

A Survey on the ethnomedicinal practices of Konda reddi tribe from Polavaram Mandal, Andhra Pradesh, India

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ABSTRACT

The present study reports the ethnomedicinal practices of Konda reddi tribe from West Godavari district, Andhra Pradesh. The study area covers 10 out of 21 tribal villages of Polavaram Mandal where Konda reddis constitute the dominant community. The information was gathered through semi-structured interviews with the tribal practitioners and knowledgeable elders of the tribal villages. The present study has resulted in the documentation of 64 medicinal plant species belonging to 36 families and 57 genera. Altogether, 50 types of ailments have been reported to be cured by using these 64 plant species. Of the different plant parts, leaf was used in the majority of remedies 55(36.67%), followed by root 33(22%), stem bark 26(17.33%), Whole plant 11(7.33%), fruit 8(5.33%) and seed 5(3.33%). 16 plants of present study have been already known to be similarly used by the different tribes in different districts of Andhra Pradesh. The study thus emphasizes the need to make further pharmacological and photochemical investigations on these 16 plant species.

Keywords: Phytomedicines, Traditional knowledge, Indigenous people, Primary healthcare, Bioactive compounds.

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I. INTRODUCTION

Plants have very long history in the prevention and cure of diseases of both human beings and domestic animals. Many traditional systems of therapy such as Ayurveda, Homeopathy, Sidha and Unani have been developed primarily based on plants. These systems continue to provide the primary health care to more than three-fourths of the world's population (Akerele 1992). The aboriginal tribes and indigenous people of the globe depend completely on plants and possess valuable information on how to use plants for treating different diseases. Indigenous herbal treatment is the dominant mode of therapy in most of the developing countries (Azaizeh et al 2003). The traditional phytoremedies are socially accepted and economically viable since they are the locally available and with less side effects. The trade on medicinal plants is increasing rapidly as a result of intensified use of crude extracts for self-medication by the general public in the developed countries also (Savithramma et al 2012).

An inventory of plant species along with the documentation of knowledge on the occurrence, frequency, distribution, phenology and utility of various medicinal plants is essential for efficient use of plants in traditional systems of medicine. The inherent traditional knowledge of Indian tribes on medicinal plants requires to be documented and utilized effectively. In recognition of the importance of traditional knowledge a number of ethnobotanical studies have been carried out among different indigenous people around the world (Ladio et al 2007, Sher Wali Khan and Khatoon 2007, Mohammed Rahmatulla et al 2009, Cheikhyoussef et al 2011, Keter and Mutiso 2012). The factors such as deforestation, urbanization and uncontrolled collection of plants for various purposes result in loss of many plant species. Therefore, there is urgent need to preserve medicinal plants and traditional knowledge is to be effectively used to develop natural plant drugs for different ailments.

The documentation of ethnomedicinal practices of the tribes from Andhra Pradesh state is incomplete and fragmentary in nature. Therefore, ethnobotanical studies on uncovered tribal groups and areas in A.P should be carried out. Hence, in the present study it is aimed to collect on in-depth information on the ethnomedicinal practices of Konda reddi tribal group and enumerate the different plants of ethnomedicinal importance from West Godavari district in Andhra Pradesh.

Study Area

II. MATERIALS AND METHODS

The present study has been confined to ten out of 21 tribal hamlets (Thandas) viz., Chegondapalle, Singanapalle, Kondrukota, Thutugunta, Sivagiri, Tekuru, Sirivaka, Koruturu, Cheduru and Gaddapalli in the Polavaram Mandal, West Godavari district of A.P state. West Godavari district is one of the 13 districts of Andhra Pradesh with an area of 7780 Sq.kms and 3.8 million population. The district is located between Northern latitude of $16^{\circ} 15^{1}$ and $170^{\circ} 30^{1}$ and between the Eastern longitudes of $80^{0} 50^{1}$ and $81^{0} 55^{1}$. It is bounded by Khammam district on the north, Krishna District and Bay of Bengal on the south, river Godavari on the east and Krishna district on the west. Out of the 46 mandals of West Godavari district, Polavaram is one with 23 villages and located in Scheduled area marked for ST electoral constituency. The ethnomedicinal information has been collected from 10 out of 21 inhabited villages of the Polavaram Mandal. The population of these villages mainly inhabited by two tribal categories viz., Konda reddis and Koyas only. The details of total population and percentage of tribal population in the 10 selected villages in Polavaram Mandal is furnished in Table-1.

Methodology

Well planned intensive field trips covering three seasons (rainy, winter and summer) in a year during the study period (2010 - 2012) were conducted. All the tribal habitats of the Konda reddis present right from the foot hills of Papikondalu and to the top of the hill up to Gaddapalli were visited. Detailed information on useful medicinal plant species has been on spot recorded from the tribes. The first field trip of the study area was completely meant to get acquaintance with the locals including mainly medical practitioners and a few knowledgeable elders in the age group of 50 to 70 years. Subsequent field trips were used for collection of ethnomedicinal information from the informants by the method of semi-structured interviews. Each and every medicinal practice was cross checked twice or thrice with medical practitioners and informants separately. This process also helped the investigator to collect more information on different medicinal uses of the same plant species. The plants collected were identified with the help of different Flora (Gamble and Fisher 1935; Rao et al 1986; Pullaiah and Karuppusamy 2008). The plant herbarium specimens of collected plants were deposited in the Department of Botany & Microbiology, Acharya Nagarjuna University, Guntur, A.P., India.

III. RESULTS

Konda reddis are one of the important tribes inhabited on the banks of river Godavari and also in the hilly forest tracts of Godavari and Khammam district of Andhra Pradesh.

The present study reports the ethnomedicinal practices of Konda reddis from Polavaram Mandal and enumerates 64 medicinal plant species belonging to 36 families and 57 genera. The botanical name, local name, family name, plant part used in the disease treatment and mode of administration along with some plant photographs of 64 plant species are furnished in table-2 & Figs 1-6. Of the 36 families, plants of Fabaceae, Malvaceae, Solanaceae and Rutaceae were found to be ethnomedicinally predominant with four species each followed by Acanthaceae (3sp), Moraceae (3sp), Asclepiadaceae (2sp), Mimosaceae (2sp) Menispermaceae (2sp), Piperaceae (2sp), Rubiaceae (2sp), Santalaceae (2sp), Euphorbiaceae (2sp), Pedaliaceae (2sp), Convolvulaceae (2sp) and Cucurbitaceae (2sp). The other 19 families are represented by one species each.

The plant parts used in the different therapies and their frequency in the treatment of 50 ailments are presented in Table-3. Out of a total 150 remedies reported from 64 plants the leaf was used with highest frequency (36.67%), followed by root (22%), stem bark (17.33%), whole plant (7.33%), fruit (5.33%), and seed (3.33%) respectively.

The 50 different ailments are grouped under common ailments, microbial infections, animal pathogenic diseases, neural disorders and more complicated diseases. Toothache, fever, wounds, cuts, cough, cold, tonsillitis, vomiting, dandruff, bone fractures, and scabies are considered in the present study as common ailments. The microbial infections include white discharge, dysentery, diarrhoea and syphilis. Animal pathogenic and parasitic diseases include malaria, ringworms, helmintosis and elephantiasis. The diabetes, jaundice, leprosy, psoriasis, leucorrhoea and urinary infection are included under more complicated ailments. The ailments such as epilepsy, paralysis, peripheral neuritis recorded in the present study are categorized under neural disorders. A comparison of medicinal uses of 64 plant species of the present study with the earlier reports led to short list 16 plant species exhibiting exact coincidence in the traditional practices and in the ailment therapy (Table-4).

IV. DISCUSSION

The ethnomedicinal practices of indigenous and ethnic tribes of Andhra Pradesh have been reported mostly from 10 out of its 13 districts. Ethnobotanically Kurnool, Chittoor and Visakhapatnam districts were extensively studied by many investigators while there were a few reports from Anantapur, Kadapa, East Godavari, Prakasam, Nellore, Srikakulam and Vizanagaram districts (Pullaiah et al 2016; Sushmita and Jain 2016). The enumeration reports on plant species useful in the traditional medicinal system were almost scanty from Guntur, Krishna and West Godavari districts of Andhra Pradesh. Hence, the present study from Polavaram Mandal of West Godavari District provides useful ethonobotanical information to bridge the gap in the area of ethnomedicinal practices from Andhra Pradesh state.

Moreover, the therapeutic uses of 16 plant species of present study were tallied with the plant species, reported by other investigators from other districts and practiced by different tribes of Andhra Pradesh. Such comparison and coincidence impress upon the investigators to trust that these 16 plant species possess bioactive compounds useful in the remedy of presently reported ailments. The medicinal use of a particular species for the same ailment if reported by different unrelated ethnic groups indicates the efficacy and potential of that plant for drug development (Rao 2016).

The Konda reddis used *Acalypha indica* plant in the treatment of jaundice, an ailment effecting liver. The same plant was also reported as has been used for similar therapy by tribes of Khammam district, Adilabad district and Eastern Ghats in Andhra Pradesh (Manjula et al 2011; Lingaiah and Nagaraja Rao 2013; Srinivasa Rao et al 2016). *Aristolochia indica* plant is used in the treatment of snake bite by Konda reddis and it was reported by many investigators that the same plant was used in the remedy of snake bite by the tribal communities of Srikakulam, Adilabad, East Godavari districts and Seshachalam hills of Andhra Pradesh State (Prakasa Rao and Harasreeramulu 1985; Reddy et al 2009; Murthy 2012; Yugandhar et al 2014).

Similarly, the medicinal herbs namely *Andrographis paniculata, Piper longum* and *Ailanthus excelsa* have been reported to have therapeutic value in asthma treatment as reported in the present study and also in previous studies by Savithramma et al (2007), Manjula et al (2011) and Srinivasa Rao et al (2016). In the traditional health care system of Konda reddis, *Achyranthus aspera* plant serves as an antidote for scorpion and snake bite. The tribal communities living in Srikakulam, Kurnool, Visakhapatnam, Khammam and Adilabad districts also used this plant species for the snake and scorpion bite (Prakasa Rao and Harasreeramulu 1985; Basha and Sudarsanam 2010; Sandhya Sri and Reddy 2011; Padal et al 2011; Ramakrsihna et al 2014).

The fruit of *Aegle marmelos* and *Musa paradisiaca*, root bark of *Pterocarpus marsupium* and stem bark *of Strychnos nux-vomica* are said to be used by Konda reddis to control dysentery and diarrhoea. This observation is in conformity with the earlier report that the tribes (Chenchu, Yerukula and Sugali) of Prakasam district, in Andhra Pradesh also use these plants for the treatment of same ailments (Mastan valli et al 2006; Srinivasa Rao et al 2016).

The aforesaid account supports the view that the plant species such as *Acalypha indica, Achyranthus aspera, Aristolochia indica, Aegle marmelos, and Strychnos nux-vomica* might contain bioactive compounds that act as potential Phytomedicines in the therapy of jaundice, snake bite, asthma, dysentery and diarrhoea. They need to be screened for the presence of bioactive compounds and tested for their efficacy and safety in the therapeutic treatments of above said ailments.

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 Table 1: The names of tribal Villages covered in the present study and tribal percentage in each village (Census)

2011)

S. No.	Tribal Village Name in	Total	Tribal population	Percentage of	f
	Polavaram Mandal	Population		Tribal People	
1	Chegondapalle	862	849	98.5	
2	Singanapalle	319	189	29.2	
3	Kondrukota	2736	1663	60.8	
4	Thutugunta	1056	816	77.3	
5	Tekuru	480	244	50.8	
6	Sivagiri	346	182	52.6	
7	Koruturu	348	321	92.2	
8	Sirivaka	150	140	93.3	
9	Geddapalle	600	593	98.8	
10	Cheduru.	230	181	78.7	
	Total	7127	5178	72.7	

S No	Plant name	Plant Local	Family	Ailment, plant parts used and		
5. INU	Flaint name	Name	гашту		mode of administration	
1.	Acalypha indica	Murkonda	Euphorbiace	1.	Jaundice: Leaves of this plant along with leaves of Justicia adhatoda,	
	<i>L</i> .		ae		Eclipta prostrata, Centella asiatica, Phyllanthus amarus, Coccina	
					indica, and Momordica charantia are taken in equal quantities, ground	
					and made into small pills. One pill is administered with butter milk	
					twice a day for 3days.	
				2.	Scorpion Sting: Leaf paste is applied on the affected areas and	
					also administered orally.	
2.	Achyranthes	Kukkapallu	Amaranthace	3.	Antidote to Animal Bite: 3 spoonfuls of this plant seed paste mixed in	
	aspera L.	Uttareni	ae		a glass of hot water is administered twice a day as an antidote for bite	
				4	of any poisonous animal	
				4.	Antiemetic: 13 leaves are ground along with 12 seeds of <i>Piper higrum</i>	
					hot water every one hour for one day	
				5	Dysentery: 15 leaves are ground along with 12 seeds of <i>Piper nigrum</i>	
					and one spoonful of honey. This paste is administered with a glass of	
					hot water every one hour for one day.	
				6.	Boils: Primary root and young leaf paste is applied externally to	
					suppress the boils.	
				7.	Chicken Pox: Leaf paste with resin of Shorea robusta and neem leaf	
					is applied on the body for one week.	
				8.	Cough: Dried leaves are made into cigars and the smoke is inhaled for	
				_	2 days.	
				9.	Cuts: Leaf paste is applied on the affected areas daily once for 3 days.	
				10. Jaundice: Tender leaves along with the tender leaves of C		
					arborea, Mimosa pudica and Zizyphus mauritiana are crushed in to	
2	A dhatoda wasioa	Addasanam	Aconthecese	11	Proposition: Loof juice (2 speeds full) with 1 speed honey is	
з.	Nass	Aaaasaram	Acanthaceae	11.	administered twice a day. It relieves cough and breatblessness	
4	A dina cardifolia	Bandari	Rubiaceae	12	Menstrual pain: Leaf stipules are ground with 2 spoons full of	
	Renth & Hook	chettu	Rublaceae	12.	sugar and administered for 3 days before menstruation	
5.	Aegle marmelos	Maredu	Rutaceae	13.	Motions: Young leaves grinded with water and be given thrice in the	
	(L) Carrea	112010000	Tutueeue	101	same day.	
	()			14.	Vomiting: Young leaves grinded with water and be given thrice in the	
					same day.	
				15.	Tonsils: Stem bark grinded with water and the juice is given daily	
					once for three days.	
				16.	Cough: Stem bark grinded with water and the juice is given daily	
					once for three days.	
				17.	Diabetes: Roots of this plant along with roots of <i>Ravulfia serpentina</i> ,	
					Gymnema sylvistris, strychnos potatorium, bark of Acasia chundra,	
					seeds of syzigium enermi in equal parts dried, powdered and orally	
				18	Scorption sting: Poot material grinded with papper seeds is orally	
				10.	given	
6.	Ailanthus excelsa	Peddamanu	Simaroubace	19.	Asthma: 30-50 ml of stem bark infusion is to be administered orally	
	Roxb.		ae		twice daily.	
7.	Alstonia	Yedakula	Apocynaceae	20.	Malaria: 5ml of stem bark extract is given orally twice in a day for 4	
	scholaris (L.) R.	Ponna	1 2		days.	
	Br.			21.	Rheumatoid Arthritis: Leaf juice or decoction or powder is	
					administered orally once in a day.	
8.	Alstonia	Yedakula	Apocynaceae	22.	Antihelmintic: Stem bark along with <i>Piper longum</i> seed is made into	
	venenata R.Br.	Ponna			an extract and is to be administered in doses of 5 spoonfuls twice a day	
•	A., J.,	N7 - 1	A +1	22	Ior sdays.	
9.	Andrographis	Nelavemu	Acanthaceae	23.	Astima: Stem grinded with Gymnema sylvestris and Justicia	
	(Burm f.) Nees			24	Deworming: 3 ml of leaf decoction is administered once in a day for 7	
	(Dumin.) wees			24.	dave	
				25	Diabetes: Powder made with dried leaves of this plant and leaves of	
					Syzygium jambolanum, Zizyphus rugosa. Aegle marmelos. Gymnema	
					sylvetrsis and tubers of Corollocarpus epigaeus (2:1 ratio) given with	
					hot water once in a day for 20 days.	
				26.	Leucorrhea: Leaves of this plant and stem bark of Madhuca indica	
					and Zizyphus xylopyrus are taken in equal quantities, dried, powdered	

Table-2 Medicinal plants used by Konda reddis for the treatment of different ailments

					and made into pills of pea nut seed size. Administered two pills thrice
10	Anthogonhalus	Vadamham	Pubiagaga	27	per day for 30 days. Diabates: Stem back powder mix in a class of water and administer
10	Chinensis	кааатрат	Kublaceae	27.	twice a day.
	(Lamk.) Rich				
11	Argyreia nervosa	Samudra	Convolvulac	28.	Malaria: Powder the dried root bits and pepper seeds mix with goat
	(Burm.f) bojer	pala	eae	20	milk and administer twice a day for 15 days.
				29.	quantities given daily once in the morning with empty stomach for 21
					days.
12	Aristolochia	Eswari	Aristolochiac	30.	Diarrhea: Roots grinded with the roots of <i>Holarrhena pubescens</i> ,
	inaica L.		eae		administered for 5 days
				31.	Snake Bite: Root grinded with dried Zingiber officinale and the paste
12	A 1 T	A. J. · J. J.	N 1	22	is applied on the bitten part.
13	Azanza lampas L.	Adavi benda	Malvaceae	32.	Gonorrhea: Root material is mixed with pepper seeds in equal proportions and made into a paste and administered for 7 days.
				33.	Syphilis: Flowers crushed with <i>Brasica nigra</i> seed is to be
					administered in a glass of water or butter milk.
14	Azima tetracantha Lam	Tella uppi	Salvadoracea	34.	Arthritis: Root dried in shade is to be powdered and mixed with gum of <i>Acasia</i> and applied on the swollen joint
	iciracanina Eam.		c	35.	Asthma: Leaf decoction (1 glass) mixed with honey is to be given for
		~ " "		26	relief from asthma.
15	Boerhavia diffusa I	Gudlamalli	Nyctaginace	36.	HIV: Whole plant extract along with <i>Centella asiatica</i> and <i>Piper</i>
	(Sonn.) Tnwaites		ac		increases the hemoglobin content, disease resistance and controls
					weight loss in HIV patients.
				37.	Leucorrhea : 15 ml of leaf decoction is to be administered orally once in a day for 3 days
16	Butea	Moduga	Fabaceae	38.	Infertility: Stem bark extract with <i>Sesamum indicum</i> oil (one
	monosperma	chettu			spoonful) twice a day is to be given from 4 th day after menstruation to
	(Lam).Taub.			30	11 th day. Post natal Care: Gum exuded from the stem bark is to be mixed with
				57.	ghee and administered twice a day for 15 days.
17	Chloroxylon	Billudu	Rutaceae	40.	Cold: Paste made with stem bark and leaves of <i>Ocimum tenuiflorum</i> ,
	swietenia DC.			41.	Epilepsy: Stem bark of this plant and Strychnos potatorum bark is
					crushed and the extract obtained is to be administered one spoonful
				42	twice in a day for 30 days.
				42.	administered two spoonfuls twice a day for 15 days.
				43.	Mosquito Repellant: Smoke of burnt leaves acts as Mosquito
				14	Repellant.
					of <i>Cleistanthus collinus</i> and mustard seeds are to be ground into paste
					add some water and administer daily for 3 days.
				45.	Scorpion Sting: Stem bark paste is to be applied over the bitten part.
				-0.	applied on wounds and ulcers of cattle.
				47.	Ulcers: Leaves ground into paste with Curcuma longa rhizome and
19	Coccinia arandis	Kaki Donda	Cucurbitacea	48	applied on wounds and ulcers of cattle.
10	(L.) Vaigt	Tiyya donda	e	49.	Arthritis: Root paste is to be administered orally
				50.	Scabies: Leaf paste is to be applied topically.
19	Cocculus hirsutus (L.)	Chilahinta	Menisperma ceae	51.	Rheumatoid Arthritis: 12 g of roots crushed with long pepper seeds
	Diels		ceae		in a cup of goat milk is to be given daily once during night.
20	Commelina bengalensis I	Vennamudda kura	Commelinac	52.	Loose motions: Whole plant is to be cooked as curry leaf and eaten along with rice
21	Commiphora	Guggulu	Burseraceae	52	Waight loop. Stam had nonder mind with house ' i h
	mukul (Hook. ex			53.	administered twice a day to promate weight loss
22	Stocks) Crotalaria	Tellaeeswari	Fabaceae	54	Impetige: I eaf paste is externally applied on the affected areas
	verrucosa L.	1 CHUCESWUIT	1 abaccat	55.	Scabies: Leaf paste is externally applied on the affected areas.
23	Dichrostachys	Veluturu	Mimosaceae	56.	Elephantiasis: Stem bark mixed with leaves of Azadiracta indica in
	& Arn.	cneitu			equal parts and made into paste and some water and to be applied externally.
					<i>v</i>

		r		1 -	
				57.	Leprosy: Root powder is to be mixed with water and made into small seed sized pills and administered (3 pills) three times per a day for 45
				58.	days. Syphilis: Roots of this plant and <i>smilax zylanica</i> (in equal portions) ground into paste and given orally along with butter milk with empty
				59.	stomach. This is repeated for 3 days Toothache: Leaf paste is to be massaged on teeth to get relief pain.
				60.	Headache: Leaf paste to be applied on forehead
24	Eclipta alba Hassk	Guntakalaga ra	Asteraceae	61.	Liver complaints: Whole plant is crushed along with 1 to 2 dried chilli fruits and administers orally.
				62.	Anaemia: Whole plant is crushed along with 1 to 2 dried chilli fruits and administers orally
				63.	Diphtheria: Whole plant is crushed along with 1 to 2 dried chilli fruits and administers are like
				64.	Hair tonic: Leaf paste boiled in coconut oil to be applied to hair
25	Ficus hispida L.f.	Brahma madi	Moraceae	65.	Jaundice: Roots are cut into small bits and to tie as a necklace. The patient has to user this breacht for 15 days
26	Ficus religiosa L.	Raagi chettu	Moraceae	66.	Infertility: Fruit pulp without seeds is collected and dried; bark of
					<i>Terminalia bellarica</i> is also dried and powdered by taking into equal quantities. This powder is to be orally taken for 40 days.
27	Ficus resimosa	Medi chettu	Moraceae	67.	Boils: Latex of the leaf is to be applied on the boils.
	L.			08.	boiled in water and given to avoid miscarriages.
28	Hemidesmus	Sugandhi	Asclepiadace	69.	Diarrhea: Root ground into paste with roots of Jatropha curcas and
	indica (L.) R.Br.	pala	ae	70	Holarrhena pubescens and administer twice a day for 3 days.
				71.	Galactagogue: Paste made with root and garlic is to be administered
				72	orally once in a day for 21 days.
				72.	administered twice a day for 5 days.
29	Hibiscus rosa-	Mandara	Malvaceae	73.	Boils: Fresh leaves or flower buds are crushed and apply as poultice on
	sinensis L.	Dasani		74	the affected area. Bronchitis: Decotion prepared from the fresh flowers and leaves is to
				/ 4.	be given in the morning and in the evening with sugar for 3 days.
				75.	Dandruff: Leaf paste is to be applied on the scalp continuously for 7 days.
				76.	Epilepsy: Stem bark is to be dried and made into powder. (One spoon full of) powder is administered twice a day for 15 days
				77.	Leucorrhoea: 5ml of leaf extract is to be given orally twice a day for 21 days.
30	Holoptelea integrifolia	Nemali chettu	Ulmaceae	78.	Abortion: Root bark ground with the roots of <i>Plumbago zeylanica</i> in 1:1 ratio to make an extract which is given orally thrice in a day for 5
	(Roxb) Palanch.			70	days.
				79. 80.	Blisters: Leaf paste is applied on the affected parts.
				81.	Bone Fracture: Paste of Stem bark plastered over fractured bone.
				82.	reripneral Neuritis: Stem bark is ground with the stem bark of <i>Cassia fistula</i> and roots of <i>Cocculus hirsutus</i> to make a paste and
				0.5	administered twice a day for 3days.
31	Holarrhena Anti-dysentrica	Kolamukhi	Apocynaceae	83.	Menstrual pain: Stem bark powder (1 spoon) mixed in a glass of hot water is given orally for 3 days.
32	(Roth.)Wall.	Rathnapurus	Violaceae	81	Demulcent : Leaf Powder acts as a demulcent and tonic
52	enneaspermus	ha	violaceae	85.	Diuretic: Dried leaf powder mixed with water and sugar is prescribed
	(L.) F. Muell			67	for few days.
				86.	neparoprotective : Dried leaf powder mixed with water and sugar is prescribed for few days.
33	Hygrophila auriculata (Sch.) Heine	Mullagorimi di	Acanthaceae	87.	Skin irritation: Powder made with dried root along with flowers of <i>Hibiscus-rosa-sinensis</i> is mixed with water and applied externally.
34	Marselia minuta	Neeti	Marseliaceae	88.	Sleeplessness: Leaves of this plant, Oscimum and Digera muricata in
		chenchili kura	(Pteridophyt e)		equal quantities, dried in shade, powdered and 2 spoons full of powder dissolved in a glass of water is administered twice a day for 3 days to
			-,		treat sleeplessness.
				89.	Ringworms : Leaves of this plant with leaves of <i>Trianthem</i>
					applied on ring worm affected area daily twice.

				 Swellings: Leaves are used as vegetable and eaten to remove water from body swellings. 	
35	Martynia annua Linn.	Mandrakapp a kaya	Pedaliaceae	91.	Scorpion bite : Leaf paste is applied on the bitten area and is covered with cloth.
36	Merremia emarginata (Burm.f.) Hallier f.	Eluka chevi aaku	convolvulace ae	92.	Skin irritation : Leaf juice mixed with turmeric powder is externally applied to treat skin irritation.
37.	Millettia Pinnata (L.) Panigr.	Kanuga	Fabaceae	93. 94.	Microbial infections: Seed oil is applied externally as an antiseptic and anti fungal agent. Sinus ulcers: Root juice is applied on sinus ulcers.
38	Mimosa pudica L.	Athipathi / Kunuku rodda	Mimosaceae	95. 96. 97.	Diabetes: Powder made from flowers is administered to cure diabetes. Epilepsy: The roots along with the roots of <i>Mundulea sericea</i> and <i>Mucuna puriens</i> powdered and mixed with water and is given orally in the doses of 2 spoonfuls for every 15 minutes about 2 days. Jaundice: Tender leaves along with the tender leaves of <i>Achyranthus aspera, Zizypus mauritiana,</i> and <i>Careya arborea</i> are ground into paste and given along with cow milk in doses of 3 spoonfuls twice daily for 5 days.
				98. 99.	Leucorrhea: Whole plant is dried, grounded to powder and is made into pills mixed with sugar candy one pill is given twice a day for two weeks. Malaria Fever: Leaf extract is administered orally twice a day for 7 days.
39	Mukia maderaspatana (L.) M.Reemer	Musi musi teega	Cucurbitacea e	100.	Gastric disorders: Decoction made with leaves of this plant and cumin seeds is given daily.
40	Murraya paniculata (L.) Jack	Naga Golugu	Rutaceae	101.	Snakes repellent: A branch of this plant is kept in corner of house to keep snakes away from the house.
41	Musa paradisiaca L.	Arati	Musaceae	102. 103. 104. 105. 106.	Cold: Leaf ash with honey is taken twice a day for 3days. Cough: Leaf ash with honey is taken twice a day for 3 days. Diarrhea: Leaf ash with honey is taken twice a day for 3 days. Dysentery: Unripe fruit is boiled and eaten with curd rice to control the diseaseas. Impotency: The extract obtains from boil of rhizome with sugar candy is taken orally in the doses of 2 spoonfuls twice a day for 30 days.
42	Naringi crenulata (Roxb.) Nicolson	Torri velaga	Rutaceae	107.	Bacterial infections : Dried fruit pulp powder (one spoon full) in a glass of water with sugar is given to treat bacterial diseases.
43	Pavonia odarata Willd.	Adavi benda/ Chitti benda	Malvaceae	108.	Over heat: whole plant juice with jaggary (in equal parts) is given daily.
44	Pedalium murex L.	Pedda palleru	Pedaliaceae	109.	Infertility : Dried fruit powder (2 spoons) mixed with leaf juice (1 spoon) of <i>Cleome viscosa</i> is administered daily before bed time from the 5^{th} day of menstrual period, for one week to promote fertility in women.
45	Pergularia daemia (Forsk.) Chior	Juttupaku	Asclepiadace ae	110. 111. 112.	 Bone Fracture: Leaves ground with leaves of <i>Plumbago zeylanica</i> and aerial roots of <i>Vanda tessellata</i>, into paste and is plastered over fractured bones. Muscular pains in Cattle: Leaf paste made along with leaves of <i>Calotropis procera</i> is applied over the affected parts. Stomach pain: Roots ground into paste with black pepper seed, mixed with water and administered in doses of one spoonful twice a day for three days.
46	Phyla nodiflora (L.) Greene	Bokkinaku	Verbinaceae	113.	Stomach tightness : The juice obtained by squeezing of gently heated leaves is given orally (one table spoon per day) relieves tightness with free motion in infants.
47	Phyllanthus reticulata (L.) Poir	Nalla puli	Euphorbiace ae	114.	Hernia: Leaf paste mixed with turmeric is applied on affected area.
48	Piper longum L.	Pippallu	Piperaceae	115. 116.	 Asthma: Seeds of this plant and flowers of <i>Calotropis gigantia</i> (in equal proportions) crushed and made into small pills are given twice a day. Headache: Dried fruit Powder with a few drops of honey is orally taken to bring immediate relief from headache.

49	Piper nigrum L.	Miriyalu	Piperaceae	E 117. Cold : Leaf juice is administered orally twice a day	
				118	FOI 5 days.
				110.	Vomiting: Root extract (3 spoonfuls) is given orally to stop
				117.	vomiting.
				120.	Toothache: Root paste is massaged over the aching teeth and gums.
				121.	Headache: Leaf paste along with zinger is to be applied on
					forehead.
50	Plumbago	Chitrammool	Plumbaginac	122.	Abortion: Root paste made into small pills and administered
	zeylanica L.	ит	eae	100	orally twice a day for 5 days to effect abortions.
				123.	Epilepsy / Fits: Root paste (2 spoonfuls) with <i>Piper nigrum</i> powder mixed with infant's wring is administered availy for 2 days
				124	HIV: Whole plant along with dried ginger <i>Rhyllanthus amblian</i>
				124.	fruits approximately in 6.3.1 proportion ground and the extract thus
					obtained are administered (in doses of 5 spoonfuls) twice a day.
				125.	Ring Worm: Root along with stem bark of Calotropis gigantia, a
					pinch of salt and buttermilk are made into fine paste and is applied
					externally over the affected areas.
51	Polyalthia	Naramamidi	Annonaceae	126.	Diabetes: Stem bark decoction is used for curing diabetes.
	longifolia			127.	Bone fractures: The stem bark along with Sesamum indicum and
					<i>Piper nigrum</i> seeds ground into paste and is applied on the effected
52	Desus samues	Vacian	Fahaaaaa	120	part and covered with cloth bandage.
52	marsunium Roxh	Tegisa	Fabaceae	120.	plant into paste and from it pea nut seed size pills are made 21 pills
	татзаргат Коло				are administered orally 3 per day for 7 days
				129.	Dysentery: Root bark extract (5ml) is mixed with curd and
					administered orally for 3days.
				130.	Piles: Stem bark and rhizome of Curcuma longa are crushed and
					the extract obtained is mixed with little sugar and (2 spoonfuls) is
			~ · ·		administered twice a day.
53	Santalum album	Chanadanam	Santalaceae	131.	Scorpion sting: Root paste mixed with salt is applied externally and
54	L. Soonaria dulois	Ponagajari	Santalagana	122	Laken orally.
34	L.	Bonagajari	Santalaceae	132.	oleifera is given orally once in a day for 6 days
55	Semecarpus	Nalla Geedi	Anacardiace	133.	Infertility: The juice obtained from fruits of this plant along with
	anacardium		ae		banana fruit (in equal parts) is administered for 15 days to enhance
	Linn. F				fertility.
				134.	Tuberculosis: Root ground along with the root of Cassia
					<i>occidentalis</i> into paste is taken orally with a spoon full of honey for
56	Smilar zovlanica	Vummani	Smilacono		/ days.
50	і і і і і і і і і і і і і і і і і і і	teega /	Simaceae	135.	Sperm production: Epidermis peeled root bits of 2 inches size are
	<i>L</i> .	Kondataama			chewed and juice swallowed with empty stomach.
		ra		136.	Wounds: Leaf paste is applied externally.
57	Solanum	Peda	Solanaceae	137.	Jaundice: Young leaves ground into paste with jaggery (tati
	surattense	Poyyadakki			bellam) in equal parts and made into small pills swallowed 2 pills
	Burm F.				per each day.
58	Solanum indicum	Poyyadakki	Solanaceae	138.	Epilepsy: The decoction prepared with stem bark and black pepper is administered (in doese of 2.2 superfule) trainers due for 45.1
50	L. Solanum	Pittachattu	Solanaceae	130	Asthma: Stem bark is boiled in water and the deposition obtained is
39	verbascifolium	1 шиспеши	Solallaceae	157.	taken orally to cure asthma
	verbuseijonum			140.	Constipation: (One spoonful of) stem bark decoction is
					administered with a pinch of sugar (Saccharum officinarum) twice a
					day for 21 days.
60	Solanum	Challa	Solanaceae	141.	Pulmonary disorders: Fruits cooked as vegetable and eaten to get
	incanum	mulaga			relief from pulmonary disorders.
61	Strychnos nux	Mushini /	Loganiaceae	142.	Black Quarter Disease in Cattle: Leaves boiled with the leaves of
	vomica L.	Visha mushti			Vitex negundo, Caesalpinia bonduc, Cassia occidentalis and
					black quarter disease in cattle
				143.	Dysentery: Whole plant of this along with <i>Sida cordata</i> and
					<i>Glycyrrhiza glabra</i> are taken in roughly 5:3:2 proportions and
					ground thoroughly to form an extract and it is administered (in
					doses of 2 spoonfuls) twice a day to cure diarrhea and dysentry.
			-	144.	Asthma: Stem decoction is used as tonic in the treatment of asthma.
62	Terminalia	Tellamaddi	Combretacea	145.	Asthma: One seed is fried, powdered and mixed with honey. The
	arjuna Roxb.		e	140	mixture is swallowed slowly, twice a day for 5 days.
1	1	1	1	146.	Diadetes: The cotyledons are ground with Allium sativum and seeds

					of Piper nigrum mixed with jaggery and made into 3 equal parts. Administer one part per one day for 3 days.
63.	Thespesia populnea (L.)	Ganga ravi	Malvaceae	147.	Skin diseases: The root extract mixed with jaggery is kept overnight. (5 spoonfuls) extract is administered once in a day for 7 days and leaf paste is also applied on affected area to treat scabies, psoriasis and eczema.
				148.	Wounds: Tuber paste is applied over the affected parts.
64	Tinospora	Tippa teega	Menisperma	149.	Foot and Mouth Disease in cattle: Leaf extract made along with
	cordifolia	(OR) Saliviri	ceae		Cassia occidentalis leaf is orally given to treat this disease.
	(Wild) Miers	gadda		150.	HIV: Whole plant along with Sida cordata bark mixed in 5:3
		-			proportion and ground to get juice and it is administered twice a day
					(2 spoons) for 25 days.

Table 3:	The percentage of	plant parts used	in the treatment of	of different ailme	ent by Konda reddi
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Plant part	No. of times used in the different therapies	Percentage (%)
Leaf	56	37.33
Root	33	22.00
Stem bark	26	17.33
Whole plant	11	07.33
Fruit	8	05.33
Seed	5	03.33
Root bark	4	02.66
Flower	3	02.00
Stem	2	01.33
Rhizome	1	00.66
Branch	1	00.66
Tuber	1	00.66
	150	100

 Table-4 Showing coincidence between medicinal property and plant species reported presently and previously from the different districts of Andhra Pradesh

		Ailment treated in	Previously Reported					
S. No	Plant name	traditional system according to present study	District/ Mandal/Area	Indigenous/ Ethnic group	Source			
1	Achyranthes	Antidote for scorpion	Srikakulam (Dt)	Local Communities	Prakasa Rao and Harasreeramulu			
	aspera L.	and snake bite	K	Course 1: to the	(1985)			
			Kurnool (Dt) Visalihanatnam (Dt)	Sugan mbe	Basha and Sudarsanam (2010)			
			Visaknapathani (Dt)	Sugali triba	Basha and Sudarsanam (2012)			
			Kurnool (Dt) Visalihanatnam (Dt)	Sugail tribe	Basha and Sudarsanam (2012)			
			$\sqrt{15}$	Tribal communities	Padal et al (2013)			
2	A * , 1 1 *	0 1 1	Adilabad (Dt.)	Indai communities	Ramakrishna et al (2014)			
2.	Aristolochia	Snake bite	Srikakulam (Dt.)	Local communities	Prakasa Rao and			
	indica L		Sachardhalana hilla	Tribala and lanala	Harasteeramulu.(1985)			
				Tribals and locals	Reddy et al (2009)			
			Adilabad (Dt.)	.Gonds tribe	Murthy (2012)			
			Adhabad(Dt)	Tribal communities	(2012)			
			East Codeveri (Dt.)	Tribal communities	(2013) Vugandhar at al (2014)			
2	Stanolar og anne	Drisontomy	East Gouavail (Dt.)		Prolose Rec. and			
3	Sirycnnos nux	Dysentery	Shkakulalli (Dt.)	Local communities.	Haragraaramulu (1085)			
	vomica L.		Viziono corom (Dt.)	Tribal communities	Rahu at al (2010)			
			Adilahad (Dt.)	Tribal communities	Babu et al (2010) Bamekrichne et el (2014)			
	Ailandhua		Adhabad (Dt.)	Thoat communities.	Kamakrisinia et al (2014)			
4	excelsa Roxb.	Asthma	Kurnool(Dt.)	Tribal Communities	Savithramma et al (2007)			
			East Godavari. (Dt)	Tribal Communities	Srinivasa Rao et al (2016)			
5.	Andrographis paniculata (Burm.f.)	Asthma	Kurnool(Dt.)	Tribal Communities.	Savithramma et al (2007)			
6.	Piper longum	Asthma	Kurnool (Dt.)	Tribal Communities .	Savithramma et al (2007)			
	<i></i>		East Godavari. (Dt)	Tribal Communities	Srinivasa Rao et al (2016)			
7.	Acalypha indica L.	Jaundice	Khammam (Dt)	Tribal Communities	Manjula et al (2011)			

I	1	I	Adilabad(Dt)	Tribal communities	Lingaiah and Nagaraia Rao
			Tranuoud (20)	Thou communication	(2013)
			East Godavari. (Dt)	Tribal Communities.	Srinivasa Rao et al (2016)
8.	Solanum	Jaundice	Vizianagaram((Dt.)	Tribal Communities	Babu et al (2010)
	surattense				
	Burm.f.				
9.	Adhatoda	Cough and cold	Adilabad (Dt)	Gond Tribe	Murthy (2012)
	vasica				
10.	Alstonia	Malaria	East Godavari. Dt)	Tribal Communities.	Yugandhar et al (2014)
	scholaris (L.)				
11.	Boerhavia	Leucorrhoea	Chittoor (Dt.)	Vanadi tribe	Ganesh and Sudarsanam (2013)
	diffusa L	Leuconnoca	Childon (Dt.)	Tanadi tribe.	Galesii ald Sudarsalialii (2015)
	Butea				
12.	monosperma	Infertility	Adilabad (Dt.)	Tribal Communities.	Ramakrishna et al (2014)
	Lam.				
13.	Eclipta alba	Liver complaints	Visakhapatnam (Dt)	Tribal Communities.	Padal et al (2013)
	Pergularia	Muscle pains	Srikakulam (Dt.)	Tribal Communities.	Lakshmi Narayana and
14.	daemia				narasimharao (2013)
	(Forssk.)				
		Bone facture	East Godavari. (Dt)	Tribal Communities	Srinivasa Rao et al (2016)
15	Plumbago	Bing worms transat	Kurnool (Dt.)	Tribal Communities	Subbaiah and Savithramma
15.	zeylanica L.	King worms treament	Kulliool (Dt.)	Thoat Communities	(2012)
16.	Tinospora	Foot and Mouth	Srikakulam (Dt.)	Tribal Communities	Lakshmi Narayana and
	cordifolia	disease			Narasimharao (2013)
	(Wild) Miers				

A Survey on the ethnomedicinal practices of Konda reddi tribe from Polavaram Mandal, Andhra



Fig.1: Aristolochia indica



Fig.3: Boerhaavia diffusa





Fig.4:Martynia annua

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Fig.5: Author collecting data in Study area



Fig. 6: Hybanthus enneaspermus

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