

MEDICINAL USE OF PLANTS FOR THE TREATMENT OF DIARRHOEA AND DYSENTERY BY THE TRIBALS OF JHARKHAND, ORISSA AND WEST BENGAL

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ABSTRACT

An ethnobotanical survey was carried out among the different ethnic groups of tribals in Jharkhand, Orissa and West Bengal. Altogether 37 plant species have been reported to be used by the tribals of this region since long time for remedy of diarrhoea and dysentery. The study highlights the fact that tribals are gifted with a profound knowledge and understanding of the local ecology.

INTRODUCTION

India has a variety of tribal population reflecting its great ethnic diversity. Jharkhand, Orissa and West Bengal of eastern India are inhabited by many types of tribals. Forests have a great impact on their lives, as they derive many essential materials such as food, fodder, medicine, fibres, house building materials, etc. for their livelihood. The indigenous health technological knowledge percolating through many generations has a strong hold in tribal areas. In present days, due to growing population and vast growing urbanization, this useful knowledge is at the verge of extinction. Keeping this in mind, an extensive survey was undertaken to explore the information regarding the medicinal use of indigenous plants for the treatment of diarrhoea and dysentery by the different tribal groups.

MATERIAL AND METHODS

The study was conducted in Jharkhand, Orissa and West Bengal. Two districts from West Bengal, i.e. Purulia and Midnapur, 3 districts from Orissa, i.e. Kheonjhar, Mayurbhanj and Dhenkanal, and 3 districts of Jharkhand, i.e. Ranchi, West Singhbhum and Latehar were purposively selected. The ten tribal groups were identified for the study. The five tribe groups namely, Chero, Bhumiz, Kharwar, Munda and Oraon were purposively selected in Jharkhand State, where as Sounti, Gond, Bhumiz, Kol and Juang were identified in Orissa. In West Bengal

a single sub-tribe namely, Santhal was studied. Five tribal dominated villages were studied purposively in Jharkhand and Orissa covering five and three Community Development blocks, respectively. In case of West Bengal only two villages were selected belonging to two Santhal dominated blocks. Twenty five families from each selected village were selected randomly for data collection. PRA, focused group interview and discussion was also used for collection of information from selected tribes. Collected plants were identified by the scientists of the Birsra Agricultural University and cross checked with the information from neighboring herbalists and also with available literature.

RESULTS AND DISCUSSION

During study 37 plants species have been recognized as important ethnomedicinal plants, which were being used by different tribes to cure diarrhoea and dysentery. Among them, 25 species were used for curing diarrhoea (Table 1), whereas 12 were used for the treatment of dysentery (Table 2). Among different plant, parts mostly used were the barks. They used the plant parts in various forms either raw or paste, decoction and juice for curing diarrhoea and dysentery. In the surveyed plants some plants were used alone and some plants were used in combination. Anar, Jamun and *Palash* were used to cure both diarrhoea and dysentery.

The roots of *Agnijhal*, *Bargad*, *Kurchi*, *Jhunjhuni*, *Jangali*, *Gulab* and *Nacowail* were

TABLE 1: Use of different plants for the treatment of Diarrhoea

Name of Plant	Scientific Name	Habit	Part used	Method of preparation/ Mode of Administration	Tribe Type
Agnijhal	<i>Clausena excavata, Burm.</i>	Shrub	Root	Ground to paste strained and prescribed 3 times a day	Juang
Arjun	<i>Terminalia arjuna (Roxb. ex DC.)</i>	Tree	Bark	1 tea spoon powder is taken with water at a interval of 5-6 hrs.	Bhumij
Arazara	<i>Luisia tenuifolia</i>	Shrub	Bark	5g taken with water, 3 times for 3-4 days	Gond, Santal, Bhumij
Amra	<i>Spondias mangifera, willd</i>	Tree	Bark	1 tea spoon Powder at 3 times a day	Santal
Anar/ Dadimbo	<i>Punica granatum, L.</i>	Shrub	Fruit-skin, bark	Powder at a interval of 6 hrs.	Gond
Bargad	<i>Ficus bengalensis, L.</i>	Tree	Root	Aquous extract at a interval of 5-6 hrs.	Bhumij
Bhuineemba/ Kalmegh/ Chiretta	<i>Andrographis paniculata (Burm. f.) wall.</i>	Herb	All parts (whole plant)	Leaves, stems are soaked in water over night and water taken empty stomach	All tribes
Dudhi	<i>Euphorbia hirta Linn.</i>	Herb	Leaf	Ground to paste 5g paste is taken 2-3 times daily	Kharwar
Doka	<i>Odina wodier, Roxb.</i>	Tree	Bark	Powder, 3 times a day	Bhumij, Santhal
Dumer	<i>Ficus glomerata, Roxb.</i>	Tree	Gum	Equal amount of	Santhal
Kurchi	<i>Holarhena antidysenterica, Wall.</i>	Tree	Bark	dumer and kurchi are ground and taken 3	
Zeera	<i>Cuminum cyminum</i>	Herb	Fruit	times a day	
Golki	<i>Piper nigrum, L.</i>	Tree	Fruit		
Guava	<i>Psidium guajava</i>	Tree	Leaf	Guava and posta (2:1) are ground and taken with suger	Sounti
Posta	<i>Papaver somniferum, L.</i>	Herb	Seed		
Guler/ Doomer	<i>Ficus glomerata, Roxb.</i>	Tree	Latex	Approximated 5g is administrated as such	Chero, Santhal, Munda
Guava	<i>Psidium guajava</i>	Tree	Leaf	Ground to paste, 5g is taken 2-3 times a day	Gond, Santhal
Jhunjhuni/ Kurchi	<i>Crotalaria sp. Holarhena antidysenterica, wall.</i>	Herb Tree	Stem Bark	Equal amount are soaked in water, ground and aquous extract is taken empty stomach	Gond, Bhumij
Jhunjhuni	<i>Crotalaria spp.</i>	Herb	Root	Root id ground, to paste, strained and aquous extract is taken	Sounti
Jamun	<i>Syzygium cumini</i>	Tree	Bark	Equal amount is ground to powder and taken thrice a day	Santhal
Arjun	<i>Terminalia arjuna, w. and A.</i>	Tree	Bark		
Kurchi/ Korai	<i>Holarhena antidysenterica, wall.</i>	Tree	Root, Bark	Soaked ground and aquous extract is taken. Ground to powder and taken orally	All tribes

Cont.

Koyan (Jangli Gulab)	<i>Rosa involucrata, Roxb.</i>	Shrub	Root	Soaked, ground and aqueous extract at a interval of 5-6 hrs.	Kol
			Leaf	Few tender leaves are chewed 4-5 times till relief.	
Kadam	<i>Anthocephalus cadamba, Miq.</i>	Tree	Bark	Ground to powder and taken 2-3 times a day	Kol
Medh/Chiur	<i>Litsea sebifera, Pers.</i>	Tree	Bark	Ground to powder and taken 2-3 times a day	Kharwar
Mango	<i>Mangifera indica, L.</i>	Tree	Bark	Ground to powder and taken 2-3 times a day	Sounti & Santhal
Nacowail/ Patal gurur/ Patalbhuru/ Sarpagandha/ Patal ghurdo Palas	<i>Rauwolfia serpentina (Linn.) herb.</i>	Shrub	Bark	Ground to powder and taken 2-3 times a day	Sounti
			Root		
Sal	<i>Butea frondosa, Roxb.</i>	Tree	Bark/ Gum	Ground to powder and taken 2-3 times a day	Kharwar
			Bark		
Thankuni/ Beng Sag	<i>Centella asiatica (Linn.)</i>	Herb	Leaf	Leaves are ground to paste and one tea spoon is taken 3-4 times or cooked and eaten as veg at meal time	Santhal

used for the control of diarrhoea, whereas roots of *Jhungri pata* and *Garundi* were used for the treatment of dysentery as reported by different tribes under study. These roots were soaked in water, ground, strained and aqueous extract taken orally for the relief at the interval of 5-6 hours. *Bhumiz, Santhal, Gond, Kharwar* and *Sounti* made powder of the bark of *Arjun, Amra, Bargad, Palash, Jamun, Mango, Dumer, Neem, Kadam, Doka, Kurchi, Jamun, Arjun, Kadam, Medh, Mango, Sarpagandha, Palash* and *Sal* for the the treatment of diarrhoea and *Medh & Sissu* for the control of dysentery. Approximately 1 teaspoon of the powder was taken thrice daily with water for 3 days.

The leaves of *Anar, Sadabahar, Dudhi* and *Guava* were ground. Approximately 5 gram of paste was administered 2-3 times daily for the treatment of dysentery and diarrhoea. Effectiveness of *Dudhi* in curing dysentery is also reported by Bondya et al, 2003. Leaves of *Tamarind, Putkal* and *Beng sag* were very popular among these tribals as food as well as medicine. Dried tamarind powder was cooked with rice gruel and taken 2-3 times a day by a patient suffering from dysentery. Dried *Putkal* leaves cooked with rice gruel or brew prepared from boiling fresh leaves and salt in water were considered very effective for the person suffering from dysentery. *Beng sag* was either cooked as

TABLE 2: Use of different plant for the treatment of dysentery

Name of Plant	Scientific Name	Habit	Parts used	Method of preparation/ Mode of administration	Tribe type
Anar/Bedana	<i>Punica granatum</i> , L.	Shrub	Leaf	Ground to paste and about 5g is taken 2-3 times a day	Oraon, Gond
Jhungri Pata	<i>Orthosiphon rubicundus</i> , Benth.	Shrub	Root	Root is ground, strained and aqueous extract is taken at an interval of 4-6 hrs.	Oraon
Jamun	<i>Syzygium cumini</i>	Tree	Bark	Ground to powder and about 5g is taken 2-3 times	Kharwar Santhal
Jamun Palash	<i>Syzygium cumini</i> <i>Butea frondosa</i> , Roxb.	Tree Tree	Bark Bark	Equal amount is ground to powder and taken orally at an interval of 5-6 hrs.	Chero
Kudrum and Tamarind	<i>Hibiscus sabdarffa</i> , L. <i>Tamarindus indica</i> , L.	Shrub Tree	Fruit Leaf	Kudrum and Tamarind in 2:1 proportion is ground and prescribed 2-3 times a day	Oraon
Medh/Chiur	<i>Litsaea sebifera</i> , Pers	Tree	Bark	Ground to powder and taken at an interval of 5-6 hrs.	Oraon, Kharwar
Putkal	<i>Ficus glabella</i> , Blume	Tree	Leaf	Decoction and taken empty stomach	Oraon, Gond
Palas	<i>Butea frondosa</i> , Roxb.	Tree	Bark	Powder and taken orally 2-3 times a day	Chero
Salanti/Garundi	<i>Alternanthera sessilis</i> , Br.	Herb	Root	Ground to paste, strained and aqueous extract is taken	Munda
Sal	<i>Shorea robusta</i> , Gaertn.	Tree	Fruit	Dried fruits are soaked ground, strained and taken 2-3 times a day	Santhal
Sadabahar	<i>Catharanthus roseus</i>	Shrub	Flower Leaf	Eaten as such 2-3 times. Ground to paste and about 1 tea spoon is taken 2-3 times	Chero
Sissu	<i>Dalbergia sissoo</i> , Roxb.	Tree	Bark	Bark is ground to powder and prescribed	Santhal

vegetable and eaten at meal time or leaves were ground and approximately 1 teaspoon paste was taken 3 times daily for consecutive 3 days by the patients.

Kalmegh/bhuineemba is a herb of which all parts were used for the treatment of diarrhoea. Dried parts of *kalmegh* were soaked in water for 5-6 hours, strained and about one cup is

prescribed 3 times a day. Effectiveness of *Kalmegh* for curing diarrhoea is also supported by Das and Das (2003).

Data reported in Table 1 revealed that use of root and bark of *kurchis* was very popular among all the tribes for the control of diarrhoea. They grind the root or bark with water and prescribed thrice daily till relief. This finding is in







accordance with the findings of earlier workers (Diwedi and Tripathi, 1991; Choudhary and Kumar, 2002).

Equal amount of gum of *Dumer* and bark of *Kurchi* were ground to powder and taken with *Zeera* and *Golki* at a interval of 6 hours for the treatment of diarrhoea. Similarly leaves of *Guava* and seed of *Posta* in a proportion of 2:1 is ground and taken with sugar for thrice a day. Equal amount of stem of *Jhunjhuni* and bark of *kurchi* as well as bark of *Jamun* and *Arjun* were ground and administered at a interval of 4-6 hours to control diarrhoea. *Chero* prepared the powder of bark of *Jamun* and *Palash* and mix it in the ratio of 1:1 and taken approximately 1 teaspoon with water to control dysentery. Similarly equal amount of fruit of *kudurum* and leaves of tamarind were ground and taken twice a day. Powder made from fruit skin or bark of *Anar* was taken with glass of water at a interval of 6 hours for the relief. Powder of bark and gum of *Palas* were also reported to be effective in both diarrhoea and dysentery.

CONCLUSION

The present study showed that tribals of study area were having a broad spectrum of knowledge about plant biodiversity. They were found to be using various plants for the treatment of diarrhoea and dysentery. Since ages, these plants are being used as medicine because they are readily available, safe and cost effective. In spite of overwhelming influence and our dependence on modern medicine and tremendous advances in synthetic drugs, these tribal people still rely on herbal drugs. These plants should be tested and validated in order to explore their efficacy and potentiality. These may bring to light new drugs of herbal origin. Moreover, there is also an urgent need to conserve these types of useful plants to ensure their existence against massive indiscriminative deforestation.

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