Traditional Ethnomedicinal Plants Used For Skin Disease by Primitive Tribes of Ananthagiri Mandal, Visakhapatnam District, Andhra Pradesh, India
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Abstract
Plant species used in the treatment of skin diseases among the primitive tribes of Ananthagiri Mandal, Visakhapatnam district. To document traditional medicinal plants knowledge used in treating skin diseases by primitive tribes like Porja, Mali, Kotia, Nukhadora and Khonds. Forty-five plant species belonging to 30 families were found to be used specifically in the treatment of various skin diseases. Most preferred species for the management of skin ailments are Abrus precatorius Linn. Alangium salviifolium (Linn.f.) Wang, Asparagus racemosus Wild and Argemone mexicana Linn etc.

Keywords: Ethnomedicine; Traditional knowledge; Skin disease; primitive tribes; Ananthagiri Mandal.

INTRODUCTION
The term Ethnobotany refers to the interrelation ship between the primitive people and plants growing around them. The primitive people were devoid of any written language but retain their tradition by verbal means.

The World Health Organization (WHO) has estimated that as many as 80% of the world population is dependent on traditional medicine for their primary health needs [1]. At present about 65% of Indians are dependent on the traditional system of medicine [2]. Skin diseases like eczema, leukoderma, ringworm, scabies, and many other conditions are treated completely with herbal drugs. Hundreds of medicinal plant species worldwide are used in the traditional medicine as a treatment for skin diseases caused by bacteria, fungi and viruses [3]. In India also there is a huge base of herbal treatment for skin diseases.

Ethno-medicinal studies showed that herbal medicine is an alternative therapy for treatment and control of skin ailments [4]. Herbal anti-skin medicines have many useful properties including low side effects and cost treatment with high significant efficacy [5, 6]. Medicinal flora has shown a pivotal part in management of dermatological conditions [7], particularly communities in developing countries local communities depend on traditional medicine for their health care [8].

STUDY AREA
The present studies revealed that totally 30 modes of treatment were followed by the primitive tribes of Ananthagiri Mandal, Visakhapatnam district to cure skin disease. Visakhapatnam district is one of the North Eastern Coastal districts of Andhra Pradesh and it lies between 17° – 15¹ and 18° - 32¹ Northern latitude and 18º - 54º and 83º - 30¹ in Eastern longitudes. It is bounded on the North partly by the Orissa State and partly by Vizianagaram District, on the South by East Godavari District, on the West by Orissa State and on the East by Bay of Bengal.

This Mandal the major tribal groups are Bagatha, Valmiki, Kamara, Konda dora, Kotia, Kulia, Malis, Manne dora, Nuka dora and Gonds where as in the primitive tribal group (PTG) comprise Khonds, Gadaba and Porja (Porangi, porja). Most of the tribes except Bagatha and Valmiki are habitual podu cultivators. These tribes depend on local health practitioners or Vaidyas called the gurus for their health care. The gurus rely on indigenous system of medicine using the locally available medicinal plants.

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MATERIAL AND METHODS

The authors have conducted an extensive field survey in the tribal belts and other interior villages adjoining forest areas in the Mandal of Visakhapatnam district to collect information about ethno-medicinal plants used by the tribals to heal skin diseases. Simultaneously, actual applications of plant parts to treat skin diseases were also observed during the field work.

The information on the use of medicinal plants was gathered by direct interaction with the primitive tribal people. The information was recorded in a standard questionnaire which included, local name of the plant, parts used, method of preparation, mode of administration, probable dosage and duration of treatment. At the end of each interview, plants specimens were collected and identified with the help of regional and local floras [9, 10]. Prior informed consent was taken from all the tribal and traditional healers. Voucher specimens were deposited in the herbarium, Department of Botany, Andhra University, Visakhapatnam.

RESULTS

Data on medicinal uses of plants are arranged alphabetically in the following sequence: scientific name, family, habit, vernacular name if any, parts used and modes of use.

1. **Abrus precatorius** Linn.
   Family: Fabaceae
   Syn: *Glycine abrus* Linn.
   Vernacular name: Guruginja, Gurivinda
   Flower & Fruit: January-May
   Part used: Leaf, Seed
   Uses: Quarter litre of gingelly oil mixed with one litre of leaf juice of *Eclipta alba* and two spoons of seed paste of *abrus precatorius* is applied on all types of skin diseases.

2. **Acacia rugata** (Lam.) Ham.
   Family: Mimosaceae
   Syn: *Mimosa sinuate* lour
   Vernacular name: Sikaya
   Flower & Fruit: December –March
   Part used: Pod
   Uses: Pod paste is applied on the skin for eczema, leukoderma and other skin diseases.

3. **Alangium salvifolium** (Linn.f.) Wang.
   Family: Alangiaceae
   Syn: *Grewia salvifolia* Linn.f.
   Vernacular name: Uduga chettu
   Flower & Fruit: February-July
   Part used: Root
   Uses: Root paste is applied on the affected skin to cure seed oil mixed with turmeric is applied on the affected areas.

4. **Aloe vera** (Linn.) Burm. f.
   Family: Liliaceae
   Syn: *Aloe barbadensis* Mill.
   Vernacular name: Kala bandha
   Flower & Fruit: September-January
   Part used: Leaf
   Uses: Leaf pulp is applied on the affected areas.

5. **Ammannia baccifera** Linn.
   Family: Lythraceae
   Vernacular name: Agnivendrapaku
   Flower & Fruit: Throughout the year
   Part used: Whole plant
   Uses: Plant paste is applied on the affected areas.

6. **Argemone mexicana** Linn.
   Family: Papaveraceae
   Vernacular name: Balla rakasi
   Flower & Fruit: July-November
   Part used: Gum
   Uses: Yellow coloured latex of the plant is applied on the affected parts.

7. **Asparagus racemosus** Wild.
   Family: Liliaceae
   Vernacular name: Bheemudu chettu, Satavari
   Flower & Fruit: July-November
   Part used: Tuber
   Uses: One spoon of tuber powder is taken with milk.

8. **Bauhinia variegata** Linn.
   Family: Caesalpiniiaceae
   Vernacular name: Devakanchanum
   Flower & Fruit: July-December
   Part used: Leaf
   Uses: Leaf paste is applied on the affected areas.
Family: Brassicaceae  
Syn: *Sinapsis nigra* Linn.  
Vernacular name: Varnavalu  
Flower & Fruit: June-March  
Part used: Seed oil  
Uses: Equal quantities of mustard and neem oils are mixed and applied on the affected areas.

10. *Ceiba pentandra* (Linn.) Gaertn  
Family: Bombacaceae  
Syn: *Bombax ceiba* L  
Vernacular name: Tella buruga chettu  
Flower & Fruit: November-May  
Part used: Stem bark  
Uses: Bark paste is applied on the affected areas till cure.

11. *Cinnamomum zeylanium* Garc. Ex Bl.  
Family: Lauraceae  
Vernacular name: Dalchina chekka  
Flower & Fruit: January-March  
Part used: Stem bark  
Uses: Stem bark powder with sufficient honey is applied on the affected areas.

12. *Cleome gynandra* Linn.  
Family: Cleomaceae  
Syn: *Gynandropsis pentaphylla* (Linn.) Briq.  
Vernacular name: Ventumkura  
Flower & Fruit: June-December  
Part used: Whole plant  
Uses: One cup of plant juice mixed with a quarter cup of mildly heated gingelly oil is used for washing the affected areas.

13. *Costus speciosus* (Koen.) Sm.  
Family: Zingiberaceae  
Syn: *Banksia speciosa* Koen.  
Vernacular name: Bokacchika  
Flower & Fruit: June-November  
Part used: Leaf  
Uses: Leaf juice is used to wash the affected skin for healing from scabies, ring worm and infectious skin diseases.

Family: Zingiberaceae  
Vernacular name: Kasthuri dumpa  
Flower & Fruit: June-September  
Part used: Rhizome  
Uses: Rhizome paste is applied on the affected areas. Rhizome paste is applied on the face for face glow.

15. *Curcuma longa* Linn.  
Family: Zingiberaceae  
Syn: *Curcuma domestica* valeton  
Vernacular name: Pasupu  
Flower & Fruit: May-August  
Part used: Leaf  
Uses: Leaf paste and lemon juice (3:1) is applied on the affected areas before going to bed till cure. Rhizome paste is applied on the affected parts once a day for 3 days.

16. *Dichrostachys cinerea* (Linn.) Wt. And Arn.  
Family: Mimosaceae  
Syn: *Mimosa cinerea* Linn.  
Vernacular name: Veluturu chettu  
Flower & Fruit: October-December  
Part used: Stem bark  
Uses: Stem bark decoction is used to wash the affected areas.

17. *Gloriosa superb* Linn.  
Family: Liliaceae  
Vernacular name: Venka vajram  
Flower & Fruit: August-September  
Part used: Root  
Uses: Root juice is applied on the affected areas.

18. *Haldinia cordifolia* (Roxb.) Ridsd.  
Family: Rubiaceae  
Vernacular name: Bandari  
Flower & Fruit: June-May  
Part used: Stem bark  
Uses: Two spoons of stem bark decoction are administered daily to purify the blood.

19. *Heliotropium indicum* Linn.  
Family: Boraginaceae  
Vernacular name: Nagadanti  
Flower & Fruit: throughout the year  
Part used: Vegetative parts  
Uses: Tender vegetative parts are boiled and made into decoction. Three spoons of it are administered for scabies, eczema and other skin diseases.

20. *Jatropha curcas* Linn.  
Family: Euphorbiaceae  
Vernacular name: Dola chettu  
Flower & Fruit: April-December  
Part used: Seed  
Uses: Seed oil is applied on the skin to cure eczema, scabies and other skin diseases.

Family: Rutaceae  
Syn: *Feronia limonia* (Linn.) SW  
Vernacular name: Velaga  
Flower & fruit: October-December  
Part used: Stem bark  
Uses: Stem bark juice is applied on the affected areas.

22. *Luffa acutangula* (Linn.) Roxb.  
Family: Cucurbitaceae  
Syn: *Luffa amara* Roxb.  
Vernacular name: Chedu beera  
Flower & Fruit: June-September  
Part used: Seed
Used: Seed oil is applied on the affected areas.

Family: Marsileaceae
Vernacular name: Chenchalam koora
Flower & Fruit: October-January
Part used: Leaf
Uses: Leaf paste is applied on the affected areas.
Tender leaves used as leafy vegetables.

Family: Meliaceae
Vernacular name: Turaka vepa
Flower & Fruit: February-June
Part used: Leaf
Uses: Leaf paste is applied on the affected areas.

25. *Ocimum basilicum* Linn.
Family: Lamiaceae
Vernacular name: Jetti mokka
Flower & Fruit: Most of the year
Part used: Leaf
Uses: Leaves are crushed into paste and applied on the affected skin.

26. *Pedilanthus tithymaloids* (Linn.) Poit
Family: Euphorbiaceae
Vernacular name: Seema chitramulam
Flower & Fruit: January-March
Part used: Root
Uses: Root paste is applied over the affected areas till cure.

27. *Phyllanthus amarus* Schum. and Thonn.
Family: Euphorbiaceae
Syn: *Phyllanthus niruri* Linn.
Vernacular name: Nelasirli, Nela usiri
Flower & Fruit: Throughout the year
Part used: Whole plant
Uses: Whole plant ground with salt is applied on the affected skin daily.

28. *Pongamia pinnata* (Linn.) Piere
Family: Fabaceae
Vernacular name: Ganuga, Kanuga
Flower & Fruit: March-October
Part used: Seed
Uses: Seed oil is applied regularly to the affected skin till cure
seed oil mixed with equal quantity of neem oil is applied on the affected areas of Psoriasis, Ring worm, Itching, Allergy and Scabies.

Family: Fabaceae
Vernacular name: Yegisa
Flower & Fruit: April-July
Part used: Stem bark
Uses: Stem bark paste is applied on affected area.

Family: Apocynaceae
Syn: *Rauvolfia canescens* Linn.
Vernacular name: Papataku
Flower & Fruit: September-April
Part used: Tuber
Uses: Tuber paste is applied on the affected areas.

Family: Loganiaceae
Vernacular name: Induga
Flower & Fruit: May-October
Part used: Root
Uses: One spoon of root powder or decoction is taken daily once.

32. *Terminalia chebula* Retz
Family: Combretaceae
Vernacular name: Karakkai
Flower & Fruit: March-July
Part used: Fruit
Uses: The epicarp of the myrobalan is roasted powdered and mixed with gingelly oil is applied on the affected areas.

33. *Vetiveria zizanoides* (Linn.) Nash
Family: Poaceae
Syn: *Phalaria zizanoides* Linn.
Vernacular name: Vattiveru, Kuruveru
Flower & Fruit: August-October
Part used: Root
Uses: Root paste applied on the affected areas.

34. *Acalypha indica* Linn.
Family: Euphorbiaceae
Vernacular name: Kuppinta
Flower & Fruit: Throughout the year
Part used: Leaf
Uses: Leaf extract mixed with small amount of lime is applied.

35. *Albizia lebbeck* (Linn.) Willd
Family: Mimosaceae
Syn: *Mimosa lebbeck* Linn.
Vernacular name: Dirisena
Flower & Fruit: March-September
Part used: Stem bark
Uses: Stem bark paste is applied on the affected areas.

36. *Andrographis paniculata* (Burm.f.) Wall. Ex Nees
Family: Acanthaceae
Vernacular name: Nela vemu
Flower & Fruit: August-December
Part used: Whole plant
Uses: Half to two spoons of whole plant powder mixed in water is taken daily once to purify blood.

37. *Anthocephalus cadamba* Miq
Family: Rubiaceae
Vernacular name: Kadamba
38. *Aristolochia bracteolata* Lam.
Family: Aristolochiaceae
Syn: *Aristolochia bracteata* Retz.
Vernacular name: Gadida gadapa
Flower & Fruit: June-December
Part used: Leaf
Uses: One spoon of stem bark decoction mixed with equal quantity of honey is administered daily once till cure.

39. *Cascabela thevetia* (Linn.) Lipp
Family: Apocynaceae
Syn: *Thevetia nerifolia* Juss. Ex. Steud
Vernacular name: Paccha ganneru
Flower & Fruit: Almost throughout the year
Part used: Leaf
Uses: Fresh leaf paste mixed with castor oil is applied on the affected areas.

40. *Cassia fistula* Linn.
Family: Caesalpinaceae
Syn: *Cassia rhombifolia* Roxb.
Vernacular name: Rela
Flower & Fruit: February-April
Part used: Stem bark and Leaf
Uses: Handful of leaves are pounded with two spoons of fresh turmeric and the paste is applied on the affected areas for half an hour twice a day till cure.

41. *Celastrus paniculata* Willd.
Family: Celastraceae
Vernacular name: Palluru thivva
Flower & Fruit: February-may
Part used: Fruit oil
Uses: Oil is used for massage on the affected areas.

42. *Mimosa pudica* Linn.
Family: Mimosaceae
Vernacular name: Atti patthi, Touch-me-not
Flower & Fruit: October-May
Part used: Root
Uses: Two to six gm of root powder is administered with cow milk daily once.

43. *Murraya koenigii* (Linn.) Spreng.
Family: Rutaceae
Syn: *Bergera koenigii* Linn.
Vernacular name: Karrivepaku
Flower & Fruit: April-September
Part used: Leaf
Uses: Equal quantity of curry leaves and neem leaves are made into paste. One spoon of it is mixed with butter milk and administered in the early morning on empty stomach to reduce blood sugar.

44. *Solanum nigrum* Linn.
Family: Solanaceae
Syn: *Solanum americanum* Mill.
Vernacular name: Jaji kura, kamanchi
Flower & Fruit: October-April
Part used: Leaf
Uses: Leaf paste is applied on the affected areas once a day till cure.

45. *Tridax procumbens* Linn.
Family: Asteraceae
Vernacular name: Ganti mandhu
Flower & Fruit: Throughout the year
Part used: Whole plant
Uses: one spoon of shade dried plant powder is taken daily.

**DISCUSSION**

During the present ethnobotanical study, 45 plant species belonging to 29 families were reported by the informants for the treatment of common skin diseases. Among them, 19 families represent single species each. The predominant families were Euphorbiaceae and Mimosaceae with 4 species, Fabaceae, Liliaceae and Zingiberaceae with 3 species each and one plant from Pteridophytes. These plants are arranged in alphabetical order of their scientific name along with family followed by local name, parts used, method of drug preparation, mode of administration and probable duration of treatment.

Skin health is fundamental to total health. The skin, along with the hair, glands and nails is the part of the integumentary system, the largest and most versatile organ system in the body [11]. Plants have traditionally served as man’s most important weapon against pathogens. In aboriginal system of traditional medicines, people have been heavily dependent on plant products and have believed in their various remedial properties for a very long time.

Moreover, these reports differ in the parts of the plant used or in preparation and mode of use. For instance, bark of *Achyranthes aspera* is used by the people of Gujarat for skin diseases (itching) [12]; root paste of *Cassia fistula* and whole plant extract of *Eclipta prostrata* is used for skin disease by Tribals of Bankura Districts, West Bengal [13]; *Cissampelos pareira* root paste is used by the people of Villupuram district of Tamil Nadu for wound healing and skin disorders [14].

**CONCLUSION**

From the present study it can be concluded that the ethnic communities inhabiting in the coastal parts of Visakhapatnam district have sound ethnomedicinal knowledge of curing common skin diseases using natural resources of the Ananthagiri Mandal around them. Thus, the wealth of medicinal plants points to a great potential for research and the discovery of new drugs to fight skin diseases.
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REFERENCE