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Traditional Study of Some Medicinal Plants of Leguminaceae Family In Adilabad District, Telangana State, India

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Abstract
Tribal medicinal practices of plant crude drugs for various ailments recorded from Adilabad District, Telangana State are presented. The particulars of plant parts used, mode of preparation and administration are given. The crude drugs, either single, bi- or as multi-component preparations are used for various ailments. This information provides immense potential for study of relationship of the active principles of the drugs with the ailments concerned. The plants of Adilabad District in Telangana region are well known for their medicinal properties. Several of the 31 Leguminous plants species presented in this paper need special attention on account of their restricted availability, threatened status and Ethnobotanical significance. This is of crucial importance in planning any meaningful conservation strategy. The medicinal plants in Adilabad District are distributed in a wide range of habitats including, forests, grassy localities, field margins, way side / roadside etc.
Keywords: - Medicinal plants, Adilabad, Leguminaceae, Tribal

Introduction

India is thus endowed with the world's 12 richest biodiversity, cultural and traditional system in respect to medicinal plants. It has 16 agro climatic zones having 45,000 plant species of which 15,000 - 20,000 proved to have medicinal values. The rich flora is the potential strengths of India. The World Health Organization (WHO) in its document on health for all (2000) has indicated the role of traditional medicine in the Primary Health Care (PHC) of the people, even today 80% of world population belonging, developing countries are still rely on traditional medicine for their health care requirements. The (WHO) are declared 21,000 plants have medicinal uses. Health care in India is characterized by medicine pluralism, including self – care, consultation with traditional healers or primary health centers. This should be surprising when we realize that indigenous medicinal plants, India has a rich heritage of using medicinal plants in its different medicinal systems such as Ayurveda, Unani and Siddha as the highly diverse folk tradition[11]. About 8000 plants species, out of 17000 known vascular plants of India, have been documented to be in traditional medicinal use in India by the All India Coordinated Research Project on Ethno – Biology (AICRPE) of government. In India, The oldest record of

the use of plants as medicine is given in the Rig-Veda (4500-1600 BC), in which curative properties of some plants are described.

Then appeared the two important Indian systems of medicine viz; the Charaka Samhita (1000-800 BC) and Susruta Samihta (800-700 BC). As a result many new species have become a part of regular Ayurvedic medicine yet, uses of many species are confined to certain communities due to lack of ethno botanical studies. The legumes represent a very large and diverse group, ranging from small plants such as clovers to large trees such as *Acacia* species. This group is estimated to contain 15,000 to 18,000 species in about 750 genera, and most of those examined fix nitrogen in symbiosis with rhizobia[1]. These plants are cosmopolitan in distribution occupying a wide range of habitats. In India, legumes are represented by about 1152 species in 179 genera both indigenous and introduced[2]. Legumes are important source of food mainly from seeds which contain 25-50% protein, gums for cosmetics, fuel, fodder and medicine etc[3]. The plant specimens were identified using district, regional and state floras like Flora of Adilabad District[4] and important medicinal plants of Adilabad district of Andhra Pradesh[5]. Ethno botanical studies in Adilabad and Karimnagar districts of Andhra Pradesh, India[6,7]. The study aimed to record some interesting ethno medicinal plants available and which are practiced by surrounding local adivasis of Jannaram forest division for their health care.

Study Area

Jannaram Forest Division lies in the Adilabad district, between latitudes $18^0.55'$ 21'' and $19^0.21'$ 5'' N and longitudes 78^0 .45' 10'' and $79^0.14'$ 5'' E. The geographical area of the division is 925.27Km^2, which is 5.7 % of the total area of the district. The Northwest corner of this division Birsaipet plateau is 396m above mean sea level. This plateau is all adulatory and drains from either side, into Peddavagu, which runs across the plateau from North-East to South-West. The temperature varies from 15ºC to 45ºC and average annual rainfall of the 750mm received mainly from south-west monsoons. In the Kawal Wildlife Sanctuary about 30 seasonal streams are identified. The area serves as a catchment for many streams, which drain into Kaddam reservoir and Godavari River. There are a large number of small, medium and big tanks scattered throughout the division inside and outside the Reserve Forest.

INDIA TELANGANA ADILABAD

Material And Methods

Intensive field work was undertaken by the author for a period of five years from January 2007 to December 2011. Locally well known herbal healers and poojaris belonging to Kolams, Naikpods, Pardhans, Gonds, Thotis, Chenchus and Mathuras tribal communities of the district, who are still practicing traditional medicine are identified. The author has visited nearly 30 habitations belonging to Bellampalli, Chinnur, Ichoda, Jaipur, Jannaram, Kerimeri, Sirupur (u), Tiryani, Utnoor and Wankidi Mandals. The author had also visited villages and habitations like Gondugudems, Naikapu gudems. Plants were collected in flowering and fruiting stages for the preparation of herbarium by following standard methods. Herbarium specimens were identified and accessed as per the norms laid down. The vouched specimens were deposited in the Herbarium, Department of Botany, Osmania University, Hyderabad, Telangana State. Observations of the plant species were made with respect to their location and other field characters[8]. The plant specimens were identified using district, regional and state floras like Flora of Adilabad district, Flora of the Presidency of Madras, and other relevant literature. The approaches and methodologies described have been followed systematically for Ethno botanical enumeration of the herbal treatments recorded in the present study. The traditional healers who are practicing traditional medicine were interviewed from time to time to recorded. Information was gathered regarding plants or their parts, preparation of the medicine, dosages, method of administration and described recipe for human records.

Table 1. Some Leguminous medicinal plants used by Tribal of Adilabad District, Telangana State, India.

S. No	Botanical name / Family	Vernacular name	Parts used	Preparation/Administration	Disease/ Ailment
1.	*Abrus precatorius* L (Fabaceae)	Guruvinda, Gunj	Leaves	Handful of fresh leaves is ground with 5g fresh rhizome of *Curcuma longa* to make a Paste. It is applied on the affected part of the body once a day till cured.	Scabies
			Seed	Seed paste is applied externally once a day till cured.	Arthritis
2.	*Acacia catechu* (L.f.) (Mimosaceae)	Kachu, Babhul	Stem	The stem bark of *Acacia catechu* and tips of *Holoptela integriafolia* are ground to paste and applied on the wounds for eight days.	Wounds
3.	*Acacia nilotica* (L.) Del (Mimosaceae)	Nalla Thumma, Devbabhul	Stem	Take 20g stem bark powder and apply on burns along with oil.	Burns
				Dried stem bark powder mixed with camphor and ghee applied on wounds	Wounds
4.	*Albizia lebbeck* (L.) Willd. (Mimosaceae)	Dirisena, Shirish	Root	The root juice is extended by adding 3 – 4 pepper seeds, half cup of juice is given to drink by the patient and a little paste is also to be smeared on the bite spot.	Snake bite
5.	*Alysicarpus monilifer* (L.) DC (Mimosaceae)	Amera, Necklace-pod	Leaves	Apply leaf juice on wounds twice daily for three days.	Wounds

6.	*Acacia farnesiana* (L.) Willd (Mimosaceae)	Murikithumma, Gukikar	Stem	100ml stem bark juice is given twice a day for three days.	Mad dog bite
7.	*Albizia amara* (Roxb.) Boivin (Mimosaceae)	Narlingi, Lallei	Stem	5g each of stem barks of *Albizia amara*, *Azadirachta indica*, *Zizyphus oenoplia*, *Capparis zeylanica*, *Ricinus communis*, and C*assia fistula* are pounded together to make powder and mix one tea spoonful of powder, made into decoction in 100ml of water and filtered. The decoction thus prepared is given internally twice a day for two days.	Fever
8.	*Buteamonosperma* (Fabaceae)	Moduga, Palash	Stem	50ml of stem bark extract is given with equal amount of goat milk once a day for three days. Set up the bone and wrap with cloth then tie with stem fiber of *Butea monosperma* tightly.	Fracture
				50ml of stem bark extract is given internally for three days to check conception	Infertility
			Flower	Make powder by the dry flowers of *Butea monospema, Trachyspermum ammi, Cuminum cyminum, Piper nigrum, Zingiber officinalis*. Table spoon powder is given orally daily in the morning and evening till cured.	Fever
9.	*Bauhinia racemosa* Lam (Caesalpiniaceae)	Aree, Apta	Leaves	Young leaves are ground to paste and applied to lips and in mouth.	Mouth ulceration
10.	*Clitoria ternatea* Linn (Fabaceae)	Shankha Pushpin, Gokurna	Root	Make root paste and applied along with leaf pulp of *Aloe vera* externally once daily for 3-4 weeks	Psoriasis
11.	*Caesalpinia bonduc* (L.) Fleming Caesalpiniaceae)	Gachakai, Sagargota	Leaves	Leaf paste along with those of bandaged over the hydrocele.	Hydrocele
12.	*Canavalia virosa* (Roxb.) Wt. & Arn. (Fabaceae)	Thamma kaya, Abai	Leaves	Leaves extract is applied on the affected part once daily for three days.	Ring worm
13.	*Cicer arietinum* L **(**Fabaceae)	Senagalu, Harbara	Leaves	Leaves extract is applied on the affected part once daily for three days.	Immunity
14.	*Cassia auriculata* L. (Caesalpiniaceae)	Thangedu, Tarwad	Flower	Handful flowers are crushed and mixed with 100ml of cow milk and given orally to treat white discharge.	White discharge
			Seed	5gm seed powder mixed with honey is given orally	Diabetes
15.	*Cassia fistula* L. (Caesalpiniaceae)	Rela, Amaltash	Stem	50ml stem bark decoction is given orally.	Leprosy
16.	*Cassia tora* L (Caesalpiniaceae)	Thydanta, Takla	Leaves	Grind 150g leaves**,** squeeze out the juice and apply on the cleaned wound once a day till it heals.	Wounds
17.	*Cassia occidentalis* L.(Caesalpiniaceae)	Kasintha, Kasoda	Leaves	10ml leaf juice is given orally to cure boils.	Boils
18.	*Dalbergia paniculata Roxb* (Fabaceae)	Pacharugu, Sisum	Stem	Stem bark paste is applied to the hair once in a week to control hair fall due to dandruff	Hair fall and dandruff

19.	*Desmodium gangeticum* (L.) DC (Fabaceae)	Deyyam jada, Salavan	Root	Decoction 50g fresh roots along with 3 pepper in 200ml of water and 10ml of this decoction is given internally twice daily for 3- 4 days.	Fever
20.	*Dolichos lablab*	Chikkudu, Ghevada	Stem	50g stem bark of *Gymnosporia montana*, and *Dolichos lablab* leaves are ground together and juice is extracted and goat liver is soaked in it for one day and fried without oil and eaten for 2-3 days.	Edima
21.	*Dichrostachys cinerea* (L.) Wt. & Arn. (Mimosaceae)	Velthuru Durangi babhul	Stem	10g stem bark extract of *Dichrostachys cinerea* and *Abutilon indicum* in water is given orally once in a day for a week.	Paralysis
22.	*Indigofera tinctoria* L (Fabaceae)	Konda Neeli, Neel	Whole plant	Whole plant is crushed into a paste, 10g paste is mixed with water and given orally	Dog bite
23.	*Mucuna pruriens* L. (Fabaceae)	Duldamma, Khaj-kuiri	Whole plant	Whole plant is ground to paste and applied daily to remove Ectoparasites.	Maggot wounds
24.	*Mimosa pudica* L (Mimosaceae)	Athipathi, Lajalu	Leaves	Leaf paste is applied over snake bite.	Snake bite
			Root	10ml root extract is given twice in a day for two days.	Diarrhoea
25.	*Prosopis Cineraria* (L.) Druce (Mimosaceae).	Jammi Chettu, Shemi	Root	One tea spoon root bark powder mixed with 100ml of goat milk is given orally to cure White discharge	Leucorrhoea
26.	*Pongamia pinnata* L. (Fabaceae)	Kanuga, Karanja	Root	50ml root juice is mixed with equal amount of coconut milk and it is boiled and applied on the bloated stomach	Gastric trouble
27.	*Pterocarpus marsupium* Roxb (Fabaceae)	Pedda Yegi, Bibla	Red latex	Red latex is kept on tongue of a person suffering from prolonged fever.	Fever
			Stem	50ml stem bark decoction is given to teenage girls against menstrual complaints.	Menstrual complaints
28.	*Pueraria tuberosa* Willd (Fabaceae)	Nela gummadi, Ghorbel	Fruits	Fruit juice is applied to head and hair to cure dandruff and Hair growth.	Dandruff and Hair growth
29.	*Tephrosia purpurea* L. (Fabaceaea)	Vempali, Sharpunkha	Leaves	Leaf paste is applied over the sting, the bitten area is exposed to heat of match	Scorpion sting
			Roots	The roots are chewed to cure stomach pain.	Stomach ache
30.	*Tamarindus indica* L (Caesalpiniaceae)	Chintha, Chinch	Leaves	The leaves are heated and tied over the affected area.	Swelling
			Fruits	Dried fruits are taken orally to treat eye infections.	Eye diseases
31.	*Trigonella foenum-graecum* L (Fabaceae)	Menthi, Methi	Seeds	5g seeds are chewed to cure diarrhoea twice daily for two days.	Diarrhoea

Results And Discussion

The plants of Adilabad district in Telangana region are well known for their medicinal properties. Several of the 31 Leguminous plant species presented in this paper need special attention on account of their restricted availability, threatened status and ethno botanical significance. This is of crucial importance in planning any meaningful conservation strategy. Medicinal plants are distributed in a wide range of habitats including, forests, grassy localities,

field margins, way side / road side etc. The World Health Organization (WHO), Food and Agricultural Organization (FAO) and United Nations Industrial Development Organization (UNIDO) emphasized the fact that more than 90% of world population particularly in China, Africa and India are exclusively dependent on herbs and traditional healers for maintaining a reasonable level of health and a lot of indigenous knowledge is required for their identification and processing[9,10].

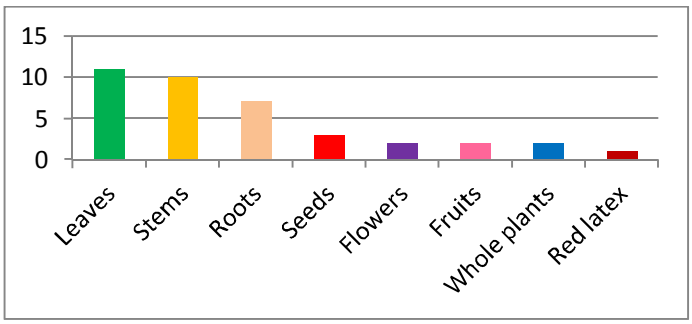

Fig 2. Percentage of some medicinal plant parts utilized in the treatment of various disease / ailments

These plants are used for the treatment of cough, cold, fever, dysentery, skin disease, malaria, kidney, stomach and intestinal disorder etc. In many cases different plant parts of the same species are being used to cure different ailments, for example, the decoction of flowers of *Butea monosperma* is used as blood purifier, seeds are used as anthelmintic agent and gum is used as tonic by ladies after delivery. Some of the medicinal plants such as *Abrus precatorius, Mucuna pruriens* and *Pterocarpus marsupium* Roxb (Fabaceae) have multipurpose utility. These species have been distributed within different life forms i.e. tree, shrub, herb, climber and trees. Various parts such as roots, rhizome, bark, leaves, seeds and whole plant are used for the treatment of various ailments. Of these leaves are used in 11 cases, stem in 10, roots 7, seeds 3, flower 2, Fruits 2, Whole plant 2 and Red latex 1. This knowledge on bio-resources can provide leads for search for new drugs through intensive pharmacological studies.

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