

An overview of Nimba (*Azadirachta indica*) - A boon to nature

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Introduction

Nimba (*Azadirachta indica* A. Juss, Meliaceae) has been used in *Ayurvedic* medicine since ancient times.^{1,2} *Ruksha*, *Sita* (*Virya*), *Katu* (*Vipaka*), *Tikta* (*Rasa*), *Laghu*, and many of its therapeutic areas, including fever, jaundice, and worms, *Kusta*, (leprosy and skin illness), diabetes, and wounds, are the main areas of therapy.^{3,4} In five components (bark, leaf, root, seed, and flower), it can be employed singly or in combination according to the situation (Panchang).⁵ The Meliaceae family includes the big, evergreen *Nimba* tree, which is 12–18 meters tall and has a virtually straight trunk. It is widely distributed among deciduous trees in India. In Hindi, the plant is generally referred to as *Nimb* or *Neem*. *Nimba* is frequently used in *Ayurvedic*, Unani, and Homeopathic medical systems.⁶

Imparipinnate, with glorious leaves that alternate between 20 and 38 cm long. Leaflets that are acuminate, bluntly serrated, opposite sub opposite, or alternative are 8–19. Numerous axillary panicles and pedicles give birth to fragrant white or light-yellow blooms. When ripe, the fruits are rectangular, greenish-yellow, one-seeded drupes.⁷

Aim and Objective

- To assess the *Nimba* using the principles of *Ayurveda*.

Techniques

Materials pertaining to *Nimba* were gathered from a variety of books and magazines, *Ayurvedic* and modern textbooks, scholarly papers, prestigious reviews, manuscripts, etc. Nomenclature in Science *Azadirachta indica*.

Synonyms⁸ - *Arishtaphala*, *Neta*, *Shukpriya*, *Jeshtamalak*, *Arishta*, *Pichumarda*, *Tiktaka*, and *Hinguniryasa*.

Habitat - Deciduous forests are commonly grown throughout India.

Distribution by Geography -⁹ It is found throughout most of India, however it cannot grow and flourish in regions with high rainfall (more than 75 inches).

Parts used - flowers, seeds, leaves, Bark and oil

Species - *Melia azadarach* Linn. The plants are rather big trees, reaching a height of 14 feet, with a dense crown and a low, upright trunk. Its traditional name is *Mahanimba* [10].

Chemical Components - The *Azadirachta indica* plant yielded over 100 distinct chemical components. They are members of several groups, including butenolides, limonoids, triterpenoids, and a small number of nontriterpenoid components. Melianone, Nimboctin, Behenic, Nimbandiol, Nimbinene, Nimocinone, Azadirachtin, Azadirachnol, carbohydrates, Culactone, Lupeol, Cycloeucaenol, Tannin, Beta Sitosterol,

Gedunin, Nimocinol, Nimolinolic acid, Nimbolins A and B, Sitosterol, Catechol, Vanilic acid, Kulinone, Sugiol.^{11,12}

Rasa-Panchak of Nimba

- *Rasa - Tikta*
- *Virya - Sheeta*
- *Vipaka - Katu*
- *Guna - Laghu*
- *Prabhav - Krimihara*

Activities according to Modern Pharmacology

Male contraception, antineoplastic, anticancer, antiviral, antibacterial, antifungal, anthelmintic, hypoglycaemic, antitubercular, antimicrobial, diuretic, hypotensive, antigastric, analgesic, antipyretic, sedative, central nervous system (CNS) depressant, and spasmogenic chemicals.

Uses & Actions

The oil extracted from seeds is used to treat leprosy and eczema since it is believed to have antiseptic properties. *Neem* oil is beneficial for ulcers and chronic skin conditions, and it also contains antibacterial, antifungal, and anti-infertility properties. Warm oil is used to relieve gum, dental, and ear problems. One of the component constituents used for diabetic patients is leaves. Its branches are used as a toothbrush to clean the teeth. To treat cuts, sprains, and enlarged glands, a warm infusion of its leaves is used as an anodyne. The fruit's gum is reported to be proteolytic, stimulant, and tonic.

Doses¹³

- In adults, 10 to 40 ml
- Bark powder: two to five grams;
- Oil: five to ten drops
- Leaf Juice: 10–20 ml

Therapeutic Evaluation

Skin Conditions -Nimbidin has demonstrated efficacy in treating several skin conditions, including burn ulcers, scabies, furunculosis, and herpes labial infections. 70% alcohol is used to extract dry leaves, which are then dried and dissolved in propylene glycol (4:6) to treat a variety of skin fungal infections. *Neem* lotion administered externally twice a day for three days in a row was shown to be quite effective in treating scabies. A lotion was added to treat ringworm infections in 4–8 days.¹⁴

Worm Infestations - 100 gm of the extract was made from 10 kg of neem leaves; 3 gm of the extract was given orally to patients as a single dosage on an empty stomach, showing excellent anthelmintic qualities, particularly for roundworms.¹⁵

Anti-Fungal Activities - Nimba Kid was taken from the trees and examined using high-performance liquid chromatography (HPLC) for phenolic acids in a white milk-based liquid secretion. The phenolic acids found

were salicylic, coffee, vanillic, o-coumaric, and citric acids. Ethyl acetate was further broken down and several fungi for anti-fungal action were checked against it. It was determined to be strongly in vitro anti-fungal.

Conclusion

Ayurveda is an ancient Indian system of herbal and medicinal medicine. *Ayurveda* is referred to as "The Philosophy of Creation." One of the most potent Ayurvedic medications is nimba. As a *Bahya* and *Abhyantara Aushadhi*, *Nimba* is frequently utilized to treat a variety of illnesses without producing any negative side effects. In certain long-term, chronic cases of leprosy and other skin conditions, as well as ingesting, atonic dyspepsia, and overall exhaustion, it tends to be quite important. However, a significant obstacle to *Nimba's* widespread use and adoption is its extreme scarcity.

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