial paint in traditional drama), *Manohva* (agreeable to the mind), *Rogashila* (destroyer of diseases), *Manogupta* (beneficial to the mind), *Nagajihvika* (resembling a snake's tongue), *Nepalika* (abundant in Nepal). Collectively, these synonyms highlight both the mineralogical identity and therapeutic significance of *Manashila*.

Need of *Shodhana* of *Manashila*

Manashila, an Arsenical mineral, possesses potent therapeutic properties but is inherently toxic in its raw (*Ashodhita*) form due to physical impurities and *Vishadi doshas*. Classical texts warn that unprocessed *Manashila* may cause serious complications such as *Ashmari* (urolithiasis), *Mutrakrichra* (dysuria), *Mandagni* (loss of appetite), and *Malabandha* (constipation), highlighting the indispensability of *Shodhana* prior to medicinal use⁹. *Shodhana* serves to detoxify Arsenical components, remove physical and chemical impurities, eliminate *Vishadi doshas*, and enhance safety, bioavailability, and therapeutic efficacy. Through processes such as *Bhavana* and *Swedana*, employing specific herbal juices, animal-derived media, and acidic substances, *Shodhana* facilitates detoxification while preserving and enhancing the therapeutic attributes of *Manashila*. Hence, *Shodhana* is not merely a purification process but a scientifically designed pharmaceutical transformation essential for its safe medicinal application.

Classical Review of *Manashila Shodhana*

Classical Rasashastra literature describes *Manashila* as an important *Uparasa Dravya* with potent therapeutic utility and inherent toxicity. Various authoritative texts provide detailed accounts of its nomenclature, varieties, *Grahya Lakshana*, pharmacological attributes, and purification procedures. The descriptions reflect both uniformity in fundamental concepts and diversity in pharmaceutical approaches adopted by different Acharyas.

Types of *Manashila*

Different classical texts classify *Manashila* into distinct types based on colour, texture, weight, and potency. *Rasaratna Samuchchaya* describes three varieties—*Shyamangi*, *Kanaveeraka*, and *Khandakhya*—and considers *Khandakhya* as superior due to its higher *Satva* content and therapeutic potency. *Rasakamadhenu* classifies *Manashila* into *Rakta*, *Pita*, and *Khandakhya* types, while *Ayurveda Prakasha* mentions *Shyama*, *Kanaviraka*, and *Dvikhanada* varieties with specific physical characteristics. The comparative descriptions of these types as documented by various Acharyas are summarized in **Table 2**.

Table 2. Classical Classification of *Manashila* as Described in Rasashastra Texts

Classical Text	Type of <i>Manashila</i>	Described Characteristics	Therapeutic Superiority
<i>Rasaratna Samuchchaya</i> ¹⁰ Rasendra Chudamani ¹¹ Rasa Jala Nidhi RasaPrakash Sudhakar	<i>Shyamangi</i>	Blackish with reddish and yellowish hues; heavy in nature	<i>Shreshtha</i> (Good)
	<i>Kanaveeraka</i>	Lustrous (<i>Tejasvini</i>), coppery in colour (<i>Tamra varna</i>), non-yellowish	<i>Shreshthatar</i> (Superior)
	<i>Khandakhya</i>	Powdery in form (<i>Churna</i>), dark red in colour, heavy	<i>Sarva-Shreshtha</i> (Highest therapeutic excellence)
<i>Rasakamadhenu</i>	<i>Rakta</i>	Red coloured	<i>Sarva-Shreshtha</i> (Highest therapeutic excellence)
	<i>Pita</i>	Yellow coloured	<i>Shreshthatar</i> (Superior)
	<i>Khandakhya</i>		<i>Shreshtha</i> (Good)
Ayurveda Prakasha ¹² Brihat Rasa Raj Sunder Rasendra Sambhava	<i>Shyama</i>	Similar to <i>Hingula</i> (cinnabar), slightly yellowish, highly radiant	-
	<i>Kanaviraka</i>	Blood-red in powdered form, very heavy	<i>Shreshtha</i> (Good)
	<i>Dvikhanada</i>	Slightly red and fair in colour, heavy	-
Rasa Padhati	<i>Shayamangi</i>		-
	<i>Kanaveeraka</i>		<i>Shreshtha</i> (Good)

***Grahya Lakshana*¹³**

Classical texts emphasize specific *Grahya Lakshanas* for the selection of good-quality *Manashila*. *Rasatarangini* describes desirable *Manashila* as stone-free, sand-free, deep red in colour resembling the *Utpala* flower, heavy (*Guru*), and lustrous (*Deepta*). Such *Manashila* is considered capable of yielding higher *Satva* and is preferred for pharmaceutical processing and therapeutic use.

Classical *Shodhana* Methods

A wide range of *Shodhana* procedures for *Manashila* are documented across Rasashastra literature from the 7th century onwards. These procedures predominantly employ *Bhavana*, *Swedana*, or a combination of both techniques. Media such as *Agastya patra swarasa*, *Ardraka swarasa*, *Jayanti swarasa*, *Bhringaraja swarasa*, *Ajamutra*, *Ajaitta*, *Kanji*, and *Churnodaka* are repeatedly mentioned.

Early texts such as *Rasaratnakara* and *Rasarnava* primarily describe *Swedana*-based methods, while later texts increasingly emphasize *Bhavana* either alone or in combination with *Swedana*. The number of *Bhavana* cycles, duration of *Swedana*, and choice of media vary across texts; however, the objective remains consistent—removal of impurities and mitigation of *Vishadi doshas*. A comprehensive compilation of classical *Shodhana* methods, along with the respective texts, centuries, pharmaceutical processes, and media employed, is presented in **Table 3**.

Table No. 3.1: Classical References Describing *Early Shodhana* Methods and Media of *Manashila*

S.N.	Classical Text	Century	Type of Shodhana	No. of Methods	Shodhana Media Used
1	<i>Rasarnava</i> ¹⁴	12 th	<i>Bhavana</i>	1	<i>Gomamsa, Bijora Nimbu, Tripushpa, Pitta</i>
3	<i>Rasendra chudamani</i> ¹⁵	12 th	<i>Bhavana</i>	1	<i>Agastya patra or Ardraka swarasa</i>
4	<i>Rasaprakasha Sudhakara</i> ¹⁶	12 th	<i>Bhavana</i>	1	<i>Agastya patra or Ardraka swarasa</i>
5	<i>Rasaratna Samuchchaya</i> ¹⁷	13 th	<i>Bhavana Swedan</i>	2	<i>Agastya, Ardraka, Jayanti, Bhringaraja, Kanji</i>
6	<i>Rasaratnakar</i>	13 th	<i>Swedana, Bhavana</i>	3	<i>Ajamutra, Aja-pitta, Jayanti, Bhringaraja, Agastya</i>
7	<i>Anandkanda</i> ¹⁸	13 th	<i>Bhavana Swedan</i>	5	<i>Ajamutra, Dadhi-jala, Mastu, Ghrita, Panchapitta, Jivanti</i>
8	<i>Sharangadhara Samhita</i> ¹⁹	14 th	<i>Bhavana</i>	1	<i>Ajamutra followed by Aja-pitta</i>
9	<i>Rasapaddhati</i> ²⁰	13 th /15 th	<i>Swedan</i>	1	<i>Bhringaraja, Agastya, Jayanti, Ardraka</i>
10	<i>Rasendra chintamani</i> ²¹	15 th	<i>Swedan</i>	1	<i>Jayanti kwatha, Ajamutra, Bhringaraja</i>
11	<i>Rasamanjari</i> ²²	15 th	<i>Bhavana</i>	1	<i>Agastya patra or Ardraka swarasa</i>

Table No. 3.2: Later Texts (After 16th Century) Shodhana Methods and Media of Manashila

1	<i>Rasendra sarasangraha</i> ²³	16 th	<i>Swedan Bhavana</i>	5	<i>Jayanti, Bhringaraja, Ajamutra, Matulunga, Ardraka</i>
2	<i>Ayurveda Prakasha</i> ²⁴	17 th	<i>Bhavana</i>	1	<i>Ajamutra and Aja-pitta</i>
3	<i>Yogaratanakara</i> ²⁵	18 th	<i>Bhavana</i>	2	<i>Agastya patra, Ardraka swarasa</i>
4	<i>Brihat Rasaraja Sundara</i> ²⁶	19 th	<i>Bhavana</i>	4	<i>Jayanti, Haridra, Ardraka, Ajamutra</i>
5	<i>Rasatarangini</i> ²⁷	20 th	<i>Bhavana Swedan</i>	6	<i>Churnodaka, Bhringaraja, Bijapura, Jayanti, Agastya</i>
6	<i>Ayurvediya Rasashastra</i> ²⁸	20 th	<i>Bhavana</i>	3	<i>Agastya, Ardraka, Bijora Nimbu</i>
7	<i>Rasendra Sambhava</i> ²⁹	20 th	<i>Bhavana</i>	2	<i>Bijora Nimbu, Takra, Godadhi</i>
8	<i>Rasa chandanshu</i> ³⁰	20 th	<i>Bhavana Swedan</i>	3	<i>Agastya, Ajamutra, Jayanti, Bhringaraja</i>
9	<i>Adyatana Rasashastra</i> ³¹	20 th -21 st	<i>Bhavana</i>	1	<i>Agastya patra or Ardraka swarasa</i>
10	<i>Rasendra purana</i> ³²	20 th (1916)	<i>Bhavana Swedan</i>	4	<i>Agastya, Jayanti, Bhringaraja, Ajamutra</i>
11	<i>Rasaraja Mahodadhi</i>	20 th (1923)	<i>Bhavana</i>	1	<i>Agastya patra or Ardraka swarasa</i>
12	<i>Rasajalnidhi</i> ³³	20 th (1926–38)	<i>Bhavana Swedan</i>	5	<i>Agastya, Jayanti, Bhringaraja, Churnodaka, Ajamutra</i>
13	<i>Rasamitra</i> ³⁴	20 th (1951)	<i>Bhavana</i>	1	<i>Agastya, Ardraka, Matulunga</i>
		20 th (1965)			<i>Agastya, Ardraka, Churnodaka</i>
14	<i>Rasachikitsta</i> ³⁵	20 th (1956)	<i>Bhavana Swedan</i>	3	<i>Agastya, Jayanti, Bhringaraja, Churnodaka</i>
15	<i>Rasadarpan</i> ³⁶	20 th (1978)	<i>Bhavana</i>	1	<i>Agastya, Ardraka, Matulunga</i>
16	<i>Ayurvedic Pharmacopoeia of India</i> ³⁷	21 st (2008)	<i>Bhavana</i>	2	<i>Ardraka swarasa, Agastya patra swarasa</i>

Discussion

Manashila occupies a distinctive position among *Uparasa Dravyas* in Rasashastra owing to its potent therapeutic efficacy coupled with pronounced *Vishatva*. Classical Acharyas have therefore unanimously emphasized the indispensability of *Shodhana* prior to its therapeutic use. The present review reaffirms this classical mandate and delineates the systematic evolution of *Manashila Shodhana* methodologies across different phases of Rasashastra literature.

A chronological evaluation of classical texts reveals that early treatises (7th–12th century), such as *Rasaratnakara* and *Rasarnava*, predominantly advocated *Swedana*-based purification techniques using *Dolayantra*, with media such as *Ajamutra* and herbal decoctions. These approaches represent an early pharmaceutical paradigm primarily focused on the removal of gross impurities through controlled thermal processing. With the progressive development of *Rasashastra* from the 13th century onward, a clear methodological shift toward *Bhavana*-dominant procedures is observed. Later compendia increasingly recommend *Bhavana*, either independently or in combination with *Swedana*, owing to its advantages in safety, reproducibility, enhanced control over pharmaceutical variables, and suitability for large-scale preparation.

The comparative evaluation of classical *Shodhana* procedures further underscores this transition from predominantly physical purification to more refined biochemical processing. In the early classical period, purification was largely achieved through *Swedana* using *Dolayantra* and media such as *Ajamutra* and herbal decoctions, with the primary objective of removing gross impurities and achieving moderate process control. In contrast, later approaches emphasize *Bhavana*-based processing using *Khalva Yantra*, incorporating specific media such as *Agastyā*, *Ardraka*, *Jayanti*, and *Bhringaraja*. This shift reflects a more advanced pharmaceutical objective focused on detoxification and bio-transformation, accompanied by improved reproducibility and process precision.

A notable observation across classical literature is the consistent selection of *Shodhana dravyas* despite procedural variations. The repeated use of *Agastyā patra swarasa* and *Ardraka swarasa* reflects a well-defined pharmacological rationale rather than empirical repetition. These media, characterized by *Tikta–Katu rasa*, *Ushna virya*, and *Vishaghn* properties, are likely to facilitate detoxification through enhanced penetration and transformation of toxic arsenical fractions. Similarly, the use of auxiliary media such as *Ajamutra*, *Kanji*, and *Churnodaka* indicates an integrated purification approach that combines detoxification with *Deepana–Pachana* and *Rasayana* effects.

Importantly, emerging scientific evidence substantiates the classical view that *Shodhana* media plays an active and decisive role in detoxification. Studies have demonstrated that toxic constituents may be transferred, neutralized, or chemically modified within the processing media, indicating its direct involvement in purification (Ilanchezhian et al., 2010)³⁸. Experimental investigations on arsenical drugs further reveal that different media significantly influence arsenic speciation, solubility, and adsorption, thereby contributing to toxicity reduction (Parekh et al., 2020)³⁹. Moreover, analytical and toxicity studies on *Manashila* confirm that the choice of *Shodhana dravya* markedly alters its physicochemical properties and safety profile, establishing the purification media as a critical determinant in the detoxification process (Pawar et al., 2023)⁴⁰.

From a contemporary pharmaceutical perspective, the increasing preference for *Bhavana*-based techniques is particularly significant, as these methods are inherently more amenable to standardization, reproducibility, and analytical validation. These classical detoxification processes can be correlated with modern pharmacological and toxicological mechanisms, including chemical speciation, chelation, adsorption, and reduction in bioavailable arsenic fractions. *Bhavana* (wet trituration) enhances surface area and facilitates interaction with bioactive phytoconstituents, promoting detoxification and biotransformation, whereas *Swedana* aids in the removal or transformation of toxic components through controlled thermal exposure.

Recent scientific studies further reinforce these classical principles. Processing of arsenic-containing substances has been shown to significantly alter their chemical form, thereby reducing toxicity and

enhancing therapeutic applicability (Yang et al., 2024)⁴¹. Additionally, plant-derived compounds mitigate arsenic toxicity through antioxidant activity, chelation, and enhanced elimination (Bjørklund et al., 2022)⁴². Further evidence indicates that arsenic detoxification involves biochemical transformation and sequestration into less toxic forms (Yadav et al., 2024)⁴³, while mechanochemical processing can convert arsenic into relatively safer states (Che et al., 2024)⁴⁴. These findings closely parallel the mechanisms implied in classical *Bhavana* and *Swedana* processes.

Thus, classical *Manashila Shodhana* protocols not only reflect a rational historical evolution but also demonstrate strong scientific relevance in light of modern pharmacological and toxicological understanding. They provide a robust and integrative framework that bridges traditional Rasashastra pharmaceuticals with contemporary scientific validation, thereby offering a solid foundation for future analytical, experimental, and safety-oriented research.

Conclusion

The classical literature of Rasashastra presents a coherent and scientifically grounded framework for the *Shodhana* of *Manashila*, emphasizing purification as an essential prerequisite for its therapeutic use. The reviewed texts collectively demonstrate that, despite procedural variations, classical Acharyas maintained a consistent pharmaceutical objective: the transformation of a toxic mineral into a safe and efficacious medicinal substance. The progressive refinement of *Shodhana* techniques, particularly the increasing preference for *Bhavana*-based procedures, reflects an adaptive and rational evolution of Rasashastra practices aimed at improving safety, controllability, and pharmaceutical feasibility. The sustained selection of specific purification media across centuries further indicates a deliberate, principle-based approach to Arsenical detoxification rather than empirical convention. Overall, classical *Manashila Shodhana* protocols exemplify the depth and maturity of Rasashastra pharmaceuticals, offering a validated traditional foundation that can effectively inform modern standardization, analytical characterization, and safety-oriented research on arsenical formulations. Future research should therefore focus on analytical validation using advanced techniques, systematic toxicity and safety evaluations, and the development of standardized *Shodhana* protocols to ensure reproducibility, quality control, and wider clinical applicability.

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