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From Ritual to Wellness: Exploring the Health-Boosting Properties of Betel Leaves

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The betel leaf (*Piper betle*), commonly known in India as Paan, is a perennial, evergreen vine belonging to the Piperaceae family, renowned for its cultural significance and serving as an inexpensive, natural source of wellness. It is rich in nutrients, phytochemicals, and antioxidants, including 85.4% moisture, 3.1% protein, and essential oils containing phenols such as eugenol and chavicol, which impart antioxidant and anti-inflammatory benefits. In Ayurvedic medicine, where it is classified as a "Vata-Kapha Shamak" herb, the leaf is traditionally used as a digestive tonic to treat headaches and improve gut health. Modern findings support its health benefits, including excellent analgesic properties for pain relief, aiding in the relief of constipation, improving digestion and metabolism, and treating respiratory issues such as cough, asthma, and chest congestion. Furthermore, its anti-septic and anti-microbial properties, driven by chavicol, help maintain oral hygiene by combating bacteria and are suggested to have anti-carcinogenic potential, particularly for oral cancer, leading to its description as the "Green Gold of India".

Keywords: Analgesic, Antioxidant, Antimicrobial, Ayurvedic medicine, Betel leaves, Chavicol, Digestive Tonic, Green gold of India, Oral health and *Piper betle*

Introduction

The betel or *Piper betle* is a vine of the family *Piperaceae* or pepper family, originated in Southern or Southeast Asia. Betel plant is an evergreen, dioecious and perennial plant. The fresh leaves of betel plant popularly known as Paan in India. Betel leaves has shiny heart-shaped leaves with small white flower spikes. It is grown as a cash crop mostly in the states of Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Kerala, Bihar, Assam, West Bengal and other states. There are approximately 100 varieties of betel plants worldwide, with about 40 found in India and 30 in West Bengal. The betel plants are cultivated under fertile soils; especially sandy loam soil is best suited for their development. As it is a tropical plant, it grows well in warm and humid climates. The ideal temperature range for growing the betel plant is 10-30 °C. It requires regular watering, and an area with mild shade is preferable for successful growth of the betel plant. Try to avoid placing the plant in an area where it receives a lot of sunlight. Hence it is well remarkable for the usage in religious functions and other rituals. The betel leaves possess numerous medicinal properties that aid in the treatment of various diseases, including hypertension, diabetes, cuts and injuries, headaches, constipation, obesity, wound healing, and other health issues.

Nutritional Composition

Betel leaves have vast health benefits due to the presence of health-promoting substances. Betel leaves consist of 85.4% moisture, 3.1% protein, 0.8% fat, 6.1% carbohydrates, 2.3% fiber, 2.3% minerals per 100 g. Betel leaves are a rich source of vitamins and minerals, including calcium, potassium, phosphorus, thiamine, carotene, riboflavin, niacin, vitamin C, vitamin A, iron, and iodine. It consists of 85-90% water and provides 44kcal/100g of energy. The aromatic odour of betel leaves is due to the presence of essential oils, which mainly constitutes terpenes and phenols including antioxidant and anti-inflammatory benefits. The major compounds are eugenol, cadinene, limonene, pinene, allyl pyrocatechol, carvacrol, camphene, caryophyllene, chavicol, safrole, 1,8-cineole, chavibetol, and other major components that offer antimicrobial and digestive properties.

Traditional Uses of Betel Leaves

Betel leaves hold a significant place in various cultures, particularly in South and Southeast Asia. Some of the prominent traditional uses include:

- **Ayurvedic Medicine:** Used for treating cough, wounds, headaches, and digestive issues.
- **Religious & Social Practices:** Offered in prayers and used in betel quid for ceremonial purposes.
- **Folk Remedies:** Applied externally for pain relief and consumed for oral hygiene and respiratory health.

Ayurvedic Use of Betel Leaves

In Ayurveda, betel leaves are considered a powerhouse of medicinal properties. They are categorized under “Vata-Kapha Shamak” herbs, meaning they help balance Vata (air and space elements) and Kapha (water and earth elements) in the body. Some key Ayurvedic uses include:

- **Digestive Tonic:** Betel leaves are used to stimulate digestion and improve gut health by enhancing the secretion of digestive enzymes.
- **Detoxification:** They are believed to help cleanse the body of toxins and improve liver function.
- **Oral Health:** Traditional Ayurvedic texts recommend chewing betel leaves to strengthen gums, prevent bad breath, and reduce oral infections.
- **Respiratory Relief:** Betel leaves are used in Ayurveda to alleviate respiratory issues like cough, asthma, and bronchitis by clearing mucus and acting as a natural bronchodilator.
- **Skin Healing:** Due to their antiseptic properties, betel leaves are applied to wounds, cuts, and skin irritations for faster healing.
- **Shwaskuthar:** An Ayurvedic medicine that includes betel leaves for treating respiratory ailments.
- **Tambulsavam:** A formulation derived from betel leaves, traditionally used in Ayurvedic practices.

Health Benefits

Betel leaves have excellent analgesic property: Betel leaves function excellently as analgesic. It relieves any pain by giving instant relief. It acts immediately on any cuts, injuries, rashes and any bruises. It is very simple to prepare. Make the betel leaves into paste and apply on the affected area. Sometimes betel juice also gives much relief from internal pains occurring in the body.

Betel leaves helps in ease of constipation: To eliminate the radicals from the body, betel leaves will help as it is a richest source in antioxidants. It also has the capacity to restore the PH levels to normal range in the body and clears the upset condition of the stomach. Ayurved studies also recommended that consuming betel leaves will ease the constipation by providing relief to the body. Other simple method is crush the leaves of betel and allows them to leave in the water overnight. Consume that water in the early morning with an empty stomach. By doing this will help in regulating the bowel movements.

Betel leaves improves digestibility: Betel leaves has excellent properties like intestinal, anti-flatulent that helps in protecting the gut. It increases metabolism triggering circulation and also stimulates the intestine to absorb vitamins and other nutrients. It is recommended to chew the leaves of betel after meal to have better digestion.

Betel leaves reduces respiratory problems: Betel leaves helps in treating respiratory issues like cold and cough. It is an excellent savior in curing chest problems, asthma and lung congestion. To reduce the problem of chest congestion all we have to do is apply small amount of mustard oil on the leaf, warm it and place on the chest. It gives immediate relief from this procedure. To get instant relief from breathing issues just boil few leaves in water, add cardamom, cloves and cinnamon in two cups of water and reduce it to one cup. Consume this drink in two to three times a day and see the results.

Betel leaves has anti-septic and anti-fungal properties: Betel leaves are excellent sources of anti-septic properties as they are rich in polyphenols especially chavicol. It helps to protect the body from germs and other microorganisms. It also helps to treat muscular disorder like arthritis. Its amazing anti-fungal properties help to relieve from fungal infections. Make the paste of betel leaves and apply on the affected area to get instant relief from fungal infections.

Betel leaves helps to maintain oral hygiene: Betel leaves are best known with their anti-microbial agents. It helps in effectively combating a host of bacteria dwelling in the mouth which trigger against bad smell, cavities issues, plaque and tooth decay. Chewing small amount of betel leaves paste after meals boosts the gut wellness, improves bad breath, mouth odour and also gets instant relief from tooth aches, gum pain, swelling and other oral infections.

Betel leaves relieves joint pains: Betel leaves are rich in anti-inflammatory compounds which give amazing relief from discomfort and aching in the joints. It also cure chronic disorders like rheumatoid arthritis, osteoporosis. Take few amounts of betel leaves, warm it and tie them tightly around the affected areas like bones and joints. This method gives instant relief from pain and inflammation.

Betel leaves improves the weakness of nerves: The juice of betel leaves helps in treatment of nerve pains, nervous exhaustion and other physical weakness. A teaspoon of betel juice along with pinch of honey reduces the nervous pain and other nerve symptoms.

Betel leaves relieves boils: Betel leaves has vital role in curing boils. Place small amount of betel leaves warm it and add spoonful of castor oil on the leaf and apply on the affected region. Make sure to replace the leaf every few hours. For best results apply overnight and remove during morning hours to feel better relief.

Betel leaves relieves cancer: Betel leaves are rich in anti-carcinogenic properties and help in the curing of oral cancer as they help in maintaining the levels of ascorbic acid in the saliva. Take a small amount of betel leaves, boil for a few minutes, and add honey to the boiled water. Consume this drink regularly as it is an effective remedy for treating oral cancer.

Ways to use betel leaves

- **Chewing Fresh Leaves:** Can be ingested alone or with natural additives like catechu and supari (seeds of betel palm) for medicinal benefits.
- **Betel Leaf Tea:** Boiling betel leaves in water and drinking the infusion for digestive and respiratory relief.
- **Topical Applications:** Crushed leaves applied to wounds, boils, or inflamed areas for healing.
- **Essential Oil Extracts:** Used in aromatherapy and as a natural remedy for microbial infections.

Additional Uses of Betel Leaves

In addition to the health benefits mentioned earlier, betel leaves have some lesser-known uses:

- **Skin Care:** The antimicrobial properties of betel leaves make them effective in treating acne, skin infections, and minor wounds.

- **Weight Management:** Some studies suggest that betel leaves may help improve metabolism and support weight loss efforts.
- **Stress Reduction:** Betel leaves have a mild calming effect and are used in traditional practices to reduce stress and anxiety.
- **Insect Repellent:** The strong aroma of betel leaves acts as a natural insect repellent, keeping mosquitoes and bugs at bay.
- **Hair Health:** Betel leaves have been used to promote hair growth and prevent dandruff when applied as a hair mask or infused in oils.
- **Cultural Significance:** In Indian culture, consuming betel leaves with areca nut, fennel seeds, clove, cardamom, or guava leaves is a common practice. This traditional preparation is believed to aid digestion and freshen breath.

Conclusion

Piper betel is well known to the world as its availability is low cost, very natural and its level of procurement. Betel leaves are rich sources of phytochemicals, nutrients, antioxidants, and other nutraceutical properties that help relieve various disorders, including neuro-muscular issues, constipation, cancer, and other fungal infections. Hence, it is used for many therapeutic purposes. It serves for many medicinal and traditional uses like a mouth freshener, treatment for ulcers, boils, and other issues. As it serves its usage widely it is regarded as the “Green Gold of India.”

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