

A Study on Medicinal Plants Used by Rural People of Dharmapuri District, Tamilnadu, India

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Abstract: A botanical survey was carried out among the various species of medicinal plants in Dharmapuri district, Tamilnadu, India. The rural folk and old aged people have long been using plants for their various ailments. Man has always made use of medicinal plants to cure sufferings and diseases. This review is not documented information of the various therapeutic applications of plants used in traditional medicine. However this information related to traditional medicinal uses of plants is not well documented. There is an urgent need for documenting these folklore and traditional knowledge in some form before such valuable knowledge becomes inaccessible and extinct. Traditional uses of selected plant species belonging to 40 families are described for their medicinal properties in the present study. The rural people use these plants to treat skin allergy, dysentery, for anti-bacterial activity, diabetes, jaundice, asthma, fertility, antifertility, dental diseases, etc. The medicinal plants used by them are arranged alphabetically followed by family name, local name and their medicinal uses.

Keywords: Medicinal plants, Medicinal plants uses, Conservation

1. Introduction

India has rich medicinal plant heritage of 8000 species and an estimated 40,000 herbal formulations. Indian systems of Medicine derive many of their curative tools from plants (Kumar *et al* 2005) which are used as drugs. Information about these is often found in old literature (*Atharveda, Charak Samhita, Sushruta Samhita, etc.*). In spite of the many achievements of allopathic medicines, the Indian Systems of Medicine still continue to provide medical care to majority of the people on account of their cheaper cost with no side effects (Kokate *et al* 2002). Herbal drugs obtained are safer in the treatment of various diseases (Ayyanar and Ignacimuthu, 2005, Sathyavathi *et al* 2011). Medicinal plants play an important role in supporting healthcare system in India. According to the World Health Organization (WHO), 80 percent of the rural population in developing countries utilizes locally available medicinal plants for their primary healthcare needs. About 90 percent of the country's medicinal plants are found in forest habitats. Only 10% of the medicinal plants are distributed among other landscape sources like open grasslands, agricultural pastures and in and around fresh water bodies, etc.

It may be noted that India is one amongst those nations which possess a historical track record of having made a significant global contribution by virtue of its traditional knowledge of the medicinal plants. If conserved and sustainably utilized it has global relevance. Thus there is an urgent need to conserve the wild populations of medicinal plant diversity in prioritized forest regions of India. Conservation of medicinal plants will contribute to self-reliance of millions for India's own health needs (Trivedi, 2004). The World Health Organization (WHO) has compiled a list of 20,000 medicinal plants used in different part of the globe. A large number of these species have local uses within the country or spread over several countries in a region. Amongst these, over 100 botanicals are reported to have consistently large demand and are traded in major drug markets in the world. The medicinal virtues of these raw materials including chemical contents and composition of

these species have been well worked out to have merited inclusion in National Pharmacopoeias and official formularies in different countries (Govil *et al.*, 2002).

2. Material and Methods

Study area

Dharmapuri is a district in western part of Tamil Nadu in South India. It is the first district created in Tamil Nadu after the independence of India by splitting it from then-Salem district on 10 October, 1965. The other major towns in the district are Harur, Palacode, Karimangalam, Pennagaram and Pappireddipatti. Dharmapuri District is one of the major producers of mango in the state, fine quality granite is found in the district. It is also one of the main sericulture belts in the state. Around 30 percent of the district's area is under forest cover. Cauvery river enters Tamil Nadu through this district. The district is located between latitudes N 11 47' and 12 33' and longitudes E 77 02' and 78 40'. Occupies an area of 4,497.77 km² (1,736.60 sq mi) (i.e. 3.46% of Tamil Nadu). It is bounded on the north by Krishnagiri District, on the east by Tiruvannamalai District and Viluppuram District, on the south by Salem District, and on the west by Karnataka's Chamarajanagar District. The whole district is surrounded by hills and forests, and the terrain is of rolling plains type. Dharmapuri is located in the geographically important area in south India.

The whole district is predominantly covered with forests. Spider Valley located near Hogenakkal is home to many wild animals. The district falls in the migratory path of elephants. Conflicts between man and elephant are most common in these parts. Many tribal communities depend on these forests. Vathalmalai, a mountain hamlet on top of Shervarayan hill chain has suitable conditions to cultivate coffee and jackfruit. Wild boars and spotted deer are commonly seen in Morappur and Harur forest region. Gaurssometimes stroll near villages in the Bommidi region. Thoppur ghat has one of the area's scenic highways surrounded by mountains and forests.

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3. Methodology

The investigation was carried out where the population was dense. During the trips the village heads, herbal practitioners, as well as elderly men and women of the different villages were interviewed. People of this region can easily understand Tamil and can also communicate in that language. In order to document the utilization of medicinal plants, a total field survey was carried out in this area. To know the uses of plants, different categories of people like family heads, elders, old, experienced and knowledgeable person were repeatedly interviewed. Specific question based Performa was designed and information recorded in the botanical field notebook along with important medicinal uses. Intensive botanical explorations were undertaken in selected places of Dharmapuri district to find out various

medicinal plants used for different ailments in the form of leaves, stems, flowers, fruits and seeds (Ismeet Kaur *et al* 2011).

4. Results and Discussion

In the study, a botanical survey was carried out in Dharmapuri district, Tamilnadu, India. Traditional uses of selected plant species spread over 40 families are described under this study. The rural people have used the plants to treat skin allergy, dysentery, anti-bacterial activity, diabetes, jaundice, asthma, fertility, antifertility, dental diseases, etc. The medicinal plants used by them are arranged alphabetically followed by family name, local name and medicinal uses (Table 1).

Table 1: List of ethnomedicinal plants, vernacular name, medicinal uses of plants in Dharmapuri District of Tamilnadu, India

<i>Botanical name</i>	<i>Family</i>	<i>Vernacular Name</i>	<i>Plant parts used</i>	<i>Medicinal uses</i>
<i>Abrus precatorius</i> L.	Fabaceae	Kundumani	Leaves	The leaf juice is taken orally to treat ulcer.
<i>Abution indicum</i> (L.) Sweet.	Malvaceae	Thuthi	Leaves	The leaf decoction is given to treat ear-ache, fever, dysentery and asthma,
<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppaimeni	Leaves	Leaf paste is applied externally to treat scorpion sting, snake bite.
<i>Achyranthes aspera</i> L.	Amaranthaceae	Nayuruvi	Leaves	Leaves and root Leaf juice is given internally to cure cough and piles. The root powder mixed with honey and taken orally to treat snake bite and poisonous bite
<i>Adhatoda zeylanica</i> Medi.	Acanthaceae	Adathoda	Leaves	The leaf decoction is taken orally with hot water for the treatment of asthma and cough
<i>Aegle marmelous</i> (L.) Corr. Serr	Rutaceae	Vilvam	Leaves and fruits	Leaf juice is mixed with goat's milk and taken orally to treat blood pressure and fever. Decoction of the fruit is mixed with cow's milk are given in dyspepsia and cold.
<i>Ageratum conyzoides</i> L.	Asteraceae	Sethupunthalai	Leaves	Leaf paste applied externally in skin diseases, itches and sores.
<i>Aloe barbedensis</i> Mill.	Liliaceae	Kathalai	Leaves	The juice of the leaf is used to treat rheumatism, jaundice and piles.
<i>Andrographis affinis</i> Nees	Acanthaceae	Keeripparandai	Leaves	Leaf juice is given orally to treat snake bite, scorpion bite and fever. Paste of leaf is used to treat several skin problems.
<i>Andrographis alata</i> (Vahl) Nees	Acanthaceae	-----	Whole plant	Whole plant Decoction of whole plant is taken internally to treat snake bite, antipyretic and anti-inflammatory.
<i>Andrographis macrobotrys</i> Nees	Acanthaceae	-----	Whole plant	Whole plant extract is taken internally in diarrhoea, snake bite, and antipyretic. Leaf paste and leaves used in the treatment of skin problems.
<i>Andrographis neesiana</i> Wight	Acanthaceae	-----	Leaves	Leaf juice is taken orally to treat aphrodisiac, jaundice, diuretic and fever.
<i>Andrographis ovata</i> C.B. Clarke	Acanthaceae	-----	Leaves	Leaf extract is used to cure diabetes and snake bite. Leaf paste is applied externally to treat skin diseases.
<i>Andrographis paniculata</i> Nees	Acanthaceae	Siriyangai	Leaves	Leaf decoction is taken orally in diabetes, fever, snake bite and dyspepsia.
<i>Andrographis serpyllifolia</i> Wight	Acanthaceae	Kaattuppooran kodi	Whole plant	Whole plant extract is used to snake bite and fever.
<i>Andrographis lineata</i> Nees	Acanthaceae	Periyangai	Leaves	Leaf extract is mixed with cow's milk and taken orally to treat snake bite, scorpion bite, diabetes and various skin diseases.
<i>Argemone maxicana</i> L.	Papaveraceae	Pirammathandu	Whole plant	Yellow decoction of plant is mixed with honey and given to cure ulcers. Powdered seed is applied and seeds externally to treat cracks at foot.
<i>Aristolochia bracteolata</i> Lam	Aristolochiaceae	Aduthinnapalai	Leaves and root	Powdered root is used to treat gonorrhoea, foul ulcers and skin diseases. Leaf paste is applied externally to treat snake bite and scorpion bite.
<i>Aristolochia indica</i> L.	Aristolochiaceae	Eswaramooligai	Leaves and root	Leaf juice is given orally to treat leprosy. The leaf powder mixed with black pepper and drink to treat snake bite and scorpion bite. Leaf paste is applied over affected area to treat skin diseases. Root paste is used in the treatment of scorpion bite
<i>Asparagus racemosus</i>	Asparagaceae	Thaneervitan	Root	Root juice is mixed with honey is taken orally to treat dysentery

Willd		kizhangu		and diarrhoea.
<i>Azadirachta indica</i> A.Juss.	Meliaceae	Vembu	Stem bark, seeds	Stem bark decoction is given internally in the treatment of liver complaints. Paste of leaf is applied leaves and seeds to skin problems. Seed oil is used to treat wound healing and leprosy.
<i>Calotropis procera</i> R.Br	Asclepiadaceae	Erukku	Latex and flower	Latex is applied externally for scorpion bite and dog bite. The flower juice is mixed with black pepper and pinch of common salt is given orally to treat snake bite.
<i>Cassia auriculata</i> L.	Caesalpiaceae	Aavarai	Leaves and root	Paste of root is used to cure several skin diseases. The leaf juice is given internally twice a day for one week to treat anthelmintic. Leaf paste is given orally to cure ulcers and leprosy.
<i>Catharanthus roseus</i> G.Don.	Apocynaceae	Nithyakalyani	Root	Root powder mixed with cow's milk is given to treat high blood pressure and cancer.
<i>Centella asiatica</i> (L.) Urban.	Apiaceae	Vallarai	Leaves	Leaf extract is used internally in the treatment of jaundice.
<i>Cocculus hirsutus</i> Diels	Menispermaceae	Kattukkodi	Leaves and root	Leaf juice is used to treat eczema. Root juice is given orally to treat stomachache problems and rheumatism.
<i>Couroupita guianensis</i> Aubl.	Lecythidaceae	Nagalingam	Leaves, fruits	The leaf juice is used to treat malaria and skin diseases. The fruits are used for the treatment of and flowers toothache. Flowers are used to treat anthelmintic, cold and stomachaches.
<i>Cynodon dactylon</i> (L.) Pers	Poaceae	Arugampullu	Whole plant	Whole plant 50 ml of whole plant extract is given orally to treat diuretic and dysentery.
<i>Eclipta alba</i> (L.) Hassk.	Asteraceae	Manjal karisalanganni	Whole plant	Whole plant extract is taken orally in liver tonic, jaundice and urinary disorders. Leaf is pasted and leaves for skin diseases.
<i>Eclipta prostrata</i> L.	Asteraceae	Karisalanganni	Leaves	Leaves Paste of leaves mixed with coconut oil is applied on head for dandruff and blackening gray hair. Leaf extract is mixed with cow's milk and given once a day for 5 days for jaundice.
<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Nellikai	Fruits	Fruit juice is given orally along with cow's milk for infants to treat fever, cough and cold.
<i>Enicostemma axillare</i> (Lam.)	Gentianaceae	Vellarugu	Whole plant	The juice of the plant is used in the treatment of diabetes insect poisoning and diuretic. The whole Raynal. plant paste is mixed with coconut oil is applied externally in snake bite and scorpion bite.
<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Vishnukrandi	Whole plant	Decoction of whole plant is taken orally to treat nervous debility, diarrhoea and syphilis.
<i>Gloriosa superba</i> L.	Colchicaceae	Kalappaikkilangu	Tuber	Tuber extract mixed with cow's milk is taken orally to treat aphrodisiac. Tubers are ground and 50 ml of the tuber extract is mixed with cow's milk and taken orally thrice a day for one week in gonorrhoea and skin diseases.
<i>Gymnema sylvestre</i> R.Br.ex Schu	Asclepiadaceae	Sirukurinchan	Whole Plant	Leaf extract is used to treat diabetes.
<i>Hemidesmus indicus</i> R.Br	Asclepiadaceae	Nannari	Whole Plant	Whole plant extract is taken orally to treat antipyretic. Powdered root mixed with water is given to promote coolness.
<i>Indoneesiella echioides</i>	Acanthaceae	Gopuramthangi	Leaves	Leaf juice with black pepper powder is taken
<i>Leucas aspera</i> (Willd.) Link	Lamiaceae	Thumbai	Leaves and root	The leaf decoction is used in the treatment of cooling medicine for scabies. The root juice is mixed with cow's milk three times a day for two days to treat scorpion bite.
<i>Justicia gendarussa</i> Burm.f.	Acanthaceae	Karunochi	Root	The decoction of the root is mixed with boiled cow's milk is taken orally to treat jaundice, dysentery and rheumatism.
<i>Ocimum basilicum</i> L.	Lamiaceae	Thiruneetru pachali	Leaves	Leaf juice is given orally to treat urinary problems. Leaf paste is taken with black pepper to get relieve from fever, cold and cough.
<i>Ocimum sanctum</i> L.	Lamiaceae	Tulasi	Leaves	Leaf extract is consumed with cow's milk to treat cold and fever. It is also consumed in the treatment of cough.
<i>Pergularia daemia</i>	Asclepiadaceae	Veliparuthi	Whole Plant	Leaves Leaf paste is applied on headache.
<i>Phyllanthus amarus</i>	Euphorbiaceae	Keelaanelli	Leaf juice	Leaf juice is used for asthma Whole plant 100 ml of whole plant extract is mixed with goat's milk and Schum. and Th. given once a day for 7 days for jaundice.
<i>Piper nigrum</i> L.	Piperaceae	Milagu	Seeds	Seed extract is taken orally to treat throat infection, cough and cold.
<i>Oxalis corniculata</i> L.	Oxalidaceae	Puliyarai	Whole plant	Whole plant extract is given for the treatment of diarrhoea, dyspepsia, hemorrhoids, piles, burning sensation and anemia.

Above those plants are belongs to Acanthaceae, Berberidaceae, Cannabinaceae, Poaceae, Gentianaceae, Liliaceae, Lamiaceae, Ranunculaceae, Plumbaginaceae, Polygonaceae, Rosaceae, Rutaceae etc.,(Chopra *et al.*, 1956, Khare, 2007).

Through these investigations many medicinal plants have been verified. We suggest that these plants can be used as drugs by pharmacologically unexplored areas of India, which may be utilized for the better human health. In such cases laboratory investigations and clinical trials are suggested to validate the therapeutic properties of these herbal preparations for effective and safe use.

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