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Review Article

" AN ETHNO-PHARMACOLOGICAL REVIEW OF KARVIRA (NERIUM INDICUM LINN.):CLASSICAL AYURVEDIC PERSPECTIVES AND MODERN PHARMACOLOGICAL VALIDATION"

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ABSTRACT

Introduction: Karvira (*Nerium indicum* Linn.; Syn. *Nerium oleander* L.), belonging to the family Apocynaceae, is an important medicinal plant widely referenced in classical Ayurvedic literature. Described across the Brihattrayi and major Nighantus, it has been traditionally employed in the management of Kushtha (skin disorders), Vrana (wounds), Kandu (pruritus), and Visha (poisoning). Despite its extensive classical documentation, a consolidated review integrating the Ayurvedic Rasapanchaka, Samhita-kala references, Nighantu descriptions, and contemporary pharmacological evidence has been lacking.

Methods: A comprehensive review was conducted by systematically examining classical Ayurvedic texts including Charaka Samhita, Sushruta Samhita, Ashtanga Sangraha, Ashtanga Hridayam, and seven major Nighantus (Dhanvantari, Raj, Bhavaprakasha, Kaiyadeva, Madanapala, Nighantu Adarsha, and Shaligrama Nighantu). Modern literature was searched through PubMed, Google Scholar, and the AYUSH Research Portal using the terms “Nerium indicum,” “Nerium oleander,” “Karvira,” and “pharmacological activity” for publications between 2000 and 2025. A total of 68 sources were screened and 30 met the criteria for inclusion in this qualitative synthesis.

Results: Classical texts consistently describe Karvira as Katu-Tikta-Kashaya in Rasa, Ushna in Virya, and Katu in Vipaka, with Kapha-Vatahara action. Its primary indications include Kushtha, Vrana Shodhana and Ropana, Kandu, Krimighna action, and Shirovirechana. Raj Nighantu classifies four varieties (Shweta, Rakta, Pita, and Krishna), while Shaligrama Nighantu provides the maximum forty-seven synonyms. Modern pharmacological studies have validated its antibacterial, antifungal, anti-inflammatory, analgesic, antidiabetic, antioxidant, hepatoprotective, cardiotonic, and anticancer activities. Key phytoconstituents include cardiac glycosides (oleandrin, neriine, odoroside), plumericin, kaempferol, and beta-sitosterol.

Discussion: The convergence between classical Ayurvedic indications and modern pharmacological findings substantiates the therapeutic rationale of Karvira documented by ancient Acharyas. The Kushthaghna and Vranapratisarana properties align with demonstrated antibacterial and wound-healing activities, while the

Hridya action corresponds to cardiotonic glycoside pharmacology. The predominantly external usage recommended in Ayurveda is consistent with the known systemic toxicity of oleandrin. This review consolidates the ethno-pharmacological profile of Karvira and identifies opportunities for further standardised clinical investigation.

Keywords: Antibacterial; Apocynaceae; Ayurveda; Cardiac glycosides; Karvira; Kushtha; *Nerium indicum*; Nighantu; Oleandrin; Pharmacognosy; Rasapanchaka; Vrana

1. Introduction

Approximately 80% of the world's population, particularly in developing countries, relies on traditional plant-based remedies as the primary source of healthcare [1]. India, with an estimated 15,000–20,000 plants of documented medicinal value, is recognised as one of the richest repositories of herbal medicinal knowledge globally and has been described as the "Emporium of Medicinal Plants" [2]. The tradition of employing medicinal plants in India extends to the Vedic period (circa 5000 BCE), with references to healing herbs found in the Rigveda and Atharvaveda [3]. Ayurveda, the classical Indian system of medicine, systematically catalogues thousands of such plants along with their properties, actions, and therapeutic applications.

Among the medicinal plants extensively described in Ayurvedic literature, Karvira (*Nerium indicum* Linn.; Syn. *Nerium oleander* L.) occupies a distinctive position. An evergreen shrub belonging to the family Apocynaceae, Karvira is native to the Indian subcontinent and is widely distributed across the Mediterranean region, subtropical Asia, and China [4]. The plant is characterised by its leathery lanceolate leaves, fragrant flowers of white, red, pink, or yellow colour, and milky latex. All parts of the plant, particularly the roots and leaves, are pharmacologically active and notably toxic [5].

Classical Ayurvedic texts, spanning the Brihattrayi (Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam) and major Nighantus (lexicons of materia medica), describe Karvira's Rasapanchaka (pharmacological properties), classify its varieties, and prescribe its use—predominantly external—in a range of conditions including Kushtha (skin diseases), Vrana (wounds), Kandu (pruritus), and Vishajannya Vikara (toxin-related disorders) [6,7]. Raj Nighantu distinguishes four varieties: Shweta (white), Rakta (red), Pita (yellow), and Krishna (black), of which the white and red varieties are most commonly described and are botanically equated with *Nerium indicum* [8].

In recent decades, modern pharmacological research has explored and substantially validated the therapeutic potential of *N. indicum*, demonstrating antibacterial, antifungal, antiviral, anti-inflammatory, analgesic, antidiabetic, antioxidant, hepatoprotective, cardiotonic, and anticancer activities [9,10]. The convergence of classical Ayurvedic descriptions with contemporary evidence-based findings makes Karvira an exemplary subject for ethno-pharmacological review.

The present review aims to provide a comprehensive and consolidated account of Karvira by integrating its descriptions across the major Samhitas and Nighantus, detailing its Rasapanchaka and therapeutic indications, documenting its botanical and phytochemical profile, and correlating the classical Ayurvedic properties with modern pharmacological evidence. This review is intended to serve as a reference for researchers, clinicians, and students seeking to bridge the classical and modern understanding of this important medicinal plant.

2. Materials and Methods

This review was conducted through a systematic examination of both classical Ayurvedic literature and modern pharmacological databases. The classical sources included the Brihattrayi (Charaka Samhita, Sushruta Samhita, and Ashtanga Sangraha/Hridayam) and seven major Nighantus: Dhanvantari Nighantu, Raj Nighantu, Bhavaprakasha Nighantu, Kaiyadeva Nighantu, Madanapala Nighantu, Nighantu Adarsha, and Shaligrama Nighantu. Standard published editions with commentaries were consulted for each text [6–15].

Modern pharmacological literature was searched through PubMed, Google Scholar, AYUSH Research Portal, and DHARA (Digital Helpline for Ayurveda Research Articles) using the search terms "Nerium indicum," "Nerium oleander," "Karvira," "oleandrin," "cardiac glycosides," and "pharmacological activity." Publications from 2000 to 2025 in English and Hindi were included. Studies reporting in vitro, in vivo, or clinical pharmacological activities of *N. indicum* or *N. oleander* were eligible for inclusion. Descriptive terms in the form of synonyms, Rasapanchaka, Gana classifications, and therapeutic indications were systematically extracted from each classical source and tabulated for comparative analysis.

3. Botanical Description and Taxonomic Classification

Nerium indicum Linn. (Syn. *N. oleander* L., *N. odorum* Sol.) is an evergreen, erect, large glabrous shrub growing up to 5 metres in height, with profuse milky latex in all parts. The leaves are linear-lanceolate, 10–15 cm long, dark green, shiny, and coriaceous (leathery) in texture, arranged in whorls of three. The flowers are fragrant, terminal, cymose, and occur in white, red, pink, or rose-coloured varieties. The fruit is a pair of follicles, 12–20 cm long, containing numerous comose seeds [4,5].

Table 1: Taxonomic Classification of Karvira

Taxonomic Rank	Classification
Kingdom	*Plantae*
Division	*Magnoliophyta*
Class	*Magnoliopsida*
Order	*Gentianales*
Family	*Apocynaceae*
Genus	*Nerium*
Species	*N. indicum Linn.*

The plant is native to the Indian subcontinent and is extensively distributed across the Mediterranean basin, Iran, southwestern China, and tropical Africa. In India, it is commonly cultivated as an ornamental shrub in gardens and along roadsides. Both the white-flowered (Shweta Karvira) and red-flowered (Rakta Karvira) varieties are equated with *Nerium indicum*. The yellow-flowered variety described in Raj Nighantu is botanically identified as *Thevetia peruviana* (Pers.), while the Krishna (black) variety remains unidentified [8].

3.1 Vernacular Names

The plant is known by various regional names: Kaner (Hindi), Kanagilu (Kannada), Arali (Tamil, Malayalam), Karavira (Sanskrit), Ganira (Bengali), Kaner (Marathi, Gujarati), Karneru (Telugu), and Oleander (English) [4,5].

4. Karvira in Classical Ayurvedic Literature

4.1 References in the Brihattrayi (Samhita Kala)

4.1.1 Charaka Samhita

Acharya Charaka classified Karvira under Tiktaskandha and Kushthaghna Mahakashaya [6]. References to Karvira are found across multiple Sthanas of Charaka Samhita. In Sutrasthana, Karvira is included as a component of Aragvadhadi Lepa, Manashiladi Lepa, and Kushthaghna Mahakashaya, and is recommended for Dantadhavana (tooth cleaning) [6]. In Vimanasthana, it is listed among the plants of Tiktaskandha. In Chikitsasthana, Karvira features in Kushthadi Taila and Kushthaghna Lepa formulations for external application, bathing, and drinking preparations in the management of Kushtha [6]. In Sharirasthana, it is prescribed for the management of Kikvisa Roga (a skin condition of neonates). In Siddhisthana, Karvira is a constituent of Vidangadi Taila.

4.1.2 Sushruta Samhita

Acharya Sushruta classified Karvira under Tiktavarga, Lakshadigana, Shodhana Kashaya, Shirovirechaka Dravya, and Vranashodhana Gana [7]. In Sutrasthana, Karvira is mentioned as an important constituent of Shodhana Kashaya and as a Shirovirechana Dravya (errhine drug). In Chikitsasthana, it is recommended in the treatment of Ashmari (urinary calculi) and is a component of Mahavajraka Taila and Shirovirechaka Taila. It is indicated as a Vranashodhana (wound-cleansing) agent in Pittarbuda and as a Shodhana drug in Kaphaja Upadamsha (venereal disease). Additionally, Sushruta prescribes Karvira in the management of Granthi (cyst), Apachi (lymphadenitis), Arbuda (tumour), and Galaganda (goitre) [7]. In Uttaratantra, it is useful in the treatment of Madatyaya (alcoholic intoxication).

4.1.3 Ashtanga Sangraha and Ashtanga Hridayam

Acharya Vagbhata, in both the Ashtanga Sangraha and Ashtanga Hridayam, classified Karvira under Vranashodhana Gana, Vranaropana Gana, and Kushthaghna Gana, following the traditions of both Charaka

and Sushruta [16]. In Chikitsasthana, Vagbhata describes Kushthadi Lepa, Lepa for Ekangavyapi Shotha, Shweta Karveeradi Lepa, and Karveeradi Lepa. In Uttaratantra, Karvira is prescribed for Indralupta (alopecia areata), as a constituent of Jyotishmati Taila, and in the management of Bhagandara (fistula-in-ano) as a Shoshana (drying) and Ropana (healing) agent. Karveeradi Agada (antidote formulation) is also described. In Sharirasthana, its application in Kikvisa Roga is reiterated. In the Ashtanga Sangraha specifically, Karvira Patra is prescribed for Vranaprakshalan (wound washing) and Vranaropana (wound healing) [16].

4.2 References in the Nighantus (Nighantu Kala)

The Nighantus, serving as the classical pharmacopoeias of Ayurvedic materia medica, provide detailed accounts of Karvira's synonyms, Rasapanchaka, and therapeutic indications. A comparative summary across seven major Nighantus is presented below.

4.2.1 Dhanvantari Nighantu

Dhanvantari Nighantu, among the earliest of the extant Nighantus, provides fifteen synonyms of Karvira based on its morphological characters and pharmacological properties. The text clearly states that Karvira is poisonous (Visha) and recommends exclusively external use. It is described as Chakshushya (beneficial for the eyes) and indicated in Kandu (pruritus), Kushtha (skin diseases), and Charmaroga (dermatological conditions) [11].

4.2.2 Raj Nighantu

Raj Nighantu of Pandit Narahari provides twenty-two synonyms of Karvira and classifies it into four varieties: Shweta, Rakta, Pita, and Krishna. The text prescribes Karvira in skin diseases, Vrana, Kandu, Vishajannya Vikara, and Kushtharoga [8].

4.2.3 Bhavaprakasha Nighantu

Bhavaprakasha Nighantu of Bhavamishra describes three synonyms of Karvira, named primarily according to its toxic effects (Hayamaraka, Ashwamaraka) and its abundant foliage. The text specifically indicates its paste (Lepa) application in Upadamsha (venereal diseases) [12,13].

4.2.4 Kaiyadeva Nighantu

Kaiyadeva Nighantu provides twenty-two synonyms and describes Karvira as Shiroshula Nashaka (alleviating headache). Like Dhanvantari Nighantu, it recommends exclusively external application and indicates Karvira in eye diseases, wounds, and pruritus [14].

4.2.5 Madanapala Nighantu

Madanapala Nighantu provides eight synonyms and describes Karvira as Krimighna (anthelmintic), Kandughna (antipruritic), and Vranashodhana (wound cleansing) [15].

4.2.6 Nighantu Adarsha

Nighantu Adarsha provides fourteen synonyms and gives an expanded description of therapeutic uses. Beyond the Kushthaghna and Vranaropana properties common to other Nighantus, Karvira is described as useful in Indralupta (alopecia), Valipalitaghna (anti-ageing for wrinkles and greying), Upadamsha, and in pregnant women for Kandu and Kikvisa Roga [17].

4.2.7 Shaligrama Nighantu

Shaligrama Nighantu provides the most comprehensive description with forty-seven synonyms—the maximum among all Nighantus—classified according to the plant's morphological characters, properties, Guna, and Karma. The text describes Karvira's utility in multiple skin diseases, Netrakopa (ocular inflammation), and various types of Jwara (fever) [18].

Table 2: Comparative Synopsis of Karvira across Major Nighantus

Nighantu	Synonyms	Key Therapeutic Indications
Dhanvantari Nighantu	15	Kandu, Kushtha, Charmaroga, Chakshushya; external use only
Raj Nighantu	22	Kushtha, Vrana, Kandu, Vishajannya Vikara; four varieties described
Bhavaprakasha Nighantu	3	Upadamsha (Lepa); named for toxic effects

Kaiyadeva Nighantu	22	Shiroshula, Netraroga, Vrana, Kandu; external use only
Madanapala Nighantu	8	Krimighna, Kandughna, Vranashodhana
Nighantu Adarsha	14	Kushtha, Vrana, Indralupta, Valipalitaghna, Upadamsha, Kikvisa
Shaligrama Nighantu	47	Kushtha, Netrakopa, Jwara; maximum synonyms

5. Rasapanchaka (Ayurvedic Pharmacological Properties)

The pharmacological action of Karvira in Ayurvedic therapeutics is understood through its Rasapanchaka, the five-parameter pharmacological profile comprising Rasa (taste), Guna (physical properties), Virya (potency), Vipaka (post-digestive taste), and Prabhava (special action). The consensus across classical sources is summarised below [6–8,11–15].

Table 3: Rasapanchaka of Karvira

Parameter	Description
Rasa (Taste)	Katu (Pungent), Tikta (Bitter), Kashaya (Astringent)
Guna (Properties)	Tikshna (Sharp), Laghu (Light), Ruksha (Dry)
Virya (Potency)	Ushna (Hot)
Vipaka (Post-digestive)	Katu (Pungent)
Dosha Karma	Kapha-Vatahara
Prabhava	Vishahara (anti-toxic), Kushthaghna (anti-dermatosis)

Table 4: Therapeutic Actions (Karma) of Karvira

Karma	English Equivalent
Kushthaghna	Alleviates skin diseases including leprosy
Vranashodhana	Cleanses wounds
Vranaropana	Promotes wound healing
Krimighna	Anthelmintic and antimicrobial
Kandughna	Antipruritic (relieves itching)
Hridya	Cardiotonic / beneficial for the heart
Rasa-Raktashodhaka	Purifies Rasa and Rakta Dhatu
Shirovirechaka	Errhine (nasal cleansing purgative)
Valipalitaghna	Anti-ageing (wrinkles and greying)
Jwaraghna	Antipyretic

5.1 Useful Parts of the Plant

Classical and modern sources identify the following parts as therapeutically useful: Mula (roots), Mula Twak (root bark), Patra (leaves), Pushpa (flowers), Phala (fruits), and Bija (seeds). The roots and leaves are the most

commonly employed parts in both Ayurvedic formulations and modern pharmacological investigations [4,5,9].

6. Phytochemical Profile

Modern phytochemical investigations have identified a rich array of bioactive compounds in *Nerium indicum*, distributed across different plant parts. The major classes of phytoconstituents include cardiac glycosides, triterpenes, sterols, flavonoids, and other secondary metabolites [9,10,19].

6.1 Root Bark

The root bark contains plumericin, alpha-amyrin, beta-sitosterol, kaempferol, and cardioactive glycosides including odorosides [9,19].

6.2 Leaves

The leaves are particularly rich in cardiac glycosides. Key constituents include kaneroside, neriumoside, digitoxigenin, alpha-L-oleandroside, 5-alpha-adynerin, gentiobiosyl-oleandrin, odoroside A, oleandrin, and neriine. Neriine has been reported to possess potent cardiotonic activity comparable to that of digitalin [10,19,20].

6.3 Flowers and Seeds

The flowers contain ursolic acid, rutin, and kaempferol glycosides. The seeds yield oleandrin, neriin, and fatty acids [19].

Table 5: Major Phytoconstituents of Nerium indicum

Plant Part	Primary Constituents	Other Constituents
Root bark	Plumericin, alpha-amyrin, beta-sitosterol	Kaempferol, odorosides
Leaves	Oleandrin, neriine, kaneroside, neriumoside	Digitoxigenin, odoroside A, adynerin
Flowers	Ursolic acid, rutin	Kaempferol glycosides
Seeds	Oleandrin, neriin	Fatty acids

7. Modern Pharmacological Evidence

Contemporary pharmacological research has validated multiple therapeutic activities of *Nerium indicum* that correspond to its classical Ayurvedic indications. The major pharmacological activities are discussed below.

7.1 Antibacterial Activity

Chauhan et al. (2013) demonstrated significant antibacterial activity of *N. indicum* leaf extracts against gram-positive bacteria [21]. Hussain and Gorsi (2004) reported in vitro antimicrobial activity of *N. oleander* root bark and leaf extracts against *Bacillus pumilus*, *Bacillus subtilis*, *Staphylococcus aureus*, *Escherichia coli*, and *Aspergillus niger*. The chloroform, ethanol, and methanol extracts demonstrated particularly high activity [22]. This antibacterial profile provides a modern pharmacological rationale for the Kushthaghna and Vranashodhana properties described in classical Ayurvedic texts.

7.2 Antifungal Activity

Dey and Chaudhuri (2014) reported antifungal activity of the 50% ethanol fraction of *N. indicum* leaves against *Aspergillus niger* and *Candida albicans* [23]. This activity is consistent with the Krimighna action attributed to Karvira in the classical literature.

7.3 Cardiotonic Activity

The cardiostimulatory effect of crude ethanolic extract of *N. oleander* leaves has been demonstrated on an isolated pig cardiac model by Adome et al. (2003). Under the influence of 100 mg/ml extract concentration, the heart-beat rate increased from 28 to 41 beats/min, blood flow volume increased from 0.4 to 1.9 ml/min, and the amplitude of myocardial contraction increased from 22 to 49 mm. Notably, these effects exceeded those of the positive controls acetylcholine and adrenaline [24]. The cardiac glycosides oleandrin and neriine are the likely mediators of this activity, validating the Hridya property described in Ayurvedic pharmacology.

7.4 Anti-inflammatory and Analgesic Activity

Singh et al. (2020) reviewed the anti-inflammatory and analgesic properties of *N. indicum*, attributing these activities to its flavonoid and triterpene constituents. The plant extracts have demonstrated inhibition of

carrageenan-induced paw oedema in animal models, supporting its traditional use in inflammatory skin conditions [9].

7.5 Antidiabetic Activity

Hypoglycaemic activity of *N. indicum* leaf extracts has been reported in streptozotocin-induced diabetic rat models, with significant reduction in fasting blood glucose levels. The mechanism is hypothesised to involve enhanced peripheral glucose uptake and insulin sensitisation [9,25].

7.6 Antioxidant Activity

The methanolic extract of *N. indicum* leaves has demonstrated free radical scavenging activity in DPPH and ABTS assay systems, attributable to its polyphenol and flavonoid content. This antioxidant activity is pharmacologically relevant to its Rasayanika (rejuvenative) and Valipalitaghna properties described in Nighantu Adarsha [9,23].

7.7 Anticancer Activity

Oleandrin, the principal cardiac glycoside of *N. indicum*, has attracted significant attention for its anticancer potential. Studies have reported cytotoxic activity against multiple cancer cell lines including pancreatic, breast, prostate, and lung cancer cells [10]. The mechanism involves inhibition of the Na+/K+-ATPase pump, induction of apoptosis, and modulation of signalling pathways. Oleandrin-based preparations (Anvirzel™) have been evaluated in Phase I clinical trials [26].

7.8 Hepatoprotective Activity

Hepatoprotective activity of *N. indicum* flower extracts against carbon tetrachloride-induced hepatotoxicity has been demonstrated, with significant normalisation of liver enzyme levels (SGOT, SGPT, ALP) and histopathological improvement [9].

Table 6: Correlation between Ayurvedic Properties and Modern Pharmacological Activities

Ayurvedic Property	Modern Activity	Proposed Mechanism
Kushthaghna	Antibacterial, Antifungal	Antimicrobial action on skin pathogens
Vranashodhana / Ropana	Wound healing, Anti-inflammatory	Promotion of tissue repair
Krimighna	Antifungal, Antibacterial	Broad-spectrum antimicrobial action
Hridya	Cardiotonic (oleandrin, neriine)	Positive inotropic and chronotropic effects
Kandughna	Anti-inflammatory, Antihistaminic	Reduction of inflammatory mediators
Jwaraghna	Antipyretic	Prostaglandin inhibition (proposed)
Valipalitaghna	Antioxidant	Free radical scavenging activity

8. Toxicological Considerations

A critical aspect of Karvira pharmacology is its well-documented toxicity. All parts of the plant contain toxic cardiac glycosides, with oleandrin being the principal toxic constituent. Ingestion of Karvira can produce nausea, vomiting, abdominal pain, diarrhoea, cardiac arrhythmias, hyperkalaemia, and potentially fatal cardiac arrest [5,27]. This toxicological profile explains the consistent recommendation across classical Ayurvedic texts—particularly Dhanvantari Nighantu and Kaiyadeva Nighantu—for exclusively external application of Karvira preparations [11,14]. The ancient Acharyas' awareness of this toxicity and their corresponding restriction to topical use demonstrates a sophisticated understanding of the risk-benefit ratio in Ayurvedic drug prescription.

9. Discussion

This review demonstrates a remarkable convergence between the classical Ayurvedic descriptions of Karvira and the findings of modern pharmacological research. The Kushthaghna and Vranashodhana properties, which constitute the primary therapeutic indications across all classical sources, are substantiated by the demonstrated antibacterial and antifungal activities against skin and wound pathogens [21–23]. The Hridya property, while not a primary indication, finds a powerful correlate in the potent cardiotonic activity mediated by oleandrin and neriine [24]. The Krimighna action is supported by the broad-spectrum antimicrobial activity, and the Valipalitaghna property described in Nighantu Adarsha corresponds to the documented antioxidant potential [9,23].

The restriction to external use prescribed by the classical Acharyas reflects an empirical awareness of the systemic toxicity of cardiac glycosides, a fact that was scientifically established only in the modern era [27]. This observation underscores the depth of clinical observation and pharmacological acumen embedded in the classical Ayurvedic tradition.

The anticancer potential of oleandrin represents a particularly promising avenue for future research. The progression from traditional anti-Kushtha (anti-leprotic/anti-dermatosis) use to modern anticancer investigation illustrates the concept of reverse pharmacology, whereby classical therapeutic leads serve as the starting point for modern drug discovery [26,28]. Given the documented cytotoxicity of oleandrin against multiple cancer cell lines and the initiation of clinical trials, Karvira may emerge as a significant source of anticancer lead molecules.

Several gaps in the current evidence base warrant attention. Most pharmacological studies have employed crude extracts, and standardised, bioassay-guided fractionation studies are needed to isolate and characterise the specific active principles responsible for each therapeutic activity. Clinical studies validating the efficacy and safety of Karvira-based external preparations in dermatological conditions are conspicuously absent. Furthermore, the yellow (*Thevetia peruviana*) and black varieties described in Raj Nighantu require separate pharmacological evaluation, as their therapeutic profiles may differ significantly from *N. indicum* [8].

10. Conclusion

Nerium indicum Linn. (Karvira) is a pharmacologically significant medicinal plant with a rich classical heritage and substantial modern scientific validation. The classical Ayurvedic literature, spanning the Brihattrayi and seven major Nighantus, consistently describes Karvira as an important Kushthaghna, Vranashodhana, Vranaropana, Krimighna, and Hridya Dravya, with a clear emphasis on external application. Modern pharmacological research has validated these classical indications through demonstrated antibacterial, antifungal, cardiotonic, anti-inflammatory, antidiabetic, antioxidant, hepatoprotective, and anticancer activities. The convergence of ancient Ayurvedic knowledge with modern scientific evidence affirms the therapeutic rationale articulated by the classical Acharyas and supports the continued exploration of Karvira as a source of clinically useful phytomedicines. Standardised clinical trials on Karvira-based topical formulations, bioassay-guided isolation of active principles, and toxicological safety profiling represent the critical next steps in translating this classical knowledge into evidence-based clinical practice.

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