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## Online market survey of formulations of Nimba

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#### Abstract

Nimba (*Azadirachta indica*) is one of the important medicinal plant which is described by the various ancient authors of ayurvedic formulations with great therapeutic importance and cure various diseases. The neem tree is regarded as 'village dispensary' in India and used as traditional medicine for household remedies against various human ailments. Hence it has been used extensively in Unani, Ayurvedic and Homeopathic medicine. The pharmacological potential of *Azadirachta indica* has been exploited effectively in formulations of nimba which are commercially available in market.

**Keywords:** *Azadirachta indica* A. Juss, nimbin, skin disorders, stem bark, Pilex

#### 1. Introduction

According to Ayurveda, neem leaves are useful in treating all sorts of pitta, kapha and vata-related disorders [1]. For centuries, people in India have been using neem twigs for cleaning their teeth, neem leaf juice for treating skin infection and as tonic, and neem extracts to keep bugs away. Found over most of the forested regions of the Indian Subcontinent, the Neem tree can thrive in climates that range from hot, or tropical (45 °C) to altitudes of Semi-temperate, higher altitude regions, with temperatures slightly above freezing. Used in Indian Ayurvedic medicine for more than 2000 years the neem tree's bark, leaves, seeds and roots can be made into various medicinal remedies for a wide range of ailments, ranging from anti-haemorrhoids and loss of appetite, to leprosy and other skin disorders.

For generations, Indian medicinal practitioners have made poultices from neem leaves to cure skin diseases such as boils, ulcers, eczema and ring worm. More serious diseases such as chicken pox and small pox have been treated with neem tree pastes; and even people suffering from herpes and hepatitis B viruses have obtained relief from neem tree preparations [2].

The oil contains quantities of steroids including  $\beta$ -sitosterol (used to treatment suffering from enlarged prostate glands) as well as linoleic and oleic acids (omega 6 & 9), and is found to contain the well-known omega 3 fatty acid (used to prevent arterial sclerosis. In addition to its medicinal properties, neem oil is also used as a base for variety of organic cosmetics including soaps, shampoos, hand and body lotions and creams. It is also used as an organic bio pesticide repellent against insects such as Japanese beetles, meal worms and aphids.

Indian scientists were the first to bring the plant to the attention of phytopharmacologists. In 1942, at the scientific and Industrial Research Laboratory at Delhi University, three bitter compounds were extracted from neem oil, which were named nimbin, nimbinin and nimbidin. The seeds contain a complex secondary metabolite azadirachtin.

#### 2. Methodology

##### 2.1 Background of Drug

With the help of background of drug the researcher can follow the chronological method to describe the presence of nimba in various literatures and texts from ancient till date.

##### 2.2 Market Survey of Formulations of Nimba

In market different formulations of nimba are available. There are various proprietary formulations on nimba prepared by different companies. Table 2 provides details of such products available in the market which have supporting evidence in the form of scientific publications. Table 3 describes lists of selected herbal products which contain nimba extracts available in the market. Table 4 describes neem formulation according to different ayurvedic texts. Table 5 describes neem formulations according to Siddha text. Table 6 describes neem formulations according to Unani text.

**Table 1:** Description of Nimba in various text

S. No.	Name of Textbooks	Descriptions
1.	Vedas	Nimba is called sarva roga nibarini, which means 'one that cures all ailments and ills'.
2.	Charak Samhita [3]	Nimba is mentioned in Kandughna gana. It is also mentioned in Saka varga, Tikta skandha dravya and Sirovirecana dravya.
3.	Sushrut Samhita [3]	Nimba is mentioned in Aragvadadi, Guduchyadi and Lakshadi Varga.
4.	Vagbhata [3]	Nimba is mentioned in Aragvadadi, Guduchyadi and Lakshadi Varga.
5.	Dhanvantari nighantu [4]	Nimba is mentioned in Kandughna gana and it is kaphapitta shamak.
6.	Bhavprakash nighantu [5]	Nimba is mentioned in guduchyadi varga and kusthaghna dravya.
7.	Priya nighantu	Nimba is mentioned in haritakyadi varga.
8.	Kaidev nighantu [6]	Nimba is described as krimighna and Vranaghna.
9.	Dravyaguna vijanana [3]	It is described with the latin name <i>Azadirachta indica</i> A. Juss belongs to family Meliaceae.
10.	Ayurvedic Pharmacopoeia of India [7]	Nimba consists of dried leaf and stem bark of <i>Azadirachta indica</i> A. Juss Syn. <i>Melia azadirachta</i> Linn. (Fam. Meliaceae)

**Table 2:** Products available in the market which have supporting evidence in the form of scientific publications

Manufacturer	Name of Product	Used In	Clinical Papers
Himalaya drug Co., Bangalore, India	Erina [8]	Cleanser	1
	Erina-EP	Shampoo	2
	Liv 52 Protec [9]	Animal health	3
	Pilex [10]	Hemorrhoids	18
	Purim [11]	Acute and chronic dermatitis	6
	Pure hand [12]	Cleansing hands for general maintenance of hygiene	8
	Scavon [13]	Scavon vet cream	10
Dey's	Talekt [14]	Dermatitis	1
	Itone	Conjunctivitis	1

**Table 3:** Selected herbal products which contain nimba extract available in the market [15]

Manufacturer	Name of Product	Used In
Ban Lab	Bravobol Syrup	Anxiety, Insomnia, Senile Dementia and Loss of Memory
Dharmani Herbs India	Chetna tail oil	Insomnia, Mental fatigue and Week Memory
Kottakkal Arya Vaidya Sala	Migrakot Tablet	Migraine
R K Pharmacy	Jwareetak	Malaria, Influenza and Bronchial fever
Ayurchem	Ulsant (Syrup/Tablet)	Antacids
Padmavati Pharmaceutical	Heamowin Capsules	Heamintics
Padmavati Pharmaceutical	Leucowin Capsules	Leucorrhoea and Dysmenorrhoea
Madaan Pharmaceuticals	Ovavit Syrup	White & Yellow Discharge, Weakness, Loss of Vitality and Stamina
Ayulabs	Criston Syrup	Burning Micturation, Urinary Tract Infection, Diuretic, Crystal urea, Kidney /Bladder Stone
Divya Pharmacy	Divya Vrikkdosshar Kwath	Crystal urea, Kidney /Bladder Stone
Kottakkal Arya Vaidya Sala	Rhukot Gel	Arthritis
Alarsin Pharmaceuticals	R-Compound Tablet	Rheumatoid arthritis, Collagen Diseases, Acute Soft Tissue, Trauma, Dental Traumatic conditions, Arthritis in Filariasis, Ankylosing Spondylitis, Frozen Shoulder, Sciatica, Lumbago, Gout, Fibrositis, Chronic Back ache, Stiffness, Body ache
Daksh Pharmaceuticals	Adtab	Diabetes, Polyuria, Diabetic Wounds
Padmavati Pharmaceutical	Dia-no Tablets	Diabetes Mellitus
Baidyanath	Madhumehari Granule	Diabetes Mellitus
Charak	Hyponidd	Diabetes Mellitus
Zandu	Tribangshila	Diabetes Mellitus & complication
Biocare Remedies P. Ltd.	Ayuseptic Ointment	Wound Healing
Vasu Pharma	Acnovin	Acne Vulgaris
Ayulabs	Parolip Powder	Acne, Pimples
Nidco	Kesh Rag (Herbal Shampoo)	Alopecia
Jolly Pharma	JollyFat Go Slim Capsules	Obesity
R K Pharmacy	Kancure	Inflammation and infection of ear
Nidco	Gum Gold	Bleeding Gums, Toothache
Shriji Herbal	Sabodent	Pyorrhoea, Spongy gums, Gingivitis, Dental caries, Tooth ache, Sensitiveness to hot and cold food items
Allen's India Ltd	Bonnivita Baby Oil	Message Oil for baby
Jagriti Herbs Pvt Ltd	Mahabhringraj Tail Fortified	Hair Tonic
Ban Lab	Suvarna Hair Vitaliser	Flaky Dandruff, Premature Greying & Falling of hair, Itchy Scalp, Alopecia, Splitting Hair
Shree Baidyanath	Panchatikta ghritha Guggulu	Skin diseases and leprosy
Ban lab	Dermafex Oil	Psoriasis, Dermatitis, Scabies, Eczema, Dry and Itchy Skin, Fungal & Bacterial Infection and Seborrhea
Anuja Pharmaceuticals P	Hemojas (Tablets/Syrup)	Pruritus, Psoriasis, Urticaria, Acne vulgaris, Scabies, Leprosy,

Ltd		Dermatitis
Padmavati Pharmaceuticals	Livowin Capsules	Liver disorders
Dabur India Ltd	Dabur Hepano Syrup	Hepato protective
Dabur India Ltd	Dabur Pilocheck Gel	Ringworm and piles
Ind-Swift Limited	Anaproct	Bleeding Piles
Charak	Arshonyt	Bleeding Piles
Divya Pharmacy	Divyaarshkalp Vati	Anti hemorrhoids
Chirayu	Piles Care	Piles
Ayulabs	Sukhda Ointment	Piles, Fistula, Haemorrhoids
Liimra (U&A) Remedies	Neem Fair	Blood purifier, Skin eruption, Acne, Pimples, Boils
Hamdard Lab	Safi	Blood Purifier
Ind-Swift Limited	Hemolife	Blood Purifier

**Table 4:** Neem Formulations according to different ayurvedic texts <sup>[16]</sup>

Name	Therapeutic Use	Part used	Dose	Reference
Aragvadhadi Kwatha Curna	Chardi, visa vikara, kapha vikara, prameha, kandu, dustavrana, Kustha	Stem bark	48 g	Astangahrdaya, Sutrasthana, Adhyaya 15; 17
Trayantyadi Kwatha Curna	Chardi, vidradhi, gulma, trsna, daha, jvara, visarpa, raktapitta, hrdroga, moha, mada, murcha, Kustha, kamala	Stem bark	48 g	Astangahrdaya, Cikitsasthana, Adhyaya 13; 11-11 <sup>1/2</sup>
Nimbadi Kwatha Curna	Kapha jvara	Stem bark	48 g	Cakradatta, Jvaracikitsa: 101
Punarnavastaka Kwatha Curna	Udararoga, sarvanga sotha, kasa, svasa, sula	Stem bark	48 g	Cakradatta, Sothacikitsa: 10
Brhanmanjisthadi Kwatha Curna	Vatarakta, kustha, upadamsa, slipada, ardita, paksaghata, medodosa, netraroga	Stem bark	48 g	Sarngadharasamhita; Madhyamakhandha; Adhyaya 2; 137-141
Kasisadi Ghrita	Pama, Vicarcika, dadru, visarpa, kustha, visphota, sukadosa, vatarakta, upadmsa, nadvirana, dusta vrana, sotha, bhagandara, luta visa	leaf	-	Sarngadharasamhita, Madhayamakhandha, Adhyaya 9; 51-54 <sup>1/2</sup>
Jatyadi Ghrita	Marmasritavrana, kledi vrana, gambhira vrana, saruja vrana	leaf	-	Astangahrdaya, Uttarasthana, Adhyaya 25; 67-68
Tiktaka Ghrita	Trsna, bhrama, daha, parisarpa, pidaka, pittaja, kustha, kandu, panduroga, ganda, nadvirana, apaci, visphota, vadradi, gulma, sophia, unmada, meda, hrdroga, timira, vyanga, grahani, svitra, kamala, bhagandara, udara, apasmara, pradara, gara visa, arsa, rakta pitta	Stem bark	12 g	Astangahrdaya, Cikitsasthana, Adhyaya 19; 2-4
Pancatikta Ghrita	Dustavrana, kustha, vatavyadhi, pittavyadhi, kaphavikara, dusta vrana, krimi, arsa, kasa	Stem bark	6 g	Bhaisajyaratnavali, Kusthadhikara; 114-116
Pancatikta Guggulu Ghrita	sandhigata vata, astigata vata, majjagata vata, pinasa, kustha, arbuda, pandu, mada, gandamala, nadvirana, aruci, guda roga, meha, vadradi, kasa, svasa, sophia, hrdroga, vatarakta, yakasma, bhagandara, urdhva jaturgata roga	Stem bark	12 g	Astangahrdaya, Cikitsasthana, Adhyaya 21; 57-58 <sup>1/2</sup>
Patoladi Ghrita	Nasa roga, karna roga, sukra, timira, naktandhya, asya roga, vidradhi, jvara, visarpa, apaci, kustha, amladaha	Stem bark	12 g	Astangahrdaya, Uttarasthana, Adhyaya 13; 6-8 <sup>1/2</sup>
Vajraka Ghrita	jvara, kamala, rakta roga, visarpa, kustha	Stem bark	6g	Astangahrdaya, Cikitsasthana, Adhyaya 19; 18
Nimbadi Curna	Udara, amavata, vatarakta, kustha, svitra, audumbara kustha, kotha, carmadala, sidhma, pama, vilupta yoniroga, kandu, vicarcika, dadru, kitibha, sotha, pliha, gulma, pandu, kamala, vrana	Stem bark	(1-3) g	Bhaisajyaratnavali, Vataraktadhikara, 31-33
Sudarsana Curna	Yakrt, pliha vriddhi, jvara, visama jvara, jirna jvara, gulma	Stem bark	(2-4) g	Bhaisajyaratnavali, Jvaradhikara; 308-312 <sup>1/2</sup>
Jatyadi Taila	Kacchu, sphotaka, nadi vrana, sastraprahara vrana, dagdha varana, danta-nakha ksata, dusta vrana	Leaf	-	Sarngadharasamhita, Madhayamakhandha, Adhyaya 9; 168-170
Maha Visagarbha Taila	Vata roga, grdhrasi, dandapatanaka, sarvanga grahana, karna nada, sparsa, sunyata	Stem bark	-	Bhaisajyaratnavali, Vatavyadhyadhikara; 414-421
Vajraka Taila	Tvagdosa, dustanadvirana, kustha	Stem bark	-	Astangahrdaya, Cikitsasthana, Adhyaya 19; 79-80
Siva Gutika (Laghu)	Pandu, kustha, jvara, tamakasvasa, arsa, bhagandara, mutrakricchra, rajayakasma, prameha, pliharoga	Stem bark	6 g	Yogaratnakara, Rajayaksmadhikara; 1-4 & 6
Arogyavardhini Gutika	Jirnajvara, medodosa, kustha, yakrtvikara	Leaf	250-500 mg	Rasaratnasamuccaya, Visarpadicikitsa; Adhyaya 20; 106-108
Muktadi Mahanjana	Paittika netra roga	Endosperm	-	Bhaisajyaratnavali, Netrarogadhikara; 242-243

**Table 5:** Neem formulations according to Siddha text <sup>[17]</sup>

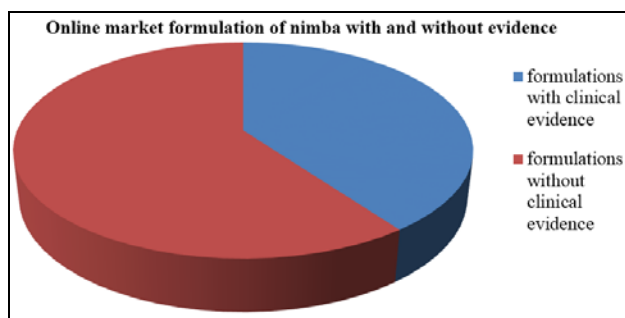
Name	Therapeutic Use	Part Used	Dose	Reference
Visnucakkara Mattirai	Tol Noykal	Fruit	Powder (1-2) g; oil (5-10) drops	p. 214-215
Cinthis Ney; Cirakac Curaman; Mandurati Adaikkudinir	Curam/ kayccal, Curattal Undakum Udal Thalarci, Mulam, Mantam, Kunmam	Stem bark	Powder (2-4) g	p. 218
Tampiracceturam	Azal Noykal, Murccai, Vanti, Navaradci, Kudarpuzu	Flower & flower bud	Powder (1-2) g	p. 221

**Table 6:** Neem formulations according to Unani text

Name	Therapeutic Use	Part Used	Dose	Reference
Majoon Musaffi-e Khoon <sup>[18]</sup>	Fasad-ud-dam (Putrefaction of blood)	Root bark	10-30 g	p. 82-84
Habb-e-Surkhbada <sup>[19]</sup>	Surkhbada (Erysieplas)	Barg-e-Neem	250-500 mg	p. 34-35
Habb-e Siyah Chashm <sup>[19]</sup>	Ramad (Conjunctivitis), Hurqat-e-Chashm (Burning Sensation in the eye)	Barg-e Neem Sabz	-	p. 33
Marham-e-Jadwar <sup>[19]</sup>	Qurooh (Ulcers), Khanazeer (Scrofula) [Cervicaladenitis], zarba-o-saqta (Trauma), waram-e-Ghudad-e-Limphawi (Lymphadenitis)	Barg-e Neem Sabz	q.s	p. 163-164
Araq-e-Juzam <sup>[19]</sup>	Juzam (Leprosy), Bars (Leucoderma, Vitiligo), Jarab (Scabies), Qurooh (Ulcers)	Maghz-e-Tukhm-e-Neem	50-100 ml	p. 216-217
Habb-e-Neeb <sup>[19]</sup>	Jarb-o-hikka, Busoor (Acne, Pimples), Qurooh (Ulcers), Bars (Leucoderma, Vitiligo)	Seed	5 g	Part I Vol III; p.70
Araq-e-Musaffi-e-Khoo Qaw <sup>[19]</sup>	Busoor (Acne, Pimples), Damameel (Furuncles, Boil), Jarab (Scabies), Hikka (Prurigo, Pruritus), Bahaq Abyaz (Pityriasis alba), Bahaq Aswad (Pityriasis nigra)	Barq-e-Neem	60-120 ml	p. 218-219
Habb-e-Bawasir <sup>[19]</sup>	Fasad-e-Dam (Putrefaction of blood), Amraz-e-Jildiya, Deedam-e-Ama (Intestinal worms)	Stem bark	6-10 g (decoction)	Part I Vol IV p. 101

### 3. Results and Discussions

The data is collected from internet and the review articles and it reveals that 40% of marketed formulations of nimba have supportive clinical evidence for their usage and 60% of marketed formulations don't have any supportive clinical evidence for their usage. The usages of marketed formulations are same as the uses of nimba that mentioned in classical text.



### 4. Conclusion

Among the many natural plants and herbs that people in India use for their medicinal properties, the Neem tree is one of the most beneficial for natural or Ayurvedic medicine. In addition to its medicinal properties, Neem oil is also used as a base for variety of organic cosmetics including soaps, shampoos, hand & body lotions and creams and it has industrial uses too. Our recent survey is done to reveal the importance of neem as a medicine in the form of different formulations.

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