



Research Article

ETHNOMEDICINAL USES OF PLANTS: A STUDY AMONG THE JUANG TRIBE OF KEONJHAR DISTRICT OF ODISHA

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ABSTRACT

An Ethno-Medicinal survey was carried out in some villages of Juang community in Keonjhar district of Orissa to evaluate the plants used for medicine by them. The investigation was carried out in Juang villages with participant observation, Interview method, case study, snowball sampling and administration of Survey schedules. The study enumerated 32 species belonging to 21 families that are used by them for treatment of common ailments and Healthcare. The plants used for traditional medicines are mostly collected from the forest. It has been revealed that although the Juang concept of disease and treatment revolves around a religious beliefs and practices, they depend on plant medicine to a larger extent, although they are using modern medicine in the current scenario. It has been understood that some of the medicinal plants have become scares in the area due to industrialisation and other activity. Documentation of traditional knowledge on the economy and the uses of these plants may contribute to the germplasm conservation efforts as well as for the new drug development.

KEYWORDS: Culture, Ethno-medicine, Tribal, Traditional.

INTRODUCTION

"Ethno-medicine is defined as a branch of science in which plant based formulation known to tribal since ancient days are used to alleviate the diseases. Nowadays, it is also known as botanical medicine or phytomedicine".^[1]

The term ethno-medicine is generally applied to the study of traditional Medical Systems of the non Western societies (Foster and Anderson 1978: 51).^[2] Later, the meaning of the term was broadened to include all Medical Systems, including biomedicine, viewed within the framework of the respective cultures (Lock and Scheper Hughes,1990:47-72, Rhodes, 1990:159-173)^[3]. Fabrega has also applied the term more broadly and includes all "culturally oriented studies of illness" under ethno-medicine (1974:39-43).^[4]

Ethno-medicinal study is necessary due to rapid destruction of natural resources, on one hand and the traditional ethnic culture on the other hand. The advancement of modern technologies in all aspects of life has brought these changes contributing to a rapid disappearance of natural resources. Since ethno-medicinal study reveals the relationship between the indigene and their surrounding plants. It has immense importance in social and economical aspects of human life.

Throughout the world the scope, importance and implications of ethno-medicine have been expanding at a very fast pace. Recent developments and researches on ethno-medicine have today established linkage between many other special areas like anthropology, medicine and conservations etc. Such studies have shown their relevance in search for new herbal drugs and conservation of natural resources.

The Present study is based on Juang tribe of Keonjhar district of Orissa with reference to the use of plants in common human ailments and Primary Health Care practices. These tribal people depend upon the forest resources for their basic livelihood earning pursuits and health care needs. They thus poses appreciable knowledge about medicinal use of the plants. They have adopted their own methods and techniques in Healthcare practices, in drug plant selection, processing and drug administration. This practice of herbal cure is guided by the experience and practice based knowledge of the community which is handed down from generation to generation. Juang of Kendujhar district use various types of plants and their parts with diverse method of application with respect to the particular disease. The present work has attempted to document the herbal resources used by the juang tribe in Keonjhar

District (Kundhei and Ghungi village of Banspal block). The survey identified 32 species of medicinal plants that are used by the community in Keonjhar district for the prevention of and prophylactic measures for common ailments.

According to Gillin and Gillin

"Any collection of the preliterate local group which occupies a common general territory, speaks a common language and practices a common culture is a tribe."

According to Ralph Linton

"In its simplest form, the tribe is a group of bands occupying a continuous territory and having a feeling of unity deriving from numerous similarities in culture and common goals."

According to River

"A tribe is an ethnic group of simple kinds, the members of which speak a common dialect and act together in common purpose such as warfare."

Tribal medicine

The tribes who lived in the remote area perform the system of medicine and treatment, which is known as tribal medicine or ethno-medicine. Tribal communities utilise their knowledge about different plants or different parts of the same plant for an illness. It indicates low information about these Herbs and plants as well as combination and those of such indigenous objects for cure of different diseases. Various herbal medicines utilised by tribes have rich ingredients of medicinal value for effective treatment of skin disease, eye, and ear infection, cough and cold and other epidermal diseases. The study tries to document ethno-medicines and analyse their different uses.

The common customs, traditions and practices associated with the tribal's health and diseases have a direct bearing with the treatment of physical ailments, besides other socio-psychological reasons. From a traditional medicineman or sorcerer, a tribal patient does not merely receive a physical health treatment but something much more than that. He gets socio-psychological reinforcement which he cannot get from Modern medical practitioners. These reinforcements are based on the understanding of traditional beliefs and practices of the community. In this setup, introduction of an alien healthcare system having its root in exotic culture bound to create conflicting and confusing situations.

Chaudhury feels "In fact it is a debatable question that the tribals always go for indigenous practices where both traditional and modern facilities are available. The patient-doctor relations are important... In this context... Besides these, knowledge and documentation of traditional tribal

medicine are also urgently necessary. "A Study of indigenous method of treatment may help to identify new methods of treatment of various diseases with certain modification. Infact a number of ethnobotanical studies has helped to identify a number of medicinal plants used by the tribals to treat different types of diseases in many parts of India. Many of them may be very useful to treat diseases and it is urgently necessary to document them and try them after proper scientific experiment" (Chaudhury, 1986)^[5]

"More than total 4,22,000 flowering plants has been testified from the world, and more than 50,000 are conserved for medicinal purposes. India is a country known for her traditional method of medicine and treatment of diseases. India is a country where more than three fourth of plants consists of medicinal values and their various parts are used for drugs manufacturing. The tradition of using Herbs for medicinal purposes to cure multiple diseases is found in the ancient literature of India. Hence scientific studies in this area have been started in the late 50s to preserve this knowledge into written literature and commercialise traditional practice which had vanished due to extinction of various species of medicinal plants"^[6,7].

The objective of this study is to identify and examine the plants/trees with medicinal values and tribal beliefs in it.

MATERIALS AND METHODS

The Research Design made the blueprint for fundamental structure which provides direction for the identification, compilations and investigation of data. Research Design is required because it facilitates the entire process (i.e., where, why, what, when and how). In this paper empirical Research Design is used and the exploratory service associated with the data connection was done by using a survey method. The investigation was carried out in Juang villages with participant observation, Interview method, case study, snowball sampling and administration of Survey schedule

RESULTS AND DISCUSSION

In this paper ethno-medicinal account of Thirty-two (32) plant species has been arranged in alphabetical order according to their local names (as has been recorded during the fieldwork). They have been arranged alphabetically, in order to make it easy for a layman to get the information of any plant required.

Local names of plant, vernacular name, its local use and mode of application are also given. Indigenous medicinal use and their mode of application are given as per the first hand information collected

from the tribal and local medicine man of the study area.

Diagnosis of the diseases: Diagnosis of disease among the Juang tribe based on both traditional and modern methods of determination of the health problems. The healers are experts in diagnosing the disease by checking the pulse, observing skin and eye colour, tongue, etc.

Herbal and medicinal Plant parts used by Juang Tribe: Author has identified ethno-medicinal plants which are used by Juang Tribe of the study area in their daily life for the treatment of various diseases. The ethno-medicinal plants have been listed alphabetically in Table-1 and Figure4-7.

Table 1: Herbal and medicinal Plant parts used by Juang Tribe

Sl. No.	BOTANICAL NAME AND FAMILY	VERNACULAR NAME	PARTS USED	METHOD OF USE
1	<i>Abrus precatorious</i> , L (Fabaceae)	<i>Kaincha</i>	Seed	White seeds (one) is kept in raw cow milk overnight and given to women in morning to eat at the end of menstruation cycle to prevent conception.
2	<i>Acacia penninervis</i> (Fabaceae)	<i>Akasia</i>	Bark	-Bark of <i>Akasia</i> tree is grinded and filtered with net to obtain the juice. This is taken to cure the disease.
3	<i>Achyranthus asper</i> (Amaranthaceae)	<i>Apamaranga</i>	Root	Paste of the root is taken to cure fever
4	<i>Acorus calamus</i> L (Araceae)	<i>Bacha</i>	Root	Paste of the root is applied on forehead to cure headache
5	<i>Annona squamosa</i> L (Annonaceae)	<i>Kadamba</i>	Leaf	Leaf applied with mustard oil is heated & applied on knee to treat rheumatism.
				Leaf extract is applied on forehead to treat headache
				Leaf extract is applied for treatment of skin infection.
6	<i>Andrographis paniculata</i> (Acanthececeae)	<i>Chireita</i>	Root & leaf	Leaves boiled in water & infusion is used to wash wound for fast healing
				Powder of leaf is taken with hot water to treat worm
				A fresh leaf paste is applied on skin to cure skin infection.
7	<i>Argemone mexicana</i> L (Papaveraceae)	<i>Agara</i>	Seed & leaf	Powder of the seed is cooked & applied on body to cure scabies & eczema.
				Leaves extract is applied on wound for healing.
8	<i>Asparagus racemosus</i> Wild (Liliaceae)	<i>Satavari</i>	Root	Gynaecological disorder, diabetes, Jaundice.
9	<i>Bauhinia variegata</i> L (Caesalpeniaceae)	<i>Kanchan</i>	Bark, Root, Leaf & Flower	Bark extract is taken once for 2 days to kill worm in stomach.
				20ml of root extract from 20 gm root taken twice to treat enlargement of liver (hepatomegaly)
				100 ml of leaf extract is taken thrice for 3 days to cure jaundice.
				Flower is boiled & extract is taken twice to check bleeding from piles.
10	<i>Benincas hispida</i> . L (Cucurbitaceae)	<i>Panikakharu</i>	Fruit	Prepared curry (without any spices) is taken regularly to cure piles.
				Curry is to be taken regularly to retain pregnancy.
11	<i>Datura stramonium</i> L (Solanuceae)	<i>Dudura</i>	Leaf	Leaf powder is inhaled to cure chronic cough.
				Leaf extract is boiled with sesame oil is massaged to get rid of aching of body parts.
				Leaves are fried in mustard oil to extract the juice in the oil, which is massaged on joints to cure rheumatic

				pain & inflammation.
12	<i>Hemidesmus indicus</i> L (Asclepiadaceae)	<i>Anantamula</i>	Root	Root paste is taken in empty stomach for a week to treat leucoderma.
13	<i>Marcotyloma uniflorum</i> L (Fabaceae)	<i>Kolatha</i>	Seed	Seed is boiled with water & taken to treat cough & Asthma. Seed is soaked in water over night and the water is taken before food in early morning for 2-3months to get rid of Gall Bladder stone.
14	<i>Sida acuta</i> L (Malvaceae)	<i>Bajramuli</i>	Leaf, Fruit & Root	Fruit, Root & Leaf are boiled to prepare decoction & dry ginger powder is added to it. It is taken thrice a day to treat malaria. Root is grinded into a paste, which is applied on wound to cure it.
15	<i>Terminalia arjuna</i> Roxb. (Combretaceae)	<i>Arjuna</i>	Bark	Bark powder with Luke warm water is given twice to cure blood dysentery. Bark extract is given thrice a day for 15 days to treat menstrual disorder.
16	<i>Terminalia bellirica</i> Roxb. (Combretaceae)	<i>Bahada</i>	Bark	Bark paste is given to women with Luke warm water twice a day to cure leucorrhoea.
17	<i>Vitex nigundo</i> L. (Verbenaceae)	<i>Begunia</i>	Leaves	Pesticides, insect Repellent
18	<i>Woodfordia fruticosa</i> L (Lythraceae)	<i>Dhataki</i>	flower	Dry flower and honey is taken once a day for a month to treat leucorrhoea.
19	<i>Zyziphus mauritiana</i> L (Rhamnaceae)	<i>Barkoli</i>	Leaf & Bark	Paste of Bark is taken twice a day after food to treat abdominal pain during pregnancy.
20	<i>Millettia pinnata</i> (Fabaceae)	<i>Karanja</i>	Seed & Bark	Oil applied on body parts work as mosquito repellent. Extract of stem bark is taken and filtered and a heated iron is dipped into it. About half a cup of the preparation is given to women to control excessive bleeding during menstruation.
21	<i>Lawsonia inermis</i> (Lythraceae)	<i>Bendili</i>	Root	Fine paste of the root with water of raw rice is taken to cure jaundice
22	<i>Ricinus communis</i> (Euphorbiaceae)	<i>Jada Phala</i>	Fruit	Fruit of this plants are dried and oil is made out of it. This oil is applied on the head and forehead to cure head ache. It is also used to cure stomach ache by eating it.
23	<i>Madhuca indica</i> (Sapotaceae)	<i>Mahula</i>	Leaves & Flowers	Powder leaf heals burn injuries. 20ml of flower decoction taken twice daily for 2 weeks for treatment of Asthma.
24	<i>Nyctanthes arbor-tristis</i> L. (Oleaceae)	<i>Gangasiuli</i>	Leaves	Leaves decoction is taken thrice to cure Malaria.
25	<i>Saraca indica</i> (Fabaceae)	<i>Ashoka</i>	Flowers (petals) & Barks	This powder taken with cold water twice daily in empty stomach cures dysentery. 20ml of bark decoction is taken in empty stomach twice daily for about a month to cure irregular

				menstruation and excessive bleeding
26	<i>Streblus asper</i> (Moraceae)	<i>Sahada</i>	Twig, Leaves & Roots	Regular brushing with fresh tender twig cures toothache. Root paste is applied on dog bite wound to heal it. Leaf paste with castor oil is applied to cure eczema.
27	<i>Justicia adhatoda</i> (Acanthaceae)	<i>Basanga</i>	Leaves	20ml of leaf decoctions taken with honey twice daily in empty stomach for 7-10 days to cure cough and cold
28	<i>Hemidesmus indicus</i> (Apocynaceae)	<i>Anantamula</i>	Roots	Root paste with fresh coconut water taken in empty stomach for 7 days to cure jaundice
29	<i>Erythrina variegata</i> (Fabaceae)	<i>Paladhua</i>	Leaves	Inhaling of crushed leaves by nostrils relieves headache.
30	<i>Bombax ceiba</i> (Malvaceae)	<i>Simili</i>	Roots	Grinder fresh roots applied to get relief from boils. Fresh root paste with sugarcane taken by females restores fertility.
31	<i>Achyranthus asper</i> (Amaranthaceae)	<i>Apamaranga</i>	Root	Paste of the root is taken to cure fever
32	<i>Acacia penninervis</i> (Fabaceae)	<i>Akasia</i>	Bark	Bark of akasia tree is grinded and filtered with net to obtain the juice. This is taken to cure the disease. It is used to wash mouth to cure mouth ulcer

Table 2: Parts of Plants used by Juang Tribe

Sl.No.	Particulars	Percentage
1	Fruits	17.07
2	Flowers	9.75
3	Roots	26.82
4	Bark	14.63
5	Leaves	31.70

Table 3: Use of home remedies by Juang Tribe

Sl.No.	Home remedy used by Juang	Percentage
1	Yes	87%
2	No	13%

Table-3 illustrates that 87% of the people undergo home remedies before visiting the traditional healer or the doctor. While only 13% of them do not use home remedies. They use the general kitchen ingredients for a common illness like cold, cough, fever, stomach ache, etc. They also grow common plants like *Tulsi*, *Neem*, lemon, etc for the said. Some common kitchen ingredients like cloves, cinnamon, fenugreek, garlic, pepper, mustard, turmeric, etc are used for minor illness. The above data shows that these people know simple readily available trick to overcome minor diseases/sickness. Table 4 and Fig 3 show the time taken to cure diseases among the Juangs.

Table 4: Time taken to cure diseases as per Juang Tribe

S.No.	Time taken to cure diseases as per Juang Tribe	Percentage
1	More than a month	17.3%
2	One month	38.6%
3	1-2 Weeks	18.2%
4	Less than a week	26%

Table 4 illustrates that the majority (38.6%) of the participants responded 1 month as the time taken to cure the disease. And 17.3% of the participants responded that it requires more than one month to cure the disease.

CONCLUSION

This study has apprised the ethno-medicinal knowledge of some plants of tribals of Banspal block of Keonjhar district. The medicinally important plants are collected and documented for future studies like extraction of the crude drugs for pharmaceutical analysis. Medical System is an integral part of culture. The efficiency of a medical system is not easily evaluated. The ethno-medicinal practice of tribal/natives/ indigenous communities is very important. 32 plants/trees with medicinal values were identified, recorded and their medicinal uses were examined. It was discovered that one plant serve different purpose, i.e., single plant serve as common medicine for multiple diseases. Promotion of ethno-medicine will help the Juang tribe for their sustainable livelihood and biodiversity conservation

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Figures

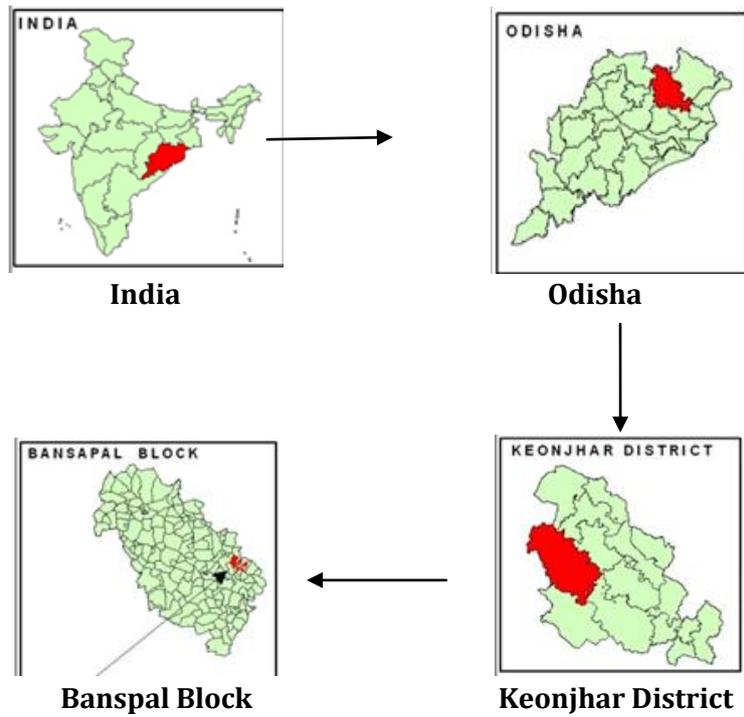


Fig-1 Map of the Study area



Fig 2: Medicine Man of Kundhei Village



Fig 3: Medicine Man of Ghungi Village



Fig 4: *Nyctanthes arbortristis* L. (Oleaceae)

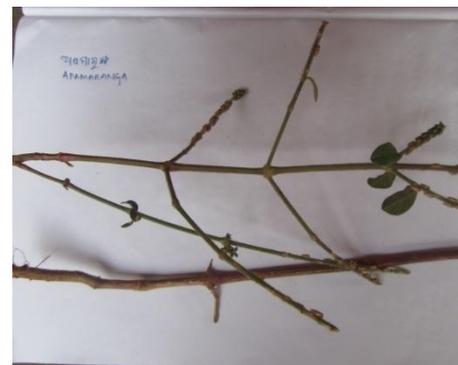


Fig 5: *Achyranthus asper* (Amaranthaceae)



Fig 6: *Andrographis paniculata* (Acanthececeae)

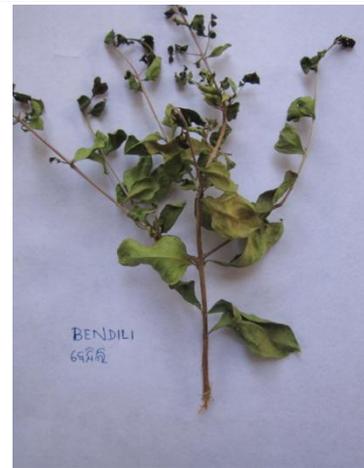


Fig 7: *Lawsonia inermis* (Lythraceae)

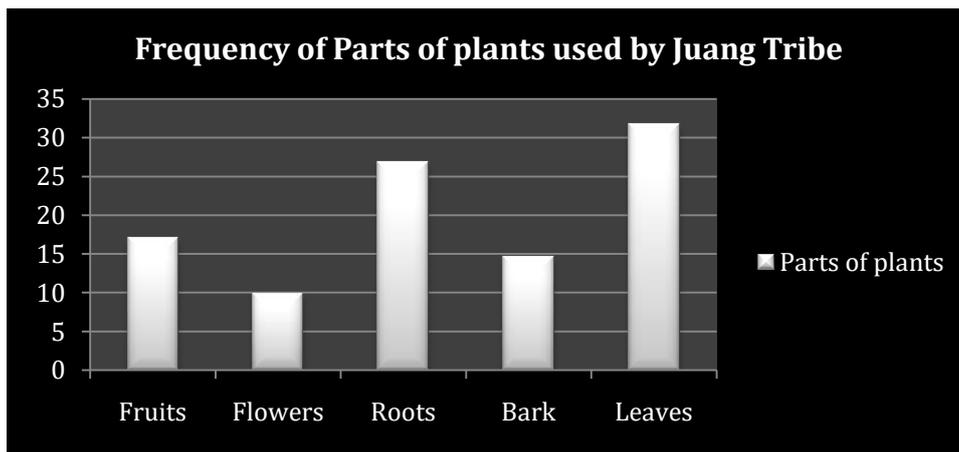


Fig 8: Parts of Plants used by Juang Tribe

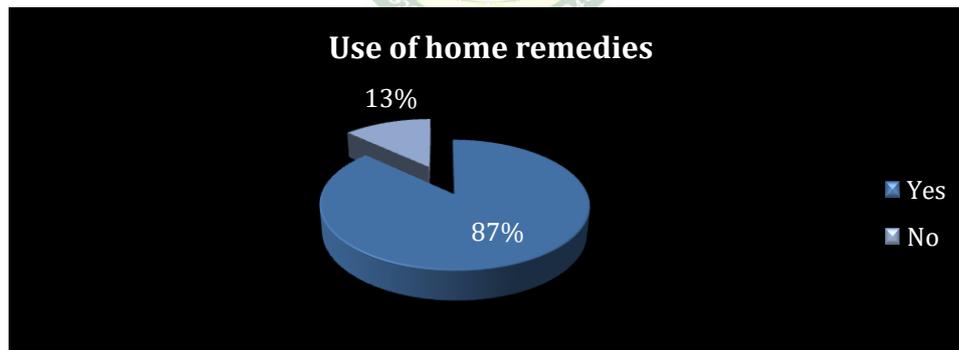


Fig 9: Use of home remedies by Juang Tribe

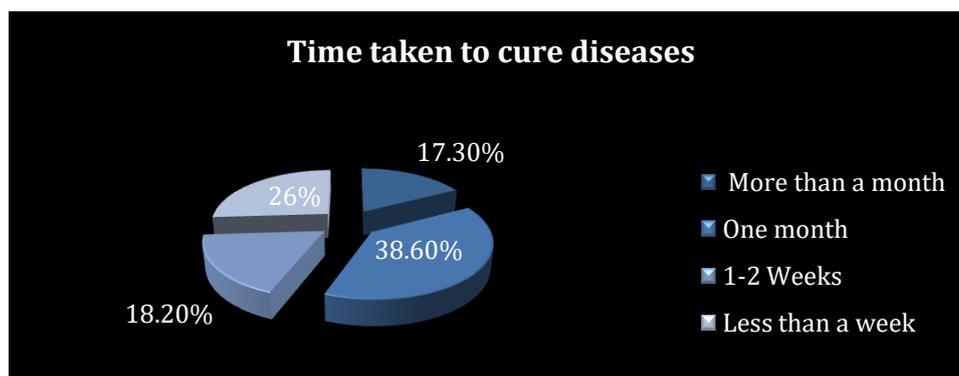


Fig 10: Time taken to cure diseases as per Juang Tribe