Int. J. Curr. Res. Med. Sci. (2024). 10(10): 27-31

International Journal of Current Research in Medical Sciences

ISSN: 2454-5716

(A Peer Reviewed, Indexed and Open Access Journal)

www.ijcrims.com

Review Article

Volume 10, Issue 10 -2024

DOI: http://dx.doi.org/10.22192/ijcrms.2024.10.10.004

# Extensive Use of Coconut in Local Health Traditions - A Review.

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## Abstract

Coconut, which is botanically Cocos nucifera, is known for its uniqueness in consisting of natural products that are used in the development of medicines used against diseases in traditional medicine. In India, it is cultivated widely for its nutritional and medicinal values. Its application in the Indian system of medicine has been documented in literature 4000 years ago. Coconut is well known for its medicinal values worldwide. Each and every part of coconut has phytochemical constituents that contribute to its medicinal values. This study is an attempt to review the uses of coconut both internally and externally which are in practices of various local health traditions.

**Keywords:** coconut, Cocos nucifera, coconut in traditional medicine, folk medicine.

## Introduction

Coconut tree is a multipurpose tree with numerous benefits. Coconut, which is botanically Cocos nucifera, is known for its uniqueness in consisting of natural products that are used in the development of medicines used against diseases in traditional medicine. It is widely cultivated in India for its use in food preparations and also it takes part as a main ingredient in the rituals that are followed. It is often referred as Kalpavriksham which means ‘a tree that offers all the essentials of life’ in India. Monisha Devi et al quotes it as a ‘ tree of life’ or ‘tree of heaven’ for Philippines, ‘tree of 'abundance’ for Indonesians. Coconut is well known for its nutritional and medicinal values and being utilized in numerous medicinal preparations mentioned in the literature of traditional systems of medicines like Siddha and Ayurveda in India and also worldwide. There are many studies that proves coconut is a fruit with antibacterial, antifungal, antioxidant, anti inflammatory, analgesic, anti parasitic, antiviral and many other properties. Countries like Indonesia, Philippines, India, Sri Lanka and Brazil dominate in coconut production in the world. This also proves its use in various ethnic food preparations in these countries and also its significance in medicinal uses. Research studies show that in Polynesia and Sri Lanka, where coconut is a part of staple diet, people do not

suffer from high serum cholesterol and high rates of heart diseases. This study attempts to highlight the significance of coconut in traditional medicines. Traditional medicine includes all kinds of folk medicines, unconventional medicine and indeed any kind of therapeutic methods.

## Methods

Information for the documentation was gathered from various databases such as Google Scholar, Pubmed, and ScienceDirect. This documentation uses publication from 1970-2024. The study documents the ethnomedicinal use of coconut in traditional systems of medicines.

### Taxonomical classification

| | |
|---|---|
| **Kingdom** | Plantae |
| **Class** | Monocotyledons |
| **Order** | Arecales |
| **Family** | Arecaceae |
| **Genes** | Cocus |
| **Species** | Nucifera |

### Chemical constituents:

The review of phytochemical studies of coconut showed the presence of the following constituents:

With Ethanolic extract the constituents like phenols, tannins, leucoanthocyanidins, flavanoids, steroids and alkaloids were found in coconut.

With butanol extract the constituents like saponins, triterpenes, condensed tannins were noted.

With liquid albumen the constituents like vitamin B, nicotinic acid, pantothenic acid, biotin, riboflavin, folic acid with smaller quantities of vitamins B1, B6 and C were present.

### Pharmacological activities:

### Analgesic activity:

The review of the pharmacological activities of Cocos nucifera in research papers has proved the presence of Analgesic activity of coconut with the help of acetic acid - induced abdominal writhing, tail flick and hot plate tests in mice. Studies also suggest that Cocos nucifera is a potent analgesic and can also be used in producing cost effective new analgesic drugs.

### Anti- inflammatory activity:

The anti-inflammatory activity in Cocos nucifera has been proved using the formalin test and subcutaneous air pouch model in animal models of inflammation. The crude extract of coconut has also reduced the inflammation induced by subcutaneous carrageenan injection by reducing the cell migration of protein.

### Anti- oxidant activity:

The anti-oxident activity of Cocos nucifera has been proved in research papers using the 2,2 diphenyl-1-picryl-hydrazyl-hydrate assay. The presence of this anti-oxidant activity in coconut is due to the presence of condensed tannins. The free radicals that are responsible for the anti oxidant activity also supports the anti - inflammatory action by attracting the inflammatory mediators that causes inflammatory response.

Physiologically functional components of coconut can be found in the fat part of whole coconut, desiccated coconut and also in the extracted coconut oil.

In recent studies, lauric acid is a major fatty acid from the fat of coconut and has been known for its unique properties related to its antiviral, antibacterial and antiprotozoal functions. Also now capric acid which is another fatty acid from coconut also has antimicrobial components.

### Use of coconut in traditional medicines:

In India, the medicinal value of coconut is known to be very ancient in India since 400 B.C as Susrutha Samhita mentions narikera in madhuvarga and asavas (Sharma, 1979). At present coconut is used in traditional medicines,

Siddha, Ayurveda, Tibetan and Unani system of medicines.

It possesses anthelmintic, antidotal, antiseptic, aperient, aphrodisiac, astringent, bactericidal, depurative, diuretic, hemostat, pediculicide, purgative, refrigerant, stomachic, styptic, suppurative, and vermifuge properties. It is used as a folk remedy for abscesses, alopecia, amenorrhea, asthma, menorrhagia, bronchitis, bruises, burns, cachexia, calculus, colds, constipation, cough, debility, dropsy, dysentery, dysmenorrhea, earache, erysipelas, fever, flu, gingivitis, gonorrhea, hematemesis, hemoptysis, jaundice, menorrhagia, nausea, phthisis, pregnancy, rash, scabies, scurvy, sore throat, stomachache, swelling, syphilis, toothache, tuberculosis, tumors, typhoid, venereal diseases, and wounds (Duke and Wain, 1981; Udayan and Balachandran, 2009). It is also believed to be anti-blenorrhagic, anti bronchitis, febrifugal, and anti-gingivitic.

**Pulp of coconut** Decoction of pulp is used in the treatment of fever and malaria in Malaysia. Pulp is used as an aphrodisiac in Mozambique. It is used to relieve rashes caused by HIV-AIDS in Kenya (Lima et al, 2015). Pulp extract is used as antipyretic and in kidney inflammation in Gautemala. It is used as diuretics and in gonorrhoea treatment in Peru. It is used in urogenital inflammation caused by Trichomonas vaginalis in Mexico. It is used in amenorrhoea, dysmenorrhoea and diabetes and asthma treatment in Trinidal, Jamaica, Haiti and Peru respectively. Cream made from the pulp is used in abscess, dermatitis treatment in Gautemala and for treating burns in Haiti. Blood of hen mixed with grinded raw coconut is used in asthma treatment in Nicobar Islands.

Mary G. Enig points out that recently published research has shown that natural coconut fat in the diet leads to a normalization of body lipids, protects against alcohol damage to the liver and improves the immune system's antiinflammatory response.

**Coconut water** The refreshing water in the nuts is used in the inflammation of liver, kidney and bladder. It is also used traditionally in homes to treat body heat, pain in the bowels or discharge of mucus or blood. It refreshes in the season of great heat (Randhawa, 1982). Coconut water is used extensively in folk medicine for healing a number of ailments such as in relieving fevers, headaches, stomach disorders, diarrhea and dysentery. Pregnant ladies in the tropics drink large quantities of coconut water as they believe it will give their babies strength and vitality. Coconut water has been transferred directly during World War II for wounded soldiers when blood plasma was low. Coconut water with sandalwood paste is used for bathing (Mittne, 1991). It is used in the treatment of renal diseases in Fiji. In India it is used in making oils used as coolant and also in oils used for treating eye diseases. This is given along with diuretics.

**Coconut milk** is used in Kerala and Tamil Nadu as an effective cure for prickly heat (Khanna, 1985). Coconut milk is used in diarrhoea treatment in Ghana and for oral contraception in Indonesia. It is used to gargle in case of mouth and throat ulcers in India.

**Coconut oil** is one product of coconut trees that is extensively used in traditional medicines as well as in home remedies. In Eczema treatment it is mixed with garlic segments crushed in the oil, in burns treatment it is used with Cynodon dactylon infused in it. Coconut oil mixed with dry powdered leaves of Santhabuthi (found in Jammu region) cures burnt body parts (Khema, 1985). Curry leaves boiled in coconut oil make an excellent hair tonic to stimulate hair growth and bring back hair pigmentation (Khanna, 1985). In south India, coconut oil and milk is used in pre and post delivery cure. The indigenous practice uses coconut oil during pre delivery edema and rice cooked in milk with sugar or jaggery for increasing milk secretion (Nagnur et al, 2006). Coconut oil is used in preventing hair loss and wound healing in Fiji and Indonesia. In India it is used to treat burns, toothache and ringworm. It is also extensively used for hair growth.

**Coconut shell** Ash from the mature shell of the fruit is mixed with lime and used in the treatment of ringworm (Chaudhuri et al, 1991). The husk

fiber ash of coco fruit is used to cure old cases of piles. Coconut shell fibers are used for the treatment of Amennohoea in Brazil, for venerial diseases treatment in Trinidal (Lima et al, 2015).

**Root of coconut tree** tea made with root is used in the treatment of diarrhoea and stomach pain in New Guinea. The extract from root is used as antipyretic and in diarrhoea treatment in Indonesia.

Decoction of root is used in the treatment of menorrhagia in India.

**Coconut flowers** mixed with curd is used for consumption by diabetic patients and also given to newly weds as aphrodisiac (Khanna, 1985). It is consumed with fish for aphrodisiac action in Maldives (Randhava. 1982).

Little coconuts (coquinhos) are used for many infantile complaints like diarrhoea and mouth sores (Manucci et al).

**Coconut toddy** is believed to be good for eyesight and serves as a sedative. It is also a mild laxative used to relieve constipation. It is prescribed as a tonic for recovering from diseases like chicken pox. It is given to pregnant women to have a beautiful baby.

Coconut sugar is used in the treatment of Diabetes mellitus in India.

## Conclusion

The importance and significance of documenting this coconut ethnicity is an attempt to keep it relevant and take it to broader viewers. The study reveals the fact that coconut has a high value in traditional medicines. This also proves the fact of its beneficial properties to human health in the form of food and as medicine. This study is documented with a belief that this review would be used to further explore coconut as one of the significant ingredients in traditional medicines and the ways to use it in various pharmacological preparations to prevent and treat various ailments in human kind.

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| DOI: 10.22192/ijcrms.2024.10.10.004 | |

How to cite this article:
Lakshmipriya T, Kannan M. (2024). Extensive Use of Coconut in Local Health Traditions - A Review. . Int. J. Curr. Res. Med. Sci. 10(10): 27-31.
DOI: http://dx.doi.org/10.22192/ijcrms.2024.10.10.004