

Indigenous Knowledge on Medicinal Plants among the Iruliga tribal population of Western Ghats areas, Karnataka, India

Guruprasad S.L.¹, N. Ningaiah², M. R. Gangadhar³

Abstract. *This article is on the Folk and indigenous knowledge system of the tribal community of Western Ghats of Karnataka particularly on medicinal plants and their socio-economic dependence on the forests. There are numerous herbs available in their surrounding where the tribes are living and that herbs are used by the tribal communities as food and as medicine for curing their diseases. The traditional healers of Iruliga are having good knowledge on medicinal plants, we come across many species of medicinal plants used for common ailments. The traditional healers are on the decline because the younger members of the tribe have started moving towards the towns and cities and are not willing to practice this form of medicine. There is danger as the knowledge of these medicinal plants will also die with them therefore, it is necessary to document the plants and take efficient steps to conserve them.*

Keywords: Medicinal Plants, Ethno medicine, Iruligas, Western Ghats, Indigenous knowledge.

Introduction

It is accepted fact that the tribes all over the world owning their own culture based on that they developed their own system of medical practices, which are being addressed as folk and ethno-medicines, there are numerous herbs available in their surroundings and that herbs are being used by tribal community as food and medicine for curing their diseases they have been continued to live in forest environment since from many generations and developed their own knowledge on flora and fauna of the forest that are known 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 in curing various forms of diseases. The beliefs and practices related to curing disease which are based on unwritten knowledge are carried from generation to generation through the practitioners.

The health problem of any community are influenced by inter play of various factors including consciousness

1 Research Scholar, Department of Anthropology, University of Mysore, Manasagangotri, Mysore, Karnataka. Email: s.l.guruprasad@gmail.com

2 Professor, Department of Anthropology, University of Mysore, Manasagangotri, Mysore, Karnataka

3 Professor, Department of Anthropology, University of Mysore, Manasagangotri, Mysore, Karnataka

of the people, socio-cultural, demographic, economic, educational and political factors (Shiva Prasad et. al. 2010). The common beliefs, customs, practices related to health and disease in turn influence the health seeking behavior of the community. Tribal groups are homogeneous, culturally firm, have developed strong magico-religious health care system and they wish to survive and live in their own way (Basu, 1993).

The traditional medicine as identified by the World Health Organization (WHO) “Sum total of knowledge, skills and 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” (Srinivasa, 2010).

During the last three decades anthropologists have increasingly turned their attention towards the problems of health and diseases of the people they studied. As a consequence a specialization known as medical anthropology came into being. This sub-discipline is engaged in carrying out research in the field of health and its abuse, definition of health and diseases, ethno medicine, nutritional concepts, ethno physiology, doctor-patient relationship, preventive medicine and so on.

Medical anthropology can be shortly defined as “the branch of anthropological research studying the factors that cause, maintain or contribute to disease or illness and the strategies and practices that different human communities have developed in order to respond to disease and illness” (Singer and Susser, 1997). Medical Anthropology represents the general conceptual frame of ethno-medical studies.

Since the end of the second world war, anthropologists both socio-cultural and biological, have turned in increasing numbers to the cross-cultural study of medical systems and to the bio ecological and socio-cultural factor that influence the incidence of health and disease both now and throughout human history. Motivated by the belief that anthropological research techniques, theories and data should be used in programmed designs to improve health care in both developed and developing nations. Medical anthropology should not be thought of as two loosely joined fields, the biological and the socio-cultural because at innumerable points the problem of both required intrusion of data and theory from the other. Mental illness, examples cannot be studied solely in terms of physiological and biological factors or as psycho-socio-cultural phenomenon. (Foster and Anderson 1978).

Illness and death are significant events for people everywhere. No one is spared. So it should not be surprising that how people understand the causes of illness and death, how they behave, and what resources they marshal to cope with these events are extremely important parts of culture. Some argue that we will never completely understand how to treat illness effectively until we understand the cultural behaviors, attitudes, values and the larger social and political milieu in which people live. Others argue that society and culture have little to do with the outcome of illness. The reason that people die needlessly is that they do not get the appropriate medical treatment. But anthropologists, particularly medical anthropologists, who are actively engaged in studying health and illness, are increasingly realizing that biological and social factors need to be considered if we are to reduce human suffering. For instance, some populations have an appalling incidence of infant deaths due to diarrhea. The origin of this situation is mostly biological, in the sense that the deaths are caused by bacterial infection but why are so many infants not protected to those bacteria. Usually, the main reason is socio-economic conditions.

The affected infants are likely to be poor because they are poor, they are likely to live with infected drinking water. Similarly, malnutrition may be the biological result of a diet poor in protein, but such a diet is usually also a cultural phenomenon, reflecting a society with classes of people with very unequal access to the necessities of life. In many ways, therefore, medical anthropology is developing in the direction of a bio-cultural synthesis. But medical anthropology is part of this developing synthesis indeed, the growth of jobs in medical anthropology is one of the more striking developments in contemporary anthropology. Medical anthropology has developed into a very popular specialty and the society for medical anthropology is now the second largest unit in the American Anthropological Association (Ember and Ember 1999).

Methods of Study

Anthropological studies are one which is characterized by the holistic approach of study and based on First-hand information collected in field work. Fieldwork is the method of data collection which gives an anthropologist data based on first hand information and direct contact with the people to under study.

The present study is carried out in Western Ghats of Karnataka by administering the anthropological tools and techniques such as observation, interview and case study method. An in depth anthropological field work was conducted on Iruliga tribal population to understand their indigenous knowledge on medicinal plants, preparation of medicines and methods of using them for curing their various diseases. For the present study 100 samples has been collected from Iruliga tribal population. Including common man, patients and traditional healers has been interviewed and collected information.

Study Area

The Western Ghats also known as the Sahyadri Mountains, is a mountain range along the western side of India. It runs north to south along the western edge of the Deccan Plateau and separates the plateau from a narrow coastal plain along the Arabian Sea. The Western Ghats block rainfall to the Deccan Plateau. The range starts near the border of Gujarat and Maharashtra, south of the River Tapti and runs approximately 1600 km through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari, at the southern tip of India. About sixty percent of the Western Ghats are located in the state of Karnataka.

Karnataka has a rich diversity of flora and fauna. It has a recorded forest area of 38,720 km² (14,950 sq mi) which constitutes 20.19% of the total geographical area of the state. The Western Ghats, a biodiversity hotspot, includes the Western region of Karnataka. Two sub-clusters in the Western Ghats, viz. Talacauvery and Kudremukh, both in Karnataka, are on the tentative list of World Heritage Sites of UNESCO. The Bandipur and Nagarhole National Parks, which fall outside these sub clusters, were included in the Nilgiri Biosphere Reserve in 1986, a UNESCO designation. Karnataka has five national parks: Anshi, Bandipur, Bannerghatta, Kudremukh and Nagarhole. The Iruliga settlements are scattered over a number of hamlets and these hamlets are situated in the interior forest and tiny hilly side. As a result of large scale deforestation and indiscriminate shooting and illicit poaching, tribal have been deprived of their basic requirement of honey and other forest produces. Their

traditional practices and rituals are slowly disappearing. The government is restricting their entry inside the National park and forest. They are slowly shifted to new colony, rehabilitation or resettlements. The study was undertaken in tribal resettlement haadi/colonies in Hunsur taluk . mastamma or Hebbal Haadi of (resettlement) of Hunsur taluk, Mysore district of Karnataka State.

Study Population

The origin of the word "Iruliga" is not clear. It could have been derived from Tamil word, Irul implying the dark complexion of the "Iruligas". The iruliga are also called Iraliga or Illigaru. According to Nanjundayya and Iyer (1930), the term iraliga might have been derived from irul (night) perhaps from their dark colour. Those living in the Bangalore district and its neighborhood prefer to call themselves pujaris or kadu pujaris. Nanjundayya and iyer further stated that "they were the descendants of a person created out of the sweat of a rescuing goddess to drive away bees in order to collect honey another account given by the authors is: Mr.cox suggests that the Irilars are the representatives of the kurumbas who fled to the jungles after defeat by Adondai, and that many of the forest tribes may be similarly accounted for. The Irula belong to the veddars or hunting people, whose expulsion from or extermination in the settled part of india is constantly recorded by traditions. The "Iruligas" lived in the forests and maintained a system of mild interdependence with the neighboring villages. They used to sell honey, honey wax, firewood etc and in return get village products for their use. Their food was obtained mainly within the forests - the vegetation and wild animals.

These Irula tribes of India are also known by different names Eravallan, Erukala, Irava, Irular, Iruliga, Iruligar, Korava, Kad Chensu are some of the prominent names of these Indian tribes. Iruliga tribes of India inhabit in southern part of India. Chingleput at the Nilgiri foothills, Tamil Nadu is the prime inhabit of these Indian tribes. Irula tribes of India are also found in various parts of Andhra Pradesh, Kerala, Maharashtra and Karnataka. A language called Irula (related to Tamil and Kannada) is the main language spoken by Irula tribes of India. The Language of the Iruliga is Kannada. They also speak Tamil. They use the kannada Script.

"Iruligas" as a tribe are traditional snake and rat catchers. This is no longer their means of living and over these years of existence they have been unable to find a sustainable occupation for themselves, they are unskilled in doing any kind of job. They earn their living by doing 'coolie' work. This could be either by working as laborers in the fields of the landlords during the sowing and harvesting seasons or by working in the rice mills they also do some work in the landlord's house. Fishing is also an occupation in some of the "Iruliga" villages. Some of them also collect firewood from the forest to sell the problem of these people is that, only some get money while the remaining just get some rice or other things in kind as a payment for labour.

The Iruliga are nonvegetarian, their staple foods are ragi and jowar. Consumption of rice is rather limited , occasionally men's drink liquor but Women do not drink liquor but drink tea, coffee and milk ,smoking beedis and cigarettes is a common habit, they chew tobacco and betel leaf. Hunting, food gathering and collection of forest produce were the main occupation of the Iruliga in the past due to deforestation, they have given up their traditional occupations and taken to agricultural labour and other suitable vocations.

In recent years, some of them have got lands from government which they cultivate, those who do not have land work as agricultural labourers and get their wages in cash. The Iruliga women too work as agricultural labourers. Agricultural labour is on the increase due to landlessness, prevalence of child labour is also reported. Earlier, there were traditional caste councils among the Iruliga several settlements come under a kattermane, which no longer exists. Now the community has a head man called yajamana who acts as the custodian of the community. Matters like consultations at the time of negotiating marriage proposals, petty disputes and thefts are referred to yajamana. Matters within the reach of yajamana are solved amicably. However, awarding punishments and other kinds of penalty rests with the regular legal authorities. The statutory village panchayat plans and implements welfare and development measures.

The Iruliga are Hindus they worship Hanuman, Maramma and Shiva. They consider Maramma their family deity, they worship the snake god also. Their sacred specialists are from the lingayat community and the jangama are invited to officiate during their lifecycle ceremonies. They observe all Hindu festivals such as Ugadi, Gowri-Ganesh, Hanuma and Pongal.

Table of Medicen Plants used by Iruligas for different Diseases

Sl. No.	Diseases	Local name of medicinal plant	Botanical name	Parts used	Herb\ plant	Method of using
1	Worms in stomach	Hullu or nugge leaves/nugge Nakare	Agathi, Moring a oleifera	Leaves	Plant	Juice is extracted from leaves a pinch of salt is added ,taken for worms
2	General pain	Lole gidda / lolenakare	Aloe vera	Leaf pulp	Plant	1tsp of leafpulp of lole gidda is mix with 1/4 tsp of cow's ghee trikatu powder,haritaki and rock salt to consume 2 times a day for two days.
3	To alleviate pain during digestion	Hashi shunti	Zingiber officinale (Rhizome), Sesamum, indicum (Sesame oil)	Rhizome , sesame seeds	Rhizome, plant	Sticky paste is made using shunti, sesame, and jaggery it is taken in to gooseberry size with milk
4	Burning sensation	Neem	Azadirachta indica	Bark	Tree	Neem bark is pounded lightly placed in 1 cup of water and strained, taken in morning and evening
5	Burning sensation	Kutaja	Holarrhena antidysenterica	Seeds	Plant	Seeds are roasted and made a fine powder. One pinch of it is taken in water for 2-3 days

6	In digestion and heaviness of abdomen	Aadusouge	Piper longum (fruiting spike) Adhatoda zeylanica	Seeds and rhizome	Plant and rhizome	Pound together equal quantities of 'Aadusouge' and 'ginger' to make powder. Take 1 tsp of this powder with a glass of hot water to alleviate colic characterized by heaviness of abdomen and indigestion
7	Heaviness in abdomen and indigestion	Shunthi	Zingiber officinale (Rhizome)	Rhizome	Rhizome and plant	Crush the ginger extract the juice. 1 tsp of honey is taken with ginger juice
8	Chronic wounds	Lolegidda or lokasara	Curcuma longa (Tubers). Aloe vera (leaf pulp)	Tubers and leaf pulp	Tubers and plant	Cut a leaf of 'lolegidda' into two halves. Sprinkle 'turmeric' powder on the exposed portion. Place the halves on the wound and bandage
9	Wounds	Kadmulangi Nakare	Bryophyllum, s crassulaceae	leaves	plant	this plant has antibiotic property , the leaves of the palnt is crushed and applied on wounds
10	General pain	Basale Nakare	Basella alba	Leaves	Herb	Hand full of basale leaves is taken ,extracted juice and consumed twice daily
11	Fresh wounds	Lolegidda	Aloe vera	Leaf pulp	Plant	Scoop out the aleo gidda pulp and apply on wounded parts twice daily till the wound heals
12	Fresh wounds	Basale Nakare	Basella alba	Leaves	Plant	Make a paste of basale leaves with warm water and apply on affected area
13	Chronic wounds	Lolesara, turmeric (harishina)	Aloe vera, curcuma longa	Leaf pulp, tubers	Plants	Cut a leaf of 'lolesara' into two halves. Sprinkle 'turmeric' powder on the exposed portion. Place the halves on the wound and bandage.
14	Morning sickness	Daalimbe Palo	Punica grantum linn	Fruit	Plant	Extract the juice of 'daalimbe' fruits. Take 1 cup of juice on empty stomach in the morning
15	Anemia	Daalimbe Palo	Punica granatum linn	Fruit	Plant	Extract the juice of 'daalimbe' fruits. Boil 1 cup of juice with 2 cups of sugar to make syrup. Take 2 tsp of syrup in the morning & evening until cured.
16	Bleeding	Durva hullu.	Cynodon dactylon	Whole shoot	Plant	Extract juice from the whole shoots of 'durva' grass. Take 6 tsp of the juice with milk at bedtime for 41 days

17	General	Ashvasgandha	Withania somniafer	Root	Herb	Pound the roots of 'ashvagandha' to make powder. Mix 5 gm of the powder in warm milk or water, add raw sugar to taste and take twice daily for 2 weeks.
----	---------	--------------	-----------------------	------	------	---



This photo of Medicinal plant is taken in the backyard of Iruliga Medicinal practitioner Mastamma's House. Local name-Kadmulangi Nakare , Botanical name is Bryophyllum , scrossulaceae this plant has antibiotic property. It is used to cure wounds by Iruliga Tribal community.

Conclusion

The term Irula means being capable of finding one's path in dark forests, according to an irula myth. This is characteristic of irulas they are born in nature's lap, irulas share a symbiotic relationship with mother earth. They reside in the hills and are one among the six oldest adivasi tribes. Irulas are specialist in traditional herbal medicine and healing practices. Irula vaidyas are mostly women, practice traditional healing system they treat several new-age diseases with a high success rate. Irula's natural products are made from medicinal plants grown in a pure unpolluted environment, no pesticide, no fertilizers. There products are a culmination of the powerhouse of knowledge of medicinal herbs of the irulas, that forms a part of their rich heritage. The total number of species of plants used by the irula community people are based on the ethno medical field survey these plants are used to treat several wide range of discomforts. The irulas knew the names of trees and also where seeds could be collected, and also turned out to be good at locating species which nobody else knew grew in the region. They possess a vast knowledge bank related to medicinal plants and Irula cures and preventives are widely sought and used. They are nevertheless a unique habitat and have their own traditional domain. They have careful, conservative- minded style of using the forest, such as using only regenerative plants and never up-rooting rare medicinal plants. The growing disinterest in the use of the folk medicinal plants and its significance

among the younger generation of the tribes may lead to the disappearance of this practice as it was reported by several previous workers. Those who have the knowledge of traditional medicine are involved in collection of medicinal plants throughout the year but the amount of collection is based on immediate requirements only. The study reveals that of the species have become increasingly rare and are no longer available locally and sometimes this makes them travel deep in to the forest for collection of herbs. The untapped knowledge on the varied use of the medicinal plants, their availability and extent of distribution weakens the efficient use of forest resources besides, due to the penetration of the market economy. Break down to the community based institutions, acculturation and rapid degradation of forest resources.

Plant-based traditional knowledge has become a recognized tool in search for new sources of drugs and nutraceuticals. The traditional use of plants has declined due to the scarcity of species, which is caused by human activities and over grazing by animals therefore, it has become essential and need of the hour to focus on conservation of these plants this tribal population has good knowledge about the use of many plants. They believe that all afflictions are caused by supernatural forces traditional healers use their eyes, ear, nose and hands to diagnose the diseases, this way of diagnose is interesting because they live in interior areas and lack the use of modern scientific equipment for treatment. Herbal medicines prescribed by tribal healers are either preparation based on single plant part or a combination of several plant parts. The forests of Nagaraholle are rich in medicinal plants, many are still not known to us. Our effort helped identify of commonly used plants. Further, studies have to be carried out to identify the numerous medicinal plants and the most important thing would be to conserve these plants.

This article highlights on Medicinal knowledge of Iruliga Tribes and their medicinal plants which are utilized for the greater benefit of mankind. This article is based on the field exploration conducted in Western Ghats of Karnataka and documented the process of preparing medicines and administering the medicines. There are numerous herbs available in their surroundings and are being used by the tribal communities as food and medicine some of the medicinal plants obtained through the process of trial and error experiences and that herbs are used for curing their diseases, the indigenous knowledge of tribal people may throw light on the modern plural medicinal systems and it may help the modern society to make use of that knowledge to address their medical problems. Dissemination of the knowledge of medicinal property would improve the socioeconomic status of the Iruliga tribe, traditional healers are on the decline because the younger members of the tribe have started moving towards the towns and cities and are not willing to practice this form of medicine. There is danger that the knowledge of these medicinal plants will also die with them. It is therefore, necessary to document the plants and take efficient steps to conserve them.

Acknowledgements

We are grateful to Institute of Excellence, University of Mysore, Mysore, for providing financial support. Thankful to Smt. Seema, Research Scholar, Department of Botany University of Mysore, Manasagangothri, Mysore and Author's are highly indebted to all the tribal informants who extend their priceless support for this maiden study. Most importantly, we would like to thank Smt. Mastamma and all the Tribal Medicinal Practitioners and patients who willingly volunteered spend their time and given information and also facilitate to complete this study on time.

Reference

- A. Das Gupta (2012). Way to Study Indigenous Knowledge, *Antrocom Online Journal of Anthropology*, vol. 8. n. 2 – ISSN 1973 – 2880
- Basu S.K. (1993). Health status of tribal women in India, *NIHFW-3*
- Ember and Ember (1999), *Cultural Anthropology*. New Delhi
- Foster M. (1978). *Medical Anthropology*, New York
- L. A., Krishna Iyer (1941). *The Travancore tribes and castes vol.III.* , Government press.
- Mathur P. R. G. (1982) Anthropology of Tribal Medicine: Disease and curing techniques among the Tribal's of North Wynad (Kerala), *Man in India*, 62, pp. 295-312.
- Mann R. S. (1981). *Cultural Ecological approach to the study of Bhill*; in Vidyarthi L. P (Ed), *Nature man spirit complex in tribal India*. Concept publishing house, Delhi; pp.117-126.
- Nag M. G. (1980). Tribal population, its growth and structure: A Review. *Man in India*, 10, pp.1-20.
- Nanjunda D. C. (2010). Ethno-medico-botanical investigation of Jenu Kuruba ethnic group of Karnataka State, India, *Bangladesh Journal of Medical Science*, Vol.09 No.3 July 2010, pp.161-169
- Nanjundayya H. V. and Iyer L. K. A. (1930). *The mysore tribes and castes, III* :378-379. The Mysore University, Mysore.
- Shiva Prasad H. S. et Al. (2010). An outlook on the health status of tribal population in India, *Man and Life*, Vol. 36 (3-4); pp.165-174.
- Singer and Susser (1997). *Medical Anthropology and the world System. A Critical perspective*. London.
- Srinivas B. M. (2010). Ethno Medical Practices among the Jenu Kuruba of Karnataka. *Man and Life*, vol.36 (3-4); pp.107-112.