

MEDICINAL VALUES OF NEEM

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History - Native of India where neem is considered a “sacred gift of nature to man”, Neem Oil is derived from the seeds of the neem tree. This tree, whose benefits have been known for 4000 years is described by the natives as the “**the village pharmacy**” due to its wide spectrum of medicinal qualities. Its oil possesses powerful antidermatonic and anthelmintic properties and is widely used in treating chronic malaria, bed bugs, ulcers, bad teeth, syphilis, leprosy, and other diseases. Externally, the oil is applied as an antiseptic dressing in leprosy, suppurating glands, urticaria, and for chronic skin diseases like eczema, scabies, ringworm, and maggot infested wounds. It is also used for killing lice, fleas, ticks, and bacterial growth in the mouth.

Neem oil is especially beneficial for curing skin ailments. The oil contains fatty acids which build collagen, promote wound healing and maintains the skin's elasticity. It is a powerful insect repellent, anti-bacterial, anti-fungal, anti-viral, anti-septic, anti-inflammatory, anti-ulcer, and strengthens the body's overall immune responses. It has been traditionally used by families for curing household ailments, including as a spermicidal in preventing pregnancies.

From almost the very beginning of recorded human history, people have taken advantage of the remarkable neem tree. Its medicinal qualities are outlined in the earliest Sanskrit writings dating back about 4500 years. It forms a foundation of the ancient Indian system of natural healing, Ayurveda. In these ancient texts neem is mentioned in almost 100 entries for treating a wide range of diseases and symptoms, most of which continue to ail humanity. Neem oil is revered even to be prescribed ritually in daily life: newborn infants are anointed with the oil, laid on a silken sheet and fanned with a branch of a neem tree with ample leaves. As the child grows it is given small doses of neem oil when ill and bathed with neem tea to treat cuts, rashes and the lesions of Chicken pox. Thus, over thousands of years, neem has been used by hundreds of millions of people and no hazards have been documented for normal dosages.

Although neem is one of the most ancient and most widely used herbs on earth, intense scientific investigations of the properties of neem are only now being undertaken. During the course of the freedom movement in India, led by Mahatma Gandhi, there was an upsurge of the ‘Swadeshi’ or nationalistic sentiment. This led to a move to encourage ‘Swadeshi’ science. Neem research in India was a part of this movement. Pioneering work on the possible commercial use of Neem oil and cake was done by the Indian Institute of science in Bangalore during the 1920s. These studies have confirmed the efficacy of its traditional uses and are finding even more uses for neem.

Neem Oil

The neem seed kernel is very rich in fatty acids, often up to 50 percent of the kernel's weight. Neem seed oil is very bitter with a garlic/sulfur smell and contains vitamin E and other essential amino acids. Studies of the various components of the oil have found the percentages of the following fatty acids:

- Oleic acid - 52.8%

- Stearic acid - 21.4%
- Palmitic acid - 12.6%
- Linoleic acid - 2.1%
- Various lower fatty acids - 2.3%
- The percentages vary from sample to sample depending on place and time of collection of the seeds.

Neem trees have many unique compounds that have been identified and others that are as yet unidentified. The more common and therefore the most analyzed compounds are as follows:

- Nimbin - anti-inflammatory, anti-pyretic, antihistamine, anti-fungal
- Nimbidin - anti-bacterial, anti-ulcer, analgesic, anti-arrhythmic, anti-fungal
- Nimbidol - anti-tubercular, anti-protozoan, anti-pyretic
- Gedunin - vasodilator, anti-malaria, anti-fungal
- Sodium nimbinate - diuretic, spermicidal, anti-arthritis
- Queceretin - anti-protozoal
- Salannin - repellent
- Azadirachtin - repellent, anti-feedant, anti-hormonal

Neem is effective against at least fourteen different, commonly found fungi. These include Trichosporon (which causes intestinal tract infection), Geotrichum (which causes bronchi, lung, and mucous membrane infections), Trichophyton (which is responsible for athlete's foot), and Epidermophyton (which causes ringworm).

Preventive - Promotive uses

Building Immunity

Chewing of 8-10 neem leaves early in the morning for twenty four days protects the body from diseases like diabetes and hypertension. The body also becomes immune to skin problems by this medication.

Tooth powder: A mixture of powder of neem seeds, (10 gms), rock salt (10 gms) and alum (10gms), mixed well can be used as a tooth powder for maintaining healthy teeth and gums.

Curative Uses

Hair care: A decoction prepared of the leaves of neem is used as a head wash to remove premature greying of hair, hair loss, lice infestation and dandruff.

Conjunctivitis: Juice of neem leaves (5-10 ml) is warmed slightly and applied as eye drops. Fresh juice is prepared by grinding fresh leaves and squeezing it through a double folded cotton cloth.

Ear drops: Juice of neem leaves (5 ml) and equal quantity of honey when mixed well and instilled as ear drops, reduces oozing from the ear and also removes inflammation. However, if the oozing persists and is painful and foul smelling, expert guidance should be sought.

Jaundice: Juice of neem leaves (15-30ml) and half the quantity of honey is taken on an empty stomach for seven days.

Stomatitis: For infantile stomatitis 10-15 dry neem leaves along with 5 gm of Pippali (long pepper) and honey should be ground and applied on the tongue.

Worms: The juice of neem leaves (10 ml) along with honey and asafoetida powder (5 gm) remove intestinal worms in children.

Stomach problem: 5 gm of dried neem flowers mixed and fried with 5gm each of rock salt, old tamarind, chillies and curry leaves is prepared into chutney and given in conditions such as vomiting, anorexia, sour belching and worms.

Urinary stones: Kshara or ash is prepared by burning the dry neem leaves in an earthen pot. The ash is mixed well with water and allowed to stand still for 24 hours. The sediment is used as kshara after filtering the water out.

The **Kshara (ash) of neem leaves** (50 gm) taken with warm water every day in the morning removes urinary stones. However, in conditions where there is complete retention of urine due to the stones and if there is severe colic pain at the lower abdomen, an expert guidance should be sought.

Urticaria: A decoction of neem bark, sandal and guduchi (*Tinospora cordifolius*) is taken internally.

Piles: Four seeds of neem powdered and mixed with warm water and taken as a thick on empty stomach for a week stops bleeding in piles.

The seeds of neem fried along with copper sulphate and mixed well with coconut oil are beneficial as an ointment for piles.

Pruritis: Juice of neem leaves when applied on the groin and anal region removes pruritis in children.

Fistula in Ano: Neem leaves, fresh turmeric, root of Arka (*Calotropis gigantea*), mustard and rock salt (5 gms each) are ground and the paste is applied.

Dysmenorrhoea: Juice of neem leaves (15 ml) and ginger juice (15 ml) mixed well and taken internally cures painful menstruation.

Post delivery care: To bring back the structure and functioning of uterus after delivery, one ounce (30ml) of juice of neem leaves should be taken for 27 days in the morning on an empty stomach.

Skin care: One teaspoon full of dry neem leaf powder, same quantity of ghee and dry gooseberry powder mixed with sufficient quantity of honey cures allergic skin afflictions.

The bark of neem and the root of Arka (*Calotropis gigantea*) taken in equal quantities (10 gm each) is rubbed with cow's urine and applied on the skin problems it is always advisable to seek expert guidance.

A decoction of the neem bark is prepared by boiling 50 gm of neem bark in 400 ml of water till it is reduced to 100ml. To this 400 ml of ghee is added and boiled in a wide mouthed container and is removed from the flame when the froth appears which indicates the completion of the Ghritha (ghee) preparation. This ghee can be used both externally as well as internally for conditions such as herpes, lymphadenitis and skin problems.

Psoriasis: The ash of dry neem leaves mixed oil with milk with ghee and applied on the skin is beneficial in skin diseases such as psoriasis.

Sweating/Burning: 5 to 10 drops of neem oil with milk at bed time is very beneficial for excessive sweating and burning sensation

Chicken pox: Neem leaves are used to soothe the patient and prevent further spreading of the virus during the course of the infection. The patient is given a bath with water in which neem leaves are soaked, as a post-treatment care.

Measles: A pill prepared of tender neem leaves, Yasti (liquorice) power (20 gms each) and administered along with warm water is beneficial in measles.

The effects of Neem on Wound healing

Wounds on our skin heal in a multi-stage process. In the earliest stage of the Wound healing process a provisional matrix or ground substance is laid down which is made up of Glycosaminoglycans. This is followed by the formation of granulation tissue and finally the synthesis of elastin and collagen. Neem oil contains active ingredients that directly deal with the Wound healing process. Because of this Neem directly affects the Wound healing process and helps the skin retain its suppleness as the wound heals. Neem oil has a high content of essential fatty acids, which plays an important role in adding moisture and a soft texture to the skin during the healing process. In addition to the Neem trees ability to affect the restructuring of the skin during the Wound healing process Neem Leaf extracts and Seed Oil have a proven anti-microbial effect. This keeps any Wound or lesion free from infection by bacteria, viruses, parasites, and fungi. Clinical studies show that Neem plays another important role in Wound healing by inhibiting inflammation as effectively as cortisone acetate.

Experimental Study

Extensive research was conducted to evaluate the economically feasible and readily available herbal healers for the treatment of bovine cutaneous wounds. Bilateral one inch long full skin thickness incised wounds were created along the dorso lumbar region on either side of the spine. Neem oil in paraffin base (1:1 and 1:3 concentration), Neem oil in paraffin base with turmeric powder (1:2:1) were used for treatment. Each treatment was conducted on six animals. Left side wounds served as control where as the right side wounds were treated. Clinical, gross and histopathological examination of the wound at regular intervals of 7 days up to 4 weeks revealed that Neem oil in paraffin with turmeric powder (1:2:1) had the best wound healing effects. Neem oil in paraffin (1:3) were comparable with Neem oil in paraffin with Turmeric powder (1:2:1) followed by Neem oil in paraffin (1:1). The results thus indicated that the faster and stronger union of the incised and gap wounds occurred when treated with Neem oil in paraffin base (1: 3) and the healing was even better in wounds treated with Neem oil in combination with Turmeric powder paraffin base. Non licking of the wound by companion calves due to its taste and amiasmesis due to its peculiar flavour (fly repellence) added to its healing property, beside the antiseptic property of its Nimbedin content.