

Ethnobotanical study of medicinal plants in forest region of Chimur Tahsil, Chandrapur District, Maharashtra

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ABSTRACT

An ethnobotanical survey was carried out among the tribes to identify folk medicines used for the treatment of various ailments in Chimur tahsil of Chandrapur district, Maharashtra. During the year 2013-2014, visited to tribal settlements, and interviewed to medicine men, Mukhia, Vaidus and some experienced persons. Information on plant species used by these tribal for treatment of various diseases was collected. The study was focused on identifying the medicinal plants, plant parts used and disease treated. Total 49 plant species have been recorded during the survey which belongs to 49 genera and 30 families used as a medicine in the health care treatment. It is also recorded that the tribes of forest region of Chimur tahsil were consuming various plant parts mostly the leaves (25%) and roots (24%) curing various diseases.

Keywords- Ethnobotanical, wild plants, Medicinal value, Maharashtra

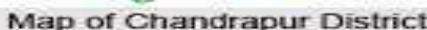
INTRODUCTION

On a global scale, the current dependence on traditional medicine system remains high, with the majority of world population still dependent on medicinal plants to fulfill most of their healthcare needs. It is estimated that about 64% of the total global population depend on traditional medicines [1-2]. Nearly 8000 plants species have been recognized as the plant of ethnobotanical importance [3]. Ethnobotanical studies are often significant in revealing locally important plant species especially for the discovery of crude drugs. Right from its beginning, the documentation of traditional knowledge, especially on the medicinal uses of plants, has provided many important drugs of modern day [4-5].

India is one of the twelve mega-biodiversity countries of the World having rich vegetation with a wide variety of plants with medicinal value. In many countries, scientific investigations of medicinal plants have been initiated because of their contribution to healthcare. Herbal medicines have good values in treating many diseases. These medicines can save lives of many particularly in the developing countries [6]. Since ancient times, plants are used as medicines, food, insecticides etc. by large population living in the remote areas. The tribal have developed their own traditional knowledge related to plant medicine. It is therefore very important to preserve and protect the traditional knowledge and also to establish a digital data base of traditional medicine.

Chimur tahsil in Chandrapur district of Maharashtra is one of the places in India where, lots of people used herbal medicine for primary health care. Chimur town is the head quarters of Chimur tahsil which is located 70 km towards North from district head quarters Chandrapur. Chimur is located at coordinates 20° 29' 49" North and 79° 22' 36" East. Total population of Chimur tahsil is 1, 56,772. It is too hot in summer the highest day temperature is in between 31 ° C to 49° C. The famous Tadoba Andheri Tiger Project and National Park is at a distance of 30 km from Chimur. Most of the regions are covered by the forest in Chimur tahsil. Chimur areas are covered with Semi evergreen forest inhabited by the rural population of tribal people (Gond). In this forest region lot of medicinally important plants are found which are used by the tribal people for curing various diseases. This study will help to store and retrieve the information on traditional knowledge for the benefit of mankind.

Information on various medicinal plants was collected during the year 2013 - 2014 through field surveys in different remote villages of the Chimur tahsil in Chandrapur district. The following map shows chimur tahsil located in chandrapur district.



The questionnaires were prepared to identify the indigenous knowledge of plant-based remedies from local people. Information was gathered through semi-structured interviews that were held with selected knowledgeable elders. At the end of each interview, the plant specimens were collected, dried by using routine botanical collection and herbarium techniques, identified and preserved [7]. Samples of recorded herbs, shrubs and trees were identified with the help of local floras and previous works [8-10]. Plant based remedies have presented with botanical name of species followed by family, local name, parts used and ethno medical uses.

RESULTS AND DISCUSSION

It is evident that many valuable herbal drugs have been discovered by knowing particular plant was used by the ancient folk healers for the treatment of some kind of ailment [11]. In the present investigation, ethonobotanical observations in forest region of Chimur tahsil, Chandrapur district, Maharashtra state were listed in table-1.

After the extensive survey of ethnomedicinal plants in the Chimur tahsil of Chandrapur district of Maharashtra it was reported that total 49 plant species belonging to 47 genera and 30 families were used as a medicine in the health care treatment (Table no.1) and all these plants were found to be high medicinal values. The most of the plant species reported were used for curing some of the important and common diseases such as permato-urea, asthma, diarrhea, dysentery, piles, wounds, jaundice, pneumonia, worm infection, arthritis, diabetes, diuretic, stomach disorder, snakebite, rheumatism, skin inflammation, eye disorder, bone fracture, ulcer, typhoid, epilepsy, swelling, injury etc. The different plant parts used as medicines in reported studies were leaves (25%), followed by roots (24%), fruits (15%), stem bark (14%), whole plant (9%), seeds (8%) and flower (5%) as shown in Fig 1.

Table no.1- List of the medicinal plants used by the tribes in forest region of Chimur tahsil, Chandrapur district, Maharashtra

Sr. No.	Botanical name	Family	Local name	Part used	Medicinal uses
1.	<i>Abutilon indicum</i>	Malvaceae	Shikuli	Leaves	Leaves are used cure to permato-urea.
2.	<i>Achyranthes aspera</i> (L.)	Amaranthaceae	Kutri	Roots	Root extract used in piles, wounds, jaundice, asthma, pneumonia and it is used as anthelmintic.
				Seeds	Seeds used in sinus and stomach disorder.
				Whole plant	While total plant extract is used in snakebite.
3.	<i>Adhatoda vasica</i> (L.)	Acanthaceae	Adulsa	Leaves	Leaves decoction used in asthma, diarrhea, dysentery, fever, vomiting, cough and as throat emollient.
				Flower	Flowers are used in eye disorder.
				Roots	Root extract is used in stiffness of neck.
4.	<i>Aegle marmelos</i> (L.) Corr.	Rutaceae	Bel	Fruits	Fruit pulp is used to cure diarrhea and dysentery.
5.	<i>Amorphophallus campanulatus</i>	Araceae	Suran	Tuber (Roots)	Tubers are used to cure piles, arthritis and it is used as anthelmintic.
6.	<i>Andrographis paniculata</i> (Burm. F.) Wall Ex. Nees	Acanthaceae	Bhui-neem	Whole plant	Whole plant used in diabetes, itches, cholera and piles.
				Leaves	Leaf extract used in malaria, fever, stomach pain and dysentery.
7.	<i>Anogeissus latifolia</i> Bedd.	Combretaceae	Dhavda	Stem bark	Bark extract is used in skin inflammation, itching, whooping cough, vomiting and diarrhea.
8.	<i>Barleria tetraacantha</i>	Acanthaceae	Katekorta	Leaves & Roots	Leaves and Roots are used in arthritis.
9.	<i>Bombax ceiba</i> Linn.	Bombacaceae	Katesaori/ cotton tree	Stem bark	Bark is used to cure permato-urea.
10.	<i>Butea monosperma</i> (Lam.)	Fabaceae	Palash	Flower	Dried flowers soaked in water and used for taking bath for preventing sunstroke.
				seeds	Seeds used in diarrhea and diabetes.
11.	<i>Caesalpinia bonduis</i> (L) Rox b	Caesalpinaceae	Sagargoti	Fruits	Fruit are used as an anthelmintic.
12.	<i>Canthium dicoccum</i> (Gaertn) Teijsm & Binn	Rubiaceae	Ursud	Roots	Root decoction is used as a hair perfume.
13.	<i>Cassia fistula</i> L.	Caesalpinaceae	Bahawa	Beans (Fruits)	The flesh of the fruit is used as a laxative and anthelmintic.
				Stem bark	Bark is used in skin infections.
				Leaves	Few drops of leaf juice are dropped in ears twice a day for earache.
14.	<i>Cayratia trifolia</i>	Vitaceae	Tipankanda	Roots	Root paste is applied on leg swelling.
				Seeds	Seeds along with extract of tubers are used raditionally for the treatment of diabetes.
				Whole plant	Whole plant is used in diuretic.
15.	<i>Ceriscoides turgida</i> (Roxb.) Tirveng	Rubiaceae	Pandhara Fetra	Roots	Roots are used in jaundice and fever.
				Stem bark	Stem bark are used to cure epilepsy, mental disease and jaundice.
16.	<i>Citrullus colocynthis</i>	Cucurbitaceae	Indrayan	Seeds	Seeds powder used as an anthelmintic.
17.	<i>Clerodendron infortunatum</i>	Verbenaceae	Khanduchakka	Leaves	Leaves are used in injury and bone joining.
18.	<i>Clerodendrum phlomis</i>	Verbenaceae	Pandhari Thakari	Leaves	Paste of leaves apply on swelling, arthritis and itching.
19.	<i>Cochlospermum religiosum</i> (L.)Alston	Cochlospermaceae	Gongal	Roots	Roots are used to cure jaundice in kids.
				Flower and Leaves	Dried flower and leaves are used as stimulant.
20.	<i>Cyperus rotendus</i>	Cyperaceae	Nagarmotha	Roots	Root paste used for treating hair problem.
21.	<i>Diospyros montana</i> (Roxb.)	Ebenaceae	Vik-Tembhur	Roots	Roots are used in permato-urea.
22.	<i>Eclipta prostrate</i>	Asteraceae	Mayka	Leaves	Leaves paste is applied on injury.
23.	<i>Ficus benghalensis</i>	Moraceae	Vad	Fruits	Fruit latex is used to cure diarrhea, dysentery, nausea, toothache and leucorrhoea.
24.	<i>Gloriosa superba</i> L.	Liliaceae	Karkari	Roots	Pain in leg joint, roots and leaves used as an antidote for snake bite, as a laxative, chronic ulcers, arthritis, cholera, colic, kidney problems and to induce abortion.
25.	<i>Helicteres isora</i> L.	Sterculiaceae	Murad sheng /Atai	Fruits	Filtered fruit Juice is used to cure stomach-problem, stomachache, dysentery.
26.	<i>Kirganelia reticulate</i>	Euphorbiaceae	Pitundi	Whole plant	Whole plant used as a stimulant, astringent, antidote for snake bite.
				Leaves	Cure diarrhea & diuretic.
27.	<i>Lannea coromandelica</i> (Hout.) Merr.	Anacardiaceae	Mowai	Stem bark	Paste of stem bark is applied on injury.
28.	<i>Madhuka indica</i>	Sapotaceae	Moh	Fruits,Seeds & Flower	Digestion, astringent, Appetizer and cough.
29.	<i>Morus alba</i>	Moraceae	Saitush	Leaves	Help for conceive pregnancy.
				Fruits	Fruits are used to treat constipation and diabetes
				Stem bark	The bark is used to treat cough, wheezing, edema, and to promote urination. It is also used to treat fever, headache and red dry and sore eyes.
30.	<i>Ocimum americanum</i>	Lamiaceae	Asta	Leaves	Cure jaundice and fever.
31.	<i>Opuntia dillenii</i>	Cactaceae	Nagphani	Stem bark and pulp of leaves	Cough, Elephantiasis, inflammation of thigh and wound.
32.	<i>Peltophorum pterocarpum</i>	Caesalpinaceae	Chilati	Leaves	Leaves paste is apply on itching.
				Stem bark	Bark is used to treat wounds.
33.	<i>Pterocarpus marsupium</i> Roxb.	Fabaceae	Karangipipal	Leaves and Stem bark	Leaves and bark is used in arthritis.
34.	<i>Pueraria tuberosa</i> (Rox ex.wild) DC	Fabaceae	Bhuikowda	Roots	Root decoction is used as a tonic.
35.	<i>Tamilnadia uliginosa</i> (Retz.)	Rubiaceae	Kala Fetra	Roots	Root is used to cure typhoid and fever.

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36.	<i>Sida acuta</i>	Malvaceae	Chikna	Roots	Root infusion is used in bronchial asthma, cold, flu, dysentery, stomach pain, headache, and nasal congestion.
37.	<i>Solanum nigrum</i>	Solanaceae	Amoni Kamoni	Leaves	Leaf juice is used in dysentery, stomach problem, itching and swelling.
				Fruits	Fruit is used for curing cough, asthma, throat diseases, skin diseases and jaundice
38.	<i>Sonchus asper</i> (L.) Hill	Asteraceae	Ringni	Leaves	Leaf juice is used in cough, rheumatism and fever. It is also used as an antihelmintic and as a blood purifier.
39.	<i>Sphaeranthus indicus</i> L.	Asteraceae	Gorakhmundi	Whole plant	Used for Strongness and cure dysentery.
40.	<i>Strychnos potatorum</i>	Loganiaceae	Kavi	Roots	Root paste is used for cure skin-itching and ulcer.
				Seeds	Cure cough, eye disease and dysentery
41.	<i>Terminalia bellerica</i> Roxb.	Combretaceae	Behda	Fruits	Fruits are used as tonic and indigestion, fruit powder mixed with honey used as laxative and used for treating cough & used for proper blood circulation.
42.	<i>Terminalia chebula</i> Retz.	Combretaceae	Hirda	Fruits	Fruits are used as laxative, purgative, cough, piles, astringent, stomachic and healing of wounds and scalds.
43.	<i>Tridax procumbens</i> L.	Asteraceae	Kamarmodi	Leaves	Leaf paste used for cure injury, wound, pain, Ulcer and scorpion bite.
				Whole plant	Whole plant made in to paste and taken orally in diarrhea.
44.	<i>Viscum articulatum</i>	Viscaceae	Vanda Tembhur	Whole plant	Help for bone-joining and is applied on cuts.
45.	<i>Vitex negundo</i> L.	Verbanaceae	Nirgundi	Leaves	Leaf extract used in rheumatoid arthritis and fever.
				Roots	Cure epilepsy.
46.	<i>Withania somnifera</i> (L.)	Solanaceae	Ashwaganda	Roots	Root decoction used in piles, cough, fever & Stress. Increase fertility in women for conception.
47.	<i>Woodfordia fruticosa</i> (L.) Kurz	Lythraceae	Lal zilbuli	Roots	Roots used to cure typhoid.
48.	<i>Wrightia antidysenterica</i>	Apocynaceae	Pandhara kuda	Beans (Fruits)	Fruits used for dysentery.
				Inner bark	Increase mother milk.
49.	<i>Wrightia tinctoria</i> var. <i>rothii</i> (G. Don) Ngan	Apocynaceae	Karakuda	Beans (Fruits)	Fruits used as an antihelmintic.
				Stem bark	Abdominal pain, skin diseases, wounds, anti-dysenteric, anti-diarrheal and as an antidote for snake poison

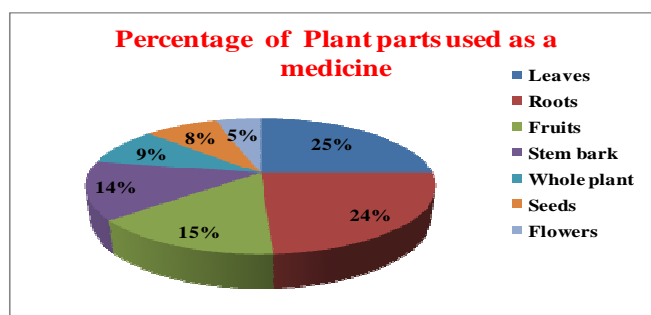


Fig.1: Percentage of plant parts used as a medicine

The tribal settlements are generally in remote areas of forest. The prevalence of diseases can be attributed due to the unhygienic condition, lack of clean drinking water and continuous exposure to the environment. The tribal do not get in time and proper treatment even for common diseases. Therefore, for the treatment they mostly rely on easily available traditional herbal medicine.

CONCLUSION

The tribes of forest area of Chimur tahsil, Chandrapur districts using number of medicines of plant origin. They are consuming various plant parts mostly the leaves (25%) and roots (24%) for curing various diseases related to permato-urea, asthma, diarrhea, dysentery, piles, wounds, jaundice, pneumonia, jaundice, worm infection, arthritis, diabetes, diuretic, stomach disorder, snakebite, rheumatism, skin inflammation, eye disorder, bone fracture, ulcer, swelling and injury.

The further investigation related to the phytochemical and pharmacognostical can validate the claims of the tribes regarding the medicinal utilities.

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