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Ethnobotanical survey of Palghar and Thane district, Maharashtra (India)-III

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ABSTRACT

Background: India is rich in ethanobotanical knowledge which is inherited from generation to generation among tribal people since ancient time. But the traditional knowledge system in India is rapidly neglecting and there is an urgent need to record all ethnobotanical information from the diverse ethnic communities before they completely lost. An ethno-botanical survey was carried out in some part of Thane now Palghar district, Maharashtra to procure endogenous knowledge from local and tribal people about their medicinal uses.

Material and Methods: The indigenous knowledge of aborigine people was documented through questionnaires and personal conversation. Plants were identified and arranged as botanical name, family name, local name, useful part and formulation used to cure various ailments.

Results: During the study 51 plant species belongs to 37 families used to cure various ailments were recorded. They are being used to cure various common diseases like jaundice, body pain, loss of appetite, asthma, fever, headache, wound healing, vomiting, skin diseases, scorpion bite, cough, cold, to stop bleeding, piles, dental problems, liver disease, hair problems, etc.

Conclusion: Documentation of ethno-medicinal knowledge from aborigine or tribal people may help for the formulation of new drugs to cure different ailments.

Key words: Ethanobotany, ailments, jaundice, piles, Palghar, tribes.

INTRODUCTION

Ethanobotanical study deals with the direct traditional and natural relationship between human and plants. It playing important role in addition of information about the plants grow and used by native or diverse ethnic communities. India is rich in ethanobotanical knowledge which is inherited from generation to generation among tribal people since ancient time. But the traditional knowledge system in India is rapidly neglecting and there is an urgent need of hour to record all ethnobotanical information from the diverse ethnic communities before they completely lost the ethnomedicinal information. Now a day tribe is being exploited by modern societies and they are forbidden to use the natural resources. These people live close to the forest and dependent on the natural resources for their live hood. They employ various plant parts like leaves, root, bark, seed and fruits etc. to make themselves comfortable and prepare simple formulations either individual or in combinations of two or more plant resources, which are easily available. Presently, ethnobotany has become increasingly valuable in the development of health care and conservation programs in different parts of the world. The total 4, 20,000 flowering plants documented from throughout world; out of which more than 50,000 are used for medicinal purposes. In India, more than 43% of the total flowering plants are known for medicinal purpose (Sharma et al. 2012).

Thane is highest populated district of India (As per 2011 census). This is situated in the western part of India (Maharashtra state). It is coordinate 19^0 10' 21" N $72^0$57'25" E between $18^0$42N to $20^0$21 N latitude and 72^0 45 E to 73^0 48' E longitude. In August 2014 new district has been formed Palghar. Both district is a home land of various tribal community followed by different indigenous ethnic groups and subgroups. More than 1.5 million people living are tribal such as Varali, Kokana, Mahadev Koli, K-Thakur, etc.

These tribal or aboriginal people use the plants according to their knowledge either gained by

experience or taught by their ancestors and belief healing properties for various ailments, role in religious and social ceremonies which are manifested in their folk behavior. Thus indigenous community may guide directly or indirectly for preparation of new formulation of medicinal drugs in various form to treat different ailments.

Ethnobotanical survey has been carried out throughout the world (Yadhav and Verma 2010; Meena et al., 2013; Sharma et al. 2012, Khan 2013). Only some part of Thane (Palghar) district was selected for the study as Wada, Bhiwandi, Jawhar, Vikramgad, Mokhada and Dahanu. Most of the Tribal people are living in these tehsils except Bhiwandi. According to WHO, about 80% population of world rely on traditional medicinal for their primary health care needs. These medicines have fewer side effects and men can get it easily from nature. By keeping in mind this survey has been carried out during 2013-14.

MATERIALS AND METHODS

Extensive field survey of ethanomedicinal plants had conducted in selected area during 2013-2014. Information was documented through personal interaction, conversation, discussion during the field visit with Vaidyas, locals' traditional practitioners, aged men, women, local healers, etc. While ethnomedicinal plants were collected and correctly identified by referring standard literature (Almeida 2003, Naik, 2004). The information regarding identification, mode of administration of crude drug, local name, useful parts, methodology for preparation of crude drugs and time of collection were also recorded and documented.

RESULTS

Ethnomedicinal plants were correctly identified and arranged as botanical name, family name, local name, useful part and formulation used to cure various ailments as follows:

1. *Ricinus communis* L.

Family : Euphorbiaceae

Local name : Airand

Part used : Leaves

Leaf extracts mix with cow milk given to jaundice patient only one time in a week. Leaves placed on head of child to reduce fever.

2. *Bauhinia racemosa* Lamk.

Family : Caesalpinaceae

Local name : Aapta

Part used : leaves

Seven leaves chewing cure burning sensation. Eating of two leaves and spreading of leaves over scorpion bite site from upward to downward for relief in pain.

3. *Datura metel* L.

Family : Solanaceae

Local name : Dhotra

Part used : Leaves

Leaf extract applied over tumor.

4. *Crinum asiaticum*

Family : Amaryllidaceae

Local name : Lili/ Nagdauna

Part used : Leaves

Leaves are heated in pots and from them leaf extracted. Cooled extract (1-2 drops) pour in ear for ache.

5. *Ficus religiosa* L.

Family : Moraceae

Local name : Pimpal

Part used : leaves and fruit

Seed powder is given to person suffering from difficulty in speaking. Boiled leaves juice drinking cure jaundice.

6. *Syzygium aromaticum* Merr Perr.

Family : Myrtaceae

Local name : Lavang

Part used : flower buds

Place clove on the teeth for relief from toothache.

7. *Cassytha filiformis* L.

Family : Cassythaceae

Local name : Amarvel

Part used : entire plant

Drinking of extract of doddar and zinger with sugar cure loss of appetite.

8. *Ananas comosus*

Family : Bromeliaceae

Local name : Ananas

Part used : Fruits

Eating of fruit liquidify hair in stomach.

9. *Zingiber officinale* Rose

Family : Zingiberaceae

Local name : Aale

Part used : Rhizome

Eating of zinger treated with salt clear phaningitis.

Rhizome paste is applied externally on skin during fever bronchial asthma. It is useful in digestion pile, stomachache and toothache.

10. *Vitex negundo*

Family : Verbenaceae

Local name : Nirgudi

Part used : Leaves

Tender parts of leaves are used in water bath for relief from back pain.

11. *Clematis heynei*

Family : Ranunculaceae

Local name : Morvel

Part used : Leaves

Leaves extract using over ringworm.

12. *Colocasia esculenta*

Family : Azaceae

Local name : Alu

Part used : Leaves

Eating as vegetable to clear bowel habit (i.e. urine defect).

13. *Benincasa hispida* Thunb.

Family : Cucurbitaceae

Local name : Kohala

Part used : leaves

Drinking of leaf extract with sugar stop blooding through nose.

14. *Raphanus sativus* L.

Family : Brassicaceae

Local name : Mula

Part used : leaves

Leaves extract with vegetable oil is given to the patient of pile.

15. *Allium sativum* L.

Family : Alliaceae

Local name : Lasun

Part used : Bulb

Eating of garlic with vegetable oil is helpful for indigestion; only eating garlic joint the fractured bones.

16. *Coriandrum sativum* L.

Family : Apiaceae

Local name : Dhana

Part used : leaves and seed

Take a tea of coriander daily for loss of an appetite.

17. *Acacia arabica*

Family : Mimosaceae

Local name : Babli

Part used : Bark

The bark is crushed and kept on teeth during toothache. The bark is used as toothpaste ingredient.

18. *Acorus calamus*

Family : Arecaceae

Local name : Vekhanda

Part used : root and stem

The root and stem is crushed on the stone with honey and ghee and taken orally to reduce infection, it improve brain power and also increase appetite.

19. *Aconitum heterophyllum*

Family : Renunculaceae

Local name : Ativisha

Part used : root, stem, seed

Root are dried and paste is made with honey an ghee and given orally for the development in children. It is also used in vomiting and diarrhea. The seeds are crushed and powder applied externally on throat in case of tonsillitis.

20. *Adhatoda zeylanica*

Family : Acanthaceae

Local name : Adulsa

Part used : Leaves

Mixture of leaves extract is given orally in asthma and deforming.

21. *Aloe vera*

Family : Liliaceae

Local name : Korphad

Part used : Leaves, root

The leaf mixture extract is given orally in asthma and deforming. Its root juice is used in blood purification and skin herbal treatment.

22. *Averrhoa bilimbi*

Family : Oxalidaceae

Local name : Bimbli

Part used : Leaves

The leaf are crushed into paste and applied on skin in pain, swelling, itching, and stomach.

23. *Asparagus racemousus*

Family : Liliaceae

Local name : Sharavari

Part used : root and rhizome

Root and rhizome are dried and crushed into paste and it is taken orally with milk and water in diarrhea and gynecological problems. It is also used in cough, Piles and defect in urine.

24. *Azadirachta indica*

Family : Meliaceae

Local name : Nimbada

Part used : leaves

Tender twig is effective in pyorrhea and bleeding of gums.

25. *Bambusa bambos*

Family : Bombacaeae

Local name : Bamboo

Part used : seed

The seeds are crushed into paste and boiled with water taken orally in kidney stone disease.

26. *Caracum coptiam*

Family : Lamiaceae

Local name : Pan ova

Part used : seeds

Seed are eaten in case of stomach, acidity, gases. Seed are crushed into paste and applied externally on stomach of small children in case of stomach pain.

27. *Anethum graveolens*

Family : Apiaceae

Local name : Shepa

Part used : whole plant, seed

Seed are boiled with water and taken orally for cough stomach ache and intestine infection..

28. *Curcuma zedoaria*

Family : Zingiberaceae

Local name : Kachora

Part used : rhizome

Rhizome are dried and crushed into paste taken orally for deforming and applied externally to reduce inflammation.

29. *Coccina grandis*

Family : Cucurbitaceae

Local name : Tondali

Part used : leaves

Leaves paste is applied externally on swelling or wound.

30. *Corcuma longa*

Family : Zingiberaceae

Local name : Haldi

Part used : dried rhizome

Dried rhizome are crushed into powder and applied externally on wound and used in skin beauty milk boiled with turmeric powder gives relief from cough and chronic cold and skin disease.

31. *Cyperous rotundus*

Family : Cyperaceae

Local name : Nagermotha

Part used : seeds, stem

Seed and stem are crushed into paste and taken with honey and ghee for deforming. Decoction treats fever rheumatism.

32. *Embelia ribes*

Family : Myrtaceae

Local name : Vovaling

Part used : rhizome, root

Rhizome and roots are crushed into paste and taken orally with honey and ghee. It is used for blood purification.

33. *Fera tinctoria*

Family : Combretaceae

Local name : Triphala

Part used : fruit

It is used in digestive balance and better circulation. It is taken in warm water at bedtime.

34. *Ficus bengalensis*

Family : Moraceae

Local name : Vad

Part used : bark, root fiber

Bark and root fiber boiled with coconut oil to stop hair fall. It is useful in ulcer, billowiness, vomiting and inflation.

35. *Ficus racemosa*

Family : Moraceae

Local name : Umber

Part used : bark

Bark is crushed into paste and boiled in water and juice is taken orally to cure jaundice and increase appetite. Bark paste is applied externally on boils and scorpion bite.

36. *Ficus religiosa*

Family : Moraceae

Local name : Pimpal

Part used : leaves, bark, fruit

Leaves, bark and fruit are crushed and boiled with water is taken orally for proper digestion.

37. *Gardenia gummifera*

Family : Rubiaceae

Local name : Dikimali

Part used : stem and root

Stem and root are crushed into powder and taken orally with honey or ghee to cure liver disorder.

38. *Helicteres isora*

Family : Sterculiaceae

Local name : Nudsheng

Part used : fruit, rhizome

Fruit and rhizome are crushed into paste and given orally with honey or ghee for diarrhea and spasmodic pain.

39. *Hebiscus rosa-sinensis*

Family : Malvaceae

Local name : Jasvand

Part used : leaf, flower

Crushed leaf is applied on inflammation skin. It is used in gonorrhea. Flower are boiled in coconut oil and applied to hair reduce hair fall and graying of hair.

40. *Holarrhena antidysentrica*

Family : Apocynaceae

Local name : Kuda

Part used : leaf, bark

Leaves juice is taken orally during stomachache. The bark and leaves are mainly used in the treatment of dysentery.

41. *Manifem pinnates*

Family : Simuroubaceae

Local name : Ranti Aamba

Part used : bark

The bark is boiled in water and taken orally for relief from stomachache. It cures piles, hemorrhage, ulcer and rheumatism.

42. *Myrica nagi*

Family : Myrtaceae

Local name : Kayphal

Part used : bark and fruit

The bark and fruit powder is heated with honey and ghee and given orally mainly in children for throat infection to increase brain power.

43. *Ocimum sanctum*

Family : Lamiaceae

Local name : Tulas

Part used : leaves and seeds

Leaf juice is used in kidney stone, earache, cough and cold. Seeds are used with milk or ghee for heart burn and to stop nose bleeding.

44. *Paracalyx scariosa*

Family : Papillionaceae

Local name : Ranvarva

Part used : root

Roots are crushed into paste and boiled with water and taken orally for relief from cough.

45. *Rhus succedanea*

Family : Anacardiaceae

Local name : Kakad shingi

Part used : root, stem

Roots and stem are crushed and boiled with water and taken orally for relief against fever, cough.

46. *Tinospora cordifolia*

Family : Manispermaceae

Local name : Gulvel

Part used : stem, branches

Stem and branch crushed and juice extract is taken orally in case of jaundice. It is also useful in liver disease.

47. *Terminalia belerica*

Family : Combretaceae

Local name : Behada

Part used : Fruit, seeds

Fruit and seed are eaten for throat infection or throat pain.

48. *Terminalia chebula*

Family : Combretaceae

Local name : Hirda

Part used : Stem bark

Stem and bark are crushed and boiled in water and taken orally to increase appetite. It is useful in digestion and nourishes body tissue.

49. *Terminalia crenulat*

Family : Combretaceae

Local name : Ragt Roda

Part used : bark

Bark is crushed into paste and applied locally on skin in case of swelling and inflammation.

50. *Withania somnifera*

Family : Solanaceae

Local name : Ashwagadha

Part used : root and leaves

Dried root are powder and taken orally to increase immune power. It is useful in asthma, blood disorder, and cardiac disorder. Leaf is used in swelling and sore eye.

51. *Kalanachoe lanciniata* L.

Family : Crassulaceae

Local name : Panphuti

Part used : Leaves

Daily chewing of leaf at morning cure urinary stone.

Injured leaves places at burnt places to cure burnt injuries and pain.

In the present study documented 51 species, members of 37 families. Out of 37 families, 31 families were dicots and six families of monocots plants are being used to cure various ailments. Most of people interviewed traditional healers were familiar with the species which cures common ailments like jaundice, body pain, loss of appetite, asthma, fever, headache, wound healing, vomiting, skin diseases, scorpion bite, cough, cold, to stop bleeding, piles, dental problems, liver disease, hair problems, etc. Among plant parts, usually leaves are used followed by root, seed, fruit, bark, stem, bulb part, flowers. In general juice or particular plant part extract are used individually or in combination with other plant or products. The application of crude juice or mixture is applying orally as well as externally.

DISCUSSION

Though allopathic medicine is dominating in the present era of medical fields but high class people are also intriguing towards traditional medicines due to fewer side effects, easily available in their place, affordable and promising results. Earlier studies on traditional medicinal plants show that the economically backward local people or tribal prefer folk medicine due to low cost and occasionally it is a part of their social life and culture (Viswanathan et al., 2001; Ayyanar and Ignacimuthu, 2005). Traditional knowledge of plants in many tribal communities is changing with rapid socioeconomic and cultural changes. The present study shows that this area has great diversity of medicinal plants with rich ethnomedicinal uses. Documentation of this knowledge is valuable for the local communities and their future generations as well for scientific consideration to promote better basic healthcare.

Due to deforestation, protection and conservation by cultivation of precious wild medicinal plant are necessary steps for long time use. And require further research in the field of pharmaceutical and phytochemical analysis in order to identify pure and potential medicinal compound how these can be of practical advantage in drug development.

CONCLUSION

Documentation of ethno-medicinal knowledge from aborigine or tribal people may help for the formulation of new drugs to cure different ailments.

CONFLICT OF INTEREST

None declared.

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