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Ethno medicinal studies in Mandu block of Ramgarh district with reference to indigenous practices

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Abstract : Ethno medicinal studies bring out the usages of the traditional knowledge. The present study offers a glimpse of tribal traditional knowledge which traces out the utilities of wild plants of Mandu Block of Ramgarh District. This detailed account is based upon a field study carried out between the period of March 2009 to November 2012. This is the first time that this location has been the subject of an ethnomedicinal investigation. Total 102 plant species have been collected belonging to 94 genera of 54 families frequently used in the treatment of various diseases. Scientific name, English name, Local name, Parts used, Taste, Chemical Constituents, Actions & Therapeutic uses of all plants were recorded during investigation.

Keywords : Ethnomedicinal; Traditional knowledge; Mandu block; Therapeutic uses.

INTRODUCTION

The use of medicinal plants has always been a part of human heritage. Over the centuries every population has developed its knowledge in recognizing, harvesting, and using plants to cure various diseases¹. One can still find this situation in communities that are culturally backward and geographically isolated, where it is difficult to find medical doctors or there are very few health centers hospitals due to economical backwardness^{2,3}. In these areas, the treatment of diseases is based essentially, and sometimes exclusively, on medicines that have a natural origin; among these, herbal drugs constitute the majority⁴. The recognition and the use of medicinal plants is a priceless heritage of most preliterate cultures⁵. It is secretly kept and conveyed by Pahans and Vaidyas who are very knowledgeable about herbs and who combine their botanical, phytotherapeutical and toxicological knowledge with their rites and rituals based on magic, superstition and ancestral beliefs⁶.

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STUDY AREA

Mandu block is situated in Ramgarh District, and lies between latitude 23° 38' 553 to 23° 58' 403 North and longitude 85° 25' 443 to 85° 39' 373 East, having 6,445.40 acre total area which comprises of 45,086.85 acre of forest land and 1,858.55 acre of bare land. Among the scheduled castes mainly Ganju, Rajwar, Ravidas and Rajaks are prevalent. The tribal population of the Mandu block comprises of Santhals, Bedia, Karmali, Munda, Oraon and Birhore. Common people generally depend upon the traditional medicines for treatment of various diseases in Mandu Block. Use of various plant parts and their knowledge of traditional medicines in folklore health management is invaluable which needs to be documented.

METHODOLOGY

A preliminary survey of villages in Mandu block revealed that local communities used herbal medicine for their healthcare extensively. Frequent field visit were paid to almost all villages of Mandu block during the study period. Each village was visited at least thrice in different seasons. The ethno medicinal information was collected through interviews and discussion with Vaidyas, Pahans Horopaths.

During field work, the information collected on plant species, being used to treat various human diseases and disorders along with their local names, plant parts, method of drug preparation, mode of application, dosages and duration, were documented adopting the methodology prescribed by Jain^{7,8}. The data were confirmed by discussion with respondents and also individuals who received herbal treatments and also compared with the existing literature. Plants were identified, photographed, and herbarium of specimen was prepared. Herbaria of plant species were submitted to the Department of Botany, Ranchi University, Ranchi.

RESULTS

102 plant species belonging to 94 genera of 54 families were collected during the field study. Out of 102 plant species, 37 plants are enlisted below. For each of these plants, the following information is given: the botanical name, the local name, and observations on the prescription and the dosage form of the crude drug preparations.

1. *Abrus precatorius* Linn. (Fabaceae) Ratti, Gunci. RKRM – 006

- Two seeds, especially of white-seeds variety, are powdered and mixed in water. It is given orally to pregnant women to increase labour pain. [Bedia]
- Powder of roots of the plant and that of *Asparagus racemosus* are thoroughly mixed in warm water. It is then taken orally as aphrodisiac every day for a month by men or women. [Karmali]

2. *Abutilon indicum* (Linn.) Sw. (Malvaceae) Kakahi. RKRM – 008

- The entire plant is chopped or ground and used to prepare a tea or decoction that is drunk to relieve the symptoms of ear problems. [Oraon]
- Roots of *A. indicum* is tied on the waist of pregnant women and root paste is orally administered for normal parturition. [Munda]

3. *Acacia concinna* (Willd) DC. (Mimosaceae) Shikakai. RKRM – 010

- The Shikakai Fruit is famous as the best herbal shampoo to treat dandruff & hair loss. It is used as

a hair cleanser, which promotes hair growth and makes them more healthy & shiny. [Bedia]

- A decoction of the pods relieves gastric distress caused by a disorder of the liver and acts as laxative. [Munda]

4. *Acorus calamus* Linn. (Araceae) Bach. RKRM – 013

- Juice of rhizome (10 ml) with a little sugar or honey and black pepper (*Piper nigrum*) is given twice daily for 3-4 days in dyspepsia associated with abdominal pain in chronic liver disorders. Dose for the children is one third of adult dose and is given with half a glass of milk, once daily for 3-4 days. [Birhore]
- About a half teaspoonful of powder prepared from dried rhizome is taken twice daily to cure asthma. [Birhore]

5. *Amaranthus spinosus* Linn. (Amaranthaceae) Kateli. RKRM 017.

- Fresh roots collected on Saturday are given to chew daily for three days to arrest spermatorrhoea. [Bedia]
- Seeds are crushed, made into a paste and taken with boiled cow's milk for warmth (in severe cold condition). [Munda]

6. *Andrographis paniculata* Wall. ex Nees (Acanthaceae) Kirayat. RKRM 019.

- Decoction of shoots (10g.) is given twice daily for 4-5 days is acute jaundice due to hepatitis associated with hepatomegaly. For children, usually honey or sugar is added to neutralize the bitter taste of the recipe. [Birhore]
- 50g. 'Chiraita', 100g. ginger and 100g. coriander seeds are crushed in a pot and mixed in 500 ml water. This solution is boiled to one third volume and then given to animals continuously for 3-4 days to cure fever. [Birhore]

7. *Bacopa monnieri* (Linn.) Pennell (Scrophulariaceae) Barami. RKRM 027

- Paste of shoots along with shoots of *Centella asiatica* and *Alternanthera sessilis* in equal parts (10-15g. each) is given twice daily in empty stomach in both chronic and acute liver disorders associated with hepatomegaly. Dose for children is half of the adult

does and is given once daily after diluting with water. [Munda]

8. *Basella alba* (Linn.) Stewart. (Basellaceae) Poi sag. RKRM 029

- Leaf extract of *B. alba* and seed juice of *Punica granatum* mixed in equal amounts with cow ghee. One teaspoon full of the mixture is administered orally twice a day for 5-7 days to cure diarrhea and dysentery. [Bedia]

9. *Buchanania lanzan* Spreng. (Anacardiaceae) Piyar. RKRM 036

- Leaves (4-6) are soaked in a glass of water overnight and drunk in early morning for 4-5 days to cure spermatorrhoea. [Munda]
- Young twigs are used as *tooth* brush. It gives relief in dental problems. [Munda]

10. *Butea monosperma* (Lam.) Taub. (Fabaceae) Dhak. RKRM 038

- 20g. of flowers with leaves of *Phyllanthus niuri*, whole plant of *Oldenlandia corymbosa* and 20g. ginger are boiled in water till it becomes one third. 120 ml of this decoction cures fever during pregnancy. [Birhore]
- Dried root bark powder mixed with cow ghee is taken for 3 days from menstruation date to check barrenness. [Birhore]

11. *Carissa carandas* Linn. (Apocynaceae) Karaunta. RKRM 041

- The fruit is used to improve female libido and to remove worms from the intestinal tract. [Munda]
- The fruit juice can also be used to wash wounds for its fast recovery. [Munda]

12. *Cedrela toona* Roxb. ex Rottler (Meliaceae) Tun. RKRM 051

- Tree bark is mashed and juice is given to cure dysentery. [Oraon]
- Fruit juice is used to treat burning sensation, headache and leucoderma. [Rajwar]

- Flower extract is useful in menstrual disorders. [Ganju]

13. *Clerodendrum infortunatum* Linn. (Verbenaceae) Bhant. RKRM 061

- The leaves and root paste of the plant are employed externally for curing tumours and certain skin diseases. [Bedia]
- Roots of *Clerodendrum infortunatum* and *Leucas aspera* are powdered and made into 21 tablets of pea size. One tablet given every morning for 21 days to induce menstruation. [Bedia]

14. *Clerodendrum serratum* (Linn.) Moon (Verbenaceae) Bharangi. RKRM 062

- The plant works well as a blood purifier. The decoction of sesame seeds (tila), mixed with ghee, jaggery, trikatu powder (sunthi, marica and pippali) and bharngi root powder is the best medicament for amenorrhoea and uterine tumour (rakta gulma). [Birhore]
- The combination of bharangi and pippali (2: 1) with honey, is also an effective remedy for hiccup. [Birhore]

15. *Curculigo orchioides* Gaertn. (Amaryllidaceae) Kali musli. RKRM 068

- In leucorrhoea and menorrhagia, the rhizome powder, buds of japa and rock candy are given together followed by a glass of milk. [Oraon]
- The black musali is beneficial in erectile impotence and spermatorrhoea. In burning sensation and fatigue, the rhizome powder is recommended with milk and sugar. [Oraon]

16. *Cymbopogon citrates* (DC.) Stapf (Poaceae) Ayinghas. RKRM 071

- The extract of lemon grass is applied to fresh and open wounds for fast healing and also prevents severe infection. [Santhal]
- The fresh blades of Lemon grass is boiled in water and taken to ease discomforts in the digestive system such as flatulence. [Santhal]

- 17. *Datura metel* Linn. (Solanaceae) Kaladhattura.** RKR082
- Seeds are crushed and cooked in mustered oil. It is applied to cure kibe. [Bedia]
 - Seeds of *Datura*, root-bark of *Calotropis procera* (madar), seeds of *Strychnos nux-vomica*, *Vernonia anthelmintica* and edible gum in equal quantities are crushed together and boiled in mustard oil by adding cut pices of *Agave americana* (Rambans). After filtration, the preparation is used twice daily to cure waist pain. [Munda]
- 18. *Dendrocalamus strictus* (Retz.) Willd. Poaceae** (Gramineae) Baans. RKR084
- Strips of bamboo are tied on fractured bone of cattle's leg and water is sprayed over it for quick healing. [Karmali]
 - A few pieces of bamboo stem are boiled in water till its volume reduces to half. It is given orally to expel placenta of animals. [Karmali]
- 19. *Dioscorea bulbifera* Linn. (Dioscoreaceae) Gethia** kind. RKR089
- Dried and pounded tubers are prescribed in case of dysentery. [Santhal]
 - Tubers are boiled in water and are consumed for reducing acidity. [Santhal]
- 20. *Dolichos biflorus* Linn. (Leguminosae) Kulthi.** RKR091
- Dusting of seed powder on skin is suggested in case of cold sweats. [Oraon]
 - Horse-gram's seeds powder with water is taken to cure Kidney and gall bladder stones. [Ganju]
- 21. *Eclipta prostrata* Linn. (Asteraceae) Bhringraja.** RKR095
- Juice of shoots with shoots of *Alternanthera sessilis* in equal parts (20 ml) and 1-2 drops of juice of *scoparia dulcis* leaves is given twice daily for 12 days in liver disorders caused due to alcoholism. The dose is gradually reduced from 20 ml to 5 ml during this period. [Bedia]
- 22. *Gymnema sylvestre* (Retz.) R.Br. (Asclepiadaceae)** Gudmar. RKR101
- Plant juice is applied over wounds and cuts. [Bedia]
 - Leaf powder is used to treat diabetes. One teaspoonful leaf powder is taken with a cup of water twice a day before meals for one month. [Ganju]
 - The leaves have been used to treat stomach ailments, constipation, and liver disease. [Ganju]
- 23. *Heliotropium indicum* Linn. (Boraginaceae)** Hattasura. RKR104
- Leaf juice is used against scorpion sting [Karmali]
 - Juice of leaves applied on wounds and boils for fast healing. [Karmali]
- 24. *Hemidesmus indicus* (Linn.) R.Br. (Asclepiadaceae)** Anantmul. RKR107
- 250g. roots are boiled in 1 liter water until it becomes 250 ml. This decoction is mixed with honey and taken orally in 14 equal doses to heal the wounds caused by syphilis. [Munda]
 - Root powder is applied on wounds and also taken for vital strength. It is mixed with cow's milk and administered orally in spermatorrhoea. [Munda]
- 25. *Holarrhena pubescens* (B.-Ham.) Wallich ex Don** (Apocynaceae) Kuda. RKR109
- Decoction of its bark or seed powder is given with buttermilk in case of problems like proctitis, painful defecation and rectal swellings. [Oraon]
 - The bark is grated in cow's milk works well in painful, difficult micturition and in urinary stones. [Oraon]
- 26. *Holoptelea integrifolia* (Roxb.) Planch.** (Ulmaceae) Cilbil. RKR110
- Leaf piece are kept in jaws to get relief from toothache. [Rajwar]

- In case of swelling or torsion on right side of stomach, warmed stem bark is kept on stomach to get relief. [Ganju]
- 27. ***Hygrophila auriculata* (K.Schum.) Heine** (Acanthaceae) Talmakhana. RKRM 115
 - Decoction of stem is taken twice daily in case of itchy skin eruption. [Ganju]
 - Root and stem are tied to the horns of animals in case of foot and mouth disease. [Bedia]
- 28. ***Lawsonia inermis* Linn.** (Lythraceae) Mehendi. RKRM 121
 - About 100 ml leaf juice is taken orally as a contraceptive. It is efficacious in preventing conception as long as the woman consumes it. [Karmali]
 - Equal amount of leaf, turmeric and catechu are crushed and the paste obtained in applied externally to cure Eczema. [Karmali]
- 29. ***Madhuca longifolia* (Koenig) Macbride.** (Sapotaceae) Mahua. RKRM 124
 - A glass of decoction of corollas is taken orally to treat dysuria till cure. [Birhore]
 - Flower decoction (20ml.) is taken twice daily for about 2 weeks for treatment of asthma. [karmali]
- 30. ***Mentha arvensis* Linn.** (Lamiaceae) Pudina. RKRM 130
 - Leaf decoction along with honey is given to treat insomnia and to increase appetite, generally at bed time. [Bedia]
 - Pinch of salt and few leaves of *Mentha arvensis* are mixed in tea and give it 4-5 times in a day to cure fever. [Bedia]
- 31. ***Moringa oleifera* Lam.** (Moringaceae) Munga. RKRM 137
 - About 50 g stem bark alongwith 50 g fruits of *Luffa acutangula* var. amara and 3-4 nuts of *Sapindus emarginatus* are boiled in 200 ml water and a cup of the concentrate is given orally to the victim of insect bites. [Rajwar]
- Bark of *Moringa oleifera*, *Ficus racemosa* and of *Syzygium cuminii* are crushed together and applied externally to cure blisters. [Ganju]
- 32. ***Oxalis corniculata* Linn.** (Oxalidaceae) Amrulsak. RKRM 152
 - Paste of plant with tuber of *Cyperus rotundus* (1g.) is mixed in half a glass of lukewarm water and is given twice daily for a week for chronic liver disorders associated with dyspepsia. [Bedia]
- Leaf juice is applied over cuts and wounds as antiseptic and occasionally dropped into eye to control redness. [Ganju]
- 33. ***Tribulus terrestris* Linn.** (Zygophyllaceae) Gokharu . RKRM154
 - The decoction of its roots with sugar and honey is administered in case of urinary tract disorders. [Munda]
 - Powder of whole plant with honey is very useful in case of male impotency. [Munda]
- 34. ***Urginea indica* Kunth.** (Liliaceae) Jungli Piyaz . RKRM 161
 - The juice of the bulb is given in the dose of 5 – 10 ml with palm jaggery in the conditions like continuous cough, bronchial ailments. [Birhore]
 - The paste of the bulb is applied over the soles before sleep to reduce burning sensation of the body and eyes. [Birhore]
- 35. ***Vitex negundo* Linn.** (Verbenaceae) Sindhuar. RKRM 162
 - Juice (5ml.) of fresh leaves mixed with a glass of lukewarm water is administered twice a day for one week in chronic liver problems associated with loss of appetite. [Bedia]
 - During reumatic pain, paste prepared from leaves of *vitex negundo*, *Pongamia pinnata* and *Eucalyptus globulus* boiled in sesame oil is applied externally on

body part with eucalyptus stick twice a day until cured. [Karmali]

36. *Withania somnifera* (Linn.) Dunal (Solanaceae)
Asgandh. RKRM 164

- Root extract (about 20ml.) taken orally once a day for about 15 days helps to arouse sexual desire in both men and women [Santhal]
- One tea spoonful of leaf powder is mixed with equal quantity of root powder and taken with a glass of milk twice a day on full stomach for one month in male sterility. [Santhal]

37. *Wrightia tinctoria* (Roxb.) R. Br. (Apocynaceae)
Dudhi. RKRM 167

- The leaves are applied as a poultice for mumps and herpes and sometimes, they are also munched to relieve toothache. [Karmali]
- The dried and powdered roots of *Wrightia* along with *Phyllanthus amarus* and *Vitex negundo* is mixed with milk and orally administered to women for improving fertility. [Oraon]

DISCUSSION

The present paper deals with 73 different ethnomedicinal prescriptions using 37 plant species of 36 genera belonging to 28 families. Out of these, 6 plant species are aphrodisiac in nature, 4 species each for curing various types of gastrointestinal problems and getting rid of various skin diseases. There are another 7 species taking care of various liver disorders and 3 each for curing asthma and anti-sterility followed by 2 species each for getting rid of urinary stone, relieving toothache, controlling dysentery and diarrhea, neutralizing scorpion sting and helping women folks during pregnancy and parturition respectively by the local Vaidyas and knowledgeable persons. It is also recorded that all these preparations are highly effective and without any side effect. These low priced traditional medicines are the only cost effective way for the treatment of majority population as they belong to economically

weaker sections and availing high priced allopathic medicine puts extra pressure on their pockets. Further research on herbal prescription may help in developing effective and curative drugs for proper health management.

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