

## A brief review study on *Nimba* (*Azadirachta indica*) - A nature's gift

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### Abstract

Nimba (*Azadirachta indica* A. Juss, Meliaceae) has been used extensively in Ayurveda. In different ailments, all five sections of Nimba (root, bark, leaves, herb, fruit) were used separately or collectively in Panchanga. Except for an occasionally accessible component of Nimba, known as Nimba, which is sweet in taste and demands special care, all parts of Nimba are mainly bitter in taste. Nimba is a milky sweet liquid that naturally oozes from the Nimba tree's trunk, large leaves, and roots. Free sugars, amino acids and organic acids are found in Nimba. Nimba is one of Ayurveda's most effective and widely used herbal medicines. A herb with antibacterial, antifungal, anthelmintic, diuretic, hypotensive, analgesic, male contraception effects is readily available. Nimba stimulates the immune system. Complete medicinal applications include almost all aspects of the plant, which are flowers, leaves, bark, fruit, seeds and roots. Azadirachtin, Azadirachnol, Melianon, Nimocin, Nimboctin etc are the chemical constituents of Nimba. Decoction from Nimba leaves is very effective in treating female disorders locally.

**Keywords:** azadirachta indica, medicinal drug, nimba etc

### Introduction

The Ayurveda medicine is used since ancient times by Nimba (*Azadirachta indica* A. Juss, Meliaceae) [1, 2]. Main therapy areas are Laghu, Ruksha, Tikta (Rasa), Katu (Vipaka), Sita (Virya), and many of its therapeutic areas such as fever, piling and jaundix and worms, kusta, (leprosy and skin disease), diabetes and wound [3, 4]. It is used separately or collectively in five sections (bark, leaf, root, seed, Flower) in various circumstances (Panchang) [5]. Nimba is a large, evergreen, 12-18 m tall tree with a nearly straight trunk that belongs to the Meliaceae family. In India, in deciduous trees, it is spread thought out. The plant is commonly known as Nimb or Neem in Hindi. In the Ayurvedic, Unanai & Homopathic systems of medicine, Nimba is commonly used [6]. Imparipinnate, alternating 20-38cm long & glabrous leaves. 8-19, opposite sub opposite or alternate, acuminate & bluntly serrate are leaflets. White or light yellow colored flowers are fragrant and are born in various axillary panicles and pedicles. When ripe, the fruits are one seeded drupes, oblong & greenish yellow [7].

### Aim and Objective

To evaluate the Study of *Nimba* According to *Ayurvedic Classics*.

### Methodology

Nimba-related materials were collected from various journals and books, Ayurvedic and contemporary textbooks, authoritative articles, esteemed reviews literature, manuscripts, etc.

### Scientific Nomenclature

*Azadirachta indica*.

### Synonyms

*Melia Azadirachta* Linn.

### Classical Names [8]

Tiktaka, Hinguniryasa, Arishtaphala, Neta, Shukpriya, Jeshtamalak, Arishta, Pichumarda.

### Habitat

Throughout India, in deciduous forests also widely cultivated.

### Geographical Distribution [9]

It is spread in most parts of India; in heavy rainfall areas, it does not develop and thrive (more than 75 inches of rains)

### Parts used

Leaves, flowers, seed, Bark, oil

### Species

#### *Melia azedarach* Linn

The plants are relatively tall trees up to 14 in height with a low erect trunk and a thick crown. Mahanimba is its classical name [10].

### Chemical Constitutes

Approximately 100 chemical constituents from the *Azadirachta indica* plant were isolated. They belong to various groups, such as triterpenoids, limonoids, butenolides, and few nontriterpenoid constituents. Azadirachtin, Azadirachnol, Melianone, Nimboctin, Behenic, Nimbandiol, Nimbinene, Nimocinone, Carbohydrate, Amino acids, Tannin, Beta Sitosterol, Gedunin, Nimocinol, Nimolinolic acid, Nimbolins A & B, Cycloeucaenol, Culactone, Lupeol, Sitosterol, Catechol, Vanilic acid, Kulinone, Sugiol [11, 12].

### Ayurvedic Properties

- Rasa -Tikta, Kashaya
- Guna - Laghu
- Virya -Sheeta
- Vipaka –Katu

### Pharmacological Activities

Anti-cancer, Anti-viral, Antibacterial, Antifungal, Anthelmintic, Hypoglycaemic, Antitubercular, Antimicrobial, Diuretic, Hypotensive, Antigastric, Analgesic, Anti-pyretic, Sedative, Depressant of the CNS (Central Nervous System), Male Contraception, Antineoplastic, Spasmogenic.

### Actions & Uses

- The oil derived from seeds is known to be antiseptic and is used in eczema and leprosy.
- Neem oil has anti-infertility, antimicrobial and antifungal effects and is useful for chronic skin diseases and ulcers.
- To ease ear, dental & gum issues, warm oil is used.
- Leaves for diabetes patients are also used as one of the compound constituents.
- To protect the teeth, its branches are used as a toothbrush.
- As anodyne for the formatting of cuts, sprains & swollen glands, a heated infusion of its leaves is used.
- Proteolytic, stimulant & tonic are known as the gum derived from the fruit.

### Doses <sup>[13]</sup>

- 10 – 40 ml in adults
- Bark powder: 2- 5 gms
- Oil: 5 to 10 drops
- Leaf Juice: 10-20ml

### Therapeutic Evaluation

#### Skin Disease

- Nimbidin is shown to be effective in various skin diseases such as herpes labial infections, scabies, furunculosis, burn ulcers. Dry leaves are extracted with 70% alcohol, the extract dried and dissolved in propylene glycol (4:6) is used in various fungal infections of the skin.
- Lotion of Neem applied externally twice daily for 3 consecutive days was found to be highly successful in scabies.
- Ringworm infection was treated in 4-8 days added in the form of a lotion <sup>[14]</sup>.

#### Worm Infestations

- From 10 kg of Neem leaves, 100 gm of the extract was obtained; 3 gm of the extract was administered orally to patients as a single dose in an empty stomach, exhibiting remarkable anthelmintic properties, especially for round worms <sup>[15]</sup>.

#### Dental Problem

- In the treatment of bleeding gums pyorrhea, Nimbidin gargles & denitrifies are successful.

### Anti-Fungal Activities

- Nimba Kid was harvested from the trees and tested for phenolic acids by the HPLC for the white milk-based liquid secretion (high performance liquid chromatography). Coffee, vanillic, o-coumaric, cinnamic acid, and salicylic acids were the phenolic acids detected. 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

The Ancient Indian Method of Herbal and Therapeutic Medicine is Ayurveda. The Philosophy of Creation" means Ayurveda." Nimba is one of Ayurveda's most effective medicinal medicines. Nimba is commonly used as a Bahya & Abhyantara Aushadhi in diverse diseases without causing any side effects. It tends to be of great importance in some chronic and long-standing cases of leprosy and other skin diseases, ingestion, atonic dyspepsia, and general fatigue. However, Nimba is highly scarce and this is a major drawback to its normal practice of use and adoption.

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**Conflict of Interest:** Nil

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