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A SURVEY ON ETHNOMEDICINAL PLANTS USED BY TRADITIONAL HEALERS IN BULDANA DISTRICT (MS)

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ABSTRACT

District of Maharashtra state (India) has a rich biodiversity of medicinal plant species. An ethnobotanical survey was carried out in Buldana district, Maharashtra during June 2015 to December 2016 for documentation of various diseases knowledge acquired by the tribal communities. The tribal communities possess rich knowledge about medicinal plants and its uses as they are far away from modern facilities. Therefore, we have done an exhaustive ethnobotanical survey in this area. A list of 50 medicinal plants species are recorded, which are in practice by traditional healers of tribal communities. The traditional healers in this area use the wild as well as cultivated plants in the treatment of wounds. Documenting the indigenous knowledge through ethnobotanical studies is important the conservation and utilization of biological resources and for the wale fare of human being. The plants were identified with relevant information and are documented alphabetically with their botanical name, family, local name, parts used, mode of preparation and uses.

KEYWORDS: Traditional Medicinal Plants, Buldana District (M. S.), Korphad, Babhul.

INTRODUCTION

Forests are the sources of invaluable medicinal plant wealth since time immemorial. Tribal men's understand the prevention and curative characteristics of plants and started healthcare system. India's traditional systems of medicine are the part of cultures that attracted the attention of peoples today. Medicinal plants in meetings family's primary healthcare and nutritional needs are traditional which is found popular in all cultures.

From ancient time in human history the practice of using herbs to treat diseases dates back to the very earliest period. Due to constant intimacy with vegetation cover, primitive societies

have gained profound knowledge about the medicinal utilities of plants. They have full faith in them and in their time- tested medicines. These medicinal plants obviously need correct botanical identity and other scientific confirmation for the facts and acceptance. India lives in villages. The rural inhabitants and tribal primitive societies occupy a large part of Indian culture. There are 300 tribal communities which contribute the 8 percent of the total population of the country. There are 47 tribal communities in Maharashtra. The district Buldhana has considerable number of primitive people. The district has practically remaine untapped for ethnomedicinal studies. It, therefore, appeared important to study and document the traditional information in the study area urgently in detail for a wider application in future. The world is facing the problems of vegetation, loss of biomass and biological productivity, soil impoverishment, increase runoff and silting of water bodies, etc. On the onset of modernization, the forces of acculturation have increased tremendously which are depriving away the traditional knowledge of the primitive indigenous societies. Herbal medicines are in great demand in developed and developing countries in primary healthcare because of their great efficacy and little or no side effects. Realizing the floristic richness, diversity and a fact to get substantial information pertaining to the ethnomedicinal remedies, surveys have been conducted in 2016. Various corners of the districts. The results of our studies are being presented in this paper.

Study Area and People

Buldhana is one of the north-western district of Maharashtra state. It is situated between 19°51' and 21°17' north latitude and 75° 51' and 76°59' east longitude in Indian subcontinent (Map-I). The major part of the district is composed of rocks of Deccan Volcanic of Cretaceous-Eocene age and few many tributaries drain into these main rivers. The ranges of Satpura Mountain extend in the area. Most of the hill slops are covered with forest and scrub vegetation. The forest, in general, belongs to southern Tropical Dry Deciduous type. The reserved forest cover constitutes 1082.52 sq. km. and protected ones spread over 94.52 sq. km. Mixed forests are found in all parts. Teak, Anjan and Babhul form principal components of the vegetation alongwith other associates like species of *Diospyros, Pterocarpus, Lagerstroemia, Terminalia Anogeissus, Dendrocalamus,* etc. The district enjoys tropical climate with three distinct seasons *viz.* summer, rainy and winter.

The average rainfall annually is 796 mm. May is the hottest month with maximum temperature 47°C. December and January are the coldest months of the year with minimum

temperature 11°C. The humidity is more than 70% in the monsoon months. It is relatively low in the summer.

Agriculture is the main occupation in the district. Apart from major rural population, primitive societies like Dom, Ghasi, Kotia, Kaikadi, Kodi, Basor, Bedar, Balahi, Dohar and the various artisan caste people viz., Beldar, Panchal, Pathrats, Ghisadi, Lohar, Sutar, Kumbhar, Bhill, Kunabi, Shimpi, Dhobi etc. cohabit in the district.

Buldhana district extends between 19051′ and 21017′ north latitude and 75057′ and 76059′ east longitude with area of 9745 sq km. It is bounded on the north by Nimar district of state of Madhya Pradesh, whereas on the west, east and south is delimited by common boundaries with Jalgaon, Akola, Jalna, Parbhani and Hingoli districts of Maharashtra. Present authors investigated in Malkapur, Nandura, Motala and Khamgaon tehsils of Buldhana district.

Temprature and Rainfall

The district receives average annual rainfall 796 mm due to south west monsoon season. The rainy monsoonal season lasts from June to September, October and November being the post-monsoonal months. It rains normally for 47 days in a year. July is the rainiest month in the district. The relative humidity ranges between 25 to 30% in the afternoons in the summer. It is about 70% during the south-west monsoon.

Major period of the year is dry with the sky clear. Temperature fluctuates season-wise. December is the coldest month in the winter with mean daily temperature about 15 oC. Temperature rises rapidly after mid-February till May, May being the hottest month of the year. The temperature rises up to 47 oC in May.

Rivers

Chief drainage system is Purna and Penganga rivers with many tributaries like Katepurna, Nalganga, Vishwaganga, Banganga, Dhamna, Koradi, Mun, etc. The forests in the district are mainly ‘Southern Tropical Dry Deciduous’ type. There are reserved forests (about 1082 sq km) and protected forests (94.52 sq km) in the district. Main tree species belong to *Acacia, Tectona, Hardwickia* and *Boswellia,* which are associated with the species of *Terminalia, Eugenia, Lagerstroemia, Wrightia, Anogeissus, Diospyros, Salmalia, Pterocarpus*, etc.

In general, the district is agrarian and inhabited by various sects of religion and castes. They speak Marathi, the state language, apart from their own dialects. Besides the rural folks, the

conglomerate of tribals and other scheduled caste people cohabit the area under study such as Bedar, Dohor, Dom, Ganda, Ghasi, Kaikadi, Kotia, etc. The artisan caste people like Sutar, Lohar, Beldar, Kumbhar, Panchal, Pathrats, Rangari, etc also form integral part of the society.

Data Collection

Structural interviews were conducted as well as open discussions with the informants following the method suggested by Jain (1987). The area under study included Malkapur, Khamgaon, Nandura and Motala tehsils of Buldhana district. The area was investigated during 2016. Prior to initiation of actual field work, rapport was established with few persons preferably the chief of a community, village or hamlet in the study area. Contact was then established with other informants, whether tribal or rural, and their guidance was sought. The author acknowledged well with social standing, geography and such other essential aspects, besides the local language and dialects Experienced people usually ranging between 50-65 years of age, healers, medicine-men and women, headmen, elder farmers and farm labourers, etc.

A discussion about a particular herb with different informants from different localities tended to be more cooperative to suffice various queries. A special diary was prepared to jot down the information with respect to plant/plant part or product used, local plant name, disease treated, method of preparation of medicine and its administration, dosage, age and sex of the patients to be treated, etc. Also, personal observations on different visits or occasions were particularly helpful for verification of the data provided by the aforesaid informants and patients treated from different places. Thus only specific and reliable information cross-checked with 5 to 8 informants have been incorporated in the present investigation.

METHODOLOGY

The area under study was visited during 2016. Regular visits per week were paid in different seasons. Usually heads of different rural and tribal communities, local medicinmen, elder persons, etc. were interviewed. The data obtained is noted using a specially prepared questionnaire and also open discussion in different localities were held. Actual personal observations were also made during field studies. Information regarding the plants and parts or products, uses, local plant names, diseases, ethnomedicinal recipes, administration, etc. was documented. It was confirmed during subsequent visits. The voucher specimen were collected and identified by using various state, regional and district floras. The herbarium specimens have been housed in the herbarium of the department of our college. The ethnomedicinal claims from the study area are compared with Indian classical literature to earmark new reports.

Table 1: Herbal Plants Are Used in Buldana District By Traditional Healer.

Sr. No	Botanical Names	Local Names	Plant Part	Traditional Herbal Remedy for Some Disease
1	***Adhatoda zeylanica*** Medic. (Acanthaceae)	Adulsa	Leaves	Leaf poultice is applied on knees topically once at night for 5-6 days for relieving rheumatism and arthritis.
2	***Brassica nigra*** (L.) Koch. (Brassicaceae)	Kali-mohari	Seed	A cup of seeds boiled for 2-3 minutes in 100 ml of erand (*Ricinus communis*)seed oil and two tsp each of Mohari, (*Brassica compestris*) and Til (*Sesamum indicum*) oil, with 3-4 tsp of lasun (*Allium sativum*) cloves extract is massaged on the back and knees once daily at night before going to bed for 10-12 days to relieve rheumatism
3	***Cardiospermum helicacabum*** Linn. (Sapindaceae)	Kapalfodi	Leaf	An extract from Aatpav (about 100gm) of fresh leaves in water is mixed with an equal quantity of rice and mungbean flour to prepare chappatis and fed to oxen and He- buffaloes once a day in early morning in empty stomach up to 18-20 days to relieve pains due to arthritis and rheumatism
4	***Aloe barbadensis* {Liliaceae}**	Korpad	Leaves	Leaf latex warmed slightly and few drops of it are added into ears to avoid pus formation during ear -ache
5	***Carica papaya*** {Caricaceae}	Papai	Seeds	Infusion of few seeds, about spoonful, is administered to kid suffering from intestinal worms
6	***Emblica officinalis*** {Euphorbiaceae}	Awala	Leaves	Dried leaves are rosted, powdered and made into paste usig coconut oil. It is applied on burns, blisters and injuries daily till cures
7	***Aegle marmelos*** (L.) Corr. (Rutaceae)	Bel	fruits	Pulp of ripe fruits, about 15-20 gm, is consumed daily once to control dysentery till cure.
8	***Annona squamosa* L.** (Annonaceae)	Sitafal	Seed	Seed powder is homogenized with jaggery. A spoonful of it is consumed before meal for seven days to kill intestinal worms.
9	***Barleria prionitis* L.** (Acanthaceae)	Kate-Koranti	leaves	Few leaves are chewed and then gargled with whey to cure mouth ulcer. It is practiced 2-3 times daily till cure.
10	***Citrus aurantifolia* (Christm.)** (Rutaceae)	Limbu	Leaf	Leaf extract is applied in case of itching.
11	***Hibiscus rosa-sinensis* L.** (Malvaceae)	Jaswand	leaf	A spoonful of leaf juice is drunk twice daily to treat dysentery till cure.
12	***Jasminum officinale* L.** (Oleaceae)	Chameli	leaves	Fresh young leaves are chewed, saliva however is spat after chewing. This

				cures mouth ulcer.
13	***Lawsonia inermis* L.** (Lythraceae)	Mendhi	Leaf	Leaf paste is applied daily on foot-hill to heal cracks for 5-6 days.
14	***Mangifera indica* L.** (Anacardiaceae)	Amba	Gum	Gum is diluted in water. It is applied daily to cure deformations on foot sole.
15	***Momordica charantia* L.** (Cucurbitaceae)	Karle	leaf	A cup of leaf juice is administered daily for few days as intestinal wormicide.
16	***Kalanchoe pinnata* (Lamk.)** Pers. (Crassulaceae)	Panphuti	leaf	Half cup of leaf juice is administered for few days to regularizes menstrual cycle.
17	***Moringa oleifera* Lamk.** (Moringaceae)	Shewga	leaves	Bark powder and leaves are made into paste. It is applied on joints for a week to treat rheumatic pains.
18	***Murraya koenigii* (L.) Spreng.** (Rutaceae)	Kadhi-patta	bark	Decoction of inner bark, about a cup, is drunk daily once to treat fever till cure.
19	***Nerium indicum* Mill.** (Apocynaceae)	Kanher	Leaf	Leaf ash is homogenized with coconut oil. It is applied on burns daily till cure.
20	***Ocimum basilicum* L.** (Lamiaceae)	Sabja	leaf	Few drops of leaf extract are added into ears to check ear-ache.
21	***Ocimum tenuiflorum* L.** (Lamiaceae)	Tulsi	leaf	(i) Few drops of leaf extract are poured into ears to check ear-ache. (ii) Leaf powder and clove powder are made into paste. It is filled in tooth cavities to reduce tooth-ache.
22	***Plumeria alba* L.** (Apocynaceae)	Chapha	Flower	Flower paste prepared in coconut oil is applied daily for treating scabies till cure.
23	***Psidium guajava* L.** (Myrtaceae)	Jam, Peru	Leaf	Leaf decoction is gargled to check tooth-ache.
24	***Punica granatum* L.** (Punicaceae)	Dalimb	Leaf	Leaf decoction is gargled against mouth ulcer.
25	***Sapindus emarginatus* Vahl** (Sapindaceae)	Ritha	Fruit	Fruit paste is applied after scorpion sting to reduce pains.
26	***Sesbania grandiflora* (L.) Poir** (Fabaceae)	Hadga	flower	A cup of flower extract is administered to a patient suffering from hepatitis. It is followed daily once till cure.
27	***Syzygium cumini* (L.) Skeels** (Myrtaceae)	Jambhul	seed	A spoonful of seed powder consumed daily once with milk to treat diabetes till cure.
28	***Targetes patula* L.** (Asteraceae)	Zendu	flowers	Few receptacles of inflorescence are eaten to lessen nausea.
29	***Terminalia catappa* L.** (Combretaceae)	Deshi Badam	Leaves	Leaves are warmed and wrapped around joints to check joint-ache.
30	***Abutilon indicum* L.** Malvaceae	Dabba, Atti	fruit	Powder of dried fruit homogenized with coconut oil, applied on joints for 10-15 days to treat join ache.
31	***Acacia leucophloea* (Roxb**.) Willd.	Hiwwar	fruit	Paste of green fruit prepared using cow-urine, applied on injury daily

	Mimosaceae			once.
32	***Acacia nilotica* (L.) Willd.** Mimosaceae	Babhul,Teli Babhul	leaves	Powder of dried leaves mixed with alum (10:1 proportion) used while cleaning tooth to treat tooth ache and remove foul smell of mouth.
33	***Aerva lanata* (L.)Juss.** Amaranthaceae	Juss	Leaves	Spoonful of leaf extract orally administered twice daily for 3 days to cure malaria and typhoid.
34	***Amaranthus hybridus* L.** Amaranthaceae	Rajgira	root	Pellets (About 5 gm each) prepared from root paste, 2 pellets advised daily for 7 days to check acidity.
35	***Annona reticulata* L.** Annonaceae	Ramphal	leaf	A spoonful of leaf extract prepared in cow milk drunk against liver-complaints once daily for 7-8 days.
36	***Annona squamosa* L.** Annonaceae	Sitaphal	fruit	Two spoonful of powder of dried fruit and honey (1:1 proportion), consumed twice daily for 24 days to treat asthma.
37	***Argemone mexicana* L.**Papavaraceae	Satyanashi	roots	Fumes obtained after burning dried roots passed on wounds caused due to piles daily once for 3-4 days.
38	***Aristolochia bracteolata* Lamk.** Aristolochiaceae	Gindiyan	Leaf	Leaf extract, 2-3 drops, dropped into ears to check pus formation daily once for 4-5 days.
39	***Asphodelus tenuifolius* Cav.** Liliaceace	Zar-kanda	leaves	Coconut oil applied on leaves, then warmed and wrapped around suppurating tumor for 3-4 days.
40	***Balanites aegyptiaca* (L.) Del.** Balanitaceae	Hengan-beth	fruit	Pulp of one fruit and a betel leaf consumed daily for few days against cough.
41	***Barleria prionitis* L.** Acanthaceae	Kate-Karote	leaves	Young leaves (4-5) chewed twice daily to cure mouth ulcer till cure.
42	***Butea monosperma* (Lamk.) Taub.** Fabaceae	Palas	fruits	Green fruits dried and powdered alongwith seeds of *Tectona grandis* L. (3:1 ratio by weight), paste applied on abdominal region daily once for 3 days to check flatulence.
43	***Cassia obtusifolia* L.** Caesalpiniaceae	Tarota	seed	Bread prepared from seed powder consumed daily once for 7 days to treat joint ache.
44	***Cucumis colossus* (Rottl.)** Cucurbitaceae	Dendolya	Leaf	Leaf paste applied on wounds daily once till cure.
45	***Curcuma amada* Roxb.** Zingiberaceae	Ambehalad	Rhizome	i)Dried rhizome powdered, 3-4gm powder with equal quantity of sugar mixed in wheat flour, pellets prepared and consumed at morning daily for 7-8days or more to treat rheumatism. ii) Rhizome powder mixed in coconut oil, applied on inflamed body part once daily till cure.

46	***Euphorbia millii* Desmoul** Euphorbiaceae	Katyathor	Stem	Stem baked in a hot ash and then extracted, a spoonful extract twice daily drunk for 3 days to check cough.
47	***Hardwickia binata* Roxb.** Caesalpiniaceae	Anjan	Leaves	Leaves baked, paste prepared in coconut oil applied daily once on burns for 7-8 days.
48	***Jasminum sambac* (L.) Ait.** Oleaceae	Mogra	Leaves and flowers	Leaves and flowers (1:1 by weight) extracted together, applied against scabies and also etching once daily till cure.
49	***Lablab purpureus* (L.)** Fabaceae	Wal	Leaves	Paste of leaves of this plant and also of *Lawsonia inermis* L. homogenized thoroughly in 1:1 ratio, applied on head for proper hair growth.
50	***Lagerstoemia parviflora* Roxb.** Lythraceae	Bondara	Leaf	Leaf paste applied once daily on wounds for 5-6 days.

Summary

During our ethnobotanical forays 50 plant species representing 50 genera and 45 families are documented as traditional medicine in Buldhana district (Table 1). The eight families Mimosaceae, Asteraceae, Amaranthaceae, Papilionaceae, (Fabaceae), Lamiaceae, Euphorbiaceae, Solanaceae and Combretaceae contain three species each associated with the treatment of diseases noted. These are seven families *viz.*, Malvaceae, Annonaceae, Papavaraceae, Euphorbiaceae, and Oleaceae with two species each useful ethnomedicinally. In the majority of families only one species are used from each. All the three useful species belong to a single genus *Terminalia* (Combretaceae), whereas other genera with three species useful belong to either two genera each or three genera each. The highest number of plant species documented as being used to combat single disease problem are recorded for cough followed by joint-ache, wound, asthma, piles and hepatitis. Similarly, disease problem such as injury, mouth ulcer, rheumatism, burns, urinary stone and tooth-ache are treated each with two species and 21 diseases are cured by one species each in the area studied. The 50 species are found associated with total 69 use-reports. It is interesting to note that the leaves were the most commonly used part (35 use-reports), comprising nearly 50 % of the usereports. This is followed by fruits (08 use -reports) and roots (08 use-reports), seeds (07 use-reports), and flowers (06 use reports). Stem has just two use–reports, whereas bark and rhizome had one use–report each. In one case only, the latex of the leaves was employed. The trees and herbs are the dominant growth forms among the plant species recorded.

CONCLUSION

It's ample clear that the people of Buldhana district are medicinally knowledgeable. Fairly, rich heritage of knowledge of medicinal plants of the local people is revealed by this investigation. The obvious forces of acculturation and biotic interference warrant conservation of their knowledge. However, studies on scientific lines such as chemistry of species used, their biological activities, clinical trials, etc. are the need of hour. Such further studies will help develop new drugs in future.

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