Thalkudi (Centella asiatica L.): A Brain Tonic among the Rural and Tribal Communities of Odisha, India

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Abstract

Odisha state of India is rich in biodiversity of medicinal flora. “Thalkudi” (Centella asiatica L.) is a common important traditional herb having its importance not only as brain tonic but also purpose of memory enhancer among the tribal group and rural community of different rural and forest divisions of the state. The present study deals with the documentation from the field survey for highlighting the ethnomedicinal properties and pharmacological activity of Thalkudi (Centella asiatica L.).

Keywords: Thalkudi; Tribal Community; Ethnomedicinal Value; Pharmacological Activity

Introduction

Traditional medicine system is an important part of Odisha’s culture. The demands for medicinal plants are increasing in both urban and rural areas due to less or no side effect and easy availability in our environment. Most of the medicinal plants are collected by tribal communities from forest with uncontrolled harvesting has resulted in the extinction of many plants and created huge issues regarding medicinal plants and their conservations. Keeping this in view, we have attempted to collect the information from field and review about Thalkudi (Centella asiatica L.) belong to family Apiaceae, it is a herb with long creeping stems rooting at the nodes. Leaves, orbicular to reniform, margins entire to repand dentate, venation palmate. Inflorescence, a loose to subcapitate simple umbel, Style short. Young leaves and petioles villous, below, simple L orbicular-transform never lobed but often with large rounded crenatures or sometimes coarsely dentate or sub-entire. Umbels usually several at a node, perhaps representing a sessile compound umbel, each with a pair of ovate sub-amplexical bracts, flowers, sub- sessile, petals reddish white ovate acute or obtuse imbricate. Stamens red. Fruit with very narrow commissure, didymous, cocci, seed laterally compressed [1].

It is locally known as Thalkudi among urban or rural people of the state, Banda Cocha among tribal group of Niyamgiri such as Desia Kandha and Dongaria Kandha, Chake Dopa among the tribal group Kolha of Simlipal Biosphere Reserve Forest. In many parts of the country including among the tribal and rural community of Odisha, it often is used as a brain tonic for promoting brain growth and improving memory and also used in mentally retarded children to improve general mental ability [2]. It has been used widely in folk medicines for thousands of years to treat a wide range of illness among the tribal people of the state. It has been also used as a support for faster healing of small wounds; the treatment of burns, itching and insects bites.

In contrast with other medicinal plants, this plant has been subjected to quite extensive experimental clinical investigations due to its ability to heal relieve and recover human being from various pain and sickness. Keeping this in view, an attempt has been made to highlight the traditional and pharmacological properties of Thalkudi for its potential application in medicine.

Methodology

Selection and Identification of Selected Experimental Plant from Study Area

The experimental plant was selected as per availability and consumption rate among the rural & tribal communities of the study areas. The selection was also based on research objectives. The experimental plant species was identified following flora’s books [3,4].

Ethnobotanical Data Collection

The results presented here, were based on the field work conducted with the rural and tribal communities of SBR, Niyamgiri Hill ranges and Karlapat Sanctuary of Odisha, India during 2011 to 2015. The methodological frameworks for the ethno botanical study were as per the standard techniques of exploration and germplasm collection [5,6], qualitative and quantitative ethno-biological approaches in the field, interviews, elicitation methods, data collection and further authentication [7,8]. The standard participatory rural appraisal method [9,10] was adopted for sampling and data collection to incorporate the indigenous knowledge. Opinions of tribal people were taken regarding the uses of experimental plant through questionnaires. Ages of informants (77 numbers) were in between 30-65 years and they were native of the localities and were familiar with experimental plant. Further, group discussions and cross questions among tribal communities were made for authentication of data on experimental plants.

Results and Discussion

Ethnobotanical Uses among Tribal Community in Odisha

Centella asiatica is a very common and most utilized plant among the tribal communities in Odisha. The ethnobotanical properties were collected from the 77 number of informants from the study areas were unique and significant. Maximum number of informants who has given the medicinal informations were recorded in the Jashipur area of the adjoining area of SBR and from the Niyamgiri Hills of the Odisha state (Figure 1). The whole plant is used to instant treatment of headache on one side; plant juice is used for clear vision of eyes in children, leaf is used as growth tonic and to enhance the power of memory. The whole plant crushed with turmeric (Curcuma longa) and black pepper (Piper nigrum) and the extract gargled for mouth ulcers by tribal community. The details are listed in the Table 1. Apart from this, there are a number of ethnobotanical values of the plants. In blood disorders, leaves are boiled with water and a cup of the decoction is taken with honey every morning and evening. In fever, leaf juice is mixed with leaf juice of...
Nyctanthes arbor-tristis and taken every morning on an empty stomach till cure [11]. Juice of whole plant is used in fever [12]. Whole plant parts are used to cure leprosy, tuberculosis and asthma [13]. Whole plant paste is taken with a glass of milk to treat diabetic ulcers [14].

Chemistry of Thalkudi

Centella asiatica contains several bioactive constituents such as triterpene acids, thankunie acid, brahmiz and isobrative, hydrocotylin. In addition, it also contains other components including volatile oils, tannins, phytosterols, amino acids, and sugars. Asiaticoside (Figure 2), a trisaccharide triterpene, has been identified as the most active compound in the plant associated with the healing of wounds and duodenal ulcers, whilst the triterpene saponins are also reported to possess immunomodulatory properties and show efficacy against Mycobacterium tuberculosis, Bacillus leprae and Entamoeba histolytica [15].

Pharmacological Uses of Thalkudi

It has many therapeutic uses such as depression, impotence, leucorrhoea, dropsy, headache, vertigo, filociosis, leprosy, syphilis, psoriasis, eczema, urticaria, weakness of memory. In classical Indian Ayurveda literature, it is considered to be one of the ‘Rasayana’ (rejuvenator) drugs [2]. Centella asiatica (Figure 3) has also been reported to be useful in the treatment of inflammations, diarrhea, asthma, tuberculosis and various skin lesions and ailments like leprosy, lupus, psoriasis and keloid. In addition, numerous clinical reports verify the ulcer-preventive and antidepressive sedative effects of Centella asiatica.
preparations, as well as their ability to improve venous insufficiency and microangiopathy [16].

Conclusion

The findings of the field survey and literature review emphasized that Thalkudi has great potentiality to cure different diseases and possess unique ethnomedical importance among different tribal community of Odisha. The plant parts are used for medicinal purpose in cough, whole plant juice is used to cure eye problems, leaves are used as memory booster and to cure syphilis. Therefore Thalkudi play an important role as the traditional medicine populace of Odisha. The present study emphasizes upon the conservation of the traditional system of healthcare and cultural heritage. The detail pharmacological studies are required to use the active compounds from the plant parts for medicinal use. The study further emphasizes upon highlighting the pharmacological as well as ethnomedical importance of this plant for creating awareness to conserve the ethnic knowledge and the plant as well and for its potential application in pharmaceutical industries for development of potential drugs.

References


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