INFORMATICS JOURNALS

Short Review

Journal of Natural Remedies
DOI: 10.18311/jnr/2026/52368

eISSN: 2320-3358 | Vol 26(4), 2026 | pp. 919–932

Bhallataka (*Semecarpus anacardium* L.f.): Therapeutic Insights from *Brihattrayi* with Contemporary Pharmacological Validation – A Narrative Review

Neha Arya* **and Vidushi Tyagi**

Department of Rasa Shastra Evam Bhaishajya Kalpana, Shri Krishna AYUSH University, Umri Road, Sector-8, Kurukshetra – 136118, Haryana, India; drarya100@gmail.com

Abstract

Background: *Bhallataka (Semecarpus anacardium* L.f.) is an important medicinal plant described in the classical *Ayurvedic* compendia collectively known as the *Brihattrayi* (Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya). Traditionally, it has been recognized as a potent *Rasayana* drug and prescribed for a wide range of metabolic, inflammatory, and dermatological disorders. Classical *Ayurvedic* texts classify *Bhallataka* under various groups such as *Deepaniya*, *Kushthaghna*, and *Mutrasangrahaniya*, highlighting its diverse pharmacological attributes. **Aim:** This review aims to analyse the classical references of *Bhallataka* in the *Brihattrayi* and correlate them with contemporary pharmacological evidence. **Methods:** Classical *Ayurvedic* texts, including Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya, were systematically examined to identify references related to pharmacological properties, therapeutic indications, and formulations of *Bhallataka*. In addition, relevant scientific literature was retrieved from electronic databases such as PubMed, Scopus, Science Direct, and Google Scholar using keywords related to *S. anacardium*, *Ayurveda*, pharmacological activity, and phytochemistry. **Results:** Classical *Ayurvedic* literature describes *Bhallataka* as a therapeutically versatile drug used in conditions such as *Prameha* (diabetes), *Kushtha* (skin disorders), *Arsha* (piles), *Shotha* (inflammation), and *Krimi* (Helminthiasis). Modern pharmacological studies support these traditional claims, demonstrating a wide range of biological activities including immunomodulatory, anti-inflammatory, antimicrobial, anticancer, hepatoprotective, cardioprotective, hypoglycemic, neuroprotective, and antioxidant effects. These activities are largely attributed to the presence of bioactive constituents such as biflavonoids and phenolic compounds. **Conclusion:** The findings indicate a strong convergence between classical *Ayurvedic* knowledge and contemporary biomedical research regarding the therapeutic potential of *Bhallataka*. Proper purification procedures (*Shodhana*) remain essential to ensure its safe therapeutic application. The integration of classical insights with modern pharmacological evidence highlights the potential of *Bhallataka* as a promising candidate for the development of evidence-based therapeutic formulations.

Major Findings: Classical *Ayurvedic* texts describe *Bhallataka* (*Semecarpus anacardium* L.f.) as a potent *Rasayana* drug. Contemporary pharmacological studies validate these traditional claims by demonstrating multiple activities, including immunomodulatory, anti-inflammatory, antidiabetic, antimicrobial, and anticancer effects.

Keywords: *Ayurveda*, *Bhallataka*, *Brihattrayi,* Pharmacological Validation, *Semecarpus anacardium*

(Article Chronicle: Article Received on: 07.10.2025; Revised on: 16.03.2026; Accepted on: 27.03.2026)

1. Introduction

Bhallataka (*Semecarpus anacardium* L.f.) is a well-known medicinal plant in *Ayurveda*, valued for centuries for its rejuvenating and therapeutic potential. Being classified as a *Rasayana* drug, it is believed to promote cellular rejuvenation and tissue vitality owing

*Author for correspondence

to its antioxidant and cytoprotective properties. The plant is a medium-sized tree commonly found in moist deciduous forests across India (Figure 1).

The mature fruits are commonly known as marking nut, dhobi nut, *Bhilava*, or *Raktaphala*[1] (Figure 2).

The term *Bhallataka* denotes its sharp and fiery quality, being described as "keen like a javelin" (*Bhalla iva atati, taikshanyat*) or "causing injury like a spear" (*Bhalla ivavati vrunoti va*). The drug is classified as a poisonous substance under Schedule E (1) of the Drugs and Cosmetics Rule (1945). Therefore, *Shodhana* (purification) is considered essential for the removal of toxic components before their therapeutic use (Figure 3).

In *Ayurveda*, the *Brihattrayi*- Charaka Samhita, Sushruta Samhita, and Ashtanga Hridaya-the most authoritative classical texts-describe the therapeutic



Figure 1. Habit of *Semecarpus anacardium* showing tree and leaf morphology.



Figure 2. Dried fruits of *Semecarpus anacardium* (marking nuts).



Figure 3. Purification (*Shodhana*) of *Bhallataka*.

significance of *Bhallataka* as a *Rasayana* drug. It is indicated in several conditions, such as *Kushtha* (skin diseases), *Prameha* (diabetes), *Arshas* (hemorrhoids), *Krimi* (Helminthiasis), *Gulma* (abdominal tumors), and *Shotha* (inflammation). Contemporary pharmacological studies further support these classical claims by demonstrating diverse biological activities of *S. anacardium*. Thus, integrating traditional *Ayurvedic* knowledge with modern biomedical research offers promising opportunities for the safe and evidence-based utilisation of *Bhallataka* in contemporary healthcare systems.

2. Materials and Methods

This narrative review was conducted to examine the classical descriptions of *Bhallataka* (*Semecarpus anacardium* L.f.) in the *Brihattrayi* and to correlate these traditional accounts with available contemporary pharmacological evidence. Classical *Ayurvedic* compendia, namely *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, were systematically reviewed to identify references pertaining to the pharmacological attributes, therapeutic indications, formulations, and purification procedures (*Shodhana*) of *Bhallataka*.

In order to substantiate these traditional claims, relevant scientific literature was retrieved through a comprehensive search of electronic databases, including PubMed, Scopus, Science Direct, and Google Scholar. The search strategy employed keywords such as "*Semecarpus anacardium*", "*Bhallataka*", "*Ayurveda*", "phytochemistry", "pharmacological activity", and "traditional uses".

Publications focusing on the pharmacological, phytochemical, and experimental aspects of *S. anacardium* were considered for inclusion. Studies that were duplicated, unrelated to the scope of the review, or lacking scientific relevance were excluded. The selected literature was critically analysed and systematically synthesised to establish correlations between classical *Ayurvedic* descriptions and contemporary pharmacological findings.

3. Pharmacognostic Profile of *Bhallataka* (*Semecarpus anacardium* L.f.)

3.1 Taxonomical Classification

Kingdom: *Plantae*
Family: *Anacardiaceae*
Genus: *Semecarpus*
Species: *Semecarpus anacardium* L.f.

3.2 Identity, Purity and Strength (API Standards)

Foreign matter: ≤1%
Total Ash: ≤4%
Acid-insoluble ash: ≤0.5%
Alcohol-soluble extractive: ≥11%
Water-soluble extractive: ≥5%

4. Chemical Constituents of *Semecarpus anacardium*

Semecarpus anacardium contains various bioactive compounds that contribute to its diverse pharmacological activities[2], as summarised in Table 1. The major bioactive compounds identified in the plant are illustrated in Figure 4.

5. Synonyms of *Bhallataka*

In *Ayurvedic* literature, *Bhallataka* is described with multiple synonyms that reflect its morphological

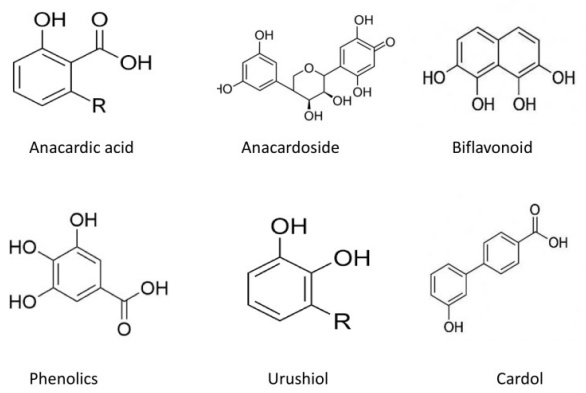


Figure 4. Structures of major bioactive compounds identified in *S. anacardium*.

characteristics, pharmacological actions, irritant nature, and therapeutic significance (Table 2).

Certain synonyms, such as *Jwalamukhi, Shopha bijaka, Ranjaka,* and *Viravriksha,* are described in *Nighantu,* such as *Dhanvantari Nighantu* and *Bhavprakasha Nighantu*, rather than in the *Brihattrayi*.

6. Classifications (*Vargas/Ganas*)

In the *Brihattrayi*, *Bhallataka* is classified under different *Vargas* (categories) and *Ganas* (groups), which reflect its diverse pharmacological properties and therapeutic applications (Table 3).

Nyagrodhadi Gana is described as possessing properties such as *Vrana Sangrahi* (wound healing), *Bhagna Sadhaka* (fracture repair), *Raktapittahara* (control of bleeding disorders), *Daha-Medoghna* (relieving burning sensation and adiposity), and *Yonidoshahara* (useful in gynecological disorders).

Mustaadi Gana is described as having properties such as *Shleshmahara* (*Kapha*-reducing), *Yonidoshahara* (useful in uterine disorders), *Stanya Shodhaka* (purifying breast milk), and *Pachana* (digestive stimulant).

Phala Varga includes *Bhallataka Phala*, which is described as *Kashaya* (astringent) and *Ushna* (hot in potency). It is indicated in conditions such as *Krimi,*

Table 1. Major chemical constituents of *S. anacardium* and their reported pharmacological activities

Class of Compounds	Major Constituents	Reported Pharmacological Activities
Bhilawanols (Urushiol derivatives)	A mixture of cis- and trans-isomers of Urushiol, comprising 1, 2-dihydroxy-3-(pentadecadienyl 8′, 11′) benzene and 1, 2-hydroxy-3-(pentadecadienyl 8′) benzene.	Irritant, vesicant; basis of purification (*Shodhana*) protocols
Phenolic Compounds	Anacardic acid, simple phenolics	Antioxidant, antimicrobial, anticancer, anti-inflammatory
Biflavonoid	Amentoflavone, tetrahydroamentoflavone, tetrahydrobustaflavone, biflavanones: O-trimethyl (A1, A2), O-tetramethyl (A1, C), O-dimethyl (B), bichalcones: O- examethyl (A, B2), O-heptamethyl (B1)	Anti-inflammatory, Anticancer, Hepatoprotective, Immunomodulatory
Flavonoids	Semecarpetin, nallaflavanone, jeediflavanone, semecarpuflavanone, galluflavanone, anacarduflavone mono-olefin I, anacarduflavone diolefin II.	Antioxidant, anti- atherogenic, cardioprotective
Sterols and Glycosides	Anacardoside, Semicarpol	Immunomodulatory, adaptogenic, *Rasayana*-like effects

Table 2. Synonyms of *Bhallataka* described in the *Brihattrayi*

Synonym (Sanskrit)	Context	Meaning / Significance
Bhallataka	*Charaka, Sushruta, Ashtanga Hridaya*	Sharp/irritant like a spear (*bhalla* = arrow/spear)
Arushkar	*Charaka Samhita (Sutra Sthana, Aragvadhiya Adhyaya)*	Causes blisters
Vatari	*Ashtanga Hridaya (Sutra Sthana)*	Pacifies *Vata*
Raktaphala	*Ashtanga Hridaya* (description of fruit)	Reddish-colored fruit
Agnisama / Agnika	*Charaka Samhita (Chikitsa Sthana, Rasayana Adhyaya)*	Equal to fire in potency
Sneha/Taila Beeja	Implied in *Sushruta* and *Ashtanga Hridaya,* where oil extraction is described	Oil-bearing seed

Table 3. Classical categorisation of *Bhallataka* in the *Brihattrayi*

S.No.	Classical texts	Gana/Varga	References
1	*Charaka Samhita*	*Deepaniya Mahakashaya, Kushthaghna Mahakashaya Mutrasangrahaniya Mahakashaya Katu Skandha*	[3,4]
2	*Sushruta Samhita*	*Kashaya Varga, Nyagrodhadi Gana, Mustaadi Gana, Phala Varga*	[5]
3	*Ashtanga Hridaya*	*Mustaadi Gana, Phala Varga, Katu Skandha*	[6]

Jwara, Anaha, Udara, *Udavarta* (abdominal disorders), *Prameha, Kushtha*, and *Arsha*.

7. *Bhallataka* in *Brihattrayi*

The *Samhita* period represents a foundational phase in the history of *Ayurveda*, during which classical compendia such as the *Charaka Samhita*, *Sushruta Samhita* and *Ashtanga Hridaya* established the core principles and therapeutic practices of the tradition.

7.1 Bhallataka in Charaka Samhita

The *Charaka Samhita* provides comprehensive details regarding *Bhallataka* (*Semecarpus anacardium* L. f.), including its *Shodhana* (purification procedures), therapeutic applications, and rejuvenative (*Rasayana*) potential.

7.1.1 Purification of Bhallataka

In *Chikitsa Sthana* and *Vimana Sthana*, the method of extracting *Bhallataka Taila* (oil) has been described for therapeutic purposes, such as for *Rasayana, Virechana Karma* (therapeutic purgation) and *Anuvasana Vasti* (medicated oil enema)[7].

The earliest references describing the *Shodhana* of *Bhallataka* (purification) emphasise its importance in ensuring safe therapeutic use. Smooth, glossy, elongated fruits resembling *Pakva Jambu* (ripe *Jambu* fruit), collected during *Jyeshtha Ashadha* months (May-July), and are considered suitable for *Vamana* (emetic therapy) and *Rasayana* therapy.

7.1.2 Rasayana (Rejuvenative) Applications

The classical text states:

"भल्लातकानां तीक्ष्णानां पाकान्नयग्नसिमानां च।
भवन्त्यमृतकल्पानां प्रयुक्तानां यथाविधि॥"

This verse states that the fruits of *Bhallataka* are *Tikshna* (irritant) and possess potency comparable to fire (*Agnisamana Paka*). However, when properly purified and administered according to classical guidelines, *Bhallataka* attains properties comparable to *Amrita-Kalpana* (nectar-like rejuvenative effect). Its administration should be undertaken after careful consideration of the disease condition, *Prakrati* (individual constitution), and *Satmya* (compatibility).

Bhallataka Swarasa (fresh extract), administered along with *Madhu* (honey), *Ghrita* (clarified butter) and *Taila* (oil), is described as promoting longevity and freedom from disease for up to one hundred years. It enhances *Medha* (intellect), strengthens *Agni (*digestive fire*),* and quickly alleviates *Kapha* and obstructive pathological conditions. Proper *Rasayana* therapy with *Bhallataka* is said to promote *Sukha* (well-being) and *Dirghayu* (longevity).

In the *Chikitsa Sthana,* ten distinct formulations are described, such as *Bhallataka Ksheera, Bhallataka Kshaudra, Bhallataka Taila, Bhallataka Sarpi, Guda Bhallataka, Bhallataka Lavana, Bhallataka Tarpana* and *Bhallataka Yusha-Palala-Saktu*. Their proper and methodical administration produces *Rasayana* effects, enhances *Medha* (intellect), delays ageing *(Ajara),* improves *Agni* (digestive fire) and alleviates *Kapha*.

The *Kalpa Prayoga* of *Bhallataka Ksheera,* administered up to thirty doses, is described to bestow longevity of up to one hundred years without senility[8].

7.1.3 Prameha (Diabetic and Metabolic Disorders)

In the *Sutra Sthana*, *Bhallataka* is included in the *Mutra Sangrahaneeya Mahakashaya,* which is indicated for conditions such as *Mutraatisara* (polyuria-like disorders) and *Prameha*.

Trikantakaadi Sneha, prepared with *Bhallataka* in *Taila* (oil), *Ghrita* (clarified butter), and *Mishraka*

(combination of both), is indicated for *Vataja, Pittaja* and *Tridoshaja Prameha* respectively[9]. *Bhallataka Asava*is indicated in *Kapha-Pittaja Prameha*[10].

7.1.4 Kushtha (Skin Disorders and Related Conditions)

In the *Aragvadhiya Adhyaya* (*Sutra Sthana*), a polyherbal formulation in the form *Churna Pradeha* (external medicated paste) containing *Bhallataka*, *Vacha, Harenu*, mustard oil, and *Pita-Gopitta* (ox bile) is indicated for *Kushtha*, *Kilasa* (hypopigmentation), *Kitibha* (psoriasis-like lesions), *Sureshalupta* (alopecia), *Dadru* (ringworm), *Bhagandara* (fistula-in-ano), *Arsha*, *Apachi* (lymphadenitis), and *Pama* (papular eruptions)[11].

Madhukaasava containing *Bhallataka* is indicated in *Grahani*, *Shotha*, *Kushtha* and *Prameha*[12]. *Dantyaadi Lepa,* containing *Bhallataka,* for external application, is indicated in *Kaphaja Visarpa Granthi. Saktu* prepared with *Bhallataka* and *Musta* (*Cyperus rotundus*) is indicated in *Visarpa Chikitsa* (erysipelas)[13].

7.1.5 Arsha (Piles/Hemorrhoids)

Gajasthi Lepa, prepared with *Bhallataka* and other drugs, is recommended for external application in the management of *Arsha* (hemorrhoids). For internal administration, *Bhallataka* is prescribed along with buttermilk[14].

7.1.6 Other Indications

In the *Kalpa Sthana*, *Leha* preparations made from *Bhallataka Swarasa* (juice) or *Shrita* (decoction) are described as effective *Vamana Kalpa* (emetic therapy).

Bhallatakadya Ghrita with *Bhallataka* is prescribed for *Kaphaja Gulma, Pleeha* (spleen disorders), *Pandu* (anemia), *Shwasa* (wheezing), *Grahani* (irritable bowel syndrome), and *Kasa* (cough)[15]. *Mahaneela Taila,* prepared with *Bhallatakasthi*, is indicated for *Palitya* (premature greying of hair). Direct contact with *Bhallataka Puspha* and *Phala Rasa* can cause *Agantuja Shotha* (exogenous swelling)[16].

7.2 *Bhallataka* in *Sushruta Samhita*

Sushruta Samhita provides several references to *Bhallataka* (*Semecarpus anacardium* L.f.), highlighting its classification, pharmacological properties, formulations, and therapeutic applications across various *Sthana*. These references illustrate its importance in the management of skin disorders, metabolic diseases, wound healing, and rejuvenative therapies, while also emphasising the necessity of proper processing before therapeutic use.

7.2.1 Sutra Sthana

Its *Rasa* and *Guna* are described as *Madhura* (sweet), *Kashaya* (astringent), with *Tikta* as *Anurasa* (secondary bitter taste). It possesses *Ushna virya* (hot potency) and exhibits *Kapha-Vata Shamaka* properties. It is indicated in conditions such as *Kushtha* (skin diseases*), Meda* (obesity), *Meha* (diabetes), and *Krimi* (helminthic infestations).

Bhallataka Taila is recognized as *Ubhayabhaga Doshahara,* indicating its dual action as both anemetic and purgative[17]. Additionally, it is also classified under the *Shaka Varga*, a category that encompasses vegetables and other edible plant groups. In *Dravadravya Vidhi Adhyaya, Sheeta Jala* (cold water) is recommended as *Anupana* (adjuvant) during the administration of *Bhallataka Taila*[18].

7.2.2 Chikitsa Sthana

In *Yava Kalpa, Bhallataka* is mentioned in the treatment of *Mahakushtha*[19]. *Kalyanaka Lavana,* along with *Bhallataka,* is prescribed in *Vata Vyadhi* (neurological disorders), *Gulma* (abdominal tumors), *Pleeha* (splenic disorders), and related conditions[20]. Several formulations containing *Bhallataka Churna* with *Saktu,* along with buttermilk, are indicated for *Adrishya Arsha* (hemorrhoids)[21]. Following *Sanshodhana* and *Raktamokshana*, *Bhallataka,* along with *Shilajatu,* is recommended in the management of *Kushtha* (skin disorders)[22]. It is also included in *Lepa* formulations indicated for *Shwitra* (leucoderma/vitiligo)[23].

Bhallataka is administered in various forms such as *Arishta, Ayaskriti, Leha, Asava,* and *Kashaaya Siddha Yavaagu* for the management of *Prameha* (diabetes)[24]. It is also included in *Dhanvantari Ghrita* for the treatment of *Prameha Pidika* (diabetic ulcers)[25], and in therapeutic protocols such as *Bhallataka Vidhaan Parihara Vidhi* in the management of *Madhumeha* (diabetes mellitus)[26].

Additionally, external application of oil preparations containing *Bhallataka* and other drugs such as *Manahshila* in *Siddha Nimba Taila* is indicated in *Kshudra Roga* (minor skin disorder such as *Valmika*) for *Ropana* (wound healing)[27].

In the *Sarvopaghata Shamaneeya Rasayana Adhyaya, Madhu* (honey) mixed with *Bhallataka Kwatha* (decoction) is described as a *Rasayana* preparation[28]. Furthermore, *Bhallataka Sneha* is listed among drugs indicated for *Mahavyadhi* (severe chronic diseases) and for *Twaka Krishinkarana* (darkening of skin)[29].

7.2.3 Kalpa Sthana

Bhallataka Pushpa is prescribed in the form of *Anjana* (collyrium) for *Andhyam* (blindness) caused by *Visha* (poisoning)[30].

7.2.4 Sharira Sthana

The wood of *Bhallataka* is recommended for the construction of *Sutikagara* (labour or delivery ward), along with drugs like *Bilwa, Nyagrodha,* and *Tinduka*[31]. *Bhallataka Sneha* has also been mentioned in preparations used for *Krishinkarana* (darkening) of *Shukla Vrana* (hypopigmentation lesions). Preparations of *Bhallataka Taila* are described for wound management. One formulation involves the external application of *Bhallataka Taila* combined with *Snuhi Ksheera* for *Romshaatana* (depilation of hairs)[32]. Another preparation involves the external application of *Bhallataka Taila* mixed with the latex of *Snuhi* (*Euphorbia neriifolia*) for wound healing[33].

7.2.5 Uttara Tantra

In the management of *Sheetaputana* (an ocular or nasal disorder of children), *Parisheka* (therapeutic sprinkling) with a decoction of *Bhallataka, Kapittha* (*Feronia elephantum*), and other drugs is recommended[34]. *Bhallataka*is also included as an ingredient in a *Ghrita* formulation prescribed for *Shosha* (emaciation or malnutrition), *Ashtodara Roga, Prameha* and *Vata Vikara*[35].

7.3 *Bhallataka* in *Ashtanga Hridaya*

Bhallataka (*Semecarpus anacardium* L.f.) is extensively described in the *Ashtanga Hridaya* of *Vagbhatta*. References to this drug occur across *Sutra Sthana, Chikitsa Sthana, Kalpasiddhi Sthana*, and *Uttara Sthana*, highlighting its significance as a potent therapeutic agent in *Ayurveda. Vagbhatta* has elaborated its pharmacological properties, formulations, *Rasayana* applications, and *Shodhana* (purificatory procedures), demonstrating its broad therapeutic potential.

7.3.1 Sutra Sthana

The *Phala Twak* (fruit skin) and *Majja* (pulp) of *Bhallataka* are described as possessing *Brimhana* (nourishing), *Madhura* (sweet) and *Sheeta* (cooling) properties. The seed of *Bhallataka* is described as possessing *Agnisama* (fiery) potency and endowed with *Medhya* (intellect-enhancing) and *Kaphavataghna* (*Kapha-Vata* pacifying) properties[36].

Bhallataka is included in the *Mustaadi Gana*, which is indicated in conditions such as *Yoniroga* (gynecological disorders), *Stanya Roga* (lactation-related disorders), and for *Mala Pachana* (improving digestion and elimination of waste)[37].

7.3.2 Chikitsa Sthana

Vashishta Haritaki Rasayana Avaleha, containing *Bhallataka*, is indicated for *Kasa* (cough)[38]. *Eladi Sarpiguda,* prepared with *Bhallataka* and other drugs, is indicated for *Prameha* (diabetes*), Gulma* (lump), *Kshaya* (degeneration), *Pandu* (anemia), *Bhagandara* (fissures), and *Rajyakshma* (Tuberculosis). It is also described to possess *Medhya*, *Rasayana*, *Chakshushya*, and *Ayushya* properties[39].

Bhallataka is also described as *Agrya Aushadha* (drug of choice) for *Shushka Arsha* (dry piles)[40]. *Madhukaasava*, containing *Bhallataka*, is indicated in *Grahani Dosha, Prameha* and *Brimhana karma*[41]. Formulations prepared with *Taila*, *Ghrita* or *Mishraka* containing *Bhallataka* are indicated in conditions such as *Pittarakta*, *Shosha*, *Kushtha*, and *Kilasa.* A combination of *Bhallataka, Trikantaka* (*Tribulus terrestris*), and *Nisha* (*Curcuma longa* L.) is indicated in the management of *Vata-Kaphaja*, *Pittaja* and *Tridoshaja Prameha*[42].

The verse: "*Sarveshu charushkarajam tauvaraṃ sarshapaṃ pibet*" (*Ashtanga Hridaya Chikitsa Sthana* 19/12) highlights formulations in which *Bhallataka* is administered. *Bhallataka* is indicated

in the management of *Tridoshaja Kushtha,* and when combined with *Ghrita* and *Pathya (Terminalia chebula),* it is also recommended for *Krimi* (intestinal worm infestations)[43].

A *Guda*-based preparation containing *Bhallataka* and *Vidanga* (*Embelia ribes*), along with prolonged administration of *Tuvarakaasthi* (Hydnocarpus seeds)[44], is described as a *Rasayana* therapy for the management of *Kushtha*[45]. *Bhallatakaadi Lepa* is indicated for skin disorders like pigmented lesions, warts, and piles[46].

7.3.3 Kalpasiddhi Sthana

Bhallataka Kwatha (decoction) or *Leha* preparations are recommended for administration in *Vamana Karma* (therapeutic emesis)[47].

7.3.4 Uttara Sthana

Dhoopana Yoga (fumigation therapy) using *Putyaadi Dhoopa,* containing *Bhallataka* and *Vacha* (*Acorus calamus*), is indicated in *Sarvagraha Badha* (psychosomatic disorders)[48].

7.3.5 Rasayana context in Ashtanga Hridaya

Bhallataka Swarasa obtained through *Patana Vidhi* (distillation method) and administered with *Madhu* (honey) and *Ghrita* (ghee*),* is described as a potent *Rasayana*. It enhances *Agni* (digestive fire) and helps in relieving *Strotorodha* (obstruction of bodily channels).

A *Kalpa* regimen, administering one thousand purified *Bhallataka* over seven weeks, is described as a powerful *Rasayana*, capable of alleviating disorders such as *Prameha*, *Krimi*, *Kushtha*, *Arsha*, and *Medo Dosha* (disorders of fat metabolism).

Bhallataka Swarasa, extracted using the *Patala Yantra* method, and administered with one-eighth part *Madhu* and two parts of *Ghrita*, is considered an effective rejuvenative therapy. *Amrita Bhallataka Rasayana* is described to enhance *Smriti* (memory), *Medha* (intellect), and *Dirghayu* (longevity).

Oil prepared using three hundred purified (*Pushta* and *Nirdosha*) *Bhallataka* fruits along with *Shilajatu* and *Tarkshya* are indicated for both internal and external therapeutic use. *Bhallataka* acts as a *Param Medhya* and *Ayushkara* when administered with different *Anupana* such as *Amlakshukti, Dadhi, Taila, Guda, Payasa, Ghrita, Yavashukti, Tila, Makshika, Mamsa Rasa,* and *Mudga*.

When administered according to *Kuti Praveshika* and *Vatatapika Rasayana Vidhi, Bhallataka* enhances *Agni*, alleviates *Kaphaja Vikara*, and relieves *Vibandha* (constipation). During this therapy, the use of *Kulattha, Dadhi, Shukta, Taila, Abhyanga*, and *Agnisevana* should be avoided.

Through proper *Shodhana*, the inherent *Tikshnata* (irritant nature) of *Bhallataka* is transformed into *Amrita*-like properties, making it safe for therapeutic and *Rasayana* applications[49].

Vidangaadi Rasayana, a formulation containing *Vidanga* (*Embelia ribes*), *Bhallataka*, and *Shunthi* (*Zingiber officinale*), administered daily with *Madhu* and *Sarpi*, is described to delay *Jara* (ageing) and enhance *Lavanya* (complexion and vitality)[50].

The verse "*Bhallatako Arshasu*" describes *Bhallataka* as an *Agrya Aushadha* (drug of choice) for the management of *Arsha* (hemorrhoids)[51].

Shuddha Bhallataka administered with jaggery is indicated in the treatment of *Vishama Jwara* (intermittent fever)[52].

8. Pharmacological Activity and Therapeutic Applications of *Semecarpus anacardium*

Semecarpus anacardium (*Bhallataka*) is a rich source of diverse bioactive constituents and exhibits a wide spectrum of pharmacological activities that have been reported through various experimental and clinical studies (Table 4). These findings collectively support traditional *Ayurvedic* claims that describe *Bhallataka* as a potent *Rasayana* and a therapeutic agent for a variety of systemic disorders.

9. Discussion

Bhallataka is regarded as a potent *Rasayana* drug (rejuvenative therapy) and occupies a significant place in the *Ayurvedic* pharmacopoeia. Charaka Samhita emphasises the necessity of proper *Shodhana* (purificatory processing) before its therapeutic use. After purification, it is administered in various forms such as *Bhallataka Ksheera* (medicated milk preparation), *Taila* (oil preparation), and *Rasayana*

Table 4. Pharmacological activities and therapeutic applications of *S. anacardium*

Pharmacological Activity	Therapeutic Applications / Indications
Immunomodulatory	Enhances immune response, beneficial in chronic illnesses
Anti-inflammatory	Arthritis, chronic inflammatory disorders
Analgesic	Pain management
Hypoglycemic	Diabetes mellitus
Hepatoprotective	Liver disorders, hepatocellular protection
Anthelmintic	Intestinal worm infestations
Anticancer (apoptosis induction, antioxidant activity, signaling modulation)	Lung cancer, breast cancer, leukemia, hepatocellular carcinoma
Neuroprotective	Neurodegenerative disorders, cognitive decline
Memory-enhancing (cholinergic transmission improvement)	Dementia, memory impairment
Antimicrobial	Bacterial and fungal infections
Anti-ovulatory and Anti-spermatogenic	Fertility regulation, contraception research
Anti-atherogenic and Hypolipidemic	Atherosclerosis, Dyslipidemia
Cardioprotective	Heart diseases, cardiovascular health
Aphrodisiac	Sexual debility, reproductive health

Kalpa (rejuvenative formulations) for conditions including *Prameha* (diabetes mellitus), *Kushtha* (skin disorders), *Arsha* (hemorrhoids), and *Grahani* (sprue/IBS-like syndrome), highlighting its remarkable therapeutic versatility.

In *Sushruta Samhita*, *Bhallataka* is utilized in multiple dosage forms such as *Taila* (oil), *Churna* (powder), *Leha* (confection), *Aasava* (fermented preparation), and *Anjana* (collyrium). It possesses *Kapha-Vata-Shamaka* properties and *Rasayana karma* (rejuvenative action), and is indicated in conditions such as *Vrana* (wound healing), *Mahakushtha* (chronic skin diseases), *Prameha* (diabetes), and *Arsha* (hemorrhoids). Similarly, *Ashtanga Hridaya* and *Ashtanga Sangraha* describe *Bhallataka* as an *Agrya Aushadha* (drug of choice) in the management of *Arsha*. These texts also highlight their therapeutic role in conditions such as *Yoni Roga* (gynecological disorders), *Stanya Roga* (lactation disorders), *Rajyakshma* (tuberculosis), and *Krimi* (Helminthic infestations). Across these classical texts, emphasis is placed on their *Tikshna* (intense potency and irritant nature) and potential toxicity due to the presence of bhilawanols (urushiol derivatives). Therefore, *Shodhana* (purification) is considered an essential prerequisite to transform the drug into a safe and therapeutically useful preparation.

Various extracts and formulations of *S. anacardium* have been evaluated in different *in vitro* and *in vivo* experimental models, demonstrating a wide range of pharmacological activities (Table 5). Modern pharmacological studies further support these traditional claims. The immunomodulatory, anti-inflammatory, antidiabetic, hepatoprotective, antimicrobial, and analgesic properties of *Bhallataka* closely correspond with its *Ayurvedic* indications in *Prameha, Kushtha*, and *Shotha* (inflammatory conditions).

Furthermore, *Bhallataka* has been described as *Bhedana* (tumour-reducing) and *Arshoghna* (anti-hemorrhoid), and has shown significant anticancer activity against leukemia, breast, lung, and liver cancers. Its neuroprotective and memory-enhancing effects may be correlated with its *Medhya Rasayana* properties as described by *Vagbhatta*. The *Ayurvedic* concept of treating *Medo Dushti* (disorders of fat metabolism) also corresponds with the hypolipidemic, cardioprotective, and anti-atherogenic effects reported in modern studies (Table 6).

Thus, *Bhallataka* serves as a classic example of how traditional *Ayurvedic* knowledge can be integrated with modern biomedical research, highlighting its dual role as a potent *Rasayana* and an effective therapeutic agent in the management of various systemic disorders.

10. Conclusion

Bhallataka is extensively described in the *Brihattrayi*, which forms the core foundation of *Ayurveda*. Despite its inherent irritant nature, the classical texts emphasise its wide range of therapeutic applications. Proper purification (*Shodhana*) is considered essential

Table 5. Summary of pharmacological activities and experimental validation of *S. anacardium*

Pharmacological Activity	Extract /Experimental Model/Assay Key Findings	References
Immuno-modulatory	N.M. and fruit extract – restored humoral and cell-mediated immunity (human mononuclear cells, adjuvant-induced arthritis); active: biflavonoids.	53
Anti-inflammatory	E.E. fruit nut and seed biflavonoids – dose-dependent anti-inflammatory (paw oedema, rats); ethyl acetate (THA–biflavonoid) – COX inhibition ≈ ibuprofen; E.E. (crude) – ↓ IL-1β/IL-12p40 (PBMC, RA); Kalpaamruthaa (polyherbal) – enhanced anti-arthritic activity.	54-56
Analgesic	Petroleum ether, chloroform, and M.E. exhibited significant analgesic activity (hot plate, tail-flick, writhing model) in rats and mice; M.E. (50 mg/kg) was more potent than Aspirin.	57
Antidiabetic / Hypoglycemic	N.M.E. - hypoglycemic and antihyperglycemic (normal/alloxan rats); E.E. (100 mg/kg) – ↓ glucose in normal rats, inactive in the Streptozotocin model.	58-59
Hepatoprotective/ Anticarcinogenic	N.M.E. - antioxidant and hepatoprotective effect in lead acetate–induced hepatotoxicity; Nut extract – immunomodulatory, anti-oxidative (Aflatoxin-B_1 HCC); N.M. (*Ayurvedic*) – ↓ neoplastic changes ≈ doxorubicin.	60-62
Anthelmintic	Petroleum ether and chloroform extracts showed potent antihelminthic *vs.* Pheretima posthuma> ethanol and aqueous; Bioactive compounds: phenolics.	63
Anticancer	*Bhallataka Taila* – modulated ERK1/2–HIF-1α–p53 (lung CA); Flavonoid bark exhibited cytotoxic activity *vs.* MCF-7 (IC_{50} 24.18µg/mL and 12.08µg/mL); N.M.E. cleared leukemic cells in mice; N.M.E. induced mitochondrial apoptosis in BCR–ABL leukemia cells (Bax↑, Caspase 3/9↑)	64-67
Neuroprotective And Nootropic	Nut extract – AChE inhibition, ↑ ACh, improved memory (rats); M.E. (*Shodhana* vs. crude) - ↑ nootropic activity in rats.	68
Antioxidant	Stem bark and ethyl acetate extracts – strong free radical scavenging (phenolic compounds).	69
Antimicrobial	Essential oil exhibited antimicrobial activity against *S. aureus* and *A. niger*; Petroleum ether and Aq. E. showed strong inhibitory activity against *S. aureus, S. flexneri*, and *P. aeruginosa*; Alcoholic nut extract exhibited bactericidal activity against both Gram+/– bacteria.	70-72
Reproductive	Aq. E. and E.E. ↑ diestrus index (anti-ovulatory); Chloroform extract- ↑ mating (aphrodisiac, male mice)	73-74
Cardio Protective	Hydroalcoholic nut extract- protection vs. ISO-induced necrosis; N.M.E.- restored energy metabolism and ↓ oxidative stress (T2DM)	75-76
Anti-atherogenic / Hypolipidemic	N.M.E.↓ serum cholesterol exhibited antioxidant action in hyperlipidemic rat models.	77
Anti-tuberculosis	Water extract- active *vs. M. tuberculosis* (MIC 6.25 µg/mL).	78

Abbreviations: E.E. – Ethanolic Extract; M.E. – Methanol extract; N.M.E. – Nut Milk Extract; Aq. E –Aqueous extracts; HCC – Hepatocellular Carcinoma; PBMC – Peripheral Blood Mononuclear Cells; RA – Rheumatoid Arthritis; ISO – Isoproterenol; MIC – Minimum Inhibitory Concentration; SA– *Semcarpus anacardium.*

to enhance its therapeutic benefits while minimising potential adverse effects. After appropriate purification, *Bhallataka* acts as a potent *Rasayana* and is indicated in several chronic and complex conditions such as *Prameha, Kushtha, Arsha*, *Grahani*, and *Shotha*.

Modern pharmacological research further supports these traditional claims by evaluating the safety and efficacy of its bioactive constituents through scientific methods. These findings highlight the potential of *Bhallataka* for the development of novel evidence-based therapeutics.

Table 6. Classical indications of *Bhallataka* in the *Brihattrayi* with their modern pharmacological validation

Pharmacological Correlates	*Brihattrayi* Indications (Charaka, Sushruta and Ashtanga Hridaya)	Modern Pharmacological Validation
Arsha (Hemorrhoids)	*Lepa* on *Arsha* (Ch. Chi. 14/55); *Agrya Aushadha* for *Shushkarsha* a (A.H. Chi. 5/28–32).	Anti-inflammatory and analgesic, COX-inhibitory, venotonic, and antioxidant actions[54] support hemorrhoid relief.
Kushtha (Skin disorders-leprosy, psoriasis, dermatitis, etc.)	*Kushtha* (Ch. Su. 3/4-5); *Kushthaghna Mahakashaya* (Ch. Su. 4/8); *Sarva Kushtha*, *Bhallatakadi Lepa* (A.H. Chi. 19/12–53; 20/16).	Immunomodulatory[53], anti-inflammatory[54], antimicrobial[70], and antioxidant activities validate traditional claims.
Prameha (Diabetes/ Metabolic disorders)	*Mutra Sangrahaneeya Mahakashaya* (Ch. Su. 4/33); *Triantakadi Sneha*, *Bhallatakasava* (Ch. Chi. 6/38–45); *Kalpa* regimen (A.H. Utt. 39/66–71);*Prameha* (A.H. Chi. 12/17–18)	Antihyperglycemic, hypolipidemic, and cardioprotective actions[58,76,77].
Grahani Dosha (IBS/ intestinal disorders)	*Madhukaasava* with *Bhallataka* (Ch. Chi. 15/146–149; A.H. Chi. 10/47–50).	Anti-inflammatory and antimicrobial activities[55,71] support gut health and dysbiosis correction.
Shotha (Inflammation/ Oedema/Abscess)	External *Lepa* (Ch. Chi. 14/55); used in *Taila* and *Lepa* formulations.	Potent anti-inflammatory, cytokine-modulating effects[53,55].
Rasayana (Rejuvenation/for *Medha* and *Smriti*)	*Kalpa regimens, Rasayana Adhyaya* (Ch. Chi. 1/2/13–16); *Amrita Bhallataka Rasayana* (A.H. Utt. 39/75–78)	Neuroprotective[68], antioxidant, memory-enhancing, and anti-ageing[69].
Krimi (Helminthiasis)	Indicated with *Ghrita* (Ch. Su. 46/423); with *Pathya* (A.H. Chi. 19/12).	Confirmed antihelminthic action[66].
Jwara (Fever including *Vishama Jwara*)	Used with jaggery in *Vishama Jwara* (A.H. Chi. 1/154).	Anti-inflammatory and immunomodulatory effects justify the antipyretic role.
Vrana (Wounds/ ulcers)	*Nyagrodhadi Gana* formulations with *Bhallataka* for wound healing (Su. Chi. 1/78).	Antimicrobial[70], antioxidant, and anti-inflammatory effects promote wound repair.
Medo roga (Obesity/ Hyperlipidemia)	Mentioned as *Medoghna* (Su. Chi. 1/78; A.H. Utt. 39/6–71).	Hypolipidemic effects[77]
Gulma / Arbuda (tumors/growths)	*Bhallataka Taila* in *Granthi* and *Arbuda*-like disorders (A.H. Chi. 3/133–140).	HCC[62], Anticancer activity: lung[64], breast[65], leukemia[66-67]

(Ch.-*Charaka*; Su.-*Sushruta*; A.H. – *Ashtanga Hridaya*; Chi-*Chikitsa*; Utt.-*Uttara*)

11. References

1. India Biodiversity Portal. *Semecarpus anacardium* L.f. India Biodiversity Portal; [cited 2026 Mar 10]. Available from: https://indiabiodiversity.org/observation/show/1732032
2. Semalty M, Semalty A, Badola A, Joshi GP, Rawat . *Semecarpus anacardium* Linn. A review. Pharmacogn Rev. 2010; 4(7):88-94.https://doi.org/10.4103/0973-7847.65328PMid: 22228947 PMCid: PMC3249908.
3. Charaka. Charaka Samhita. Vidyotini Hindi Commentary by Kashinatha Shastri. Vol. 1. Varanasi: Chaukhamba Bharati Academy; 2008. Sutra Sthana 4/8/6, 4/8/13, 4/8/33:75, 81, 89.
4. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B, editor. Vol. 1. Varanasi: Chaukhamba Subharti Prakashan; 2008. Vimana Sthana 8/142:781-782.
5. Sushruta. Sushruta Samhita. Sushruta Vimarshini commentary by Sharma AR, editor. Vol. 1. Varanasi: Chaukhamba Subharti Prakashan; 2010. Sutra Sthana 38/48-49, 54; 42/18; 46/196:301-302, 332, 412.
6. Vagbhata. *Ashtanga Hridaya*. Nirmala Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; 2009. Sutra Sthana 15/40; 6/134; 10/30:202, 114, 155.
7. Charaka. Charaka Samhita. Vidyotini Hindi Commentary by Kashinatha Shastri. Vol. 1. Varanasi: Chaukhamba Bharati Academy; 2008. Vimana Sthana 7/23-24:731-732.
8. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2008. Chikitsa Sthana, Rasayana Adhyaya 1/2/13-22:36-41.
9. Charaka. Charaka Samhita. Charaka Chandrika Hindi

Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana, Prameha Chikitsa Adhyaya 6/3-39:291.
10. Charaka. Charaka Samhita. Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana, Prameha Chikitsa Adhyaya 6/45:292.
11. Charaka. Charaka Samhita. Edited by Pandit Kashinatha Shastri. Varanasi: Chaukhamba Bharati Academy; 2008. Sutra Sthana 3/4-5:59.
12. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana 15/146-149:576.
13. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana 21/126:729.
14. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana 14/55, 70:521, 523.
15. Charaka. Charaka Samhita. Charaka Chandrika Hindi Commentary by Tripathi B. Vol. 2. Varanasi: Chaukhamba Subharti Prakashan; 2006. Chikitsa Sthana 5/143-146:271.
16. Charaka. Charaka Samhita. Edited by Shastri PK. Varanasi: Chaukhamba Bharati Academy; 2008. Sutra Sthana 18/4:338.
17. Sushruta. Sushruta Samhita. *Ayurveda* Tatwa Sandipika Hindi commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Sutra Sthana 45/122:179.
18. Sushruta. Sushruta Samhita. Sushruta Vimarshini commentary by Sharma AR, editor. Vol. 1. Varanasi: Chaukhamba Surbharati Prakashan; 2010. Sutra Sthana 46/249-250, 423:417, 437.
19. Sushruta. Sushruta Samhita. *Ayurveda* Tattwa Sandipika Hindi commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 10/3:56.
20. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 4/32:28.
21. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 6/13-18:39.
22. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 9/6-7:49.
23. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 9/27-28:52.
24. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 11/9-10:453.
25. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 12/5:63.
26. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 13/14:66.
27. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 20/54:95.
28. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 27/7-8:121.
29. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 31/5:5.
30. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Kalpa Sthana 1/71:10.
31. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Sharira Sthana 10/7:74.
32. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 1/90-93, 106:10-11.
33. Sushruta. Sushruta Samhita. *Ayurveda Tattwa Sandipika* Hindi Commentary by Shastri AD. Purvardha. Varanasi: Chaukhamba Sanskrit Sansthan; 2007. Chikitsa Sthana 1/106:11.
34. Sushruta. Sushruta Samhita. Edited by Yadavji Trikamji. 1st ed. Varanasi: Chaukhamba Krishnadas Academy; 2004. Uttara Tantra 34/3:665.
35. Sushruta. Sushruta Samhita. Edited by Yadavji Trikamji. 1st ed. Varanasi: Chaukhamba Krishnadas Academy; 2004. Uttara Tantra 41/4-50:327.
36. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan. Sutra Sthana 6/134:114.
37. Vagbhatta. *Ashtanga Hridaya*. Edited by Paradakara H. 9th ed. Varanasi: Chaukhamba Orientalia; 2005. Sutra Sthana 15/40:239.
38. Vagbhatta. *Ashtanga Hridaya*. Edited by Paradakara H.

9th ed. Varanasi: Chaukhamba Orientalia; 2005. Chikitsa Sthana 3/133-140:597.
39. Vagbhatta. *Ashtanga Hridaya*. Edited by Paradakara H. 9th ed. Varanasi: Chaukhamba Orientalia; 2005. Chikitsa Sthana 5/28-32:612.
40. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 8/162:677.
41. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 10/47-50:700-701.
42. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 12/17-18:717.
43. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 19/12:783.
44. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 19/45:789.
45. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 19/53:790.
46. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 20/16:799.
47. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Kalpa Sthana 1/15:828.
48. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Uttara Sthana 3/47:905.
49. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Uttara Sthana 39/66-83:1191-1193.
50. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Uttara Sthana 39/151:1201.
51. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Uttara Sthana 40/49:1212.
52. Vagbhatta. *Ashtanga Hridaya*. Nirmala Hindi Commentary by Tripathi B, editor. Delhi: Chaukhamba Sanskrit Pratishthan; Chikitsa Sthana 1/154:574.
53. Ramprasath VR, Shanthi P, Sachidanandam P. Immunomodulatory and anti-inflammatory effects of *Semecarpus anacardium* Linn. Nut milk extract in experimental inflammatory conditions. Biol Pharm Bull. 2006; 29(4):693-700.https://doi.org/10.1248/bpb.29.693PMid: 16595901.
54. Selvam C, Jachak SM. A cyclooxygenase (COX) inhibitory biflavonoid from the seeds of *Semecarpus anacardium*. J Ethnopharmacol. 2004; 95(2-3):209-212.https://doi.org/10.1016/j.jep.2004.07.003PMid: 15374613.
55. Singh D, Aggarwal A, Mathias A, Naik S. Immunomodulatory activity of *Semecarpus anacardium* extract in mononuclear cells of normal individuals and rheumatoid arthritis patients. J Ethnopharmacol. 2006; 108(3):398-406.https://doi.org/10.1016/j.jep.2006.05.008PMid:16963211
56. Mythilypriya R, Shanthi P, Sachdanandam P. Synergistic effect of *Kalpaamruthaa* on anti-arthritic and anti-inflammatory properties: its mechanism of action. Inflammation. 2008; 31(6):391-398.https://doi.org/10.1007/s10753-008-9090-2 PMid:18941878
57. Lingaraju GM, Hoskeri HJ, Krishna V, Babu PS. Analgesic activity and acute toxicity study of *Semecarpus anacardium* stem bark extracts using mice. Pharmacogn Res. 2011; 3(1):57-61.https://doi.org/10.4103/0974-8490.79117PMid: 21731397 PMCid: PMC3119273.
58. Kothai R, Arul B, Kumar KS, Christina AJ. Hypoglycemic and antihyperglycemic effects of *Semecarpus anacardium* Linn. in normal and alloxan-induced diabetic rats. J Herb Pharmacother. 2005; 5(2):49-56.https://doi.org/10.1080/J157v05n02_05 PMid: 16260409.
59. Arul B, Kothai R, Christina AJ. Hypoglycemic and antihyperglycemic effect of *Semecarpus anacardium* Linn. in normal and streptozotocin-induced diabetic rats. Methods Find Exp Clin Pharmacol. 2004; 26(10):759-762.https://doi.org/10.1358/mf.2004.26.10.872556PMid: 15672117.
60. Abirami N, Raju VS, Rajathi K. Effect of *Semecarpus anacardium* against lead-induced toxicity in rats. Anc Sci Life. 2007; 27(2):24-27.
61. Premalatha B, Sachdanandam P. Potency of *Semecarpus anacardium* Linn. nut milk extracts against aflatoxin B1-induced hepatocarcinogenesis: Reflection on microsomal biotransformation enzymes. Pharmacol Res. 2000; 42(2):161-166.https://doi.org/10.1006/phrs.2000.0676PMid: 10887046.
62. Joseph JP, Raval SK, Sadariya KA, Jhala M, Kumar P. Anticancerous efficacy of *Ayurvedic* milk extract of *Semecarpus anacardium* nuts on hepatocellular carcinoma in Wistar rats. Afr J Tradit Complement Altern Med. 2013; 10(5):299-304.https://doi.org/10.4314/ajtcam.v10i5.12PMid: 24311839 PMCid: PMC3847419.
63. Pal D, Mohapatra T, Das A. Evaluation of anthelmintic activity of nuts of *Semecarpus anacardium*. Anc Sci Life. 2008; 27(3):41-44.
64. Suchitha GP, Upadhyay SS, Pervaje R, Prasad TSK, Dagamajalu S. Uncovering the anticancer effects of *Bhallataka Taila* in lung cancer: A metabolomic and network pharmacology approach. Bioimpacts. 2025; 15:30568. https://doi.org/10.34172/bi.30568PMid: 40584908 PMCid: PMC12204778.

65. Kalyani V. *In vitro* anticancer activity of *Semecarpus anacardium* on MCF-7 human breast cancer cells. Int J Health Sci (Qassim). 2022; 6(S4):5882-5889.https://doi.org/10.53730/ijhs.v6nS4.9323
66. Sugapriya D, Shanthi P, Sachdanandam P. Restoration of energy metabolism in leukemic mice treated by a Siddha drug, *Semecarpus anacardium* Linn. nut milk extract. Chem Biol Interact. 2008; 173(1):43-48.https://doi.org/10.1016/j.cbi.2008.01.013PMid: 18358458.
67. Dhanasekaran S, Jaganathan R, Panchanadham S, Palanivelu S. Induction of mitochondrion-mediated apoptosis by *Semecarpus anacardium* in the BCR-ABL+ 12B1 leukaemia cell line: Possible mechanism of therapeutic action in vivo. J Exp Clin Med. 2012; 4(1):30-38.https://doi.org/10.1016/j.jecm.2011.11.005
68. Vinutha B, Prashanth D, Salma K, Sreeja SL, Pratiti D, Padmaja R, *et al*. Screening of selected Indian medicinal plants for acetylcholinesterase inhibitory activity. J Ethnopharmacol. 2007; 109(2):359-363.https://doi.org/10.1016/j.jep.2006.06.014PMid: 16950584.
69. Mishra SK, *et al*. *Shodhana* decreases nootropic activity of *Semecarpus anacardium*. Asian J Pharm Clin Res. 2016; 9(S2):294-297.https://doi.org/10.22159/ajpcr.2016.v9s2.13989
70. Sharma A, Barman N, Malwal M. Antimicrobial efficacy of nut oil of *Semecarpus anacardium*: The marking nut tree. Biotechnol. 2010; 9(3):383-386.https://doi.org/10.3923/biotech.2010.383.386
71. Mohanta TK, Patra JK, Rath SK, Pal DK, Thatoi HN. Evaluation of antimicrobial activity and phytochemical screening of oils and nuts of *Semecarpus anacardium*. Sci Res Essays. 2007; 2(10):486-490.
72. Nair A, Bhide SV. Antimicrobial properties of different parts of *Semecarpus anacardium*. Indian Drugs. 1996; 33(6):323-328.
73. Sushma Y, *et al*. Antifertility activity of aqueous and ethanolic extracts of *Semecarpus anacardium* fruit in female albino rats. Int J Pharm Sci Res. 2016; 7(3):1235-1239.
74. Gupta AK, Bindal MC, Gupta SK, Prakash D, Vedpal. Aphrodisiac activity of *Semecarpus anacardium* nut. Int Res J Pharm. 2013; 4(4):202-204.https://doi.org/10.7897/2230-8407.04440
75. Asdaq SMB, Chakraborty M. Myocardial potency of *Semecarpus anacardium* nut extract against isoproterenol-induced myocardial damage in rats. Int J Pharm Sci Rev Res. 2010; 2:10-13.
76. Subramani S, Banu HK, Palanivelu S, Panchanadham S. Restorative effect of *Semecarpus anacardium* on altered energy metabolism in type-2 diabetes mellitus-induced cardiac dysfunction in rats. J Diet Suppl. 2020; 17(1):27-40.https://doi.org/10.1080/19390211.2018.1481484PMid: 30373482.
77. Vinayagam KS, Khan HB, Keerthiga G, Palanivelu S, Panchanatham S. Hypolipidemic effect of *Semecarpus anacardium* in high cholesterol-fed hypercholesterolemic rats. Chin J Integr Med. 2012. https://doi.org/10.1007/s11655-012-1252-2PMid: 23212575.
78. Singh R, Kakkar A, Mishra VK. Anti-tuberculosis activity and GC-MS analysis of water extract of *Semecarpus anacardium* nuts. Der Pharma Chem. 2015; 7(2):278-285.

Authors Contribution

Neha Arya: Conceptualization, original draft preparation, writing, review, and editing. Vidushi Tyagi: Supervision and manuscript review. Both authors have read and agreed to the published version of the manuscript.