



A CONCEPTUAL STUDY ON *NIMBA* (*Azadirachta indica*) AND ITS THERAPEUTIC ACTIVITY ON DIFFERENT DISEASES

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ABSTRACT

In Ayurveda, nimba (*Azadirachta indica* A. Juss, Meliaceae) has been widely employed. All five parts of Nimba (root, bark, leaves, herb, and fruit) were utilised individually or all at once in Panchanga to treat various diseases. All portions of Nimba, with the exception of the sometimes accessible Nimba, which has a sweet flavour and necessitates particular handling, are primarily bitter in flavour. Nimba is a milky, sweet liquid that flows spontaneously from the roots, huge leaves, and trunk of the Nimba tree. Nimba contains free sugars, amino acids, and organic acids. One of the most popular and efficient herbal remedies in Ayurveda is nimba. There is a freely accessible plant having effects on male contraceptive, antibacterial, antifungal, anthelmintic, diuretic, hypotensive, and analgesic. Nimba boosts immunological function. Almost all parts of the plant, including the flowers, leaves, bark, fruit, seeds, and roots, can be used medicinally. Nimba's chemical make-up includes azadirachtin, azadirachnol, melianon, nimocin, nimocetin, etc. Female diseases can be effectively treated locally using a decoction made from nimba leaves.

Keywords: Nimba, *Azadirachta indica*, medicinal Plant, etc.

Introduction

Nimba has taken Ayurvedic treatment for a very long period (*Azadirachta indica* A. Juss, Meliaceae). Laghu, Ruksha, Tikta (Rasa), Katu (Vipaka), and Sita (Virya) are the main therapeutic regions, and many of its therapeutic areas include fever, piling and jaundix and worms, kusta (leprosy and skin illness), diabetes, and wounds. 3,4. It has five parts (bark, leaf, root, seed, and flower), which are utilised individually or all together in a variety of situations (Panchang). 5 The Meliaceae family includes the massive, virtually straight-trunk, 12–18 m tall Nimba tree. It is an evergreen tree. It is widely used in India's deciduous trees. In Hindi, the

plant is referred to as nemb or nimb. Nimba is often utilised in the Ayurvedic, Unanai, and homoeopathic systems of medicine. 6 Imparipinnate, 20-38 cm long, glabrous leaves that alternate. Leaflets are 8–19, opposite sub-odd or alternating, acuminate & bluntly serrate. Flowers with a sweet scent that are white or light yellow in colour are produced in a variety of axillary panicles and pedicles. The fruits are rectangular, one-seeded drupes that are greenish yellow when ripe. 7

Methodology

Materials about nimba were gathered from a variety of publications, books, Ayurvedic and modern textbooks, reputable articles, acclaimed reviews, papers, etc.

Scientific Nomenclature:

Azadirachta indica.

Synonyms:

Melia Azadirachta Linn.

Classical Names⁸:

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

Habitat:

In deciduous woods all throughout India, cultivation is also very common.

Geographical Distribution⁹:

It is widespread over much of India; however, it does not grow or flourish when there is a lot of rainfall (more than 75 inches of rains)

Parts used:

Leaves, flowers, seed, Bark, oil

Species:

***Melia azedarach* Linn** The plants are trees that grow to a height of up to 14 feet, with a low, upright trunk, and a dense crown. Its traditional name is Mahanimba. ¹⁰.



Chemical Constitutes

From the *Azadirachta indica* plant, over 100 chemical components were extracted. Triterpenoids, limonoids, butenolides, and a few other nontriterpenoid elements are just a handful of the categories to which they belong. Nimboctin, Behenic, Nimbandiol, Nimbinene, Nimocinone, Azadirachtin, Azadirachnol, Melianone, Carbohydrate, Amino Acids, Tannin, Beta Sitosterol, Gedunin, Nimocinol, Nimolinolic Acid, Nimbolins A and B, Cycloeucalenol, Culactone, Lupeol, Sitosterol, Catechol, Vanilic Acid, Kulinone, Sugiol^{11,12}, Sitosterol, Culactone, Lupeol, Sitosterol, Cate

Ayurvedic Properties

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

Pharmacological Activities

Antineoplastic, Anticancer, Antiviral, Antibacterial, Antifungal, Anthelmintic, Hypoglycaemic, Antitubercular, Antimicrobial, Diuretic, Hypotensive, Antigastric, Analgesic, Antipyretic, Sedative, Depressant of the CNS (Central Nervous System), Male Contraception, Anti-viral, Anti-Viral, Anti-Bacterial, Antifungal, Antimicrobial, and Spasm

ACTIONS & USES

- Seed oil is believed to be antiseptic and is used to treat leprosy and dermatitis.
- Neem oil may treat ulcers and chronic skin conditions, and it also contains anti-infertility, antibacterial, and antifungal properties.
- Warm oil is used to alleviate ear, tooth, and gum problems.
- One of the components of the substance also includes leaves for diabetic people.
- Its branches are used as a toothbrush to clean the teeth.
- A warm infusion of the plant's leaves is employed as an anaesthetic for the treatment of wounds, sprains, and swollen glands.
- Fruit-derived gum is a recognised proteolytic, stimulant, and tonic.

Doses¹³

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

Therapeutic Evaluation

Skin Disease

- Nimbidin has been shown to be effective in treating a variety of skin disorders, including burn ulcers, herpes labialis, scabies, and furunculosis.
- Dry leaves are extracted with 70% alcohol, dried, and then dissolved in propylene glycol to treat various fungal skin disorders (4:6).
- Neem lotion used externally twice daily for three days straight has been shown to be quite beneficial in treating scabies.
- For 4 to 8 days, a lotion was used to cure ringworm.

Worm Infestations

- 100 gm of extract from 10 kg of neem leaves was produced; 3 gm of the extract was given to patients orally as a single dosage on an empty stomach and showed outstanding anthelmintic activities, notably for round worms¹⁵.

Dental Problem

- Nimbidin gargles and denitrifies are effective for treating bleeding gum pyorrhea.

Anti-Fungal Activities-

- A white milk-based liquid secretion known as Nimba Kid was obtained from the trees and analysed for phenolic acids using HPLC (high performance liquid chromatography). The phenolic acids identified included vanillic, o-coumaric, cinnamic, and salicylic acids from coffee. After being further broken down, ethanol was tested against numerous fungi to see whether it had any anti-fungal properties. It was shown to have potent in vitro antifungal properties.

Conclusion

The traditional Indian system of herbal and therapeutic medicine is known as ayurveda. One of the most effective therapeutic treatments in Ayurveda is nimba. Ayurveda is implied by The Philosophy of Creation. As a Bahya & Abhyantara Aushadhi, Nimba is commonly used to treat a number of illnesses without causing any unfavourable side effects. In certain severe and lengthy cases of leprosy, other skin disorders, eating, atonic dyspepsia, and general fatigue, it frequently plays a substantial role. Nimba, however, is incredibly uncommon, which is a major drawback to its usual use and adoption.

Source of Support: Nil.

Conflict of Interest: Nil

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