

Scientific Validation and Recognition for Tribal Herbal Medicine as Complementary and Alternative Medicine: Empirical Field Work Observations Outcome Evidence

PROF. V. SUBRAMANYAM¹, DR. S. NARAYANA RAO², DR. S. PRIYANKA³

¹ Senior Fellow, ICSSR, Department of Anthropology, Andhra University, Visakhapatnam

² Research Associate, ICMR, Department of Anthropology, Andhra University, Visakhapatnam

³ M.S. General Surgery, Dr. D. Y. Patil Medical College, Pune, Maharashtra

Abstract- The people of India, once largely depended mainly on the home remedies and herbal medicine to cure both minor and major ailments to which they were affected. Once, ethno-medicinal practices or indigenous medicinal practices were very much popularized which was documented in Vedic literature of India. Folk medicine or ethno-medicine considered as original historical root for the different indigenous medical systems like Ayurveda, Unani, Homeopathy, Naturopathy, Aromatherapy, Beach flower therapy, chromo therapy, chiropractic medicine, magnetic field therapy etc. In addition to these Chinese developed acupuncture, acupressure, herbal remedies, diet, exercise, life style changes and other remedies as part of its healing methods also adopted by the Indian people since olden times. After introduction of Allopathy medicine or English medicine into India, which is very much came into practice and available in many health facilities and access to almost all the mainstream population of India. The tribal people who still inhabit inaccessible interior forest areas especially the particularly vulnerable tribal groups (PVTGs) largely depending on their own medicine for curing various diseases to which they are affected.

I. INTRODUCTION

Moreover, they are not access to the public health facility of Allopathy medicine and having negative attitude towards the modern medicine or English medicine due to superstitious beliefs. Ecological and geographical constraints are the other causative factors for in access and unavailing the modern Allopathic medical system of hospital facility of both government and non-government organization. With the introduction of modern Allopathy medical system in

India, slowly the indigenous medical system losing its prominence day by day even though it has much efficacy to cure both minor and major ailments. The Indian Rural and Tribal folk still have much faith in their own medicine and medicinal practices, even though, which lacking the scientific validity unlike that of modern Allopathic medical system. The empirical field work observations in the tribal areas of Andhra Pradesh clearly reveals that still the aboriginal people largely depending on their own medicine (Tribal medicine) to cure various diseases from which they affected. They are using herbal medicine to various contagious and dreadful diseases like Cancer, T.B, HIV / AIDS and Corona virus (Covid19). The trained Anthropologists in the field of ethno-medicine or tribal medicine or folk medicine are documenting it among different cultural groups (Including aboriginal groups) across the globe and contributing their mite for the growth and development of medical Anthropology which has immense contemporary social and scientific relevance, significance and scope. The research studies in the field of medical anthropology definitely contribute the literature pertaining to the complementary and alternative medicine to save the lives of the people who are affected with the most contagious and dreadful diseases like Cancer, and Covid-19 (Corona virus, Delta variant). Further, it needs scientific validation before administer on the patients of such ailments.

In this research paper an attempt is made to explain the relevance of ethno medicine or tribal medicine in using as complementary and alternative medicine to cure the minor and major ailments of dreadful diseases, apart from the modern allopathic medical system which is now widely in practice across the globe, especially among the mainstream population. It

also deals with various indigenous medical systems of India and its role and use in contemporary times. Further, it explains the relevance of the medical Anthropology and its application among different cultural groups by encountering the diseases to which they worst affected. The paper prepared on the basis of empirical field observations in the tribal areas of Andhra Pradesh, covering plain tribes, hill tribes, including particularly vulnerable tribal groups (PVTGs). It provides both semantic and scientific explanations with Anthropological relevance.

- What Is Complementary and Alternative Medicine

As per National centre for complementary and alternative medicine (2008) “Complementary medicine refers to practices which are used together with conventional medicine refers to practices which are used together with conventional medicine eg. Acupuncture used in with conventional pain relief. Alter native medicine includes practices used in place of conventional practices, while integrated medicine is defined as conventional medicine combined with CAM (Complementary and Alternative Medicine) practices that are safe and show some evidence of efficacy. CAM practitioners refer to conventional medicine as Allopathic medicine”.

II. TRIBAL BACKGROUND

In India, even today the tribal people have faith on their own medicine and consult the shaman and medicine man for treatment to both minor and major ailments from which they affected. India represents 635 tribal groups with the population of 10, 42, 81,034 (8.6%) as per 2011 census. Large chunk of tribal population in this country is mainly concentrated in the forested zones like Eastern Ghats, Western Ghats, North-eastern, Central and Himalayan mountains. The habitats of tribes in such zones are endowed with the flora and fauna of forest ecology which is treasure for different varieties of medicinal herbs and herbicides. The tribal people living in the forests are locally referred as *vanavasis* (forest dwellers) and they have established symbiotic relationship with forests since age immemorial. Forests and tribals are inseparable. In the past most part of their livelihood connected with forest and its resources including medicinal herbs and plants. Even today, they used to collect certain

medicinal herbs, leaves, seeds and fruits along with other Non-Timber Forest Produce items and sell it to Girijan Cooperative Corporation, and in weekly markets (*Shandies*). It is one of the sources of income to considerable number of tribal families.

The state of Andhra Pradesh consists of 35 tribes with the population 27,39,919 (5.53%) large chunk of tribal population in this state is concentrated in Tribal Sub-Plan Areas of Visakhapatnam, Vizianagaram, Srikakulam, East Godavari, West Godavari, Prakasam, Kurnool and Guntur districts. Based on the geographical and ecological background tribes of A.P state has broadly classified as two categories Viz 1) Plain tribes 2) Hill tribes. Among hill tribes, six tribes namely Chenchu, Gadaba, Kondh, Konda Reddy, Konda Savara and Porja considered as Particularly Vulnerable Tribal Groups (PVTGs). The habitats of hill tribes including PVTGs are located in the Eastern Ghats Forest environment. In Andhra Pradesh Eastern Ghats are considered as abode for tribal population. The plain tribe’s population is distributed in the caste villages of Deccan plateau plain area, and they have symbiotic relationship with the various caste groups. And also, they have functional relationship with the peasant, Artisan, service and priestly castes.

The plain tribes living in the castes villages are access to modern or allopathic (western medicine) medical systems and availing it, whereas the hill tribes including PVTGs living in Eastern Ghats Forest environment are not much access to modern health care system and unable to avail it due to geographical and ecological constraints. The tribes inhabiting in interior forest areas and mountains are still largely depending on their own medicine and have lot of faith in it. Shamanism is still in vogue among hill tribes due to strong belief in superstitions, black magic, sorcery, witchcraft and evil eye. The tribal medicine man or shaman locally known as *Disari*, *Guruvu*, *Goravagadu*, *Gurumai*, *Yejjodu*, and *Yejjuralu*. He or she play a pivotal role in giving treatment and curing various diseases among the hill tribes of Andhra Pradesh. The tribal traditional medical system in Visakha agency area of Andhra Pradesh is locally referred as “*Disari Vaidyam*” which has no scientific validity and recognition alike that of western medicine or modern medicine.

- Why To Consider Tribal Herbal Medicine as Complementary and Alternative Medicine

The pioneer Anthropologists documented research evidences on health seeking behaviour of different aboriginal groups (tribes) and their strong belief on indigenous or herbal medicine clearly indicates about its efficacy in curing certain of the minor and major ailments through which they affected. The epidemiological history of tribes in India and Andhra Pradesh state clearly reveals about certain of the tropical diseases, its cure with herbal medicine and the role of shaman or tribal medicine man in providing medical aid to the poor tribal people who are not access to modern health care facility and negative attitude towards it. In most of the remote and interior tribal habitats of India, the indigenous / traditional medical system persists even today and the indigenous people in such dwellings forced to depend on their own medicine and invariably consult the local shaman for treatment and cure.

Beginning from late 1970's the concern for studies on traditional knowledge of tribal and rural communities in regard to diagnosis and treatment of illness ethno-anatomy and ethno-physiology etc., started to emerge along with an interest on other topics like native concept of health and illness, stigma and illness behaviour, besides community participation in health care (Sharma, B.V 2016). The tribes all over the world have their own medicinal practices based on their unwritten traditional indigenous knowledge known as folk and ethno-medicines. Several herbs are available in their surroundings and that herbs are being used by them as food and medicine for environment since their early livelihood and developed their own knowledge on flora and fauna from the forest environment which may termed as folk or indigenous knowledge. At the same time, they have also developed their own folk beliefs based on their traditional practices which would help them curing various forms of diseases (Guruprasad 2013:95, Jena 2007: 6-10). According to Kumara (2020) "Indigenous traditional knowledge is very helpful from health and hygiene perspective. A good number of plant species of different families are used as medicines by these indigenous people. Most of the plants are used as fruits and vegetables in their day-to-day life. It is necessary to preserve these medicinal plants so that this can help in new drug development".

The Anthropologists documented medicinal herbs really considered as a source of material for drugs production by pharmaceutical industries only after scientific validation by the scientific experts of pharmacists, ethno botanists and chemists.

Despite the progress in modern medical and pharmaceuticals researches, the use of medicinal herbs has become an important part of daily life. Approximately 3000 plants have species are known as medicinal properties in India (Prakash 2010: 55-60). According to world health organization (WHO) indigenous medicine is identified as 'Sum total of knowledge, skills, practices based on the theories, beliefs and experiences, indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement of treatment of physical and mental illness (Srinivas 2010:107,112 Crowshoe 2005:2).

Health is one of the social indicators of human development. Environment is the basic determinant of health in general. However, any external agents of biological, chemical, physical, social or cultural that can be causally linked to a change in health status. In developing countries, the primary environment determinants of health are biological agents in air, water, and soil that account for most deaths. Four million children die annually from diarrheal diseases acquired from contaminated food or water borne, million people die from malaria each year. Hundreds of millions of people suffer from debilitating intestinal parasitic infestations. Hundreds of millions of people suffer from respiratory disease caused by biological and chemical agents in the air, both indoors and outdoors. In India, tribal people are experiencing much vulnerability in the area of health and they are worst affected with various kinds of tropical diseases, infections and parasitic diseases. Generally, tribal areas in Andhra Pradesh state are considered as malaria endemic zone. The aboriginal people are very frequently affected with malaria and huge number of malaria deaths were recorded in the Eastern Ghats Forest environment, which is considered as abode for tribal population in Andhra Pradesh state (Subramanyam, V & B. Veerabhadru 2014).

It is observed that most of the diseases in the tribal pockets of Andhra Pradesh are associated with environmental and ecological factors and its cure mostly through herbal medicinal plants, available in the forest environment itself. The local tribal medicine men or shaman acquired and gained the knowledge in identification of medicinal herbs, testing its efficacy in curing various diseases by practice generations together and transmitting such knowledge to their progeny. The illness and diseases of aboriginal people to be viewed in cultural, psychological, genetical, ecological and environmental perspectives. These are also associated with the magico-religious practices of aboriginal people. However, the ecological and environmental factors have much influence on tribal health and medicine. Environmental health of tribals and their health seeking behaviour or medicinal practices are much debatable issue in anthropological holistic perspective.

World health Organization defines environmental health as those aspects of human health, including quality of life, that are determined by physical, biological, social and psycho-social factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing these factors in the environment that potentially can adversely affect the health of present and future generations (WHO 1993).

- Anthropologist's views on indigenous medicine and traditional health care systems

We the Anthropologists agree almost all human societies have its own health care system. This consist of beliefs, customs, specialists and techniques aimed at ensuring health and preventing, diagnosing and curing illness, a society's illness-causative theory is important for treatment. When illness has a personalistic cause, shamans and other magic-religious specialists may be good curers. They draw on varied techniques (Occult and practical) that comprise their special expertise. A Shaman may cure soul loss by enticing the spirit back into the body. Shamans may case difficult child births by asking spirits to travel up the birth canal to guide the baby out (Levi-Straus 1967), a shaman may cure a cough by counter acting a cure or removing a substance introduces by a sorcerer.

Every human culture has health care specialists. If there is a 'worlds' oldest profession", besides hunter and gatherer, it is curer, often a shaman. The curer's role has some universal features (Foster and Anderson 1978). Thus, curers emerge through a culturally defined process of selection (parental prodding, inheritance visions, dream instructions) and training (apprentice shamanship, medical school). Eventually, the curer is certified by older practitioners and acquires a professional image. Patients believe in the skills of the curer, whom they consult and compensate. Non-Western systems (traditional medicine) offer some lessons for western medicine. For example, traditional practitioners may have more success treating certain forms of mental illness than psychotherapists do. Non-western systems may explain mental illness by causes that are easier to identify and combat. Thus, it may be simpler to rid a body of a spirit possessor than to undo all the damage that a Freudian might attribute to an un resolved Oedipus complex.

Another reason non-western therapy may succeed is that mentally ill are diagnosed and treated in cohesive groups with the full support of their kin curing may be an intense community ritual in which the shaman heals by temporarily taking on and then rejecting the patient's illness. (Levi Strauss 1967). In modern mental institutions by contrast no prior social ties link patients to burden. Psychotropic drugs are increasingly used, often effectively to treat and control psychological disorders. However, for severe mental illness, the context of treatment may be one of isolation and alienation- separation of the afflicted person from society rather than participation of group in a common ritual.

When we are feeling sick, we often feel better once a label (diagnosis) is attached illness. In contemporary society it is usually a physician who provides us with such a label and may be with a medicine that cures it or alleviates our suffering. In other contexts, a shaman or magico-religious specialist provides the diagnosis and treatment plan. We live in a world where alternative health care systems coexist, sometimes competing, sometimes complementing, one another. Never have people had access to such as wide range of choices in health care. In seeking good health and survival, it may be only natural for people to draw on

alternative systems-acupuncture for one problem, chiropractic for another medicine for a third, psychotherapy for a fourth spiritual healing for a fifth. Think about the alternative treatment systems you may have used in the previous year or past, we should not lose sight, ethnocentrically, of the difference between scientific medicine and western medicine per se (Lieban1977). Despite advances in pathology, microbiology, bio-chemistry, surgery, diagnostic technology and applications many western medical procedures have little justifications in logic or fact. Over prescription of tranquilizers and drugs, unnecessary surgery and the impersonality and inequality of the physical of antibiotics, not just for people, but also in animal feel and anti-bacterial soaps, seems to be triggering an explosion of resistant microorganisms, which may pose a long term global public health hazard.

Still western medicine surpasses tribal treatment in many ways although medicines like quinine, coca, opium, ephedrine and raw oldie were discovered in non-industrial societies thousands of effective drugs are available today to treat myriad disease. Preventive health care improved during the 20th century. Today's surgical procedures are safer and more effective than those of traditional societies. But industrialization has spawned its own health problems. Modern stressors include noise, air and water pollution, poor nutrition, dangerous machinery impersonal work, isolation, poverty homeliness and substance abuse. Health problems in Industrial nations are due as much to economic social, political and cultural factors as to pathogens. In modern North America, back example poverty contributes to many illnesses. These include arthritis, heart conditions, back problems and hearing and vision impairment. Poverty is also a factor in the differential spread of infectious diseases (Kottak, C.P 2004).

- Anthropologists' contribution to medical anthropology growth and development

Medical Anthropology has developed into a very popular field and the society for medical Anthropology is now the second largest unit in the American Anthropological Association (Ember 2010). The pioneer Anthropologists focused on traditional medicinal systems of various cultural groups including

tribal health and medicine. They documented the medicinal practices and use of herbal medicines and magico-religious practices in it.

According to the WHO, it is estimated that 40% of the world populations depends directly on plant-based medicine for their daily health care (WHO 2003). These traditional forms of medicine are mostly plant based. It also serves the needs of primary health care for the local people. In India, the collection and processing of medicinal plants and plant products contributes a major part to the national economy since long (Motaleb 2011 :1 Holley 1998). It is a general view that medicinal plants offer low cost and safe health care solutions. It is very common uses of medicinal plants for the treatment of diseases related to various systems of human beings (Mohs, M.Khan, T.A and Mohamad F 2012).

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The tribes all over the world have their own medicinal practices based their un written traditional indigenous knowledge known as folk and ethno-medicines. Several herbs are available in their surroundings and that herbs are being used by them as food and medicine for curing their various diseases. They have been continued to sustain they're for environment since their early livelihood and developed their own knowledge flora and fauna from the forest environment which may be termed as folk or indigenous knowledge. At the same time, they have also developed their own folk beliefs based on their traditional practices which would help them to curing various forms of diseases (Guruprasad 2013:195, Jena

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Beginning from late 1970s, the concern for studies traditional knowledge of tribal and rural communities in regard to diagnosis and treatment of illness, ethno-anatomy and ethno-physiology etc, started to emerge along with an interest and other topics like native conceptions of health and illness, stigma and illness behaviour, besides community participation in health care (Sharma B.V.2016).

- Classification of Disease and Illness in cultural perspective by Anthropologists

The pioneer Anthropologists through their empirical field work observations in different cultures clearly pointed out that one treat illness in effective and culturally appropriate ways with indigenous medicine which became the part of medical anthropology field and branch of Anthropology discipline. This growing field considered the socio-cultural context and implications of disease and illness (Helman 2001, Strathern and Stewart 1999). Disease refers to a scientifically identified health threat caused by a bacterium, Virus, fungus, parasite, or other pathogen. Illness is a condition of poor health perceived or felt by an individual (Inhorn and Brown 1990). Cross cultural research shows that perceptions of good and bad health, along with health threats and problems are culturally constructed. Different ethnic groups and cultures recognize different illness, symptoms and causes and have developed different health care systems and strategies, disease also varies among cultures. Traditional and ancient foragers, because of their small numbers, mobility, and relative isolation from other groups, were not subject to most of the epidemic infectious diseases that affect agrarian and urban societies (Inhorn and Brown 1990). Epidemic diseases such as cholera, typhoid, and bubonic plague thrive in dense populations and thus among farmers and city dwellers. The spread of malaria has been linked to population growth and deforestation

associated with food production. Hill tribe's habitats in eastern ghats forest environment is considered as endemic zone for Malaria fever. (Subramanyam.V et.al. 2006).

Certain diseases have spread with economic development. Schistosomiasis or bilharzias (Liver flukes) is probably the fastest spreading and most dangerous parasitic infection now known (Heyneman 1984). It is propagated by snails that live in ponds, lakes and water ways, usually ones created by irrigation projects. A study done in a Nile Delta village in Egypt (Farooq 1966) illustrated the role of culture (religion) in the spread of Schistosomiasis. The disease was more common among Muslims than among Christians because of an Islamic practice called Wrudu, ritual ablution (bathing) before prayer. The cultural practices of certain ethnic groups also considered as causative factors for illness and spread of some diseases. The kind and incidence of disease vary among societies and cultures interpret and treat illness differently. Standards for sick and healthy bodies are cultural constructions that vary in time and space (Martin 1992) still, all societies have what George Foster and Barbar Anderson (1978) call disease theory systems" to identify, classify and explain illness. According to Foster and Anderson (1978), there are three basic theories about the causes of illness: personalistic, naturalistic and emotionalistic. Details of it as follows:

Perrsonalistic disease theories blame illness on agents (often malicious), such as sorcerers, witches, ghosts or ancestral spirits, naturalistic disease theories explain illness in impersonal terms. One example is western medicine or biomedicine which aims to link illness to scientifically demonstrated agents that bear no personal malice towards their victims. Thus, western medicine attributes illness to organisms (e.g bacteria viruses, fungi, or parasites), accidents or toxic materials. Other naturalistic ethno-medical systems balance poor health on imbalanced body fluids. Many Latin cultures classify food, drink and environmental conditions as 'hot' or 'cold'. People believe their health suffers when they eat or drink hot or cold substances together or under in appropriate conditions. For example, one should drink something cold after a hot bath or eat a pineapple when one is menstruating. Emotionalistic diseases theories assume that

emotional experiences cause illness. For example, Latin Americans may develop *susto*, or soul loss an illness caused by anxiety or fright (Bolton 1981, Finkler 1985). Its symptoms include Lethargy, vagueness and distraction. Of course, modern psychoanalysis also focuses on the role of the emotions in physical and psychological well-being.

- Outcome of field work empirical data and observations in visakha agency

The participatory action research carried out by the physicians and anthropologists on the issues of tribal health, nutrition, illness, diseases and medicines in visakha agency of Eastern Ghats Forest environment of Andhra Pradesh during the year 2006 clearly reveals about the tribals knowledge in herbal medicine and its use for curing certain of the minor and major ailments. The relevant material on tribal herbal medicine and its use in treatment of certain diseases presented briefly below from this source. Since the tribals are the original inhabitants of forests, they have the knowledge in herbal medicine and know the many varieties of medicinal value plants and herbs. Even today, the interior tribals are largely depending on their own traditional health care system in which they use the products of plants and herbs for curing various diseases. They also collect the medicinal plants and herbs along with other Non-Timber Forest Produce (NTFP) items in the forests and sell it to Girijan Cooperative Corporation (GCC), Visakhapatnam, and private traders. In general forests are the store houses for herbal medicine. Out of the 2000 items of drugs mentioned in different experience over 800 are of vegetable origin. A large number of these are of vegetable origin. A large number of these are obtained from plants and roots, shoots, leaves, fruits, barks, seeds etc, are used for preparation of drugs. Some of drugs obtained from the forests have much commercial value and exported to different parts of the world.

In the study area (Visakha agency) about 904 tribal medicine men were identified (V. Subramanyam, et, al, 2006). These medicine men are distributed in eleven tribal mandals but their number may vary from one mandal to another. The highest number of tribal medicine men found in Gangaraju Madugula, followed by Ananathagiri, Gudem kothaveedhi and

Pedabayalu. In other mandals their number is less than hundred. The medicine men are found in Konda Dora, Kondh and Bagata tribes. The tribal people are still having the superstitions beliefs in evil eye, sorcery, and witch craft. They attribute supernatural powers as cause for certain of the diseases. For cure of such diseases, they consult the local *Guruvu* or *Goravagadu* or *Gurumai*. Large majority of the tribals are mostly use it for curing minor ailments. Still majority of them have negative attitude towards modern western health care system. The local tribal medicine men also now facing the problem to get some of the medicinal plants and herbs in the forests due to its extinction in forest degradation condition. It is a felt need to protect, conserve and regeneration of such valuable medicinal plants and herbs by involving the tribals actively in the afforestation programmes. An Anthropologist can play a vital role in this task of protecting the medicinal herbs and plants as well as promotion of indigenous medicine through participatory action research. And also, the anthropological action-oriented approach can be considered as most practicable and workable intervention strategy for expanding modern health with the help of health administration and indigenous people. Integrated approach to be adopted to promote both the indigenous and modern health care facilities in the tribal areas. Tribal patients to be ensured in providing both the system of treatments in one roof, which should made available within their reach. The contention and intention are to introduce tribal herbal medical system (Disari Vaidyam) into the modern health care system of public health facility alike that of Ayurveda and Homoeopathy which already exists introduced and in operation.

The medicinal plants and herbal collection are one of the sources of income to tribals in the study area of Visakha agency. The tribals in the area collecting 42 different varieties of medicinal plants / herbs in the forests of Eastern Ghats environment. Generally, the tribal medicine men use these herbs for curing certain of the diseases another tribal patient who approaches them for this purpose industries for preparing allopathic medicine. These medicinal plants / herbs are also using in Ayurveda medical system as well as in pharmaceutical industries for preparing allopathic medicine (modern medicine).

List of medicinal herbs collected and used for medicinal purposes by the tribals in Visakha agency mentioned below:

Name of the medicinal plant / herb		
S.No	Botanical name	Local name vernacular
1	Abruspercatirius	<i>Guruvenda</i>
2	Achyranthesaspera	<i>Uttareni</i>
3	Adathoda spp	<i>Addasearamu</i>
4	Aegle marmelos	<i>Billavamu</i>
5	Aloe indica	<i>Kalabanda</i>
6	Andrographis paniculata	<i>Nelavamu</i>
7	Argyreia speciosa	<i>Chandrapala</i>
8	Asparagus recimosus	<i>Pilligeddalu</i>
9	Boerhaia diffusasa	<i>Atikamamidi</i>
10	Bombax malabaricum	<i>Mundla boorugu</i>
11	Butea siperba	<i>Teegamodugu</i>
12	Caesalpinia bonduc	<i>Gachehakaya</i>
13	Cassia angustifolia	<i>Sunamukhi</i>
14	Cassiatora	<i>Tantemu</i>
15	Catunnaregam spinosa	<i>Munaga</i>
16	Celestrus paniculata	<i>Bavangi</i>
17	Cantella asiatica	<i>Saraswati</i>
18	Curculigo orchioides	<i>Nelathadigeddalu</i>
19	Decalepis hamiltoni	<i>Maredugeddalu</i>
20	Eclipta alba	<i>Guntagalagara</i>
21	Goloriosa superb	<i>Adavimabhi</i>
22	Gymmema sylvestre	<i>Podapatri</i>
23	Helicteres esora	<i>Nulitanta</i>
24	Acalypha Indica	<i>Muripinda</i>

25	Holoshena anti dysienterica	<i>Dudipalageddalu</i>
26	Holetema adakodien	<i>Nelagummadi</i>
27	Ipomoea maauriteana	<i>Kumkuma</i>
28	Mallatons philippensis	<i>Dulagondi</i>
29	Mucuna aruriens	<i>Bhootalasi</i>
30	Ocimum basilicum	<i>Tegada</i>
31	Operculina turpethum	<i>Nela usirika</i>
32	Phyllanthus amarus	<i>Erra chitramulamu</i>
33	Plumbago rosea	<i>Tella chitramulamu</i>
34	Plumbago zeylanica	<i>Magasirigedda</i>
35	Pueraria tuberosa	<i>Patalkunda</i>
36	Solanum xanthocarpum	<i>Mullavanga</i>
37	Syzygium cumini	<i>Neradu</i>
38	Terminalia arjuna	<i>Naramamidi</i>
39	Tinospora cordifolia	<i>Tippa teega</i>
40	Tribulus terrestris	<i>Chinnapalleru</i>
41	Vernonia cinera	<i>Sahadevi</i>
42	Woodfordia fruticosa	<i>Seringi</i>

The following table shows about the medicinal plants / herbs used by the tribal medicine men and aboriginal people in their traditional health care system as medicine for preventing and curing certain of the diseases from which they affected. All these herbs have medicinal value and healing capacity of the minor and chronic diseases. The information provided and presented in this table as per the knowledge of the tribal people and medicine men in visakha agency area of Andhra Pradesh.

S.No	Botanical name & family	Local name	Part used	Medicinal uses for curing the ailment
1	Acacianitotica (Mimosacea)	<i>Nallathumma</i>	Bark	The decoction of bark powder is given to treat snake bite.
2	Gymnema sylvestic (Aslepiadaceae)	<i>Podapathri</i>	Leaf	Latex of fresh leaves is dropped into two eyes of the victim to treat snake bites
	“	“	Root	Root paste is applied the region of snake bite and its decoction is drunk in snake bite cases
3	Aervale nata(Amaranthaceae)	<i>Pindikura</i>	Root	Root paste with curd is taken orally for relief from white discharge of women.

4	Phoenix sylvestere (Palmaceae)	Eetha	Root	Root decoction is drunk to control bleeding
5	Strychnos nuxvomica(loganiaceae)	Musti	Bark	The decoction of bark powder mixed with pepper powder is taken orally to relieve from menstrual and arthritic pains
6	Pongamia pinnetta (Febaceae)	Kaanuga / kamu	Root and bark	Root and bark boiled in gingili oil liquid is given orally to treat paralysis
7	Aristolachia Indica (Aristolochiaceae)	Nallewari / nagasaram	Root	Root paste is orally taken and applied to treat scorpion bites.
8	Plumbagorosea (Pumbaginaceae)	Yerrachitramoolam	Root	1 inch root grinded and given to eat by a pregnant woman after 2 nd month of pregnancy for abortion-root paste is given to pregnant woman as a abortifacient.
9	Tylophora asthamatica (Asclepiadaceae)	Asma teega / kukkapala	Leaf	Leave dried in the shade, made it into powder. It is given internally ¼ gram along with honey, dosage twice a day for 1-40 days leaf powder is taken orally in asthmatic condition.
10	Oroxylum Indicum (Bignoniaceae)	Pampena / Dakki	Bark	Bark powder is orally given to children with breast milk as anti-diarrhoeal.
11	Holarrhena antidysenterica (Apocynaceae)	kodisapala	Bark of the root	Root powder mixed with pepper is given orally to child for curing indigestion problem
12	Aeglemarmelos (Rutaceae)	Maredu	Bark	Bark decoction is drunk to get relief from fits in children.
13	Achyranthes aspera (Amaranthaceae)	Uttareni	Leaf	Freshly collected leaf juice is instilled into mouth as a cure for tooth problem.
14	Ocimum basilicum (Lamiaceae)	Rudrajuda	Leaf	freshly collected leaf juice is instilled into ears for ear pain / fungal infection
15	Ricimus eommunis (Euphorbiaceae)	Amudamuchettu	Leaf	Freshly collected leaves are mixed with pepper seeds and made into paste. This mixture is given orally with cows milk on empty stomach to cure for Jaundice.
16	Abrus precatorium (Fabaceae)	Yerragurivinda	Root	Root paste is given orally to relieve from gastric problem and stomach ache
17	Astrakantha longifolia (Acanthaceae)	Neetigobbi	Leaf	Fresh leaves 2 pieces of rock salt +2 pieces of garlic are mixed and packed in adda leaf / tendu leaf / modiga leaf warmed up and given to the patient for body swelling
18	Acalypha Indica (Euphorbiaceae)	Muripinda	Leaf	These three types of leaves with 25 grams of turmeric are made in to paste and applied on skin affected part with burns / scabies / rash/ cuts and other skin diseases
	Aegla malmalus (Rutaceae)	Maredu	Leaf	
	Azadirachita Indica (Meliaceae)	Neem	Leaf	
19	Strychnos nuxvomica (Loganiaceae)	Musti	Bark	Bark paste with pepper seeds is prepared. This mixture is given orally to treat malaria fever.

20	Argemone mexicana (Papaveraceae) pavetta Indica (rubiaaceae) capparis zeylamica (Capparidaceae)	Balurakkasi / Kusuma Papidi Adonda	Root Root Root	Root paste of all the three plants is prepared and given orally as a cure for convulsions
21	Oymidafabrifuga (meliaeaceae)	Somida	Bark	Bark powder is given orally as a remedy for white discharge of women and diabetes
22	Listeaglutinosa (lauraceae)	Naramamidi	Bark	50grams bark grinded and given along with raw egg liquid as single dose for stomach pain and indigestion problem
23	Asparagus racemosus (Liliaceae)	Pilli peasera	Tuber	Tuber paste mixed with cows ghee is given orally as a remedy to white discharge among women and as a restorative like tonic

Apart from these, several others medicinal herbs available in the Eastern Ghats Forest ecology also using by the tribals in Visakha agency and other tribal areas of Andhra Pradesh in their traditional health care system in consultation with the local medicine men. Further, scientific research in this field is much essential to document all the medicinal herbs available and in use by the different tribes inhabiting the ecological zone of Eastern Ghats Forest environment of Andhra Pradesh.

CONCLUSION

The tribal people living in the interior and remote forest areas still largely depending on their own medicine of herbal preparations for curing various diseases from which they affected. Tribal medicine men play key role in providing medical aid and treating the diseases with herbal medicine. The medicinal plants and herbs are usually available in the forest environment itself. The forests are considered as store house for medicinal herbs. The hill tribes inhabiting in visakha agency, Eastern Ghats Forest environment of Andhra Pradesh have its own medical system, which is locally referred as '*Disari Vaidyam*'. Tribal medicine man or shaman play a key role in the traditional health care system, who is referred as *Disari*, *Guruvu*, *Goravagadu* and *Gurumai*. The tribal female / women who provides traditional medical aid to sick person is known as *Gurumai*. In general, the number of *Gurumais* in Visakha agency are very less when compared to the number of *Disari*, *Guruvu* and *Guravagadu* who belongs to male sex.

Beside these '*Mantragadu*' and *Bhutavaidyudu* (Witchdoctor) has prominent importance in the tribal society in curing the diseases linked with sprits, magic, witchcraft and sorcery. Shamanism is very popular in almost all tribal pockets of India. It is also in practice among the hill tribes of visakha agency. It is also part of the traditional health care system or medical system of hill tribes in Andhra Pradesh. Generally, the Anthropologists try to document or record the indigenous medical practices and health seeking behaviour of aboriginals and other human groups across the globe which is the subject matter of medical Anthropology. They usually list out the medicinal plants / herbs used in the traditional medical system with the help of the medicine men or shaman. But they do not have knowledge in scientific validation of these herbs to test its efficacy for treatment. It should be done with the help of pharmacist, chemist and ethno botanist in laboratory condition. Hence, there is a felt need for scientific validation for tribal herbal medicine before it considered as complementary and alternative medicine to modern (Western) allopathic medicine now it widely used throughout the globe. It is noted that in Andhra Pradesh state that Ayurveda, and Homeopathy medical systems accepted and recognized by medical board inturn introduced it in the government health facility along with allopathic medical system. Similarly, why not tribal herbal medicine to be introduced in government health facility specifically in different tribal pockets of India. It is a low-cost medicine and tribal people have lot of belief and faith in their own medicine and medicine men (*Shaman / Disari*).

The case studies recorded in the field area also clearly confirms that the tribal medicine men (*Disari*) have knowledge in treating the cases like cancer, HIV /AIDs and Malaria with herbal medicines. Similarly certain medicinal herbs are also useful preventing and curing Covid-19 (Carona Virua) cases. For instance, Ayurveda medicine of Anandhaih Nellore district Andhra Pradesh. It is observed in the tribal areas of A.P the incidence of Covid-19 cases is very minimal when compared to plain areas of the state. Similar trend also noted in other tribal pockets of India, probably the reasons for it is majority of the tribal habitats are located in the forested zones and mountains of serene environment which is free from all kinds of pollution, with plenty of oxygen supply through green vegetation. Moreover, most of the tribal settlements are scattered homesteads with a smaller number of people, whereas the human settlements in the plain areas (villages, towns, cities) are large in size, nuclear type with dense and crowded population. The tribal population is excluded from the main stream and less exposure to outside and outside contact. In the case of advanced and more civilized population dwelling in the plain areas have much exposure to outside and very frequent contact with outsiders of alien people inside and outside the Indian nation (Society). The Covid -19 epidemiological history in India and its statistical data since March 2020 till date also correlates the statement and field observations of the authors.

Anandaih Ayurveda medicine (Moolika Vydyam) of Nellore in Andhra Pradesh state has using for treating Covid19 disease as well as using it as a preventive measure for corona virus. Which has lot of demand in the region. Tribal herbal medicine prepared by a shaman namely Ganapathi resident of Chintapalle, Visakha agency in Andhra Pradesh is using herbs for treating the HIV / AIDS patients. A shaman / medicine man named Santharao, native of Chintoor, Khammam district also treated cancer and HIV/AIDS cases with the herbal medicine. In sum it urges the need for scientific validation and recognition to tribal herbal medicine in order to consider it as complementary and alternative medicine based on Anthropological empirical field work observations in tribal areas of Andhra Pradesh, India.

In sum, it is a felt need to carry out multi-disciplinary research on indigenous medical practices among different ethnic groups including aboriginals and utilization of herbal medicine in it. There is a need of scientific validation certificate for tribal herbal medicine in order to introduce it in government and non-government health facilities as complementary and alternative medicine alike that of Ayurveda, Homeopathy and Siddha. The empirical field observations in the tribal pocket of visakha agency on tribal herbal medicine and traditional health care practices as well as health seeking behaviour of different tribes clearly indicates that still the interior tribals Particularly Vulnerable Tribal Groups (PVTGs) largely depending on their own medicine for curing various diseases from which they affected very frequently. As per their opinion the herbal medicine has much efficacy to cure both minor and major ailments which is administered by *Disari*, *Guruvu*, *Goravagadu* and *Gurumai*. Moreover, they are access to it and availing it from their own medicine men with free of cost or low cost. Further, documentation and promotion of this medicine with scientific validation as complementary and alternative medicine to modern (Western) allopathic medicine which is now widely in use in the entire globe.

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