

Multipurpose Neem (*Azadirachta indica*) For Beguiling Cures

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ABSTRACT

In the world of Ayurveda, neem is a popular medicinal herb that's been part of traditional remedies that date back almost 5000 years. Also known as Azadirachta Indica in English or 'Neemba' in Sanskrit, the neem tree is a really good example of how nature holds both the problem and the cure. It's home to more than 130 different biologically active compounds! No wonder it's such an effective anti-viral and anti-bacterial, along with being a powerful immuno-stimulant. Neem oil aids in asthma treatment and also helps control phlegm, fever, and cough. The oil is also used traditionally to cure asthma. Studies suggest that proton pump inhibitors, a kind of treatment for ulcers and other gastric issues, are not as effective as neem. Neem bark extract has the potential to treat ulcers and gastric hyperacidity. In another study, rats subjected to stress had experienced a reduction in gastric ulcers post neem supplementation. The neem extract was found to increase the amount of gastric mucus, which played a major role in the treatment. The nimbidin in neem gives it its anti-ulcer properties. Studies have shown that neem possesses excellent antibacterial properties. And in addition, the leaves also have antifungal and antiviral properties. In fact, the properties in neem are so potent that inexpensive neem supplements are often used to control pathogens in manure.

Keywords: Nimbidin, Anti fungal, Hyperacidity, Asthma, Anti-bacterial, Diabetes, Blood, circulation, Leprosy, Limonids, Eczema

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INTRODUCTION

Neem is household name in India when home remedies are concerned. Ayurveda acharyas have quoted lengthy verses in praise of neem. Also called Indian lilac (or dogonyaro), neem is an important part of Ayurveda – and the benefits of neem, are unparalleled. Neem is also called VEPA in Telugu, Veppilai in Tamil, Aaru Veppila /Veppila in Malayalam, Bevu/Olle Bevu in Kannada, Nim in Hindi, Nim /Nimba Pata in Bengali, Limba in Gujarati, and Kadulimb in Marathi. The benefits of neem tree are many. And talking particularly of its leaves, they have superb antibacterial and disease-preventing properties. Some of the ailments neem leaves prevent and also help treat include asthma, diabetes, and digestive issues. Even the benefits of eating neem powder are so many – it encourages proper fat metabolism and can boost immunity.

Neem with its medicinal properties rejuvenates liver and normalizes its function. The toxins accumulated in liver are regularly expelled with continuous consumption of neem. This helps to regularize the varying blood cholesterol and blood sugar level. Neem also helps to rejuvenate the skin. Diabetic patients are more prone to itchy skin and dry skin. Regular use of neem, assists skin to slowly overcome this condition.

In my clinical practice I have obtained positive feed backs from diabetic patients after using preparations and home remedies of neem [1-4].

THEREPEUTIC POTENTIALITY

Diabetics usually experience frequent skin infections due to bacteria, fungus and yeast. Applying a pack of crushed neem leaves once in a week help to prevent these infections. Collect fresh neem leaves and blend it to a fine paste. Apply this paste as body pack and wash it off after 20 minutes. Dried neem powder can be used if fresh neem leaves are not available. Mix plain water to dried neem powder and allow it to soften for 15 minutes before applying. This body pack may cause dry skin. Apply moisturizer after bath to overcome dryness of skin [5, 6].

Studies have shown that neem possesses excellent antibacterial properties. And in addition, the leaves also have antifungal and antiviral properties. In fact, the properties in neem are so potent that inexpensive neem supplements are often used to control pathogens in manure. In another study, the extracts of neem had shown great antimicrobial activity against dangerous bacteria like *S. mutans*, *E. faecalis*, and *S. aureus*. Especially, the extract from neem stick had shown the maximum antimicrobial effects. The potential of neem extracts to kill bacteria and other microbes presents the possibility of using it as an intracanal (related to the teeth) medication [7-9].

Even neem juice (taken from neem leaves) has similar benefits. It contains certain bioactive compounds, nimbidin being the most potent of them. The compound showed great promise as an anti-inflammatory and antibacterial agent.

The medicinal uses of neem extend far and wide – so much that it can even be used as a contraceptive. The antifertility effects of neem have been substantiated in certain studies. In one study, rats treated with neem oil remained infertile for various periods. The oil can be used as a spermicide. Neem oil, when applied intravaginally before sexual intercourse, prevented pregnancy in human volunteers in a study. And neem leaf extract can also reduce male fertility – which could be a downside if not taken care. However, in another study, neem oil had blocked spermatogenesis (the production of male sex cells) in males without affecting the production of testosterone.

Numerous studies also consider neem as an inexpensive birth control option. And scientists believe neem can be the ideal contraceptive – as it is readily available, natural, nontoxic, and inexpensive. Neem oil aids in asthma treatment and also helps control phlegm, fever, and cough. Have a few drops of neem oil every day, and increase the dose gradually. This should help. The oil is also used traditionally to cure asthma [21].

Studies suggest that proton pump inhibitors, a kind of treatment for ulcers and other gastric issues, are not as effective as neem. Neem bark extract has the potential to treat ulcers and gastric hyperacidity [22].

In another study, rats subjected to stress had experienced a reduction in gastric ulcers post neem supplementation. The neem extract was found to increase the amount of gastric mucus, which played a major role in the treatment. The nimbidin in neem gives it its anti-ulcer properties [22]. Studies show that neem can exhibit hypoglycemic (blood sugar lowering) effects. Neem can benefit diabetics by controlling the blood sugar levels. It can prevent and even delay the onset of the disease [5, 6].

Neem can also prevent the oxidative stress caused during diabetes. Even earlier studies on the neem plant had shown antidiabetic effects. Neem oil can play a major role in treating gum disease. Mouthwashes that contain neem extracts inhibit the growth of *Streptococcus mutans* in the mouth, a bacteria that causes oral issues. In fact, neem oil is added to certain toothpastes as the oil acts as a purifier and an antimicrobial agent [7].

Neem leaf can also be used to prevent other dental ailments. The extract can help prevent dental plaque and other dental issues like gingivitis, cavities, and tooth decay. Chewing on neem bark has also been found to prevent dental disease. The bark can be found in almost all alternative healing stores. You can also use a neem bark-based toothbrush to maintain optimal health of your teeth. Even neem powder can work well – you just have to use it like any other tooth powder.

As per studies, neem twigs can also be used to relieve toothache and clean the teeth. The twigs can even give you shiny teeth. Neem leaves are also rich in antioxidants and build the immune response of the gums and tissues of the mouth. They might also help prevent

mouth cancer. As per an Egyptian study, neem seed oil can be used to treat leprosy. The study also claims that neem is non-mutagenic, which means it doesn't lead to any undesirable changes in the DNA of the individual [].

But beware of the consumption of neem seed oil – as it is said to produce toxic effects. Consult your doctor before using it for this purpose.

Studies emphasize on the health-alleviating properties of neem. It can be used in the form of powder or liquid extract. And it helps treat digestive ailments – and is especially beneficial for digestion. According to a Nigerian study, neem leaf extract possesses antimalarial properties. The extract can also be a potential additive to antimalarial drugs that could be useful for the treatment of malaria as well as prevention of the disease. Neem tea infusions were also used as a traditional remedy for malaria.

As a purifier, neem is known to cleanse the blood and body from within. Consuming neem leaves regularly helps improve blood circulation. You just need to consume 2 to 3 neem leaves mixed in water (along with honey) every day on an empty stomach. Neem leaves can also regulate the hormone levels. However, there is limited research on this. Medical practitioners claim to use neem oil to treat more than 60 types of nail fungus. The oil is applied to the affected area numerous times in a day until the infection heals.

But ensure you keep the oil out of the reach of children – it can cause undesirable symptoms and even fatality in extreme cases. Neem can improve eye health, although there is no concrete study to back it up. You can simply boil some neem leaves, allow the water to cool, and then wash your eyes with the liquid. This helps treat any kind of irritation or redness. The oil extracted from neem flowers is used in aromatherapy – as it has a restorative and calming effect on the body. For this reason, neem flower oil is an important ingredient in various creams and massage oils [20].

Dietary neem flowers were found to have a protective effect on liver carcinogenesis [6].

Neem has anti-inflammatory and pain-suppressing properties that help relieve muscle and joint pains. It also helps treat swelling in the joints. You just need to boil the leaves and flowers in a cup of water. Strain the water and allow to cool. Drinking it twice a day for a month can help reduce arthritis joint pain and inflammation. Regularly massaging with neem oil can also help reduce muscle and joint pains. The massage can also help alleviate lower back pain. As per studies, neem leaf extract can help destroy cancer cells of the prostate. Certain compounds in neem leaves can also prevent cancer proliferation. They can also aid in cancer treatment by improving your immune response, eliminating free radicals, and inhibiting cell division and inflammation [].

Another protein in neem leaves, called Neem Leaf Glycoprotein, modulates the immune cells and aids in the treatment. Though no human trials have been conducted so far, neem does hold promise in cancer treatment. A study has shown how neem can be effective in the treatment of breast cancer. The compounds in neem were also able to enhance the efficacy of chemotherapeutic agents. The curative power of neem leaves helps regulate blood pressure. In another study, intravenous administration of neem leaf alcoholic extract resulted in a significant reduction in blood pressure. In one study, neem leaf extract at a dose of 100 mg/kg significantly lowered blood cholesterol in a majority of the animals tested. Neem tree has great benefits for the skin. You can use the neem leaves as a face pack that helps reduce acne caused by bacteria. The face mask, also being high in vitamin E, will ensure the skin doesn't dry out. Even using neem leaves boiled in water can help tone your skin and remove blackheads.

Using neem for this purpose is simple. Just boil a concoction of about 20 neem leaves in half a liter of water till the leaves turn soft and discolored (the water must turn green too). Strain and store in a bottle. Use this liquid as a skin toner by dipping a cotton ball into it and wiping your face with it every night. Regular use can clear acne scars and pigmentation. You can also use neem powder. Just mix the powder with water and follow the same process as above. But we are not sure of using neem oil for skin pigmentation. Consult your dermatologist. Using neem paste on the face can also give you results. Use a paste of neem powder, tulsi, and sandalwood powder mixed with rose water. Apply to your face using a cotton ball, wait for 20 minutes, and rinse. The topical use of neem oil was found to treat chronic non-healing wounds. In another Indian study, a paste of neem and turmeric applied topically was found to treat chronic ulcers and scabies. Though safe for adults, it might be harmful for children [18-20].

Just take 10 neem leaves and boil them in some water. You can add little bits of orange peel too. As they become soft, remove them and pound them into a pulp. Apply this on your face and let it sit till it starts drying. Rinse your face with cold water. This is how you can use neem tea for acne. This face pack will help in clearing acne and preventing breakouts. It also helps in getting rid of whiteheads and blackheads. You can also use neem powder for acne. Just make a paste of the powder and use in a similar way. And so does neem water – just add about 20 neem leaves to half a liter of water and boil. Strain the water and store. Apply this water to your skin using a clean cotton ball. And in case you have dry skin, you can add a little amount of honey and yogurt to this pack. Regular use of a paste of neem leaves and turmeric can clear your skin and give it that lost glow. Adding some grated cucumber can only make everything better. This mask can be used for face whitening too. You can even leave neem paste on your face overnight. Just make a paste of the leaves and apply on your face. Sleep on your back and take care not to soil your bedspread/pillow. Guess what – neem has amazing moisturizing properties. It helps get rid of dry skin without making it too oily – hence, offering a balancing effect. Simply mix neem powder with a few drops of grape seed oil and apply to your face. You can also use neem for itchy skin. Cleansing your skin with a gentle neem soap or dabbing the area with neem tea (soak neem tea bags in water and use it) can help you get rid of the irritation. The compounds in neem give it its regenerative properties that help the skin fight pathogens below the surface, thus keeping the skin supple and young for a longer time. Applying diluted neem oil to your face or adding neem powder to your face packs can delay the signs of aging and keep your skin healthy. Neem oil works wonders for psoriasis [21]. The most common problem associated with this disease is dryness and scaling. Neem oil helps in getting rid of the itchiness and irritation. It also helps in keeping the skin moisturized, thus reducing the dryness and scaling. The antibacterial properties of the oil also prevent the development of any further skin infections (like eczema). Neem helps in reducing the pigmentation and acts as a moisturizing agent, and hence, is the perfect solution to this problem. Just mix neem powder with water and apply it beneath the eyes. Ensure it doesn't get into your eyes. Wash it off after 15 minutes. Do this every day to see the difference [9-14].

Using neem leaves for hair can give you great results. And even neem powder is good for hair. Its antimicrobial and immune-boosting properties keep your hair healthy. The regenerative properties of neem help in reducing hair fall. Massaging your scalp with neem oil can increase the blood circulation in the scalp and help in enhancing the rate of hair growth. You can also mix neem oil with any of your favorite carrier oils (like olive, coconut, jojoba, etc.) as well. Using neem leaves with coconut oil can have greater benefits for your hair. Boil neem leaves till they are soft and mash and mix them in coconut oil. Apply the oil mixture on your hair and shampoo as usual after 1 hour [15].

Even neem paste does wonders – and if you are wondering how to apply neem paste to your hair, this is it – grind some fresh neem leaves to a paste. Add some more water if required. Apply the paste to your hair, from the root to the tip and to the scalp too. Leave it on for 30 minutes and then shampoo as usual. Washing your hair with neem water can also have desirable effects. Just like how neem can be used to moisturize dry skin, it can also be used to condition dry and frizzy hair. Make a paste of neem leaves boiled in a mixture of water and honey. Apply it to the hair, and then follow it up with a regular hair wash. Your dry tresses will be well-conditioned, dandruff-free and frizz-free .

Wondering how to use neem powder for hair? Well, just make a paste of the powder mixed with water, and to this, add a few drops of olive oil or almond oil. Apply the paste to your scalp. This helps combat dandruff and condition your hair. In case you have an oily scalp, you can avoid the oil. Another hair mask that will help deep condition your hair and improve scalp health can be made by mixing neem powder with amla powder, shikakai powder, water, and lemon juice. Apply this to your hair and let it sit for 30 minutes before you wash it off with your regular shampoo. The ingredients in the pack will help keep scalp problems at bay while retaining the moisture of the hair and preventing dryness. Most of us believe that baldness is a cosmetic issue. But the lesser-known fact is that baldness can also be a result of some long-term treatment with heavy drugs. And such cases of baldness can be cured by using neem. Neem makes the hair stronger and might also restore lost hair. However, consult your doctor on this. Regular use of neem as a hair mask and neem water

as a rinse promotes hair growth. Neem also triggers the normal functioning of the scalp to ensure regrowth of hair [15].



Fig 1 : Health Benefits of Neem

CONCLUSION

Most parts of the neem tree are awfully bitter, with the exception of its flowers. White and delicate, neem flowers with their off-white buds are almost too pretty to be eaten and unbelievably therapeutic. The flowers have a sweet, almost mystical jasmine like scent at night and blossom once in the afternoon and then again in the evening. During the monsoon, you'll see a bunch of them scattered right under the tree. Also known as Vepampoo in Tamil, these neem flowers can be used fresh, dried or in a powdered form. They're used commonly in the South to cook a number of dishes: flower rice, pachadi, rasam, lentils and more. They're often dry roasted and sprinkled on top of the dish to garnish as well. Neem flowers can be used to treat anorexia, nausea, belching and intestinal worms. Ayurveda suggests neem leaves are good for the eyes and useful in treating skin disease and headaches. They're used in aromatherapy because of their calming effect. A 2008 study also found the alcoholic extract of the neem flowers to be an effective contraceptive. Neem oil that's extracted from neem seeds is rich in medicinal properties which are what makes it a great ingredient in cosmetics and other beauty products: soaps, hair oil, hand wash, soap etc. It can treat a bunch of skin diseases and is known to be an excellent mosquito repellent.

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