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Ethnobotanical investigation of underground Plant Parts of Kotia Hills of Vizianagaram District, Andhra Pradesh, India

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Abstract

The study of ethno botany relating to any tribe is in itself a very intricate or convoluted process. This paper documents the traditional knowledge medicinal plants that are in use by the indigenous Kendh and Gadaba tribes residing in few isolated pockets of kotia hills of Vizianagaram district, Andhra Pradesh. The present study was done through structured questionnaires in consultations with the tribal practitioners and has resulted in the documentation of medicinal plant species belonging to different families and genera for curing diverse forms of ailments, by the use of underground plant parts.

Keywords: Kotia hills, Tribes, Andhra Pradesh, Medicinal plants.

1. Introduction

India is rich in ethno botanical information. The 500 tribal communities belong to 227 ethnic groups present perhaps the richest heritage of India. Diversity of Flora in India richly contributed to plant medicine. Large numbers of wild plants are used by them for treatment of various ailments and diseases. The age old system of Indian medicine system has been neglected mainly because of the rapid expansion of allopathic medical treatment. Presently, over 1100 medicinal plants most of them are collected from wild are of great demand. Owing to the realization of the fact about toxicity associated with the use of antibiotics and synthetic drugs studies on traditional ethno medicinal values gained public interest. Different workers have documented the uses of medicinal plants from different parts of Andhra Pradesh (Chandra *et al.*, 2010) [1]. Pullaiah 1998 [2] reported that Andhra Pradesh harbored 2530 angiosperms of which, 1,700 species are observed to be medicinal. Information on ethno medicine of Kotia hills of Vizianagaram is not available in detail. Very little literature was available on the herbal folk medicine of Vizianagaram [3, 1]. The knowledge of medicinal plants has been accumulated in the course of many centuries (Nadakarani 1954) [4]. Ethnic medicine has contributed to the discovery and development of many drugs which are still in use, such as morphine, opium, the anaesthetic alkaloid. The present study was done through structured questionnaires in consultations with the tribal practitioners and has resulted in the documentation of medicinal plant species belonging to various families and genera for curing diverse forms of ailments by the use of underground plant parts. The present study carried out on the Kotia Hills of Vizianagaram district is one such attempt to document the traditional knowledge of medicinal plants used by the tribal people. Ethno medicinal usage of plants was gathered from the village chiefs, medicine men, local men and women using semi structured questionnaires. After documentation, the treatment pattern of various ailments was cross checked and confirmed.

2. Materials and Methods

2.1 Study area

Present study was conducted in Vizianagaram district of Andhra Pradesh. Kotia Hills are disputed area between the governments of Andhra Pradesh and Orissa regarding the ownership. The Kotia Hills lies between 18° 26' "063" AND 18° 55' "200" north latitudes and 83° 10' "426" and 83° 24' "764" east longitudes, the elevation of above the mean sea level ranges from 850 m to 1615 m. The Kotia Hills surrounded on the East by Srikakulam district, on the west and south by Visakhapatnam, on south-east by Parvathipuram revenue division and North-east by Koraput district of Orissa state. The tribal inhabitants of the study area mainly consist of Kondadora, Jatapu and Savara. The ethno medicinal study was under taken

with a view to find out the plants used by tribes of Kotia Hills in selected 30 pockets, particularly to cure various ailments.

2.2 Survey

The field work in the Kotia Hills range of Vizianagaram District was carried out during 2012-2014. The tribe namely Konda Dora, Jatapu and Savara are living in the study area comprises 3.2% of district population. There were 70 informants between the ages of 40-80. Local informants with the knowledge of medicinal plants were selected based on the experience in the preparation of medicines, the way they acquired knowledge on the medicinal plants and their ability to treat a specific disease. Local names, plant parts used and mode of administration were recorded. After documentation, the treatment pattern of various ailments was cross checked and confirmed. All the voucher specimens were studied and identified with the help of local floras (Gamtle 1915-1936, Venkaiah 2004)^[5, 6].

2.3 Results

Our exclusive study was based on the use of root parts of the plants for curable medicinal purposes and for the treatment of different diseases. Different diseases like malaria, jaundice, fever, rheumatoid arthritis, allergy and snake bite were found to be curable with the use of these surveyed medicinal plants (Table 1.). Informers reported that most of the herbal remedies are taken orally or external application over the affected area in the form of extract or decoction. The information collected was thoroughly checked with the information from herbalists, taxonomists and literature. The collected data of ethno botanical interest on the present survey are represented in table 1. A total of 30 plant species were documented. For each species the following ethno botanical information were provided: botanical name, vernacular name, family, plant parts that are used in treatment of diseases. The predominant families of ethno botanical importance that observed are Convolvulaceae, Apocynaceae, lamiaceae etc.

Table 1: Representation of surveyed plants with collected data.

Plant name	Family	Local name	Habitat	Part used	Ethno medicinal Application
<i>Andrographis paniculata</i>	Acanthaceae	Nelavemu	Herb	Root and leaf	Malaria control
<i>Barleria strigosa</i>	--	Barleria	Shrub	Root	
<i>Gymnema slyvestre</i>	Asclepiadaceae	Podupatri	Herb	Root	Snake bite
<i>Hyptis suaveoleus</i>	Lamiaceae	Seema tulasi	Herb	Root	Fever
<i>Jatropha gossypifolia</i>	Euphorbiaceae	Seema nepalam	Shrub	Root	Bone fracture
<i>Merrimia gangetica</i>	Convolvulaceae	Yelukacheviaku	Herb	Root	Snake bite
<i>Orthosiphon rubicundus</i>	Lamiaceae	Nelatappidi	Herb	Root	Piles
<i>Rauwolfia serpentina</i>	Apocynaceae	Sarpagandhi	Herb	Root	Snake bite
<i>Rauwolfia tetraphylla</i>	Apocyanaceae	Papitaku	Shrub	Root	Blood pressure
<i>Rivea hypocrateriformis</i>	Convolvaceae	Bodditeega	Shrub	Root	Rheumatoid arthritis
<i>Schleichera oleosa</i>	Sapindaceae	Pusugu	Tree	Root Bark	Snake bite
<i>Solanum surattense</i>	Solanaceae	Verumulaku	Shrub	Root bark	Jaundice
<i>Toddalia asiatica</i>	Rutaceae	Kondakasintha	Climber	Root	Mad dog bite
<i>Vernonia cinerea</i>	Asteraceae	Sahadevi	Herb	Root	Malaria
<i>Vetiveria zizanioides</i>	Poaceae	Vattiveru	Herb	Root	Allergy
<i>Abrus precatorius</i>	Fabaceae	Gurivinda	Climber	Root	Cough & cold
<i>Acorus calamus</i>	Araceae	Vasa	Shrub	Root	Fever & Stomach ache
<i>Aerva lanata</i>	Amaranthaceae	Konda pindikura	Tree	Root	Head ache
<i>Alangium salvifolium</i>	Alangiaceae	Uduga	Tree	Root	Skin diseases
<i>Albizia labbeck</i>	Mimosaceae	Dirisana	Tree	Root	Spongy & ulcerated gums
<i>Alstonia scholaris</i>	Apocynaceae	Edakula pala	Tree	Root	Stomach ulcers
<i>Alternanthera Sessilis</i>	Amaranthaceae	Ponnaganti	Herb	Root	Diarrhea, leprosy
<i>Andrographis paniculata</i>	Acanthaceae	Neelavamu	Herb	Root	Snake bite
<i>Annona squamosa</i>	Annonaceae	sitaphalam	Tree	Root	Abortion
<i>Antidesma Ghaesembilla</i>	Euphorbiaceae	Pullari	Tree	Root	Dysentery
<i>Argemone mexicana</i>	Papaveraceae	Balu rakkisa	Herb	Root	Fever
<i>Arisaema trottosum</i>	Araceae	Sarikanda	Shrub	Root	Piles
<i>Aristolochia indica</i>	Anistolochiaceae	Nallaeshwari	Creeper	Root	Cobra bite
<i>Asparagus racemosus</i>	Liliaceae	Pillitegalu	Herb	Root	Dysentery
<i>Barleria strigosa</i>	Acanthaceae	Nilambaramu	Shrub	Root	Tuberculosis

2.4 Discussion

Different surveys conducted in various parts of India revealed that majority of the people are suffering from any one of microbial diseases. Researchers found that tendency of self-medication, drug resistance, ignorance, poor health and hygiene are some of the factors responsible for such wide spread occurrence of diseases (Mazumder *et al.*, 2003)^[7]. WHO encourages, recommends and provides for the inclusion of herbal medicines in natural health care programmes which are easily available at a cheaper price for the common man. Although different workers have documented the uses of various medicinal plants from different parts of Andhra Pradesh, information on ethnomedicine of Kotia Hills of Vizianagaram is scarcely available. In early 1970's,^[8] Pal and Banarjee reported less known plant food among the tribals of

Andhra Pradesh. Nisteswar and Kumar (1983)^[9] recorded folklore medicine of Addateegala agency tracts of east Godavari district. In 1996,^[10] Rama rao and Henry reported the ethnomedicinal practices of tribal communities in srikakulam district. Padal *et al.*, 2013^[11] reported on traditional uses of plants by the tribal communities of Salugu panchayathi of Paderu mandalam, Visakhapatnam, Andhra Pradesh, India. Very little literature was available on the herbal folk medicine of Vizianagaram^[3]. The present study carried out on the Kotia Hills of Vizianagaram district is one such attempt to document the traditional knowledge of medicinal plants used by the tribals.

5. Conclusion

Research on survey of natural resources and their utilization by

tribal people helps us in gaining knowledge on proper utilization of raw materials and preparation of an inventory on them leads to their conservation in one way or the other. The popular use of herbal remedies among the tribal people of Kotia hills of vizianagaram district reflects about following traditional medicine and the scientific validation of these remedies may help in discovering new drugs from the plant species.

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