



Research Paper

Ethnobotanical Knowledge among Tribal Communities in Kalahandi District of Odisha, India

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ABSTRACT

The present study is an attempt to understand the ethnobotanical knowledge on medicinal plants use among tribal communities in Kalahandi district of Odisha. The methodology adopted for collecting information was interview method with structured questionnaire. In total 7 female and 18 male were interviewed and information about 20 medicinal plants were identified which are available in the surrounding forest area and mostly used by people. Due to remote location of the villages, problem of transportation facilities and poverty of the people is a major factor for dependency of the people in this method of treating some common health problem.

KEY WORDS: Ethnobotanical knowledge, medicinal plants, Tribal communities, Kalahandi district.

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I. INTRODUCTION

Throughout the world, plants have been in continuous use in one way or the other for the treatment of various ailments. In India, the sacred Vedas, which date back between 3500 B.C. and 1800 B.C., give many references of medicinal plants. One of the remotest works in traditional herbal medicine is "Virikshayurveda," compiled even before the beginning of Christian era and formed the basis of medicinal studies in ancient India. Nearly 80% of the world population depends upon traditional system of health care (Anonymous, 1998). The local uses of plants as a cure are common particularly in those areas, which have little or no access to modern health services, such as the innumerable tribal villages and hamlets in India indicates that the dependency of traditional societies on the wild collections for subsistence needs (Campbell et al., 1997).

The indigenous traditional knowledge of medicinal plants of various ethnic communities, where it has been transmitted orally for centuries is fast disappearing from the face of the earth due to the advent of modern technology and transformation of traditional culture. There is an urgent need to document the ethno biological information presently existing among the diverse communities before the traditional knowledge are completely lost (Rao, 1996). Much of this wealth of knowledge is totally becoming lost as traditional culture gradually disappears (Hamilton, 1995). Thus, there is now urgency for ethno-botanical research amongst aboriginal people (Maheshwari, 1983). In recent years, traditional ethno-botanical studies have received much attention due to their wide local acceptability and clues for new or less known medicinal plants (Tripathi, 2000). Most of the tribal economies are engaged in subsistence agriculture and have developed great knowledge on the use of plants and plant production in curing various ailments. The population has a deep belief in their native folklore medicine for remedies.

Many researchers have worked on ethnobotanical knowledge of medicinal plants in different parts of Odisha. Many relevant research work has been done since last six decades by Panigrahi(1963),Saxena and Dutta (1975), Chaudhari et al.,(1985),Das and Mishra(1987),Das and Ramakant (1988),Prusti and Behera(2007),Panda and Padhi(2008),Sahu et al.,(2010) and Kandi et al.,(2013). For Kalahandi district Panda and Padhy (2008) have done an extensive study covering 25 villages and recorded about 111 plants used by people of these villages during 2003-2005.

Study Area:

Kalahandi district is situated in the south western part of Odisha state and extend between 19°17' N to 20°45' N latitude and 82°61' E to 83°79' E longitude. The total geographical area of the district is 7920 sq.km and total population is 1576869 with a population density of 199 persons/ km² as per 2011 census. The district is

a tribal district having 28.65% of its total population are Schedule Tribe (ST). The study block (Madanpur Rampur) is one of the 13 C.D block of the district and located in the north eastern part and the district. The block also have 29.9% ST population. The present study is a micro level study undertaken in 3 villages namely- Kutiguda, Mankadhola and Batikupa (having total population of 888persons out of which 416 are male and 472 are female.

II. MATERIAL AND METHODS

Field explorations were carried out during the months of September to December, 2018. The ethno medicinal survey was conducted particularly with tribal people of three villages namely – Kutiguda, Mankadhola and Batikupa. Two dominant tribal community found in these three villages are *Gond* and *Kandha*. Elderly people whose age is more than 45 years are participated in the interview. Both men and women of selected age group, who regularly visited the forests since their childhood for collecting forest products have knowledge about the available medicinal plants /herbs in their neighbouring forest. In total 25 persons (7 female and 18 male) were interviewed. Younger participants were not considered because, they did not have much knowledge about medicinal plant use.

The interviews were conducted with the help of structured questionnaires to collect relevant information on medicinal plants, which include- plant name (*Local name*) parts used for curing diseases and method of preparing, doses and application. The people were asked to show the plants in their natural habitat. Specimens of all plants were then collected and identified with the help Botanist and Ayurvedic Medical officer. Then all the scientific name and family were identified by consulting experts working in the field of ethnobotany and traditional medicine research.

III. RESULTS

People in these villages have to travel long distances to reach a modern medical clinic when they fall sick. Discussion with the people of these villages revealed that when there is a health problem one has to travel 7-10 km to get a Government PHC/CHC or a private health clinic. And there is no transportation facility, one has to use his/her own bicycle to reach the place. On the other hand for several common diseases and health issues, they depends on these traditional medicine, which is very popular because- all the resources are available in their surrounding in free of cost. The medicinal plants available in the nearby forest area of the villages are listed here (Table 1) and these are commonly used by people till date. There are 20 medicinal plants identified by the people, which are available in the surrounding vicinity. Different parts of the plants such as root, bark, seeds, flower, leaves and fruits are used for treating some common diseases.

Method of using different parts of Medicinal Plants:

The detailed description of use method of medicinal plants are given in the following section and this matches to the medicinal plants listed in Table 1.

1. *Arbus pulchellus wall*: Root pounded with water is sprinkled on head and unripe seed juice is rubbed on head to overcome problem of bladness.
2. *Acacia nilotica* Linn: Bark juice and resin in milk (about20-30 ml) is given after 72 hours.
3. *Annona squamosa* Linn: Seed powder with water is applied in scalp and rinsed after 10 minutes for treating lice.
4. *Argemone mexicana* Linn: A teaspoonful of latex once a day is given for few days during jaundice.
5. *Azadirachta indica* A. juss : Few drops of neem seed oil is applied locally as an antidote for snake bite
6. *Bauhinia Purpurea* Linn: Fresh bark paste is applied and hold it tightly foe few minutes for three days for piles.
7. *Biophytum sensitivum* (Linn) D C.: Whole plant is boiled in a bucket of water and children suffering from fever are bathed in it.
8. *Butea monosperma* Lam: For blood pressure, flower is soaked overnight in a glass of water, filtered and is taken in empty stomach for one month. One table spoon of leaf decoction is given for three days after fifth day of menstruation for conception.
9. *Ficus benghalensis* Linn: Adventitious roots made into paste with sugar are tied for 15 days in case of bone fracture. Adventitious root powdered with Gur (molasses) is taken orally thrice a day for a month for piles.
10. *Gmelina arborea Roxb*: An aliquot of 20-30 ml. bark juice is taken daily for fifteen days or till the disappearance of white discharge during irregular mensuration.
11. *Ipomoea nil* (Linn) Roth: Dried seeds roasted and powdered and applied in scalp with water. It is kept for 5-10 minutes and rinsed in water. It is repeated thrice in a week to get rid of dandruff problem.
12. *Mucuna pruriens* (Linn) DC: Thee to Four numbers of fruit hairs are taken with molasses to get rid of worm infection.

13. *Schleichera oleosa* (Lour) Oken: Bark paste is applied over swelling. Seed oil is applied locally on skin for scabies and ring worm.
14. *Semecarpus anacardia* Linna.F. : A seed is burnt in fire till it oozes oil and immediately touched locally around cuts, wound was swelling to get relief from pain. One tablespoon of milk boiled with seeds is given orally to children to get quick relief from Asthma.
15. *Sphaeranthus indicus* Linn: Crushed leaves are applied locally to relive pain due to scorpion stings.
16. *Streblus asper* Lour: Fresh twigs are used as tooth brush to strengthen teeth. Dried leaf powder is taken with water or milk twice a day for at least two months of piles.
17. *Syzygium cumini* (Linn) Skeels: Seed powder mixed with leaf powder of *Gymnema sylvestre* is given thrice daily for a month for diabetic.
18. *Terminalia alata* Heyne.ex Roth: For epilepsy, aliquots of 20-30 ml of bark juice is given thrice daily for a month or till the symptom disappears.
19. *Tinospora cordifolia* Willd: Leaf paste or steam juice is given orally thrice daily for 5-7 days during fever.
20. *Tragia involucrata* Linn: Fruit is touched on few places on forehead to get relief from headache. Whole plant paste is applied over the wound of cattle to expel worms and for quick healing.

Table 1: List of popular medicinal plants and their uses

Sl.	Plant Name	Family	Local Name	Part used	Disease
1	<i>Arbus pulchellus</i> wall	Fabaceae	Gung, Kaincha	root	Baldness
2	<i>Acacia nilotica</i> Linn	Mimosaceae	Bamur, Babul	bark	Diarrhoea, vomiting; boils of eye and various troubles
3	<i>Annona squamosa</i> Linn	Annonaceae	Ata, Sitaphala	seeds	Boils, postnatal complaint and ant feculites
4	<i>Argemone mexicana</i> Linn	Papaveraceae	Bada gokhuru	latex	Scabies, eye troubles, menorrhoea, gonorrhoea, jaundice and
5	<i>Azadirachta indica</i> A. juss	Meliaceae	Nim, Limba	seeds	Skin disease, blood pressure, tooth problems
6	<i>Bauhinia Purpurea</i> Linn	Caesalpiniaceae	Katul, Barada	bark	Dysurea, gall bladder stone and flatulene
7	<i>Biophytum sensitivum</i> (Linn) D C	Oxalidaceae	Lajkuri	Whole plant	Fever
8	<i>Butea monosperma</i> Lam	Fabaceae	Palasa, Fala	Flower, Leaves	Diarrhoea, worm, blood pressure & gonorrhoea
9	<i>Ficus benghalensis</i> Linn	Moraceae	Bara, Bordi	root	Piles, syphilis, spermatorrhoea, gonorrhoea
10	<i>Gmelina arborea</i> Roxb	Verbenaceae	Gamer, Gambhari	bark	Dysentery
11	<i>Ipomoea nil</i> (Linn)Roth	Convolvulaceae	Kharkhatia	seeds	Dandruff
12	<i>Mucuna pruriens</i> (Linn) DC	Fabaceae	Baikhujen	fruit	Worm infection
13	<i>Schleichera oleosa</i> (Lour)Oken	Sapindaceae	Kusum	Bark seeds	Anorexia
14	<i>Semecarpus anacardia</i> Linna.f.	Anacardiaceae	Bhalia	seeds	Eczema, sprain, cuts
15	<i>Sphaeranthus indicus</i> Linn	Asteraceae	Gandharilata	leaves	Blood dysentery
16	<i>Streblus asper</i> Lour	Moraceae	Sahada, Tiken	Twigs, leaves	Leucorrhoea, eczema and ring worm, leucorrhoea
17	<i>Syzygium cumini</i> (Linn) Skeels	Myrtaceae	Gholijam, Jamu	seeds	Diabetes
18	<i>Terminalia alata</i> Heyne.ex Roth	Combretaceae	Sahaj	bark	Epilepsy
19	<i>Tinospora cordifolia</i> Willd	Menispermaceae	Gulchi, Guduchi	leaves	Spermatorrhoea, blood purifier, gonorrhoea
20	<i>Tragia involucrata</i> Linn	Euphobiaceae	Bichhuati	Fruit, whole	Acute dysentery

IV. DISCUSSION AND CONCLUSION

The indigenous medicine has made a significant contribution to the medical care of the people because the traditional therapy is always family based process like home remedies. During the Buddhist era Ayurvedic knowledge had reached its climax and during the Mughal period owing back to lack of state support this ancient knowledge received set back. However, today the science of ethnomedicine is getting full attention not only in India, but at the global level as well. It is need of the hour to collect information regarding the plant used by the rural peoples, which are endangered day by day because of excessive deforestation and global climatic changes. Some species are likely to become extinct if proper measure are not taken to protect them. Cultural factors play a significant role among people in relying on traditional medicine. The traditional medicine knowledge is primarily household practices. These practices are home remedies, food habits, rituals etc. Today the ethno medicine which are the part of Ayurveda are practiced too much. It is traditional medicine particularly in the context of poverty and illiteracy among the rural poor. Many people in the rural areas are living in isolated or remote areas where modern health facilities are not available.

There is an urgent need of documentation of this irreplaceable knowledge. It may be lost when traditional cultures collapse with advent of modernization. The present study have documenting all the popular medicinal plants used by the tribal people. The younger generation people are not aware about all these and this knowledge should be preserved by research and documentation. Many plant species which were available earlier are already extinct due to many reasons – which might be due to effect of climate change and incidence of forest fire. In today's digital world one important step in this regard will be the video graphic documentation of identification of plant species in the field and it may also useful for conservation strategies. Generally, it was noted that the forest areas were under threat, due to decline of forests cover, extinct and loss of some important plant species in various ways leads the disappearance of traditional knowledge. There is an urgent need of documentation of this irreplaceable knowledge. It may be lost when traditional cultures collapse with advent of modernization.

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