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Review Article

Plants used in tribal medicine due to culture and tradition factors

S. Radha

Reader in Botany, Govt. Degree College, Rajam, Vizianagaram (Dist), Andhra Pradesh, India

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## Abstract

Indian folk medicine is an age old system practiced by primitive people, particularly; the tribal's residing in remote villages and forests. The knowledge gained over the years -through trial and error methods- about the medicinal uses of local flora are retransmitted from one generation to another. It is an outcome of bold experimentation and useful observations made over several hundred years and are in fact considered as mother of all other traditional systems of medicine. This system is losing ground with time and getting influenced by modern medicinal practices. The depletion of the forest resources and lack of proper recognition to the traditional healers, is posing threat of losing the valuable age old knowledge. Traditional indigenous medicinal practice is a repository of knowledge that needs to dovetail with the innovations and practices of modern medicine for betterment of mankind. The "Study of Traditional medicinal practice among the Tribals of Andhra Pradesh and Telangana" was primarily undertaken to document and recognize the sustainable indigenous medicinal knowledge and practices of the tribals located in the Eastern Ghats of Srikakulam and Visakhapatnam in Andhra Pradesh and in Adilabad in Telangana. It is a qualitative and quantitative study, where data were gathered through interviews, direct observation, focus group discussions and questionnaires, and analyzed. The study brings to light that, how unique and innovative they were and how, over a period of time, the practices and knowledge is losing its ground and its impact on mankind, and environment, It has also raised pertinent questions on sustainability and the increased vulnerability of traditional healers.

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## \*Corresponding Author

S. Radha

## Introduction and back ground about the tribal peoples.

A quarter of the Global tribal population lives in India, which stands at 104,281,034 (2011 census) which is more than the entire population of many countries in Europe

and other parts of the world. The area of tribal concentration in India accounts for 15 per cent of the Indian geographical area and the Indian tribes present fascinating diversity with their variegated socio-economic tradition, plurality of occupation and diverse linguistic heritage. Tribal habitation has been demarcated mainly into three tribal zones i.e North Eastern, Central and Southern. The North Eastern Zone consists of subHimalayan

region and the mountain ranges of northeastern India [1-4].

The tribes occupy a significant position in India by contributing variety and richness to Indian culture. Their distinct style of life is preserved over centuries, which is in sharp contrast with the other populations of the country. The tribal communities live in forest, hills, and other isolated regions. Anthropologists and social scientists have classified Indian tribals into several categories. Vidhyarthi and Rai (1977) classified the tribes into six cultural types (1) Forest hunting (2) Primitive hill cultivation (3) Plain agriculture (4) Simple artisan (6) Cattle herders and (6) Industrial urban workers. Meghe (1979) classified the Indian tribal population into four distinct categories viz., (i) Tribals who confine themselves to original forest habitats and are still distinctive in their pattern of life. These may be termed as tribal communities. (ii) Tribals who have more or less settled down in rural areas taking to agriculture and other allied occupations. This category of people may be recognized as semi tribal communities; (iii) Tribals who have migrated to urban or semi-urban and rural areas and are engaged in occupations in industries and other vocations have adopted traits and culture of the other population of the country. (iv) Totally assimilated tribes. Land is the principle source of livelihood and the bulk of tribal population depends on agriculture as more than 80 per cent are engaged in cultivation of one form or the other. The tribal communities are endowed with craftsmanship. The primitive technology as a result of generations of isolation, ignorance, and illiteracy placed them in utter backwardness compared to the rest of the population. Nothing much was done during the British period for their welfare [4-6].

The tradition, fatalism, cultural ethnocentrism, pride and dignity and modesty norms relative values, logical incompatibility of cultural traits, superstitions and motor patterns and customary body positions are identified as change inhibiting cultural factors[6-10].

### Accidents and injuries

Accidental injuries are common among the tribes in view of their mode of life like burns, falls, animal bites, snake bites, violence due to conflicts, and more recently, motor cycle accidents and the tribals in the study area are susceptible to snake bites, violence due to conflicts and road accidents. Hither to they approach the traditional medicine man or magician for cure. With the in-

roduction of modern medicine and the efforts of the medical department, the tribals are slowly availing the benefits of modern medicine by approaching Government hospitals. Consumption of alcoholic beverages which effects the health is a major problem faced by the tribes of this area. Earlier they used to consume home mademahua distilled liquor or liquor obtained from carayato palm but during last few decades they are accustomed to illegal distilled intoxicants from Sondi liquor venders and also cheap liquor supplied by the ar-rack contractors. In recent years due to increased income derived from cashew plantation, the modern intoxicating liquors like brandi, whisky, rum, and beer etc. are consumed in larger quantities. It is pertinent to mention in this regard that in every village the liquor shop is operated by the non-tribals. Liquor is freely available now in every interior village where there is no protective water supply. In many cases, the liver damage associated with liquor consumption which resulted in deaths [11-15].

Another important problem faced by the tribals in the study area is increased deaths on account of viral fevers and epidemics like dengue, malaria etc. In 2007 the government was introduced Rajiv Arogyasri Community health insurance scheme to provide financial protection to families living below poverty line up to Rs 2 lakhs in a year for a treatment of serious illness requiring hospitalization [16-18].

Introduction of modern medicine have taken up in the agency areas of the country by appointing medical personals and qualified nurse's throughout the tribals areas and para medical staff were appointed in the tribal area and a number of primary health centers were opened in the agency villages of the country. But due to their cultural traditional factors and other socio economical aspects stil lot of tribal people are not coming to the government hospital. They believe that nature will help and cure them in aspect we need to develop the traditional and tribal medicine which is the closest medicinal system of their cultural and tradition. Present review article provide such information about the trbal and folk care medicine in Andhra Pradesh [19-22].

### Introduction to tribal medicine

Traditional medicine, as defined by WHO, include diverse health practices, approaches, knowledge and beliefs incorporating plant, animal, and/or mineral based medicines, spiritual therapies, manual techniques and

exercises, applied singly or in combination to maintain wellbeing, as well as to treat, diagnose or prevent illness. The term "traditional medicine" refers to ways of modern medicine. Not all health practices are health traditions. There are two criteria for calling a practice a tradition. Firstly, traditions are those practices that are self-perpetuating. They are practices that are transmitted without the intervention of any agency or institution. Furthermore, they form the unwritten repository of health practices that have been passed down the generations through word of mouth for at least one century and continue to be passed down even today [23-26].

### **Traditional health practices have developed from**

- Traditionally trained folk healers'/village physicians
- Folk healer's/village physicians who are not traditionally trained, but experienced in certain health practices (e.g. Dai, bone setters, specialists in treating poisons, jaundice, mental disorders)
- Old individual or different ethnic communities, including women treating the patients based on the knowledge acquired from their predecessors
- Individuals belonging to different professions (educated group) who acquired certain knowledge from their predecessors
- Ancient copper plate/palm leaf writings
- Organized groups of tribal communities/tribal physicians/older individuals
- Tribal physicians among the migrated groups of tribe settled in the plains

In India a great ethno botanical knowledge exists from ancient period. Written records on the use of plants for curing human and animal diseases in India can be traced back to the earliest scripture of the Hindus (4500 -1600BC), the Rigveda (Jain, 1994). Ayurveda, the indigenous system of medicine in India, dates back to Vedic ages (1500-800 BC). It has been an integral part of Indian culture (Weiss, 1987). Folk medicine is an age old practice followed by primitive people, residing in remote villages and forests. They have attained knowledge about the medicinal uses of local flora over the years, through trial and error methods. It has honed with experimentation and useful observations made over time. This system is diminishing with time due to various factors. Second is the traditional practices are getting influenced by modern medicinal practices. Therefore; proper documentation is needed to preserve this ancient, noncodified traditional knowledge [27].

### **Ethno botany studies of tribes in India; specifically, Andhra Pradesh and Telangana**

Indigenous knowledge is essential to know the use, identification and cataloguing of the tropical plants. As tribal groups gradually disappear, their knowledge vanishes with them. It is therefore, necessary to document these claims in a systematic way by undertaking ethno botanical studies. The most concise definition of the term ethno botany was forwarded by Jones (1941) who called it as a study of interrelationships of primitive men and plants. Whatever it may be the peoples who are treating the diseases with the traditional cultural knowledge aspects are known for Traditional healers [28].

### **Learning of the practice of the traditional medicinal systems**

The custodians of herbal folklore are generally individuals or groups of families who have inherited their knowledge through oral traditions passed down through generations. This knowledge which is often regarded as a family treasure is not accessible even to the rest of the community to which the practitioner belongs and therefore vulnerable to destruction and loss [29].

### **Diagnosis of disease and treatment**

The diseases are diagnosed by physical verification based on external features, complaints regarding body parts, and symptoms; sometimes pulse count is also verified for diagnosis of the disease. Once the disease is identified the medicines are given for 1 or 2 days. Ideally the treatment is done in three phases. If not cured, the patient is referred to another healer. Few diseases that are treated by Traditional healers are listed below.

Few diseases that are treated by traditional helers

S.no.	Diseases	Patients (tick the appropriate)			Diagnosis of disease (Body external features and complaints, (pulse) & symptoms)	Nature of treatment	Local name of the plant	Botanical name	Part of the plant
		Male	Female	Children					
1	Jaundice	√	√	√	patient complain and physical examination -	Cura-tive meas-ures	Begunia-	Vitexnegundo Linn	leaves
2	Head-ache	√	√		patient complaints	Cura-tive meas-ures	Jada -	RicinusCommunis Linn	Seeds
3	Stomach ache	√	√	√	patient complain and physical examination	Cura-tive meas-ures	Tulsi -	Ocium Sanctum	leaves
4	vomiting	√	√	√	patient complaints	Cura-tive meas-ures	Nalla karaka	Terminalia chebula	bark
5	joint pains	√	√		patient complain and physical examination	Cura-tive meas-ures	Kakibira	HugoniaMystax	bark
6	fever	√	√	√	patient and physical examination	Cura-tive meas-ures	Bhuing-kara		leaves

7	boils /septic	√	√	√	physical examination	Cura-tive meas-ures	Sara chhettu	BuchananiaLatifoliaR-oxb	bark
8	migraine	√	√		patient com-plaints	Cura-tive meas-ures			
9	Pneumo-nia			√	patient and phys-ical ex-amination	Cura-tive meas-ures			
10	Piles	√	√		patient and phys-ical ex-amination	Cura-tive meas-ures	nil	nil	nil
11	Cancer-ous sep-tic	√	√		physical exam-ination	Cura-tive meas-ures	Jilledu	Calotropisgi- gantea	root
12	Worms	√	√	√	patient com-plaints symp-toms-child is thin , malnour-ished	Cura-tive meas-ures	Devadaru	Erythroxyllum-Monogynum	root
13	Excessive men-strual discharge		√		patient com-plaints	Cura-tive meas-ures	Bodditiga	Riveahypocrater-iformis	leaves and root
14	White discharge among female		√		patient com-plaints	Cura-tive meas-ures			
15	Problem in con-ceiving		√		patient com-plaints	Cura-tive meas-ures			
17	Dog bite	√	√	√	external features, and pa-tient	Cura-tive meas-ures	Bapana, Chittia	Indigoferaparvi- flora, Phoenix pusilla	Bapna bark, chitita leaf
18	Fox bite	√	√	√	external features, and pa-tient	Cura-tive meas-ures	Bapana, Chittia	Indigoferaparvi- flora, Phoenix pusilla	Bapna bark, chitita leaf

19	Cough children			√	external features, and patient	Curative measures	Bapna, chitita -		, Bapna bark, chitita leaf
20	Cough adults	√	√		external features, and patient	Curative measures	bamboo - sma-traeru - addier -		bamboo--soft bark,ma-traeru-leaf juice),adder -root paste
21	Mouth blisters	√	√		external features, and patient	Curative measures	Rella-chittu-	Indian laburnum	flower
22	Stomach ache - menstrual cycle			√	patients complaint	Curative measures	Patala-Giridi -	Rauwolfiaserpen- tina	soft root
23	Stomach pain	√	√		patients complaint	Curative measures	Sugandhi -	Hemidesmusindicus	root
24	Stomach crunch	√	√		patients complaint	Curative measures	Tippatiga	Dioscorea escu- lenta	tipatiga stem
25	Snake bite	√	√	√	external features, and patient	Curative measures	Nagasarm -	Phragmiteskarka	roots and leaves,
26	Injury	√	√	√	external features, and patient	Curative measures	Kum-proda-		leaves,
27	Diarrhoea	√	√	√	patients complaint	Curative measures	Pateru-Kana- pa	Cissampelospaireira, Eugenia acutangula	creeper ,bark,
28	septic wounds with worms	√	√	√	external features, and patient	Curative measures	Seethapha l- amu	Annona squa- mosa	seethapal leaves,
29	Malaria	√	√	√	patients complaint	Curative measures	javarapatta	Cinchona offic- inalis	bark

30	tooth ache	√	√	√	patients complaint	Curative measures	Chirmar		root
31	Cuts	√	√	√	patients complaint	Curative measures	bajramuli	SidaacutaBurm	leaves

Various medicinal plants identified by the healers in village periphery and forest

S. No	Local name	Botanical name	Habit	Parts used	Aliments
1	Chiruboddi, Adi- viban- katiga, Bodditiga	CissampelosPareira	Climbers	Leaves, Root	Fever, wounds, Diarrhea, Female gynecological ailments
2	Gummadi	Cucurbita maxima	Climbers	seeds	Anemia
3	Tippatiga	Dioscorea esculenta	Climbers	Stem	normal stomach pain
4	Nalleru	Cissusquadrangula L.	Climbing herb	whole plant	Bone fractures. Also used for piles, asth- ma, diges- tive troubles, cough, and loss of appetite.
5	Antisha; Apamargamu; Uttaraene	Achyranthes-Aspera	Herb	whole plant	Insects bite, ear disorder, Bloating
6	Pindidonda	AervaLanata	Herb	Flowers	Urinary dysfunction
7	Ponnagantikura/	Alternantherasessilis	Herb	whole plant	Skin diseases , Asthama
8	Vuluvanjel, Jerripothu- mokka , Brahmadandi , Balurakkasi, Mullupucha	Argemonemexicana L.	Herb	whole plant	Malaria
9	Gadidagadapaku	AristolochiaBracteo- lata	Herb	leaves and root	wound healing , bacterial infection
10	Puli	Averrhoabilimbi	Herb	leaves	sexual disorders
11	Atikamamidi	BoerhaaviaDifusa	Herb	whole plant	Anti inflammatory , Re- duces swelling , Jaun- dice, urinary system
12	Madana	BorreriaArticularis	Herb	roots	loose motion
13	Jiiledu	CalotropisGigantea	Herb	root, leaves	snake bite , cough , cold
14	Kasinda	Cassia Occidentalis	Herb	whole plant	indigestion
15	DusraTigga	CocculusLaurifolius	Herb	root , stem	hypertnsion
16	Adavinabhi / PottiDumpa	GloriosaSuperba	Herb	root , seeds	snake bite ,
17	Sugandhipala	Hemidesmusindicus	Herb	root	normal stomach pain
18	Mullabanti	LepidagathisCrystata	Herb	leaves	Fever, Inflammation
19	Ganneru	NeriumIndicum	Herb	root	toxic bites
20	Naga saram	Phragmiteskarka	Herb	Root	Stomach pain during menstrual cycle
21	alarkapatramu, kon- da- vuchinta, mullamus- ti ..	Solanum Trilobatum	Herb	leaves	asthama

22	Nelamulaka	Solanum Xanthocarpum	Herb	Whole plant parts	cough, sore throat
23	Katakamu	StrychnosPotatorum	Herb	root , bark , seeds	anaemia
24	Edakulaphala	AlstoniaVenenata	Shrub	Root and flowers	Leprosy, skin diseases
25	Esvaraveru / NallaEshwari	AristolochiaIndica	Shrub	rizome, leaves root	itching , snake bites
26	Kakibira	HugoniaMystax	Shrub	root	arthiritics
27	Adaviamudamu	JatropaCurcas	Shrub	leaves	skin diseases
28	Vettipala, jittukatheega	TylophoraIndica	Shrub	Roots, Leaves, Bark	Asthama, common cold , Snake bite, Allergy
29	Kannapa	BarringtoniaAcutangula	Tree	leaves, seeds	malaria ,
30	Sara chhettu / Morli	BuchananiaLatifoliaRoxb	Tree	leaves and bark	Skin allrgies, Constipation
31	Rela	Cassia fistula	Tree	Flower	Mouth Blisters
32	Busi	ClerodendrumViscosum	Tree	leaf	asthama
33	Kondagogu	Cochlospermumreligiosum	Tree	Leaves and flower	cough, diarrhoea, dysentery,
34	Musti	Couroupitaguiensis	Tree	leaves	Common cold, stomach ache tooth ache
35	Badisa	Erythrina variegata	Tree	dreid stem bark , leaves	Anti inflammatory
36	Devadaru	Erythroxylum-Monogy-num	Tree	leave , bark , seed	round worm
37	Kallaravi	Ficusamoethiana	Tree		
38	Buroni	FicusHeterophylla	Tree	whole plant	anemia
39	Nallatumma/ Mallatumma	Prosopisjuliflora	Tree	leaves, Flower and Bark	Infertility among females, Mouth blisters, Jaundice
40	Pariki	Pterolobiumindicum	Tree	leaves	Stomach pain during menstrual cycle
41	Avesi	Sesbania Grandiflora	Tree	leaves	cough
42	Adavimamidi	SpondiasMangifera	Tree	leaves	diarrhhera
43	Nallmadi	Terminalia Alata	Tree	Bark of the tree	diarrhoea,
44	Tummi	Leucasaspera	Weed	leaves	fever
45	Challagadda, pili tegalu	Asparagus racemosus		Roots	diarrhoea, piles, hoarseness of voice, cough, arthritis, poisoning, dis-

					eases of female genital tract,
46	Nallatiga	<i>Ichnocarpus frutescens</i>		Roots	treat wound, asthma, fever, skin diseases,
47	Bapanga	<i>Indigofera parviflora</i>		Bark of the tree	Dog bite
48	Patala Giridi	<i>Rauvolfia serpentina</i>		Root	Stomach pain during menstrual cycle
49	Billa	<i>Ximenesia americana</i>		Root	Stomach pain during menstrual cycle

### Constraints in traditional healing practices.

The tribal's have still faith in herbal medicine and traditional healing system of their own. But there are various serious Constraints which are posing threats to the age old practice. Non availability of resources: The resources are not available conveniently; previously within 5-6 km of village boundary the resources were available in the forest. Now the resources are not available within deep forest as well. Minimum, healers have to travel for 10-12 km within deep forest to access the forest produce which is not easy. Many plant species are getting depleted mostly due to less rainfall, forest fire in summer and deforestation is also another cause for depletion of rare species [29].

The traditional knowledge has seen no innovation in practice and did not keep in pace with time and new kinds of diseases - Malaria, dengue, cancer etc. thus there is stagnation in the knowledge as no new experiments by healers towards improving and value addition in knowledge. Lack of interest among younger generation: Folk lore is an oral tradition passed on from one generation to another. The young generation is finding difficulty in adopting the practice and indolent to go and collect the herb. They are going for higher education and are more influenced by modern medicine. Migration from villages to cities is also there. The practice of knowledge transfer is weak and fragile and is still verbal. There are no written documents available. But when the current generation is not willing to take it from old generation, there is serious threat regarding its sustainability. [30-32]

1. Lack of recognition
2. Lack of support from usual practitioners

### Conclusions

Traditional health care practices among the tribal generally relate to ecology, forest and nature and has deep rooted linkages with their own culture, and beliefs. Tra-

ditional and indigenous system of medicine still persists among the tribal people. Their unique traditional system of health care which has passed down from generation to generation is still the prevalent system. The prevalence of indigenous health care system is found within the remote rural areas. Research study has shown that tribal people possess knowledge about phyto-medicines and are still depending on the traditional ethno-medicine and healing practices for their primary health care. These traditional practices carry huge importance in the region where modern health care facilities are either not available or difficult to access. Apart from the research study claiming the centrality of traditional health care practices among tribal, it also shows the declining trend of traditional health care practices. The traditional medicine and traditional health care practices is under decline, it has got affected due to decreased dependence on the nature and its product. The degradation of forest, ruthless expansion of the urban area and many other modern development processes has affected the traditional relation between tribal, forest and health care practices. In this context, one could trace out evidences informing us about the continuous shifting of tribal health care choices from traditional medicinal practices to modern medicinal system because of its effectiveness and easy availability. The research study has also found the current generation lack interest and positive attitude to carry forward the long age old tradition of herbal medicine practice. As there is no written documentation for treatment procedure or for identification of medicinal plants and mostly dependent on practice and learn method, the young generation is not willing to take such hardship to learn and practice it. Presently developing nations such as India have an imperative need to systematically document the traditional knowledge on the use of medicinal plants among all the communities. Such documentation is necessary because older people are the only custodians of this

knowledge and with fast disappearance of the traditional culture, along with depletion of natural resources, the unrecorded information may lose forever. Documentation could benefit general health care and promote forest conservation, with cost effective medical treatment, which will be more indigenous and safer than modern medicine.

### Recommendations

Streamline the Traditional healing practice with AYUS Program- Herbal medicine is the first level of contact for rural people when they require medical care, it is vital for governments to take immediate steps to introduce the use of traditional medicine to supplement PHC. The government should provide environment to the people to take responsibility for their own health. Health education should be given to the people especially concerning the use of indigenous herbal remedies. The PHCs should impart education regarding the identification of various medicinal plants and their usage for the treatment of common diseases.

For the preservation of medicinal plants, establishment of community gardens and kitchen gardens is necessary. This will ensure sustainable supply of safe, effective and affordable medicinal herbs. Steps taken by various government departments and NGOs in this direction in recent years would definitely strengthen the traditional healthcare systems. This type of initiative will enable the developing countries to look inward rather than continuing to rely on expensive, imported medicines having side effects.

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