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Ethnobotanical Studies on Some Medicinal Plants of Sonebhadra District of Uttar Pradesh, India W.S.R. to Skin Diseases, Wounds and Fractures

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Abstract

Introduction: Sonebhadra is the only district in India which borders four states namely MP, Chhattisgarh, Bihar and Jharkhand. This district has eight blocks Babhani, Chatra, Chopan, Duddhi, Ghorawal, Myorpur, Nagwan and Robertsganj. This district has an area of 6,788km^2 and a population of 1,862,559 (2011 census), with a population density of 270 inhabitants per square kilometre. It lies in extreme south-east of the state. About 83.12% population of this district lives in rural areas. Nature is integrated part of their life. These tribes having distinct culture, values and practices hold on their traditional knowledge which is transmitted only to people belonging to their clan. The present study is designed to explore the traditional medicine used for skin disorders, cuts, wounds and fractures by different tribal communities of Sonebhadra.

Objectives: (1) To find out the ethnobotanical knowledge of different tribes of Myorpur and Chopan block of Sonebhadra district of Uttar Pradesh; related to cure of skin diseases, wounds and fractures. (2) Collection of medicinal plants used by tribes for treatment of skin disorders, cuts, wounds and fractures and their botanical identification in lab.

Methodology: It is a survey study in which primary and secondary data has been collected. Primary data was collected by interview of participants; collection of medicinal plants used by tribes for the treatment of skin disorders, cuts, wounds and fracture and their botanical identification in lab. Audio and visual aids (camera and mobile) was used to take photographs and videos related to the present study. Secondary data was collected by related books and previous researches.

Result: Many of the plants used by different tribal communities of Sonebhadra for the treatment of skin disorders, cuts, wounds and fracture. There are many plants which are known by different vernacular names by different tribal communities. Some of the plants used by them are – Dhawai (Wood for diafruticosa Kurz.), Chilbil (Holopteleaintegrifolia Planch), Kuthua (Xanthium strumarium L.), Mamarkhi, Bhains (Martyniaannua L.), Giloy (Tinosporacordifolia Willd.), Shatawar (Asparagus racemosus Willd.), Hadjod (Cissusquadrangularis Linn.), Indarbagai, Padhar (Randiauliginosa DC.), Barwat etc.

Conclusion: Tribal communities of Sonebhadra have Unique life style and culture. Their Knowledge about herbs related to treatment of skin disorders, cuts, wounds and fractures are unique and surprising. There is need to explore their knowledge and to establish it on scientific basis.

Keywords: Ethnobotanical; Skin disorders; Cuts; Wounds and Fractures.

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INTRODUCTION

Sonebhadra is the second largest district of Uttar Pradesh by area.[1] It is the only district in India which borders four states namely MP, Chhattisgarh, Bihar and Jharkhand.[2] This district has eight blocks- Babhani, Chatra, Chopan, Duddhi, Ghorawal, Myorpur, Navgaon and Robertsganj.[2] Northern part of district lies on a plateau of Vindhya range and is drained by tributaries of Ganges including the Belan and Karmnasa river. South of the steep escarpment of the Kaimur range is the valley of Son river, which flows through the district from West to East. This district has an area of 6,788km^2 and a population of 1,862,559 (2011 census), with a population density of 270 inhabitants per square kilometre. It lies in extreme south-east of the state This district has an area of 6,788km2 and a population of 1,862,559 (2011 census), with a population density of 270 inhabitants per square kilometre. It lies in extreme south-east of the state Chopan and Myorpur is the first and second largest block of this district by area and area covered by forest.[3] Most of the Scheduled Tribes of this district reside in Myorpur and Chopan blocks.[4] These tribal communities believe that they are son of natue and nature is integrated part of their life. These areas are inhabited by a large number of tribes such as Baiga, Gond, Kharwar, Bhil, Panika etc. Therse tribes having distinct culture, values and practices hold on their traditional knowledge which is transmitted only to people belonging to their clan.

Due to living in the forest and surrounding areas and poor hygienic condition such people are more prone to skin diseases, cuts, wounds and fractures. These tribal communitespossess a pool of undisclosed ethnomedicinal information regarding the flora of their surroundings.

AIM & OBJECTIVES

To find out the ethnobotanical knowledge of different tribes of Myorpur and Chopan block of Sonebhadra district of Uttar Pradesh related to skin diseases, cuts, wounds and fractures.[2] Collection of medicinal plants used by tribes for skin diseases, cuts, wounds and fracturesand their botanical identification in lab.

STUDY AREA

Myorpur and Chopan block of Sonebhadra district of Uttar Pradesh ($23^0$45′ to $24^0$30′N; $82^0$45′ to $83^0$23′E) have been selected for the present study. The elevation above the mean sea level ranges between 315 and 485 m[5]. Due to presence of more forests and more tribal communities in these blocks of the district, these areas were selected for the study. Sonebhadra district has a relatively subtropical climate with high variation between Summer and Winter temperatures. The average temperature is 30^0C to 46^0C in the Summer and 2^0C to 15^0C in the winter. The weather is pleasant in rainy season from July to October.[6]

The average annual rainfall of this area is 1115.00 mm. About 90% of rainfall takes place from June to September. The average relative humidity ranges from 25 to 81%.[7]

METHODOLOGY

The present study is a survey study based based on field excursion during 2020-2022. In this study primary data was collected by interview of participants including traditional medical practitioners of different tribal communities of this area and other local informants; collection of medicinal plants used by tribes for the treatment ofskin diseases, cuts, wounds and fractures. and their botanical identification in lab. The plant species collected during these field trips were identified at Department of Dravyaguna, Faculty of Ayurveda, IMS, BHU, Varanasi, India. Audio and visual aids (camera and mobile) was used to take photographs and videos related to the present study. Secondary data was collected by related books and previous researches.

There is no explicit rule and regulations to the practice of ethnomedicinal research in India. The purpose of the research project had explained to participants before their interview. Each participant agreed to participate voluntarily and they were allowed to discontinue the interview at any time.

RESULTS

There are forty nine plant species (five unidentified) belonging to thirty six families were recorded to be used by the local tribal communities for treatment related to cure of skin disorders, cuts, wounds and fractures. Medicinal plants used for the same purpose are arranged in table 1 where different species are arranged according to their family in alphabetical order. Vernacular names, type of plant and parts used for the treatment are also mentioned in table 1. Various ways of using the plants are given in table 2. Voucher herbarium specimens were identified and deposited in Dravyaguna

Department Laboratory, Faculty of Ayurveda, IMS,Banaras Hindu University, Varanasi, India. The newly reported vernacular names and uses (not found in earlier studies) are marked by an asterisk (*). Doule asterisk (**) mark is used for the plants which are not yet identified.

Table 1: Family, Botanical name, Vernacular name, Plant type and Parts used for treatment

Family	Botanical name	Vernacular name	Plant type	Parts used/Treatment
Acanthaceae	*Lapidagathiscristata* Willd.	*Ot-dhompol*	Undershrub	Whole plant / Allergy, Itching / Boils
Amaryllidaceae	*Curculigoorchioides* Gaertn.	*Kali-Musali, Dhutara, Tinpatia*	Herb	Root / Itching & other skin disease
Anacardiaceae	*Lanneacoromendelica* (Houtt.) Merrill.	*Jingan*	Tree	Bark / Leprous & other ulcers, impetigenous eruptions, *Cuts & Wounds
Anacardiaceae	*Semecarpusanacardium* Linn.	*Bhela / Bhelwa*	Tree	Resin, Seed oil / Leprosy & other skin diseases; Warts, Tumours,Cuts
Apocynaceae	*Hemidesmusindicus* (L.) R.Br.	*Anantmoola, Kapuri, Badi Banwar, Dudhiya*	Climber	Whole plant / Leucoderma
Apocynaceae	*Tylophorarotundifolia Buch-Ham ex* Wight.	*Anto–mul*	Climber	Whole plant / Leucoderma, Psoriasis
Asteraceae	*Blumeabifoliata* DC	*Kukrauna*	Herb	Whole plant / Cuts & Wounds
Asteraceae	*Eclipta alba* Hassak	*Bhangra*	Herb	Whole plant / Leucoderma
Asteraceae	*Sonchusarvensis* Linn.	*Bari - sahadevi*	Herb	Whole plant / Cuts, Wounds,Swelling
Asteraceae	*Tridaxprocumbens* Linn.	*Masbhari*	Herb	Whole plant/ Cuts & wounds
Begoniaceae	*Bigoniapicta* Sm.	*Lundiara*	Herb	Fresh leaves / Ulcer of mouth & tongue
Bombacaceae	*Bombaxceiba* Linn.	*Semur, Semal*	Tree	Seed / Small- pox boils
Caesalpinaceae	*Cassia tora* Linn.	*Chakawad, Chakunda*	Herb	Seed / Skin diseases like itches,eczema& ringworm
Caesalpinaceae	*Cassia fistula* Linn.	*Amaltas, Dhanba*	Tree	Leaf / Skin diseases
Caricaceae	*Carica papaya* L.	*Papita*	Tree	*Leaf / Boils
Celastraceae	*Cassineglauca* (Rottb.) Kuntze	*Mamar*	Tree	*Leaf / Wound & Ulcers
Cochlospermaceae	*Cochlospermumreligiosum* (L.) Alston	*Galgal*	Tree	Bark / Sore caused by septicaemial poisoning
Commelinaceae	*Commelinabenghalensis* Linn.	*Kanchura*	Herb	Whole plant / Skin disease
Convolvulaceae	*Argyreia nervosa* (Burm.f.) Bojer	*Samundar –ka-pat,Ghao-bel*	Climber	Leaves / Wound & skin diseases
Convolvulaceae	*Ipomeapes-tigridis*	*Besharama,Panchpatri, *Bilariputu*	Climber	Leaf / Pimples, boils& sores, carbuncles
Dioscoreaceae	*Dioscoreabulbifera* Linn.	*Piska*	Climber	Roasted tubers / ulcers
Euphorbiaceae	*Emblicaofficinalis* Gaertn.	*Aonla / Aamla*	Tree	Bark / Sores & pimples
Fabaceae	*Buteamonosperma* (Lam.) Taub	*Palash / Dhak / Paraas*	Tree	Bark / Ulcers
Fabaceae	*Pterocarpusmarsupium* Roxb.	*Bijaisal*	Tree	Leaves / Boils, Sores & Skin diseases
Fabaceae	*Tephrosiapurpurea* Pers.	*Sarphonk / Sarpunkha / Sarpankha*	Shrub	Seed oil / Scabies, eczema & other skin diseases
Fabaceae	*Urariapicta* Desv.	*Dabraa*	Herb	Whole plant / Bone fracture
Flacourtiaceae	*Flacourtiaindica* (Burm.f.) Merr.	*Kantaila*	Tree	Bark / Eczema
Lamiaceae	*Leucascephalotes* Spreng.	*Guma*	Herb	*Whole plant / Leucoderma
Lauraceae	*Listeaglutinosa* (Lour.)	*Meda*	Tree	*Leaf. Bark / Injury

Loranthaceae	*Dendrophthae falcate* (L.f.) Etting	*Banda / Banjha / *Manjha*	Shoot parasite	Bark / Wounds
Lytheraceae	*Wood for diafruticosa* Kurz.	**Dhawai*	Shrub	*Bark / Burn
Martyniaceae	*Martyniaannua* L.	**Bhains / Kaknasa*	Shrub	*Fruit / Chronic wound
Meliaceae	*Azadirachtaindica* A.Juss.	*Neem*	Tree	Bark (Root & Stem) / Skin diseases; Oil / leprosy
Menispermaceae	*Tinosporacordifolia* Willd Miersex Hook f. & Thomas	*Guruch*	Cllimber	*Stem / Fracture of bones
Mimosaceae	*Acacia catechu* willd.	*Khair*	Tree	Heartwood / Canceroius sores
Mimosaceae	*Albizizaodoratissima* (Willd.) Benth.	*Kala - Shirish*	Tree	Stem bark / Leprosy, persistent ulcers & other skin diseases
Moraceae	*Ficusreligiosa* L.	*Peepal*	Tree	Bark / Scabies
Nyctaginaceae	*Boerhaaviadiffusa* L.	*Chotwa Bhaji / Patharchatta*	Herb	Leaves / Skin diseases
Papaveraceae	*Argemone Mexicana* Linn.	*Satyanashi / Peeli – Kateli / *Bhatkataiya*	Herb	Plant juice / Chronic skin diseases; Latex / Scabies
Plumbaginaceae	*Plumbagozeylanica* Linn.	**Chit /Chita /Jaharbaj*	Shrub	*Root / Boils in cheek
Rubiaceae	*Randiaulginosa* DC	**Pandar*	Tree	*Bark / Fracture of Bone
Sapindaceae	*Schleicheraoleosa* (Lour.) oken.	*Kusum*	Tree	Seed oil / Burns, skin diseases
Sterculiaceae	*Helicterusisora* Linn.	*Aithani / Marodphali*	Shrub	Root / Sores & carbuncles
Ulmaceae	*Holopteleaintegrifolia* Planch	**Chilbil*	Tree	*Leaf / Ringworm, Wound
Verbenaceae	*Clerodendrumindicum* (L.) Kuntze.	*Bhaarangi*	Under shrub	Whole plant / Skin diseases
Vitaceae	*Cissusrepanda* Vahl.	*Pani – Bel / dahini*	Climber	Leaf / Neck sore of cattle
Vitaceae	*Cissusquadrangularis* Linn.	*Hadjod*	Climber	*Stem / Fracture of Bone
Vitaceae	*Vitisreparia* Michx	**Amlola*	Climber	*Leaf / Wound
Zingiberaceae	*Curcuma longa* Linn.	*Hardi*	Herb	*Rhizome / Injury
		***Barwat*	Climber	*Leaf / Fracture of bone
		***Bhudakki*	Climber	*Leaf, Root / Cut & injury
		***Indarbagai*	Herb	*Whole plant / Injury in animals
		***KauwaKanna*	Herb	*Root /
		***Korkach*	Tree	*Bark / Fracture of Bone
	Slaked llime / Calcium hydroxide	*Chuna*		*Chuna / Fracture of Bone

Table 2: Various ways to use the plants

Plant	Method to Use
***Barwat*	*Juice of 3 or 5 or 7 leaves are administered orally as single dose and should consume only that much quantity which fill the mouth and throw the rest juice.Crushed leaf paste are also applied over the broken area.
***Bhudakki*	*Paste of its leaves & root are applied to stop bleeding from cut area.
***Indarbagai*	*Decoction of paste of Indarbagai, Turmeric, Ginger and Jaggery are given orally to animals for any kind of injury and injury related pain.
***KauwaKanna*	*Root paste are applied over wound
***Korkach*	*In case of fracture of bone paste of its bark are given orally and also applied externally on affected area.
Carica papaya L.	*Papaya leaf juice is given in case of boils due to impurity of blood.
Cassineglauca (Rottb.) Kuntze	*Leaf paste is applied externally in case of wounds and ulcers.
Chuna	*Lime paste is applied externally for injury.
Cissusquadrangularis Linn.	*For fractured bone 3-4 inch of stem is to be crushed and given orally and its paste is also to be applied on the broken area.

Curcuma longa Linn.	*Tturmeric and jaggery is given to drink in any kind of injury.
Holopteleaintegrifolia Planch	*Leaf paste is used externally to cure wounds and ring worm infection. But it should not be applied for longer time otherwise it burns the skin.
Lanneacoromendelica (Houtt.) Merrill.	*Paste of bark is applied for cuts and wounds. Its bark juice has been poured over penis after circumcision.
Leucascephalotes Spreng.	*Its paste are applied along with black pepper paste over the white patches of leucoderma and the patches starts getting cured in one month.
Listeaglutinosa (Lour.)	*The warm paste of leaves and bark are applied in case of injury.
Martyniaannua L.	*The wound which is not getting cured, it gets cured by application of paste of fruit of this plant.
Plumbagozeylanica Linn.	*Root –paste is applied over the boils of face 2-3 times once in a day for 3-4 days and after removing the paste cow ghee should be applied over it.
Randiaulginosa DC	*For fractured bone, juice of bark of this plant is given orally and bark-paste is also applied externally.
Tinosporacordifolia Willd Miersex Hook f. & Thomas	*Juice of stem is administered orally in case of injury.
Vitisreparia Michx	*Leaf paste is applied locally over any kind of wound.
Woodfordiafruticosa Kurz.	*Paste of dried bark powder mixed with oil is applied over burnt area.

DISCUSSION AND CONCLUSIONS

The information collected from different tribal communities of Sonebhadra district and previous studies like Wealth of India (Anonymous 1948-1992), Indian Medicinal Plants (Kartikar & Basu), Medical ethnobotany of the tribals of Soneghati of Sonebhadra (A.K. Singh et al, 2002), Indian folk medicine and other plant based products (editor-V. Singh) etc. shows that these tribal people use a number of plants and plant parts on the basis of their acquired knowledge. As they live in forest and hilly area they and their cattles are more prone to cuts, fractures and injuries. Due to poor hygienic condition they usually also get skin infection like ring worm, itching etc. They often use medicine orally as well as for local application to cure fracture, cuts, wounds, injuries and various skin diseases. But due to urbanization and continuous exploitation of natural resources, traditional knowledge of these communities related to use of plants and other natural resources is depleting day by day. Hence, there is an urgent need for the preservation of flora of this region and systematic documentation of related traditional knowledge before it disappears. The claims emanating from present survey need to be studied pharmacologically and clinically. The purpose of this work is not to prescribe any remedies for above mentioned conditions but to document the uses and draw the attention of research scholars and pharmacologists for further scientific research in this field.

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