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ETHNOMEDICINAL USES OF SOME MIMOSACEAE FAMILY PLANTS OF ARAKUVALLEY, VISAKHAPATNAM DISTRICT, ANDHRA PRADESH, INDIA

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ABSTRACT

An ethno-medicinal botanical survey of plants used in the treatment of different type of diseases of Araku valley Mandalam, Visakhapatnam district, Andhra Pradesh was conducted. The information was collected on the basis of personal interviews with traditional healers, tribal doctors and old women of the society. The investigation revealed that 8 plant species belonging to Mimosaceae families and 4 genera are commonly used in the treatment of varies ailments like Wounds, paralysis, backache, bone fracture, diarrhea, dysentery, eye problems, fertility, leucorrhea, menorrhea, mouth ulcers, piles, acidity, boils, cough, itching, jaundice, laxative, scorpion sting, skin disease, allergy etc., Most remedies were taken orally, accounting for 70% of medicinal use.

KEY WORDS

Ethnomedicinal uses, Mimosaceae family plants, tribal people, ailments, Araku valley, Visakhapatnam district.

1. INTRODUCTION

The use of plants by man is as old as the human civilization itself. The term Ethnobotany refers to the interrelation ship between the primitive people and plants growing around them. The primitive people were devoid of any written language but retain their tradition by verbal means. The consistent curiosity of early man had leaded him to a systematic observation of plants which had influenced not only his life but mode of his living as well.

The knowledge of tribal doctors and plant experts played an important role in demonstrating which plant might be developed as source of food or medicine. This knowledge of the traditional medical practitioners might have laid a foundation for the present medicinal systems. The tribal doctors, healers and plant experts often play a crucial role in demonstrating, which plant might be developed as source of food or medicine. These studies are extraordinarily knowledgeable and give more information about local plants. Rao (1958) made observations on the vegetation of the Rampa and Gudem agency tracts of Eastern Ghats. Rao (1964) made observations on the vegetation of the Rampa and Gudem agency tract of Eastern Ghats. Pal and Banerjee (1971) reported less-known plant foods among the tribals of Andhra Pradesh and Orissa. Nisteswar and Kumar (1980) emphasized utilitarian values of medical-lore of Rampa agency. Rao *et al.* (2006) described 11 medicinal plants used by *Konds* of Visakhapatnam district. Reddy *et al.* (2007) enlisted the ethnomedicinal plants used by the *Valmiki* of Visakhapatnam district. Thulsi Rao *et al*. (2007) studied the ethnomedicinal importance of 15 species of pteridiphytes used by *Chenchus* in Nallamalais. Bhaskar Reddy (2008) dealt with 16 bio-fencing plants being used for control of various diseases by *Lambada* tribe of Nalgonda district. Reddy *et al*. (2008) studied 40 plant species belonging to 39 genera and 31 families used to heal different diseases among the *Konda Reddis* of Khammam district.

2. STUDY AREA

The Araku Valley, comprising Anantagiri and Sunkarimetta Reserved Forest, is one of the rich

biodiversity areas in the Eastern Ghats of India. It is located between 82^0 51'40"–83^0 06'53" E long. And 18^0 12'34"–18^0 25'12"N lat., Vishakhapatnam District, Andhra Pradesh, at an altitude ranging from 800 to 1500 m. This valley consists of a series of undulating mountains like Galikonda, Raktakonda, Sunkarimetta and Chitamogondi, of which Galikonda rises to a height of 5000 ft amsl. The average rainfall is 1700 mm, bulk of which is received during June–October. Due to high elevation and rainfall, the valley consists of mixed deciduous forests with a luxuriant growth of orchids, ferns and epiphytes. The hilltop is covered by dry savannah forest, mostly *Phoenix loureirii* with tall grasses. The forest tracts sustain a rich diversity of flora and fauna. The forests to a great extent seem to be secondary in nature, probably due to extensive shifting cultivation practised by local tribal people.

3. METHODOLOGY

An ethnobotanical survey was conducted during 2010-11 among the tribal communities of the district. Elder people, medicine men, tribal physicians and village old mothers were consulted to record first-hand information on ethnomedicinal uses, methods of preparation and administration of crude drugs. The information from the tribal people was compared with literature. The voucher specimens were deposited in the Herbarium of the Department of Botany, Mrs. A.V.N. College, Visakhapatnam.

4. ENUMERATION

***Acacia leucophloea* (Roxb.) Willd.**

Syn: *Mimosa leucophloea* Roxb.

VN: Tella tumma S: Arimedah H: Safed babul E: White babool

Medium sized deciduous tree; bark white grey, spines short; leaves bipinnate, alternate, pinnae 5-12 pairs, leaflets 10-30 pairs; flower in heads, pale yellow in densely tomentose panicles; fruit sessile, thin flat, slightly curved pods; seeds 10-20 per pod.

Fl & Fr: Jan – May

Ethnomedicinal uses:

***WOUNDS:** Stem bark paste mixed with a pinch of turmeric is applied on the affected areas twice a day for 2 days.

***Acacia mangia* Willd.**

VN: Acash

Trees; branchlets angular, whitish pubescent; phyllodes elliptic oblong, slightly falcate, entire, acute; flowers golden yellow, in 1-2 axillary spikes; pods twisted in irregular coils; seeds black with yellow aril.

Fl & Fr: Dec-Jul

Ethnomedicinal uses:

PARALYSIS: Stem bark is crushed and eaten with mutton curry.

***Acacia nilotica* (Linn.) Willd.**

Syn: *A. arabica* var. *indica* Benth.

VN: Nalla thumma S: Babbuka H: Babul E: Black babul

Tree; leaves alternate, stipular spines straight; pinnae 5-10 pairs, leaflets 15-25 pairs; flower heads globose, yellow in axillary fascicles, sessile; pod distinctly stalked, 10-12 seeded.

Fl & Fr: Aug - Apr

Ethnomedicinal uses:

***BACKACHE:** Equal amounts of dried unripe fruits, stem bark and gum are made into powder. One spoon of it is administered twice a day.

***BONE FRACTURE**: Half spoon of gum powder mixed with half glass of cow milk is administered twice a day.

DIARRHOEA: One tea spoon of bark powder or one cup of bark decoction is taken thrice daily.

Two spoons of stem bark decoction mixed with a pinch of seed powder of *Piper nigrum* is administered daily twice for 3 days.

DYSENTERY: Few tender leaves and little bark are boiled and the decoction is taken twice a day.

EYES SWELLING & PAINS: One to two drops of leaf juice mixed with mother's milk is instilled into the eyes.

***FERTILITY:** Two to four g of leaf powder is administered daily in the morning on empty stomach helps to conceive.

LEUCORRHOEA: Stem bark gum is applied externally on vagina from the sixth day of menses for 3 days during night.

***MENORRHAGIA:** Quarter cup of young leaf juice is administered once a day for three days.

***MOUTH ULCERS**: Stem bark decoction is used to gargle mouth.

PILES: Ten g of leaf paste is administered twice a day. (Should take rice without salt, sour and chilli).

***Acacia rugata* (Lam.) Ham.**

Syn: *Mimosa sinuata* Lour.

VN: Sikaya S: Amala H: Ritha E: Soap pod tree

Stragglers with numerous small hooked prickles; leaves alternate, bipinnate, leaflets more than 20 pairs, rachis hooked prickles; flowers cream, in terminal and axillary panicles; sepals and petals 5 each; stamens numerous; ovary stipitate; pod lomentum, fleshy when young and becomes wrinkled when dry.

Fl & Fr: Dec – Mar

Ethnomedicinal uses:

***ACIDITY:** Young leaves are made into pickle and taken with rice.

***BOILS:** Young pod powder is sprinkled on the affected areas.

***COUGH, *CATARRH & EMETICS:** Young leaves are ground by adding garlic and salt and made into a pickle is taken along with rice.

***ITCHINGS:** Pod powder mixed with coconut oil is applied on the affected areas.

***JAUNDICE:** Half glass of pod decoction is administered daily once on empty stomach.

LAXATIVE: Half glass of pod decoction is administered only once.

LEUCODERMA: Pod powder mixed with cow urine is made into paste and applied on the affected areas.

***MOUTH FRESHNER**: Pod decoction is used to gargle mouth.

***SCORPIONSTING:** A pinch of pod paste is administered along with one spoon of *Piper betel* juice.

SKIN DISEASES: Pod paste is applied on the skin for eczema, leucoderma and other skin diseases.

***STRONG HAIR**: Pod juice wash helps in strengthening hair.

Soaked pods are ground into paste and used for **hair wash**.

***Albizia lebbeck* (Linn.) Willd.**

Syn: *Mimosa lebbeck* Linn.

VN: Dirisena S: Sirisaha H: Siris E: Siris tree

Large deciduous tree; leaves alternate, bipinnate; leaflets up to 6 pairs, obliquely oblong; flower heads large, white, fragrant, short corymbose racemes; pod flat, straw-coloured; seeds elliptic-oblong, compressed, minutely pitted on faces, pale-brown.

Fl & Fr: Mar – Sept

Ethnomedicinal uses:

***ALLERGY:** Two spoons of stem bark decoction is given orally.

ASTHMA: One spoon of stem bark juice is administered once a day.

***MIGRAIN:** Two to three drops of root or seed juice is poured into the nostrils and inhaled.

ITCHINGS & SKIN DISEASES: Stem bark paste is applied on the affected areas.

***Entada rheedii* Spr.**

Syn: *Entada pursaetha* DC.

VN: Adavi chinta E: Saint Thomas bean

Large woody climbers or unarmed lianes; leaves alternate, bipinnate; leaflets 4 pairs, ovate-obovate; tendrils strongly forked; flowers cream polygamous, small; pod brownish black, large, elongated, flat, woody, hard, compressed; seeds large, ovoid (pear soap like) compressed, hard, shining.

Fl & Fr: Throughout the year

Ethnomedicinal uses:

***SCABIES & *BOILS**: Seed paste is applied on the affected areas.

***Mimosa pudica* Linn**.

VN: Atti patthi, Kunuku rodda, S: Lajjalu H: Lajwati E: Touch-me-not

A prickly, diffused, prostrate undershrub; leaves bipinnate, leaflets small, sensitive; flowers small, in globose heads, polygamous; stamens as many as the petals; ovary many ovuled; pods flat under 1 in. long, the sutures with many spreading bristles.

Fl & Fr: Oct-May

Ethnomedicinal uses:

ABSCESS & HYDROCELE: Fresh leaf paste is plastered on the affected areas.

BLOOD DYSENTERY: Handful of leaves are ground with 3 pepper grains and the filtrate is taken orally daily twice.

One spoon of root paste is administered with water twice a day till cure.

***CARBUNCLE & *GANGRENE**: Fresh leaf paste is bandaged on the affected areas.

CUTS & WOUNDS: Plant juice is applied on the affected areas.

KIDNEY STONES: Quarter cup of root decoction is taken daily once.

***MENORRHAGIA:** Three spoons of leaf juice is administered thrice a day.

PILES: One spoon of root juice is given orally daily twice till cure.

Handful of leaves is crushed and the paste is placed on the affected parts for 20 minutes and repeated till cure.

PILES, *ANAEMIA & *SKIN DISEASES: Two to six g of root powder is administered with cow milk daily once.

RHEUMATISM: Fresh leaf paste kept in a cloth is bandaged over the affected areas.

***SHIVERING FEVER**: One spoon of root juice is administered daily twice till cure.

***STOMACHACHE & HEADACHE**: One spoon of root juice is administered once.

***MAGICO-RELIGIOUS EFFECT:** Leaf is kept somewhere in the pocket or in the axil of the ear to prevail their word.

Dried leaves and straw are fired and exposed to the hive to **kill honey bees**.

****Mimosa intsia* Linn.**

Syn: *Mimosa rubicaulis* Lam.

VN: Korindha

A large climbing, prickly shrub; leaves bipinnate; pinnae 4-7 pairs, glandular between rachises; leaflets 10-15 pairs, in heads, oblong-elliptic, acute at apex; flowers pink, in globose heads; pod flat; seed 5-7, flat, ovoid, beaked.

Fl & Fr: Sept – Mar

Ethnomedicinal uses:

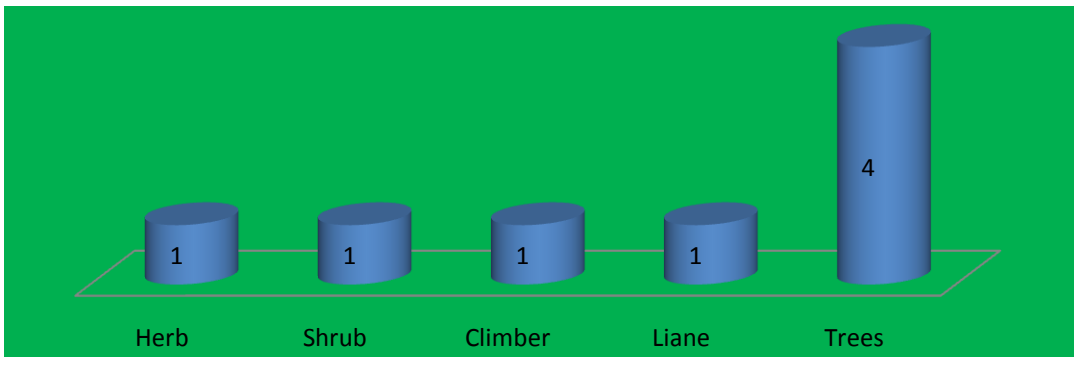
***GASTRITIS**: Two spoons of root bark paste is administered twice a day for one week.

5. Result and Discussion

Our study provides information based on 8 plant species belong to 4 genera of Mimosaceae families, commonly used for different type of diseases to cure by the tribal people of Araku valley, Visakhapatnam District, Andhra Pradesh. Leaves are the most frequently used plant part followed by fruits, latex, seed and oil, roots and stem bark. The common diseases treated using medicinal plants are Wounds, paralysis, backache, bone fracture, diarrhea, dysentery, eye problems, fertility, leucorrhea, menorrhea, mouth ulcers, piles, acidity, boils, cough, itching, jaundice, laxative, scorpion sting, skin disease, allergy etc., The detailed information of plant species with their parts used as traditional medicine for varies problems has also been presented in enumeration part. Out of the total 8 flowering species, 4 are trees, 1 shrubs, 1 herbs and climber 1. (**Fig. 1**).

Due to the growing importance of ethnobotanical studies, it is necessary to collect the informations about the knowledge of traditional medicines, preserved in tribal and rural communities of various parts of India before it is permanently lost. Having the above facts in mind, an attempt was made to explore the medical remedies of some medicinal plants used by the rural people of Araku valley Mandalam, Visakhapatnam district in Andhra Pradesh for the treatment of different diseases.

Figure. 1: Habit wise analysis of Mimosaceae family



These ethnomedicinal data may provide a base to start the search the new compounds related to phytochemistry, pharmacology and pharmacognosy. Therefore, Isolation of active principles, pharmacological investigations, and the potent anti–microbial activity should be studied. This may provide

new sources of herbal drugs and help to understand the molecular basis of their activities. Moreover, it may further be mentioned that over exploitation of these species in the name of medicine may lead some species ultimately to the disappearance in future. Therefore, attention should also be made on proper exploitation and utilization of these medicinal plants.

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