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Ethnomedicinal Plants Used by Indigenous Community in a Traditional Healthcare System

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Abstract

The traditional health care system is quite prevalent in the rural areas of Kanyakumari district. The present study deals with enumeration of 25 plant species from 25 families, used as traditional medicine by local indigenous community of the area. The different parts of the plants are used to cure several kinds of illnesses. The leaf is predominantly used, and is followed by roots, tubers, and rhizomes. The indigenous community prefers these plants as home remedy against fever, leucorrhoea, rheumatism, headache, indigestion, etc.

Background

Plants play significant role not only in our economy but also used as traditional medicines. Almost 75% of the medicinally important plant species grow in wild condition [1-6]. Kanyakumari district of Southern Western Ghats is one of the botanically rich areas of Indian peninsula. The richness and diversity of the medicinal flora of this region are largely due to the varied topography, tropical climate and heavy rainfall [7-10].

The present study was conducted in Kulasekharam of Kanyakumari district (8⁰03' – 8⁰35'N and 77⁰05' – 77⁰36'E), which is located in the lap of Western Ghats. This district covers an area of about 1684 sq km, surrounded by three Seas (Gulf of Mannar, Indian Ocean and Arabian Sea), southern Western Ghats and plains of Kerala. The annual rainfall varies from 89 – 254 cm, and maximum and minimum temperatures were 24⁰C – 28⁰C in winter and 26⁰C – 32⁰C in summer respectively.

Moisture content ranges from 65 to 75 % [11-13].

Rural people of the area have strong relations with their surrounding environment [14,15]. Therefore, the indigenous people have not forgotten their age-old ethnicity and traditions. Knowledge about medicinal plants, which are used in their daily life against various ailments, still lies with them. The present investigation highlights the age-old traditional knowledge about some medicinal plants used by the rural people of Kulasekharam as have remedy.

Methodology

During field study, medicinal plants were screened with the help of traditional medicinal practitioner (TMP) and rural people, belonging to 'Nadar' communities mainly through interview. The medicinal use of plants was ascertained through distributing questionnaire among the TMP and age-old rural people actively engaged in ethnomedicinal practices. The plant species were collected and identified with the help of regional and local floras [16-20], and are preserved in the Herbarium of Botany Department (SCH), Scott Christian College, Nagercoil.

Results and discussion

Twenty-five plant species belonging to 23 families of angiosperms were enumerated. Of these, 64% are herbs, 20% shrubs, and 8% climbers and tree species each. Asclepiadaceae and Verbenaceae were the most speciose family represented by two species each, whereas, 21 families were monospecific. Leaf is predominantly used as a remedy for various ailments among the rural people (9 species), followed by whole plant (6 species), root (3 species), fruit, seeds and tubers (2 species) and rhizome. The reported plants are used to cure 16 kinds of diseases and/or illness. The medicinal importance of the plant species, family name (in parentheses), local name and plant parts used in various ailments are listed in table 1.

Of 25 plant species enumerated during present study, only 4 species were cultivated and the rest growing in wild condition and under coconut plantations. Invasion of exotic weeds, monoculture and over exploitation had resulted in low population of *Acorus calamus*, *Aloe vera*, *Aristolochia indica*, *Clerodendrum inerme*, *Curculigo orchioides*, *Cyclea peltata* and *Hemidesmus indicus*.

In fact, the present study was the first attempt to explore medicinal plants of Kulasekharam area. The ethnobotanists have to pay much attention towards wealth of medicinal plants of this region. The declining population of some medicinal plants indicates threat of plant diversity. The conservation status of medicinal plants should be ascertained to find out the species facing danger. A good amount of data pertaining to diversity and distribution of medicinally important plants is required to formulate appropriate conservation strategy for conservation of plant wealth on sustained basis. Development and introduction of advance plantation technique, protection of natural regeneration and sustainable utilization could be the basic tool for conservation of such biological resources.

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Table 1. Plants used as traditional medicines.

S. No	Plant species	Family	Local name	Medicinal uses of plant parts used as medicine
1	<i>Acorus calamus</i> Linn.	Araceae	Vasampu	Roots are ground with coconut husk juice and applied near the ear to reduce swellings.
2	<i>Aegle marmelos</i> Linn. Corr.	Rutaceae	Vilvam	Leaf juice is boiled with coconut oil and massaged on the head for headache.
3	<i>Aloe vera</i> (Linn.) Burm. f.	Liliaceae	Sottukattalai	Leaf extract is boiled along with gingili oil and applied against rheumatism.
4	<i>Anisomeles malabarica</i> (Linn.) R. Br. ex Sims.	Lamiaceae	Peimiratti	Leaf juice is given to children in fever during teeth formation.
5	<i>Aristolochia indica</i> Linn.	Aristolochiaceae	Karudakodi	Root paste is used as an antidote against poison.
6	<i>Carrisa carandas</i> Linn.	Apocynaceae	Kazha	Leaf extract is mixed with coconut milk and taken orally as an antidote against poison.
7	<i>Cassytha filiformis</i> Linn.	Lauraceae	Moodillathazhi	Plant paste is mixed with honey and taken orally to get relief from leucorrhoea.
8	<i>Clerodendron inerme</i> Gaertn.	Verbenaceae	Changukuppi	Crushed leaves are boiled with coconut oil and applied on head to cure headache.
9	<i>Curcuma longa</i> Linn.	Zingiberaceae	Manjal	Rhizome paste is applied externally on the face to remove pimples.
10	<i>Curculigo orchiioides</i> Gaertn.	Amaryllidaceae	Nilapanai	Tuber extract is mixed with cow milk and used to cure leucorrhoea.
11	<i>Cyclea peltata</i> (Lam.) Hook. f. & Thoms.	Menispermaceae	Padathazi	Leaf paste is applied over the chest to cure chest pain.
12	<i>Cyperus rotundus</i> Linn.	Cyperaceae	Koraikizhangu	Dried tubers are made into paste, mixed with honey and taken orally to
13		Asteraceae	Anaichavuttadi	

	<i>Elephantopus scaber</i>			cure leucorrhoea.
14	Linn.	Convolvulaceae	Vishnukiranthi	Decoction of the root is given orally against rheumatism.
16	<i>Evolvulus alsinoides</i>	Asclepiadaceae	Nannari	Whole plant is pounded with cow milk and taken orally in indigestion.
17	Linn.	Verbenaceae	Poduthalai	Leaf juice is used in leucorrhoea.
18	<i>Hemidesmus indicus</i> R.	Myristicaceae	Jathikkai	Decoction of the whole plant is given orally to cure leucorrhoea.
19	Br. <i>Lippia nodiflora</i> Rich.	Plumbaginaceae	Nilakoduveli	Seeds are used as a medicine in fever. Leaves along with the leaves of <i>Cuminum cyminum</i> are taken in equal quantity and made into paste using honey and taken orally against rheumatism.
	<i>Myristica fragrans</i> Hoult.			
	<i>Pavonia odorata</i> Willd.			
20	<i>Polygala javana</i> DC.	Polygalaceae	Periyanankai	Whole plant is pounded with urine and given orally as an antidote against snakebite.
21	<i>Punica granatum</i> Linn.	Punicaceae	Mathulam	Young fruits are made into decoction using goat milk and should be taken orally for diarrhoea.
22	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Amanakku	Seeds are pounded with neem oil and applied externally to cure pimples. Leaves are chewed to cure toothache.
23	<i>Sida cordifolia</i> Linn.	Malvaceae	Sitamutti	
24	<i>Solanum nigrum</i> Linn.	Solanaceae	Manathakkali	
25	<i>Tribulus terrestris</i> Linn.	Nerunchil	Zygophyllaceae	Young fruits are cooked and eaten to cure cough and abdominal diseases. Whole plant is medicinal. Decoction of this plant with <i>Coriandrum sativum</i> is taken orally for heart diseases.