



TITLE:- The growing importance of Ethno-medicinal plant-Azadirachta indica (Neem)- it's therapeutic and biochemical uses.

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INTRODUCTION

Medicinal plants have been used by mankind for many years and their use is as old as humanity itself. The earliest historical records of herbs are found around 3000BC. Great physician Dioscorides documented over 600 medicinal plants and this formed the basis of pharmacology. Curing with herbs has a long tradition. Today, several therapies are based on medicinal plants and/or their products. Such plants play an important role in balneotherapy, aromatherapy, Ayurveda and homeopathy. Methods of folk healing throughout the world commonly used herbs as part of their tradition. Some of these traditional uses of Azadirachta indica commonly called neem are highlighted here.

About Neem (Azadirachta indica)

Neem tree is well known for its medicinal parcels and is considered a tree for working global problems. Azadirachta indica is deduced from Persian word Azad meaning free; dirakht meaning tree and indica means of Indian origin. It's also called Arista in Sanskrit. This tree is also called "wonder tree", nature's medicine store, godly tree, vill apothecary, ancient cure for ultramodern world, nostrum of all conditions. It's a sacred gift of nature. It was first discovered in India around 4500 times ago. It's known as being free of insects, complaint, and nematodes. It's extensively used in Unani, Ayurveda and Homeopathic system of drug. Factory part used All corridor of the factory- leaves, flowers, dinghies, root dinghies, fruits or seeds, goo and toddy or tire but substantially leaves and dinghy are used. Botanical description

of *Azadirachta indica* It's a medium to large size fast growing evergreen popular tree with straight box and numerous branches achieving height of 15- 20 measures or further with favourable conditions upto the 35- 40 measures and 2.5 measures in circumference. Leaves are pinnate up to 30 centimetres long and each splint has 10 – 12 saw-toothed circulars that are 3.5- 8 centimetres long by 2.5 centimetres wide. The tree is covered with honey- scented, white flowers come in the early summer(March to April) that are arranged in axillary and typically more or less hanging panicles which are over to 25 cm long. There are semi-sweet, olive- size fruits, green in colour which turn golden unheroic on growing in the months of June to August that generally begin bearing at three to five times of age but don't come a completely reproducible until they're ten times old, in this age, the tree produces an normal of about 20.5 kilograms of fruit per time. It's one seeded drupe, seeds ellipsoid, cotyledons thick, fleshy and unctuous. Dinghy is dark brown in colour with shallow perpendicular furrows. It's native of India, Burma and Pakistan, generally growing in tropical and tropical regions upto an altitude of 1000 measures. It's also set up in Bangladesh, Srilanka, Thailand, Malaysia, Mauritius, Fiji, South Africa, East Africa, America, Nepal, China and Myanmar. About Neem trees reported that they can live up to 200 times. Splint Midrib pamphlet through midrib reveal a biconvex figure, epidermis on both side covered externally with thick cuticle, below epidermis 4 to 5 layered collenchyma present; stele comported of one crescent shaped vascular pack towards lower and two to three lower pack towards upper face; rest of apkins comprised of thin- walled, parenchymatous cells having secretory cells and ensign chargers of calcium oxalate; phloem girdled by non-lignified fibre beachfront; chargers also present in phloem region. Lamina There are dorsiventral structures, epidermis on either face that composed of thin walled, parenthetically stretched cells, covered externally with thick cuticle; anomocytic stomata present on lower face only, palisade single concentrated; spongy parenchyma composed of 5- 6 layered, thin- walled cells, covered by a number of modes; ensign chargers of calcium oxalate present in a many cells; palisade rate 3.0-4.5; stomatal indicator 13.0-14.5 on lower face and 8.0-11.5 on upper face. Stem Dinghy It exhibits external exfoliating pieces hard, woody, vastly thick in aged dinghies, nearly entirely dead rudiments of secondary phloem, interspersing with spastic tangential bands of compressed cork towel, former composed of several layers of gravestone cells being in regularly arranged groups together with collapsed phloem rudiments filled with brown contents, in between the consecutive zones of cork towel 3- 5 layers of fibre groups with intermediating thinwalled and frequently collapsed phloem rudiments present. Each zone of cork

towel comprises of several layers of regular, thin-walled cells sometimes with a many compressed rows of thick-walled cells towards the center. Fruit The cells of the epicarp are parenchymatous, single layered and quadrate to blockish with thick cuticle on the external tangential walls in transverse section. The mesocarp region is composed of several layers of the parenchymatous cells which are substantially polygonal, thin walled and larger in size. The endocarp of gravestone cells are of different shapes and sizes. The epidermis of seed fleece is single layered, thick walled, quadrate to blockish and parenchymatous in nature. The external tangential wall of the epidermis is carpeted with thick cuticle. Tegmen is 8- 10 layered, thick walled, hexagonal with sclerotic cells. Integument persists as a single layered parenchyma. The two cotyledons constitute the major portion of embryo. Cotyledon consists of single concentrated epidermis in which cells are isodiametric and parenchymatous. The ground towel of the cotyledon is composed of thin walled hexagonal to polygonal parenchymatous cells. These cells are filled with oil painting droplets of different sizes. Aluerone grains are present. Seed Seed kernel of fruit shows a thin brown testa, of isodiametric gravestone cells overlying integument of approximately packed parenchymatous cells; cotyledon conforming of parenchymatous cells containing abundant oil painting drop. seed greasepaint The crude medicine greasepaint is unheroic brown in colour. The crude medicine greasepaint shows the pieces of parenchymatous cells, endosperm, embryo epicarp, mesocarp, leveled gravestone cells with wide lumen and distinct wall striations, groups of lignified fibres and tracheids. fractions of testa showing distinctly striated isodiametric gravestone cells.

Chemical ingredients

Azadirachta indica (Neem) has veritably important rectifiers part in the operation of health due to rich source of different variety of biologically active principles as a whole. The chemical element of *Azadirachta indica* is veritably complex as it contains remarkably colorful array of phytochemicals, for illustration terpenoids, flavonoids, coumarins, carbohydrates, proteins, adipose acids and their esters and hydrocarbons. In 1942 for the first time Nimbin a bitter emulsion had been insulated from *A. indica* (Neem) oil painting. further than 140 chemically and structurally complex bioactive composites have been linked from different corridor of the neem. These composites have been divided into two major classes, isoprenoids and others (nonisoprenoids). The isoprenoids comprise diterpenoids, triterpenoids and steroids containing protomeliacins, limonoids, azadirone,

azadiradione, gedunin, vilasinin type of emulsion, C- secomeliacins similar as azadirachtin, nimbin, salanin and its derivations while the nonisoprenoids include proteins, carbohydrates, polysaccharides, sulphurous composites, polyphenolics similar as flavonoids and their glycosides, dihydrochalcone, coumarin and tannins, aliphatic composites etc.. Some of the important phytoconstituents insulated from neem are azadirachtin, meliantriol, salanin, triterpenes, sitosterol, stigmasterol, cyclic trisulphides and tetrasulphides in leaves, nimbin, nimbidin, azadirachtin, limonoids meliantriol, nimbidinine and nimbendoil in seeds, nimbosterol, myricitin in seeds oil painting and neem seed oil painting also contains Vitamin B and other essential acids. The oil painting is set up to have the following adipose acids, oleic acid, stearic acid, palmitic acid, linoleic acid, and colorful lower adipose acids. Kaempferol present in flowers, deacetyl azadirachtinol in fruits, ditrerpens(sugiol), nimboil, nimbin, nimbidin, nimbinin, polysaccharides G1a, G1b, G2a and G3a,(-) epicatechin, catechin, margolone, margolonone and isomargolonone in dinghy. Other chemical ingredients meliacine, gedunin, valassin, quercetin- 3- galactoside, rutin, isorhamnetin, nimbolide, vilasinin, quercetin- 3- galactoside, rutin, isorhamnetin, nimbolide, vilasinin, nimbinene, 6- deacetyl nimbinene, nimocinol, β sitosterol- β - D- glucoside, nimbolin A and B, 6- deacetyl nimbinene, kaemferol-3-glucoside, mahmoodin and tigenic acid are also present. utmost of these phytoconstituents belong to the chemical group of triterpenoids(limonoids) which are slightly hydrophilic and largely answerable in organic detergents similar as hydrocarbon, alcohols, ketones, and esters. The dinghy exudate(goo) of neem also contains a bitter alkaloid named as “ margosine ”. The oil painting attained from its seeds is act as goad, alterative and effective in rheumatism and skin conditions and also salutary as a liniment for rheumatic affections. It's lately, reported that nimbidin, a emulsion insulated from neem oil painting, held significant anti-gastric ulcer exertion in experimental creatures, wherein it was displayed to help ulceration by reducing gastric stashing. remedial uses In Unani system of drug, all corridor of neem are used as a blood cleaner in all blood contaminations related conditions. 1. Leaves Major remedial uses of leaves are anthelmintic, dermatopathies, fever and anorexia. Leaves as cataplasm applied on boils that help in mending and help putrifaction. Decoction of leaves has antiseptic action so, it's used in ulcers and eczema. Fresh neem leaves juice uprooted and dropped on crack that overran with worms. Moreover, if worms present in nose also used as Qatūr(nasal drop). Injuries are washed by decoction of leaves; dry leaves are used as dusting greaselpaint on crack and decoction of leaves are also used for bathing in itching and other skin conditions. In observance pang

brume of leaves is used that's veritably effective. Admixture of same volume of splint, fruit, stem dinghy and flowers greasepaint, taken one spoonful with one spoonful ghee and honey(1/2 ladle) twice a day for one month in hostility. persecuted leaves applied on head before hair marshland to help falling of hair once a week if there's dandruff. youthful leaves crushed and applied on forepart to relieve headache, once a day for 8 days. 2. Stem & root dinghy It's substantially effective in helminthiasis, pyrexia, diabetes mellitus and pruritus. Decoction of neem dinghy especially used in seasonal fever and for payoff of intestinal warms. Dinghy has blood cleaner effect, used in worms infestation and root dinghy used as emmenagogue in amenorrhoea. 3. youthful shoots and green outgrowths are crushed and used as tooth skirmishes for teeth drawing. This can cure toothache, bad breath, dental caries and goo conditions. Neem protects the mouth from colorful infections(Gogati, 1989)(. Sap is considered effective in some habitual and long- standing cases of leprosy and other skin conditions, syphilis, atonic dyspepsia and general fragility . Flowers are generally included in the blood cleaner conventions for blood sanctification used in skin conditions. Kajal of neem that's prepared by flower is also useful in eye itching. It can be effectively used in some cases of atonic dyspepsia and general fragility. 5Fruits or Seeds It's used in skin conditions as blood cleaner. Greasepaint of neem seed is veritably effective in painful monthlies and dysmenorrhoea due to analgesic and emmenagogue conduct. 6 Seeds paste of neem applied on affected part to cure any type of skin conditions doubly a day for one week(Baral2010,, Banerjee 2006). Seeds oil painting of neem used in leprosy, syphilis, tinea, itching and nonhealing ulcers or veritably bad injuries, if there are worms in the injuries that are also killed by the seeds and it's also veritably effective in habitual common pain. operation of the fruit alone or with other drugs on the infected injuries remove infection and heals the injuries snappily. It's also salutary in injuries of habitual scrofula(cervical tuberculous lymphadenitis) 7. Eating of ripe fruits have laxative and blood cleaner, antihelminthic effect and used in hemorrhoids that s why it's included in the expression of anti-hemorrhoidal tablets(Almond Bet.al, 1976). also, it's also veritably effective in the payoff of head lice, if they're base into a paste form and applied to the hair follicles. It's majorly used in dermatopathies, diabetes, injuries ulcers and oedema. 8. oil painting is effective in rheumatism and skin conditions due to goad, antiseptic and alterative effect. It's veritably effective in swelling of skin and skin conditions(Amrāḍ- i Jild).

Traditional uses of neem

Skin diseases: Neem has been extensively used and significant effect on chronic skin disorders. Name seeds oil has produced significant efficacy against ringworm, psoriasis, acne, eczema and warts .It has an unfathomably cooling effect on the body, diminishing overabundance heat that can overcome the skin diseases . Regular use of neem leaves and neem preparations assist in enhancing blood circulation as well as preventing hormonal imbalance which are a major cause behind some skin and hair disorders

CONCLUSION

Traditional system of medicine particularly the Unani system of medicine are mainly depending on medicinal plants that are used in different ailments such as skin disorders, digestive disorders, sexual disorders, respiratory disorders etc. Various Unani drugs have been proved their efficacy in skin disease e.g., Iltehab-i Jild Huzāzi(seborrheic dermatitis) , Baraṣ (vitiligo) [, skin rashes, infections, leprosy ,psoriasis and Buthūr Labaniyya (Aune 2009,Banchereau et.al 2009). Neem (*Azadirachta indica*) is one of the utmost important medicinal plants in Unani and other traditional system of medicines that are used as a blood purifier in all blood impurities related diseases, antidiabetic effect, antiinflammatory,antiarthritic,antipyretic, hypoglycaemic, antifungal, antibacterial, diuretic, antimalarial and immunomodulatory effects.

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