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Ethnobotanical investigation of different species of *Oxalis* Growing in Ranchi, Jharkhand

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Abstract- The present research work deals with the study of traditional knowledge of plants which are used by villagers of Ranchi district. The ethnomedicinal survey for *Oxalis* were done in 18 different blocks of Ranchi. The 20 Vaidya's were interviewed curing diseases using *Oxalis* species, these herbal practitioners were specialist in curing different kinds of ailments and diseases. 10 herbal practitioners were specialist in curing stomach ailments, 5 were specialist in curing skin diseases, 3 of them were specialist in curing tooth and gum related problems and 3 in curing headaches.

Key words: *Oxalis*, ethnomedicinal, survey

INTRODUCTION

The use of plants as a source of food, medicine, shelter and many more is well known since the time immemorial. The rural and tribal mass still depends on the plants growing in their surroundings.¹ Unfortunately, the uses of these plants are yet to gain the rapid pace. Gradually the studies of higher plants of medicinal and economic value are gaining momentum and are being used to cure various ailments.² The documentation of these medicinal plants is very poor, some literatures are available in Ayurveda, Unani, Sidha etc. in codified form.³ Ethnobotanical knowledge among the tribal is well known and they are using it since the time immemorial, but the things are not properly documented.⁴ The oral knowledge about the medicinal plant is being transferred from generation to generation which is mainly based on plant wealth.⁵

Therefore, both traditional and medicinal knowledge as well as the medicinal plants is important for the human health of view that needs conservation.⁶ As per the Biological diversity Act 2002 and Rule 2004, it is very essential to prepare PBR's (People's Biodiversity Registers) for documentation of Biodiversity and traditional knowledge.⁷ This research work can help in correctly identifying the plants of this region and would also help in preparation of inventory for conservation and sustentative utilization.^{8,9}

Oxalis is considered as the largest genus in the wood-sorrel family Oxalidaceae consisting of approximately 900 known species.¹⁰ The genus occurs throughout most part of the world, except for the polar areas; species diversity is particularly rich in tropical Brazil, Mexico and South Africa. In India, it is represented by 10 species of which 8 species are known to occur in Peninsular India. Among them 4 species were recorded from Kerala.^{11,12}

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MATERIALS & METHODS

An ethnomedicinal survey was carried out during 2020 to 2021 to collect information on the medicinal uses of the four species of genus *Oxalis*. The Ethnomedicinal survey were done in 20 villages of 18 different blocks of Ranchi District of Jharkhand namely Angara, Bero, Bundu, Burmu, Chanho, Itki, Kanke, Khelari, Lapung, Mander, Nagri, Namkom, Ormanjhi, Rahe, Silli, Sonahatu, Tamar, Ratu. The local persons and herbal collectors were contacted and interviewed to get the first-hand information of the medicinal plants and its parts uses in different disease/ ailments. The ethnomedicinal data of *Oxalis* species were collected with the help of semi structured questionnaire and discussion among the herbal practitioners. Efforts were also made to gather information's about their mode and method of administrations, doses prescribed and any side's effects. This information's were also verified by consulting available literature. The ethnomedicinal survey was conducted using the following line of direction.

RESULTS

The Ethnomedicinal survey for *Oxalis* were done in 18 different blocks of Ranchi District of Jharkhand namely Angara, Bero, Bundu, Burmu, Chanho, Itki, Kanke, Khelari, Lapung, Mander, Nagri, Namkom, Ormanjhi, Rahe, Silli, Sonahatu, Tamar and Ratu.

The ethnomedicinal information was gathered from the herbal practitioners (Vaidyas) and other knowledgeable person with the support of semi structured questionnaires.

During the survey more than 30 herbal practitioners (Vaidyas) were consulted and interviewed, of different communities, residing in the different blocks of Ranchi. Out of 30 herbal practitioners (Vaidyas), only 20 Vaidyas were using different species of *Oxalis* in their traditional drug preparations. So documentation work was done with only those persons who were using *Oxalis*.

The details of herbal practitioners (Vaidyas) are tabulated in table 6, consisting name of the blocks name of herbal practitioners (Vaidyas) their address their age their specialization in curing diseases along with the date of interview. They shared their year-old experiences of effectiveness of using these species in the preparation of medicines.

Out of 20 herbal practitioners (Vaidyas), 6 were from Angara Block, 4 were from Bundu Block, 3 from Silli Block, 1 from Mandar Block, 1 from Rahe Block, 1 from Bero Block, 1 from Nagri Block and 1 from Ormanjhi Block.

Table 1- Survey of different Blocks of Ranchi to study the distribution pattern of genus *Oxalis*

Blocks	Species			
	<i>Oxalis corniculata</i>	<i>Oxalis latifolia</i>	<i>Oxalis debilis</i>	<i>Oxalis triangularis</i>
Ranchi town area	+	+	+	+
Kanke	+	+	+	+
Ratu	+	+	+	+
Chanho	+	-	-	-
Mandar	+	+	-	-
Burmu	+	+	-	-
Bero	+	-	-	-
Namkum	+	+	+	+
Ormanjhi	+	+	+	+
Angara	+	+	-	-
Silli	+	-	-	-
Khelari	+	-	-	-
Nagri	+	+	+	-
Rahe	+	-	-	-
Bundu	+	+	-	-
Sonahatu	+	-	-	-
Tamar	+	-	-	-
Itki	+	-	-	-
Lapung	+	-	-	-

During the survey, their activities were closely observed and it was found that the genus *Oxalis* is mainly used in the eastern villages of Ranchi district (i.e., Angara, Bundu, Tamar and Rahe). So, the maximum Vaidyas were interviewed in this area. The 20 Vaidyas, who were interviewed curing diseases using *Oxalis* species, were between 40 to 60 years age group and were from OBC, SC and ST communities. These herbal practitioners or Vaidyas were specialist in curing different kinds of ailments and diseases. 10 herbal practitioners were specialist in curing stomach ailments, 5 were specialist in curing skin diseases, 3 of them were specialist in curing tooth and gum related problems and 3 in curing headaches

Table 2- Blockwise distribution & status of 4 species

Species	No. of blocks where it was found
<i>Oxalis corniculata</i>	18
<i>Oxalis latifolia</i>	9
<i>Oxalis debilis</i>	6
<i>Oxalis triangularis</i>	4

Table 3- Herbal practitioners (Vaidyas) of different blocks of district Ranchi

Sl. No.	Area / Blocks	Name of Herbal Practitioners	Sex	Specialist	Date of interview
1.	Rahe	Mahesh Mahto S/O Late Machhari Mahto Vill. - Sunderdhi P.O - Janumpiri P.S. - Tamar Ranchi Age - 56 Years	Male	Stomach disease	16.04.2016
2.	Mandar	Rampodo Paul S/O Late Krishana Paul Vill. - Karge P.O. - Karge Ranchi Age - 47 Years	Male	Cough	26.04.2016
3.	Silli	Jiten Oraon S/O - Bideshi Oraon Vill. - Goradhi P.S. - Silli Age-75 Years	Male	Skin/Stomach diseases	20.03.2017
4.	Bero	Prabhat Bhusan S/O Late Parvind Bhusan Vill. - Bero Kamar Tola P.O. - Bero P.S. - Bero Age - 68 Years	Male	Liver/Hair loss	28.04.2017
5.	Nagri	Arvind Toppo S/O Parmanand Toppo Vill. - Meral P.O. - Guta P.S. - Ratu Age - 65 Years	Male	Teeth pain/Stomach/Dysentery	26.05.2017
6.	Kanke	Mukesh Oraon S/O Late Kankala Oraon Vill. - Chouri P.O. - Kanke P.S. - Kanke Age - 35 Years	Male	Skin/Piles	26.05.2017
7.	Ormanjhi	Mahesh Matho S/O Late Machhari Matho Vill. - Chakla P.O. - Vikash P.S. - Ormanjhi Age - 64 Years	Male	Stomach/Liver/Cough	27.05.2017
8.	Sonahatu	Fagu Lohra S/O Late Sadhnu Lohra Vill. - Choga P.O. - Sonahatu P.S. - Sonahatu Age - 55 Years	Male	Teeth pain/Snake bite/Dysentery	02.05.2017

DISCUSSION

This aspect has been worked out and reported the traditional knowledge on 20 wild edible plants used among Munda tribe of Jharkhand.¹³ The information of 28 medicinal plants used in twelve ethnomedicinal formulation by the local herbal practitioners in Ranchi Jharkhand, India.¹⁴ The Horopathy or Tribal medicines system of

treatment was initiated by P.P.Hembrom in Chotanagpur and Santhal Pargana. He has given the method of treatment of various diseases by the plant and its products beside the conservation of plants. The use of *Oxalis corniculata* had been documented by many workers and other ethnic population. Similar kind of work has been done.^{15,16}

CONCLUSION

Ethnomedicinal plants play an important role in providing knowledge to the researchers in the field of ethno-botany and ethno-pharmacology, Oxalis is one of them and treated as weeds it grows very fast and have created interest among the local population and also uses as medicinal plants in different ailments. Oxalate is a common bio mineral which is synthesized by plants, in diet supplement oxalate crystals are always treated as harmful effects but external use of calcium oxalate crystals may be beneficial for human mankind. By the Ethnomedicinal information of Ranchi district of Jharkhand, different species of oxalis were used for external treatment like skin disease, skin toner, skin infection, and hair therapy, it is also used as gum and mouth infection. so, this article will attract the attention of ethno-botanists, phyto-chemists and pharmacologists for further critical investigation of medicinal plants. There are less scientific studies in this field, so it is urgent to proper conservation and equitable biological resources.

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