

AN OVERVIEW ON NIMBA (AZADIRACTA INDICA) AND ITS THERAPEUTIC
EFFECT ON DIFFERENT DISEASES

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ABSTRACT

Azadirachta indica (Nimba), also called as “Divine tree” because of its many health properties. In recent times, Nimba have been shown to work from anywhere from insect repellent, to supplements to lower inflammation, diabetic control, and even to combat cancer. Herein, we state the health benefits found in diverse compounds and extracts derived from Nimba, and highlighting the mechanisms and pathways in which nimba compounds produce their effects. Nimba was found to be the source of various bioactive compounds of medicinal and cosmetic importance. The earliest Sanskrit medical writings refer to the benefits of its fruits, seeds, oil, leaves, roots, and bark. Each of these has been widely used in Chinese, Ayurvedic, and Unani medicines worldwide especially in Indian Subcontinent.

KEYWORDS: Nimba, Ayurveda, Unani, Bioactive, Pathways, Subcontinent.

INTRODUCTION

Nowadays, Neem is used to reference the Azadirachta indica. In the vedic literature nimbi is delineated several times. The Neem tree, is primarily cultivated in the southern regions of Asia and Africa,^[1] where it has been seen used through many ages. We should note that various parts of the Neem tree, including the leaves, bark, fruit, flowers, oil, and gum are associated with the medicinal properties which helps in the treatment of certain medical conditions such as cancer, hypertension, heart diseases, and diabetes. Nimba is having Laghu, Ruksha guna, Tikta (Rasa), Katu (Vipaka), and Sita Virya.^[2] Nimba is often utilised in the Ayurvedic, Unani, and homoeopathic systems of medicine. Nimba ingredients are applied in Ayurveda, Unani, Homeopathy, and Modern Medicine for the treatment of many infectious, metabolic, or cancer diseases. Azadirachta indica (Nimba) has complex of various constituents including nimbin, nimbidin, nimbolide, and limonoids,^[3] and such types of ingredients play role in different type of disease.

As Nimba has been renowned for healing as it is packed with antibacterial, anti-inflammatory, antiparasitic, analgesic, wound healing and antifungal properties that not only gives benefits to health but also solves many beauty problems. In this article an attempt is made to overview the detail description of nimbi with its medicinal utility in different diseases.

Classical Names^[4]

- Tiktaka
- Subhadra
- Prabhadra
- Shukapriya
- Jeshtamalak
- Arishta,
- Hinguniryasa
- Arishtaphala
- Pichumarda

Geographical Distribution^[5]

Nimba tree belongs to the family Meliaceae which is found in abundance in tropical and semitropical regions like India, Bangladesh, Pakistan, and Nepal. 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).

Botanical Description Of Nimba^[6]

It is a large tree with fast growing with 20–23 m tall and trunk is straight and has a diameter around 4-5 ft. The leaves are compound, imparipinnate, with each comprising 5-15 leaflets. Its fruits are green drupes which turn golden yellow on ripening in the months of June-August. Flower in February-April and fruits during June- August.

Nimba Properties As Per Ayurvedic Literature

As per ayurvedic literature Nimba Rasa (Taste) is Tikta and Kashaya, Guna (Qualities) are Laghu, Ruksha, Veerya (Potency) is Sheeta and Vipaka (Post-digestion effect) is Katu.^[7]

Its Karma (Pharmacological activity) are Kaphaghna and Pittaghna. Nimbapatra is shothghn, twagadoshahar, krimighna, kushthahar, vranashodhak and vranaropak. Nimbawak is graahi, jwaraghna, twagadoshahar & krimighna. Nimba fruit is useful in kushtha, Gulma, krimi & pramehanashak. Nimba tail is vranashodhak, vranaropak, vaathar, kushthaghna & krimighna.

Active components of azadirachtaindica l. (nimba)

Azadirachta indica L. (Nimba) shows therapeutics role in various diseases due to presence of various active components such as nimbolinin, nimbin, nimbidin, nimbidol, sodium nimbinate, gedunin, salannin, and quercetin. Other than this nimbi also contain ingredients such as nimbin, nimbanene, 6- desacetylnimbinene, nimbandirol, nimbolide, ascorbic acid, n-hexacosanol and amino acid, 7-desacetyl-7- benzoylazadiradione, 7-desacetyl-7-benzoylgedunin, 17-hydroxyazadiradione, and nimbiol Azadirachtaindica A. Juss. (Nimba), several bioactive triterpenoids, Carbohydrate, Amino Acids, and Tannin.^[8-9]

Pharmacological Activities

Nimba is having 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 and Antimicrobial activities.

Therapeutic Uses^[10]

- Nimba seed oil is believed to be antiseptic in nature and is used to treat leprosy and dermatitis, ulcers and other chronic skin conditions.
- Nimba seed warm oil is used to alleviate ear, tooth, and gum problems.
- A warm infusion of the plant's leaves is employed as an anaesthetic for the treatment of wounds, sprains, and swollen glands.
- In shitapitta nimbi leaves and amalaki dried fruits are mixed with ghee and given regularly.
- In jwara leaves, root, fruits and bark of neem are mixed with ghee for fumigation.
- Nimba and patola together are used for different type of kushtha.

Effect Of Nimba In Some Of Diseases

1. Effect of Nimba as Anti-Inflammatory agent

A study revealed that, extract of Azadirachta indica (nimba) leaves in a dose of 200 mg/kg, p.o., showed significant anti-inflammatory activity in cotton pellet granuloma assay in rats.^[11] Nimba leaf extract showed

significant anti-inflammatory effect but it is less efficacious than that of dexamethasone.^[12]

2. Antibacterial Activity

Nimba seed oil has suppressed several species of pathogenic bacteria, including Staphylococcus aureus. An experiment was made to evaluate the antibacterial activity of the bark, leaf, seed, and fruit extracts of Azadirachta indica (Nimba) on bacteria isolated from adult mouth and results revealed antibacterial activity against all the test bacteria used.^[13]

3. Antifungal Activity

Alcoholic extract of Nimba leaf was found most effective in retarding the growth of fungal species.^[14] Another finding showed the antimicrobial role of aqueous extracts of Nimba cake in the inhibition of spore germination against three sporulating fungi such as C. lunata, H. penniseti, and C. gloeosporioides.^[15]

4. Role of Nimba in Dentistry

A study confirmed that A.indica mouth rinse is equally effective in reducing periodontal indices as chlorhexidine.^[16] Chloroform extract showed strong activity against Streptococcus salivarius and third strain Fusobacterium nucleatum was highly sensitive to both ethanol and water extract.^[17]

5. Helps To Treat Leprosy

Nimba seed oil can be used to treat leprosy. The study also claims that Nimba is non-mutagenic, which means it doesn't lead to any undesirable changes in the DNA of the individual.^[18]

6. Skin care study^[19]

The topical use of Nimba oil with haridra was found to treat chronic non-healing wounds. Nimba oil seed stimulates collagen production which slows down the aging process of the skin. Regular usage of Nimba oil not just smoothens wrinkles but also makes your skin look young and glowing.

Nimba oil, with all its remedial properties, treats your scalp thereby enhancing the beauty of your hair. Nimba oil not just moisturizes your hair but also works on keeping your scalp healthy.

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