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Ethnobotanical Survey of Surguja District with Special Reference to Plants Used By Uraon Tribe in Treatment of Diarrhea

Swati Shrivastava and V.K.Kanungo

ABSTRACT

Present study aims to explore the ethnobotanical information on medicinal plants used by meager community of Uraon of Surguja district Chhattisgarh India. The study was carried out during different periods of the year 2009- 2011. Information's on plant and plant parts uses were collected interviewing key informants by using semi-structured questionnaire. Altogether 17 different plant species belonging to 14 families were documented and majority of them are tree. In terms of plant parts use, leaf and stem/bark are in top priorities. These plants are used to treat diarrhea.

Keywords: Ethnobotany, Diarrhea, Medicinal plants, Uraon tribe.

1. Introduction

Diarrhea is a major public health problem in developing countries and is said to be endemic in many regions of Asia and is the leading cause of high degree of morbidity and mortality which contributes to the death of 3.3 to 6 million children annually. Multiple drug resistance among Enteropathogens in various geographic regions presents a major threat in the control of diarrhea. Therefore indigenous medicinal plants as an alternative to antibiotic are said to play a significant role here. This particular aspect of using medicinal plants as a remedy or home cure for diarrhea is applied in our study. In the present study, we chose some plants currently used in the folk medicine in our region, rural place in Surguja district, a rich fauna and a good source of medicinal plants. All of these plants selected for the study have been used as traditional folklore medicine for the treatment of dysentery and diarrhoeal diseases in this region Surguja district which lies in the northern part of Chhattisgarh state is biodiversity rich area, dominated by tribal communities. Borders of Uttar Pradesh, Jharkhand, Orissa, and Madhya Pradesh states are adjoining to the district. The district has over extension between southeastern parts of Vindhya-Baghelkhand region of peninsular India. Surguja lies between 23°37'25" to 24°06'17" north latitude and 81°03'40" to 84°04'40" east longitude. The land area of Surguja is 16359 sq Km. the major tribes of Surguja region are the major tribes of Surguja region are Nagesiya, Baiga, Kanwar, Panika, Korwa and Uraon. Uraon is one of the dominating populations amongst all tribes found in Surguja. The tribal's are 55.4% of the total population. The total forest area in the region is 18,188.44 sq km which constitute 44% of the total area of the district. The tropical deciduous type of forest is found in Surguja district.

2. Materials and Methods

The survey was carried out by following Jain and Singh [1]. Interviewees were chosen without distinction of gender after seeking the consent from each respondent. People of Uraon tribe from all age groups, except children below 18 years were interviewed for their knowledge about the uses of plant in treatment of diabetes. The random sampling technique was used and a total of 300 questionnaires (30 in each village which included 15 male and 15 female) were filled during the survey. Information regarding the vernacular name, habit of the plant and plant parts used in drug preparation for treatment of diabetes was recorded. Informants were asked to name the plant and to reveal the uses of the respective species in treatment of diabetes.

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Informants often accompanied with investigators collected the plant material from the field which is used in drug preparation. In cases of illiterate informants, photographs and fresh plant specimens from the field were presented to them and questionnaires were filled from their responses. Information was also recorded about the medicinal use of plant, plant parts used, diseases treated, modes of drug preparation and administration. The cost of treatment / episode was also noted. Friendly chats were also made with teenagers, youngsters and school children of both genders of tribal people. Participatory and group interaction approach was used for further cross check of data. Surveys were also made in the wilderness along altitudinal transects reaching timber line zones, surrounding natural habitats and the agricultural areas of villages. The help of local people was taken for the collection of plants growing in the area. Plant species were identified by using Flora of Haines [2] and Hooke [3]. The gathered field information was analyzed to draw an ethnomedicinal use of plants by Uraon tribe of Surguja district in treatment of diabetes.

3. Results

Ethnobotanical survey was carried out in the 10 villages of Surguja district of Chhattisgarh. A total of 17 plant species belonging to 14 families were found to be effectively used for treating diarrhea by the tribal people of Surguja district (Table-1). Out 14 families 12 were found to belong dicotyledonous like Asclepiadaceae, Boraginaceae, Combretaceae, Ebenaceae, Euphorbiaceae, Fabaceae, Gentianaceae, Meliaceae, Menispermaceae, Ramnaceae, Rutaceae, Sterculiaceae and 01 family Zingiberaceae belong to monocotyledon 01 of Stilaginaceae. All the 17 plants and their parts were found to be used separately for the treatment of diarrhea. Whole plant for *Phyllanthus simplex*, Retz., *Canscora diffusa*, (Vahl) R.Br, Root for *Abrus precatorius* L, *Helicteres isora*, L., *Ziziphus oenoplia*, (L) Mill, *Ziziphus nummularia*, (Burm.f.) Wight & Arn, Rhizome for *Zingiber cassumunar*, Roxb., *Curcuma aromatica*, Salisb., Bark for *Azadirachta indica*, A.Juss, *Cordia dichotoma*, G.Forst, *Aegle marmelos*, L. *Diospyros melanoxyton*, Roxb., Tuber for *Marsdenia tenacissima*, Wight and Arn., Flower for *Anogeissus lantifolia*, Roxb., Fruit for *Antidesma bunius*, (L.) Spreng Fruit, *Emblica officinalis*, Gaertn, Leaves for *Cissampelos pareira*, L. *Aegle marmelos*, plants were found to be used for drug preparation. The commonest method of drug preparation was noted as powder. Most of the drug was noticed to be taken by water. The method of drug preparation using 17 plants was documented.

3.1 *Phyllanthus simplex*, Retz. (Bhuiainla):-

Whole plant is pounded with water to obtain decoction 1 teaspoon of decoction is taken 2-3 times a day for a period of 3 days to gives relief from diarrhea. The total cost of treatment is Rs 362/- episode.

3.2 *Helicteres isora*, L. (Attain):-

The roots of *Helicteres isora* are dried under sun light and one tea spoon powder are crushed and decoction is prepared. Half cup of decoction is taken thrice a day up to relief from diarrhea. The total cost of treatment is Rs 238/- episode.

3.3 *Zingiber Cassumunar*, Roxb (Vansonthi):-

Small portion of rhizome is chewed only once to gives relief from diarrhea. The total cost of treatment is Rs 352/- episode.

3.4 *Curcuma aromatic*, Salisb. (Vanhalidi):-

Rhizome is grinded on a stone and two teaspoons of the paste is given for a period of 3 days to gives relief from diarrhea. The total cost of treatment is Rs 282/- episode.

3.5 *Ziziphus oenoplia*, (L) Mill (Makoi) and *Abrus precatorius* Linn. (Gumchi):-

The roots of *Diospyros melanoxyton* and *Abrus precatorius* are dried under sun light roots are pounded with water and half cup of decoction is taken twice daily for a period of 3 days to gives relief from diarrhea. The total cost of treatment is Rs 295/- episode.

3.6 *Diospyros melanoxyton*, Roxb. (Tendu):-

The roots of *Diospyros melanoxyton* are dried under sun light and one teaspoon of decoction prepared from pounded bark is taken twice a day up to 5-7 days to gives relief from diarrhea. The total cost of treatment is Rs 298/- episode.

3.7 *Aegle marmelos*, L. (Bel):-

Three teaspoons of decoction prepared from crushed bark and leaves is given daily for a period of 5-6 days to gives relief from diarrhea. The total cost of treatment is Rs 345/- episode.

3.8 *Marsdenia tenacissima*, Wight and Arn. (Chinhor):-

Tuber is pounded with water and 1 teaspoon of decoction prepared from pounded bark is taken daily with sugar up to three days to gives relief from diarrhea. The total cost of treatment is Rs 239/- episode.

3.9 *Cordia dichotoma*, G.Forst (Dahiman):-

15 grams of dried bark is grinded and the powder obtained is mixed with one glass of water. It is then strained through cloth and 1 teaspoon is thrice daily up to relief from diarrhea. The total cost of treatment is Rs 342/- episode.

3.10 *Anogeissus lantifolia*, Roxb. (Dhawa):-

The dried flowers are grinded to powder. 1 teaspoon of powder is taken with one glass of water twice a day for 3-5 days to gives relief from diarrhea. The total cost of treatment is Rs 342/- episode.

3.11 *Antidesma bunius*, (L.) Spreng. (Amuri):-

The fruit is rubbed on a stone and one teaspoon of power obtained is taken with one teaspoon of honey thrice a day to up to 4 days to gives relief from diarrhea. The total cost of treatment is Rs 382/- episode.

3.12 *Ziziphus nummularia*, (Burm.f.) Wight & Arn. (Jharber):-

Roots are grinded and the paste obtained is mixed with grinded rice to prepare bread. It is then eaten only once to gives relief from diarrhea. The total cost of treatment is Rs 338/- episode.

3.13 *Canscora diffusa*, (Vahl) R.Br. (Shank puli):-

Whole plant is pounded with water. It is then strained through cloth to obtain decoction. Half cup of this decoction is taken twice daily up to three days to gives relief from diarrhea. The total cost of treatment is Rs 325/- episode.

3.14 *Emblica officinalis*, Gaertn. (Aonla):-

Two to three teaspoons of juice extracted from fruits is taken daily for a period of 4 days to gives relief from diarrhea. The total cost of treatment is Rs 357/- episode.

3.15 *Cissampelos pareira*, L. (Phan):-

The leaves are grinded with water to obtain decoction. Half cup of the decoction is taken twice daily for a period of 3-4 days to gives relief from diarrhea. The total cost of treatment is Rs 235/- episode.

3.16 *Azadirachta indica*, A. Juss (Neem):-

One cup of grinded bark is put on 1 ½ glass of water to soak for half an hour. This is strained through cloth and taken daily for three days to gives relief from diarrhea. The total cost of treatment is Rs 342/- episode.

Table 1: Plants used by Uraon tribe of Surguja district of Chhattisgarh for the treatment of Diarrhea

S. No.	Botanical name	Common name	Family	Habit of the plant	Plant part used for the treatment of Diarrhoea
1.	<i>Phyllanthus simplex</i> , Retz.	Bhuiakonla	Euphorbiaceae	Herb	Whole plant
2.	<i>Helicteres isora</i> , L.	Attain	Sterculiaceae	Shrub	Root
3.	<i>Zingiber cassumunar</i> , Roxb.	Vansonthi	Zingiberaceae	Herb	Rhizome
4.	<i>Curcuma aromatica</i> , Salisb.	Vanhaldi	Zingiberaceae	Herb	Rhizome
5.	<i>Abrus precatorius</i> L.	Gumchi	Fabaceae	Climber	Root
6.	<i>Ziziphus oenoplia</i> , (L) Mill	Makoi	Rhamnaceae	Shrub	Root
7.	<i>Diospyros melanoxylon</i> , Roxb.	Tendu	Ebenaceae	Tree	Bark
8.	<i>Aegle marmelos</i> , L.	Bel	Rutaceae	Tree	Bark/Leaves
9.	<i>Marsdenia tenacissima</i> , Wight and Arn.	Chinhor	Asclepiadaceae	Climber	Tuber
10.	<i>Cordia dichotoma</i> , G.Forst	Lasoda	Boraginaceae	Tree	Bark
11.	<i>Anogeissus lantifolia</i> , Roxb.	Dhawa	Combretaceae	Tree	Flower
12.	<i>Antidesma bunius</i> , (L.) Spreng.	Amuri	Stilaginaceae	Tree	Fruit
13.	<i>Ziziphus nummularia</i> , (Burm.f.) Wight & Arn.	Jharber	Rhamnaceae	Shrub	Root
14.	<i>Canscora diffusa</i> , (Vahl) R.Br.	Shank puli	Gentianaceae	Herb	Whole plant
15.	<i>Emblca officinalis</i> , Gaertn.	Aonla	Euphorbiaceae	Tree	Fruit
16.	<i>Cissampelos pareira</i> , L.	Phan	Menispermaceae	Climber	Leaves
17.	<i>Azadirachta indica</i> , A.Juss	Neem	Meliaceae	Tree	Bark

4. Discussion

The raw data received in the survey was tabulated and shown here as Tables 1. Table 1 represents botanical name, common name, family, habit of the plant. Plant part used for the treatment of diarrhea and the corresponding popular plant species in use to treat diarrhea symptoms. Uraon tribe is dominant in Surguja district Chhattisgarh. The study revealed that these tribes use about 17 plant species for the cure of diarrhea habitat of these plants was observed as 7 trees, 4 herbs, 3 climbing and 3 shrubs. The present study indicated that Surguja region of Chhattisgarh is rich in biodiversity and people of Uraon tribe have rich knowledge of using plants and plant products for the treatment of diseases like diarrhea. The similar workers investigated by like Gupta [4], Johnsy [5], Wagh [6], Oguejiofor [7], Nijume [8], Appidi [9], Sen [10], Singh [11], Henry [12].

5. Conclusion

The study revealed 17 different herbal treatments for diarrhea used by tribal from the study area. Different plant species were used in each treatment. *Phyllanthus simplex*, Retz., *Helicteres isora*, L., *Zingiber cassumunar*, Roxb., *Curcuma aromatica*, Salisb. *Abrus precatorius* L., *Ziziphus oenoplia*, (L) Mill, *Diospyros melanoxylon*, Roxb., *Aegle marmelos*, L., *Marsdenia tenacissima*, Wight and Arn., *Cordia dichotoma*, G. Forst, *Anogeissus lantifolia*, Roxb., *Antidesma bunius*, (L.) Spreng. *Ziziphus nummularia*, (Burm.f.) Wight & Arn., *Canscora diffusa*, (Vahl) R. Br., *Emblca officinalis*, Gaertn. *Cissampelos pareira*, L., *Azadirachta indica*, A. Juss were the common plant species in use by the tribal of the region to treat diarrhea. The drugs are obtained from flower, fruit, leaf, bark and seeds. The indigenous knowledge of drug preparation and administration and expenses per episode was documented.

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