

Conceptual Analysis to Evaluate and Rule Out The Efficacy of Narikela Pushpa Coconut Inflorescence in Striroga

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ABSTRACT

Coconut tree is one of the main cultivation and good yielding in farm sector in Karnataka kerala and some other states. Many constituents from coconut trees are used in several traditional and *Ayurvedic* drug preparations and a major content in daily food habits. Almost all part of *Narikela* tree is used like fruit, fruit pulp and inflorescence, which is having so much of medicinal properties and actions. *Acharyas* mentioned *Narikela* under *Phalavarga*, Hence nobody concentrated on the inflorescence of the plant. *Narikela Pushpa* is the flower or flowering inflorescence of Coconut tree. Study on components of coconut inflorescence, shows its medicinal value. There is not much studies are done to rule out the medicinal uses of *Narikela Pushpa*. But in classical old textbooks mentioned some references about the same. Our ancestors used *Narikela Pushpa* and its preparations as home remedies in some conditions like *Mutra Ashmari*, *Raktha Srava*, *Amlapitta* also in *Garbhini Paricharya* and some other *Strirogas*. In this article an attempt has been made to discuss about the medicinal uses, effects of *Narikela Pushpa* in *Striroga* and in *Garbhini*. To promote the wide use of *Narikela Pushpa* and its preparations in general public mainly females.

KEYWORDS: Narikela, *Cocos Nucifera* Linn. Narikela Pushpa, Striroga,

INTRODUCTION

Ayurveda deals with drugs of plant, animal, metal and mineral origin, where maximum drugs are of plant origin¹. Information pertaining these drugs is available in the classical texts of *Ayurveda*. *Narikela*, one of the classical drugs of herbal origin, botanically identified as ***Cocos Nucifera* Linn**, has been used by the *Ayurvedic* physicians.

Botanical Description: *Narikela* is a type of palm tree, 20-30 m high. Stem bark grayish-light brown. Leaves pinnately compound, 2-4 m long; Flowers greenish-yellow, Fruit green, yellowish or orange, 20-30 cm long and 15-20 cm in diameter, with thick fibrous covering and a hard, ovoid-ellipsoid shell inside bearing a seed; endosperm a layer of white, albuminous matter and a watery fluid.²

Narikela is plant origin drug with botanical name is ***Cocos Nucifera* Linn**. Uses of *Narikela* are described several times in *Brihatrayi* texts under *Phala varga*³. It is observed that Flower, Fruit, Root,

Fruit pulp, Fruit milk of *Narikela* are used as an ingredient in 53 formulations, which are effective in more than 25 disease conditions⁴. *Narikela Pushpadi Kwata* is mentioned in *Brihat Bhaishajya Ratnakara* which is used for *Striroga*⁵.

Description of *Narikela*

- Scientific name - *Cocus Nucifera*
- Family – *Arecaceae*
- Vernacular names
 - English –Coconut
 - Hindi – Narial
 - Kannada – Tengu/ Kalpavriksha
 - Tamil- Tengai
 - Telugu – Kobbari chettu
 - Malayalam - Tengu

The etymology of *nucifera* refers to the palm that produces nuts. Coconut palm tree is widely distributed throughout tropical and subtropical regions. It is mainly cultivated in Southeast Asia and India is one of the major coconut producer and ranks third in the world. The height varies between 12-30m high, with large leaves arranged at the end of the stem. Each inflorescence is branched flower cluster, located at the base of the leaves. In *Ayurveda*, coconut inflorescence is used in the treatment of urinary calculi and uterine disorders⁶. Coconut fruit consists of brown fibrous bark and hard shell, having a seed inside. The central cavity of the fruit has coconut water. When the fruit ripens, this fluid accumulates fat⁷. The fresh kernel is an ingredient of many Indian food preparations like puddings, sweets, curries, chutneys etc. Even different parts of the tree are used in the preparation of *Ayurvedic* medicines like *Rasayana Kashaya, Lavana, oils* etc.

Classical texts of *Ayurveda* mentions *Narikela* under different categories by keeping the drug under various *Vargas* (groups of drugs) like *Madhura skandha* (sweet in taste)⁸ *Amradi Phala Varga, Amradi Varga*,⁹ *Aushadhi Varga*,¹⁰ *Mahavriksha Varga*,¹¹ *Haritakyadi Varga*.

Pharmacological properties of *Narikela* attributed by different *Nighantus* ¹²⁻¹⁷

Rasa	<i>Madhura</i>
Guna	<i>Guru, snigdha</i>
Virya	<i>Shita</i>
Vipaka	<i>Madhura</i>
Doshkarma	<i>Vaat-pit-tahara</i>
Karma	<i>Balya, Bru-haniya, Basti shodhan, Trush-nanigrahan, Jvaraghna, Hridya, Mutral, Deepan, Vrushya, Rak-tapittanashak, Shramhara, Vaatrognashak, Raktashodhan, Vishtambhi, Ke-shya, Kan-dughna, Prame-haghna, Shula-hara, Vajikaran</i>
Rogagnata	<i>Daah, Vaat-pitta, Rak-tapitta, Mutraroga, Shukradosh, Trushna, Shram, Hridya roga, Vaatrog, Rakta vikar, Kshayaroga, Prameha, Daurbalya, Jvara, Khal-itya-Palinya, Kandu, Shula, Am-lapitta</i>

DISCUSSION

In Indian medicine, Especially throughout Kerala and Karnataka in *Anubhutha Yogas* the fresh juice of

Cocos nucifera inflorescence is used in treatment of menorrhagia and also given during pregnancy by various *Ayurvedic* Traditional medical practitioners, and as a home remedies by old age peoples. The medicine called as *Tengin Pookaadi Lehya* (which is a medicine prepared from the inflorescence of coconut tree) is prescribed for postnatal care, low backache, lactating mothers, as a healthy regimen and also as a *Rasayana* therapy in ladies and childrens.

Nutritional value

The phytochemical analyses of the young inflorescence of coconut palm showed that

- ✓ Presence of phenolic acids, flavonoids and resins at high concentrations.
- ✓ Alkaloids, acidic compounds, and tannins were present at moderate concentrations.
- ✓ Steroids and saponins had the least concentrations.
- ✓ Among macronutrients - carbohydrates at a high concentration, proteins at a moderate concentration, fats and oils at the least concentrations
- ✓ It also contains resins, proteins, dietary fibers and amino acid¹⁸.
- ✓ Proanthocyanidins²¹

Medicinal property

Polyphenols are a category of compounds naturally found in plant foods, such as fruits, vegetables etc. There are more than 8000 types of polyphenols. They are further classified into 4 main groups. They are- Flavonoids, phenolic acids, poly-phenolic amides, other polyphenols¹⁹. Presence of polyphenols and flavonoids though at varying concentrations contributes the antioxidant property and anti-inflammatory properties. Antioxidants help to neutralize free-radicals that damages cells and prevent its effects of free-radicles on cardiovascular disease, neurodegenerative disorders, cancer, obesity etc., however, some have cautioned that there may be harmful effects of overconsumption²⁰.

Proanthocyanidins²¹

Proanthocyanidins, also known as condensed tannins, are oligomers or polymers made up of flavan-3-ol monomeric units. Proanthocyanidins have recently attracted a considerable amount of attention in the fields of medicine, health and nutrition. They have been reported to exhibit antioxidant, anti-inflammatory, bacterial anti-adhesion, anticancer, and cardio protective activities. There is evidence also to suggest that proanthocyanidins may play a role in the treatment of menorrhagia.

Since proanthocyanidins are one of the major compound groups present in *Cocos nucifera* L. inflorescence and it may be responsible for the ethno medical usage of *Cocos nucifera* L. inflorescence in menorrhagia, we carried out a literary analysis of the proanthocyanidin distribution within the inflorescence as well as its variation with the maturity of the inflorescence. The results will be useful to verify the use of the total immature inflorescence of *Cocos nucifera* L. just prior to opening for the treatment of menorrhagia in *Ayurveda* and traditional medicine in Sri Lanka.

In addition, the progestogenic activity of ethyl acetate soluble proanthocyanidins (EASPA) of *Cocos nucifera* L. inflorescence has also been reported in relation to its ethno medical usage. Progestogens act by opposing the action of estrogens by minimizing the effects of estrogen on target cells, thereby maintaining the endometrium in a state of down-regulation. The result is suppression of endometrial glandular growth, stromal decasualization, leukocytic infiltration, glandular atrophy and stromal focal necrosis, thereby leading to a reduction in menstrual blood loss.

The percentage yield of EASPA decreases with increasing maturity of the inflorescence. The middle section of the inflorescence contains a higher percentage of total proanthocyanidin when it compared to base and tip portion. The use of total immature inflorescence just prior to opening appears to optimize the procedure for obtaining an adequate concentration of EASPA (which has been shown to contain progestogenic activity) for therapeutic purposes.

Method of preparation of inflorescence extract

- Fresh juice of Coconut inflorescence is extracted and mixed with jaggery, badam and milk or
- Fresh Coconut inflorescence is grinded with sugar and badam to extract juice and taken.
- Juice may be added according to the condition or taste to enhance the effect of preparation²².

CONCLUSION

Research study on the composition of Cocus Nucifera inflorescence is having scope in further study. We personally experienced the effect of coconut inflorescence in my life specifically in *Strirogas*. My grandma used to suggest some specific preparation of inflorescence to our friends and family members also. So to evaluate the exact action of Cocus Nucifera inflorescence further studies with clinical trials we already started.

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