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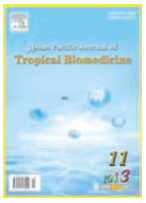

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Ethnomedicinal plants used in the treatment of skin diseases in Hyderabad Karnataka region, Karnataka, India

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PEER REVIEW

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Comments

This research article generates a corpus of knowledge to the traditional medicinal practitioners and to the users. The crude drug extracted from different plant parts play important role in curing the disease. The mode administration also supports in curing the skin diseases.

Details on Page 885

ABSTRACT

Objective: To document traditional medicinal plants knowledge used in treating skin diseases at Hyderabad Karnataka Region.

Methods: The information on the use of medicinal plants in the treatment of skin diseases was gathered from traditional herbal healers and other villagers through interviews.

Results: A total of 60 plants species belonging to 57 genera and 34 families were found useful and herewith described them along with the method of drug preparation, mode of administration, probable dosage and duration of treatment. Several new findings on the traditional rural practices were reported.

Conclusions: The present study revealed that the Hyderabad Karnataka rural people is primarily dependent on medicinal plants for treating skin diseases.

KEYWORDS

Ethno medicinal plants, Hyderabad Karnataka, Skin diseases, Traditional knowledge

1. Introduction

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]. People living in the developing countries rely quite effectively on traditional medicine for primary health care[2]. The art of herbal treatment has very deep root in Indian culture used the plants not only for curing diseases but also during several ceremonies. Today, there is an increasing desire to unravel the role of ethno-botanical studies in trapping the centuries old traditional folk knowledge as well as in searching new plants resources of food, drugs, etc. India is a repository of medicinal plants. At present about 65% of Indians are dependent on the traditional system of medicine[3]. Skin diseases like eczema, leucoerma, 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[4]. In India also there is a huge base of herbal treatment for skin diseases.

The Hyderabad Karnataka region comprises four

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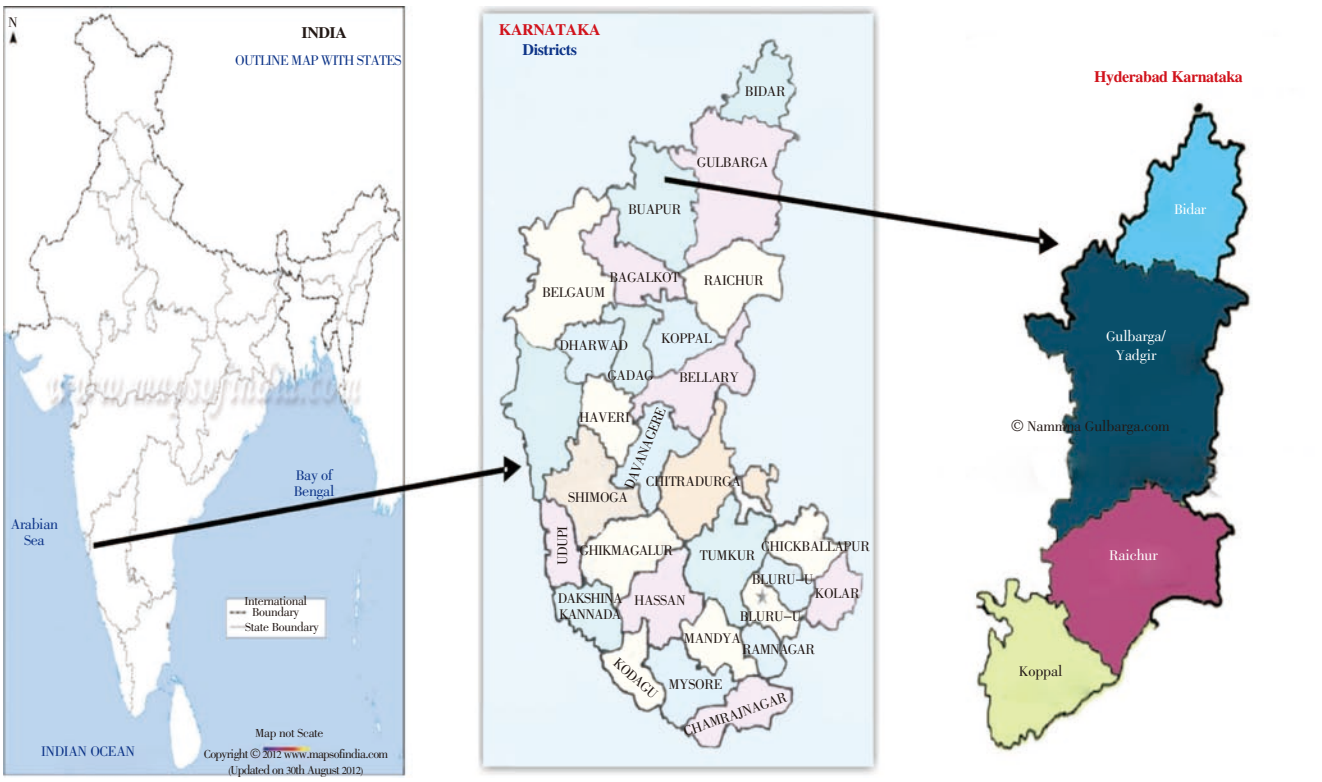

Figure 1. Study area: Hyderabad Karnataka region, Karnataka, India.

districts namely, Bidar, Gulbarga, Raichur, and Yadgir located in the northern part of Karnataka, economically little backward, but culturally unique. People speak five languages such as, Kannada, Marathi, Telugu, Hindi and Urdu, and knowledge flows from one culture to other. The plant diversity is very rich and a good number of medicinal plants are used in the treatment of various diseases including skin diseases. Therefore, the present study focused on the documentation of traditional knowledge on medicinal plants used in the treatment skin diseases.

2. Materials and methods

An ethnobotanical survey of Hyderabad Karnataka region, Karnataka was conducted during August 2010-August 2012 to identify the plants with the medicinal properties against skin diseases (Figure 1). Eighteen villages were identified from different areas of Hyderabad Karnataka region namely Warvatti, Chitguppa, Manne-E-khli of Humnabad *taluk*, Aland of Bhalki *taluk*, Chitta, Gutti of Basavakalyan *taluk* from Bidar distrct, Bondym pally, Adki Imdapur, of Sedam *taluk*, Miryan, Chndapur of Chincholi *taluk* from Gulbarga district, Kavithal of Lingsugar *taluk*, Markamddinni of Deodurga *taluk*, Kapgal, Kallur of Manvi *taluk* from Raichur district, Medaka, Yanagundi, Sandruka of Gurumathkal *taluk* from Yadgir distrct. The information on the use of medicinal plants was gathered by direct interaction with *Hakeem*, *Kadukurba*, *Lambani*, *Vidhya*, local folk practitioners and villagers at field. Of the 18 informants, 11 were men and 07 were women, whose age ranged from 40-95 years.

The information was recorded in standard questionnaire which include, local name of the plant, parts used, method of drug 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[5,6]. Prior informed consent was taken from all the tribal and traditional healers. Voucher specimens were deposited in the herbarium centre, Department of Post Graduate Studies and Research in Botany, Gulbarga University, Gulbarga, Karnataka.

3. Results

During the present ethnobotanical study, 60 plant species belonging to 34 families were reported by the informants for the treatment of common skin diseases (Table 1). Among them, 21 families represent single species each. The predominant families were Fabaceae with 5 species, Ceasalpiniaceae and Euphorbiaceae with 4 species each. These plants are arranged in alphabetical order of their scientific name along with family followed by local

Table 1
Medicinal plants used against skin diseases by rural people of Hyderabad-Karnataka region.

Plant name with voucher number	Family	Parts used	Local name	Mode of use
Achyranthes aspera L. HGUG-06	Amarathaceae	Leaf	Uttarani	Root and Leaf paste is applied on ringworm affected area till it cures.
Aegle marmelos (L.) Corr. HGUG-710	Rutaceae	Leaf	Bilva pathre	Bark paste is applied on the ringworm affected area till it cures or leaf juice is applied on affected area daily twice for a week.
Allium cepa Linn. HGUG-548	Liliaceae	Bulb	Ullagaddi	Bulb paste mixed with curcuma paste is applied on itching affected area 1-2 d
Allium sativam L. HGUG-549	Liliaceae	Bulb	Bellulli	Bulb paste is applied on eczema infected area till it cures.
Aloe vera L. HGUG-547	Liliaceae	Leaf	Lolesara	Leaf juice is applied on ringworm infected area for 3-4 d.
Amaranthus spinosus L. HGUG-05	Amarathaceae	Leaf	Mullu dantha	Whole plant juice is applied on allergic infected area before bathing daily once.
Annona reticulata L. HGUG-20	Annonaceae	Leaf	Ram phal	Older leaves paste is applied on ringworm the affected area till it cures.
Annona squamosa L. HGUG-19	Annonaceae	Leaf	Seetha phal	Dried leaf powder soaked in safflower oil for 24 h and applied on ringworm affected area daily once for 5-6 d.
Argemone mexicana L. HGUG-614	Papaveraceae	Leaf	Peevala Dhaturi	Latex or whole plant paste is applied on eczema affected area for a week.
Azadirachta indica A.Juss. HGUG-576	Meliaceae	Leaf	Bevu	Older tree bark paste is applied on all type of skin infected areas daily once till it cures.
Bergera koenigii L. HGUG-713	Rutaceae	Leaf	Kare bevu	Leaf paste is applied daily once on Pssoriasis affected area till it cures.
Butea monosperma (Lam.) Taub. HGUG-514	Fabaceae	Leaf	Muttuga	Leaf and bark paste of an older tree is applied on ringworm infected area about twice a day.
Cajanus cajan (L.)Mill. HGUG-515	Fabaceae	Leaf	Tugri	Young leaves paste slightly heated and applied on cuts and wounds for 2-4 d.
Calotropis gigantea L. HGUG-47	Asclepiadaceae	Leaf	Kempu yekke	Leaf paste is applied on allergic infected area till it cures. Latex is applied on ringworm infected area till it cures.
Carica papaya L. HGUG-259	Caricaceae	Leaf	Papaya	Leaf and bark paste of younger plants is applied on ringworm infected area twice a day.
Ceasalpinia bonducella (L.) Flem. HGUG-208	Ceasalpiniaceae	Seed	Gajjaga	Seed cotyledon paste mixed with castor oil is applied on ringworm infected areas till it cures.
Celosia argentea L. HGUG-08	Amarathaceae	Seed	Thunge	Older leaves paste is applied on ringworm infected area for 4-5 d.
Citrus medica L. HGUG-67	Rutaceae	Leaf	Nimbin kaye	Leaf paste is applied on itching affected area for a week.
Coccinia indica Wt. & Arn. HGUG-808	Cucurbitaceae	Leaf	Thonde	Whole plant paste is applied daily once on Psoriasis affected area till it cures.
Corchorus capsularis L. HGUG-752	Tiliaceae	Seed	Senabu	Seed paste mixed with castor oil is applied on ringworm infected areas till it cures.
Coriandrum sativam L. HGUG-22	Apiaceae	Aerial part	Kottumbri	Leaf paste is applied on allergic affected area for a week.
Cryptolepis buchananii Roem&Schult. HGUG-49	Asclepiadaceae	Aerial part	Halu	Latex is applied on ringworm affected area alternate day till it cures.
Curcuma longa Linn. HGUG-52	Zingiberaceae	Rhizome	Haldi	Rhizome paste is used for curing wounds for a week.
Dalbergia sisso Roxb. HGUG-1298	Fabaceae	Leaf	Sissu	Bark paste is applied on itching affected area daily 1-2 times till it cures.
Datura stromium L. HGUG-738	Solanaceae	Leaf	Ummetti	Leaf juice is applied on ringworm affected area externally daily twice till it cures.
Emblica officinalis Gaertn. HGUG-197	Euphorbiaceae	Leaf	Bettad nelli	Leaf and bark paste is applied on allergic affected area daily once till it cures.
Euphorbia tirucalli L. HGUG-191	Euphorbiaceae	Leaf	Kolkalli	Fresh latex is applied on eczema affected area. Decoction of leaves applied on ringworm affected area.
Ficus racemosa L HGUG-585	Moracea	Leaf	Atti	Older tree's bark paste is applied on eczema affected area till it cures.
Gymnosporia montana (Roth)Benth HGUG-134	Celastraceae	Leaf	Dantigida	Old bark paste is mixed with turmeric applied on ringworm affected area daily twice for a week.
Hibiscus rosa-sinensis L. HGUG-566	Malvaceae	Flower	Dasavala	Flower paste is applied daily once on itching affected area till it cures.
Hyptis suoveolens (L.)Poit. HGUG-536	Lamiaceae	Leaf	Nayitulsi	Leaf paste is applied on sores and fungal infections.
Ixora coccinea L. HGUG-700	Rubiaceae	Flower	Malathi	Flower paste is applied daily once on cuts and wounds till it cures.
Jatropha glandulifera Roxb. HGUG-194	Euphorbiaceae	Leaf	Totla	Young leaves paste is applied on ringworm affected area daily once till it cures.
Lantana camara L. HGUG -769	Verbenaceae	Leaf	Hunni	Leaf paste is applied on cuts & wounds for a week.
Lawsonia inermis Linn. HGUG-554	Lythraceae	Leaf	Mehandi	Leaf paste is applied on cuts and wounds for a week.
Lycopersicon esculentum L. HGUG-1022	Solanaceae	Leaf	Tamata	Whole plant juice is applied on itching affected area for 2-4 d.
Mangifera indica Linn. HGUG-15	Anacardiaceae	Leaf	Mavu	Young leaf paste with coconut oil is applied daily twice on cuts and wounds for 10 d.
Mentha viridis L. HGUG-1052	Lamiaceae	Aerial part	Podina	Leaf paste mixed with turmeric paste is applied on itching affected area daily once till it cures.
Milletia pinnata (L.) Panigrahi HGUG-169	Fabaceae	Leaf	Honge	Bark paste is mixed with coconut oil is applied on ringworm affected area. Seed paste is also applied on itching affected area daily once for a week.
Momordica charantia L. HGUG-809	Cucurbitaceae	Leaf	Hagala	Aerial part juice is applied on ringworm affected area till it cures.
Nerium odorum Solander. HGUG-1056	Apocynaceae	Leaf	Kanagile	Equal amount of Bark powder with turmeric is soaked in coconut oil for 24 h and applied on ringworm affected area daily once till it cures.
Ocimum sanctum L. HGUG-532	Lamiaceae	Aerial part	Tulasi	Leaf paste is applied daily once on ringworm affected area till it cures.
Piper nigrum L. HGUG-1028	Piperaceae	Seed	Menasu	Seed powder ground with equal amount of betel leaf paste is applied daily once on eczema affected area till it cures.
Plumbago zeylanica L. HGUG-617	Plumbaginaceae	Leaf	Chitra mula	Leaf juice is applied on ringworm affected area daily thries for 3-4 d.
Ricinus communis L. HGUG-193	Euphorbiaceae	Seed	Oudala	Seed paste mixed with turmeric powder is applied on the itching affected area daily once till it cures.
Santalum album L. HGUG-716	Santalaceae	Leaf	Gandada gida	Bark, Leaf paste is applied on allergic affected area daily once for 4-5 d.
Senna auriculata (L.) Roxb. HGUG-222	Ceasalpiniaceae	Flower	Thangedu	Root decoction is applied on eczema infected area for 1-2 weeks.
Senna tora L. HGUG-223	Ceasalpiniaceae	Leaf	Chegche	Leaf paste is applied daily once on cuts & wounds till it cures.
Solanum nigrum L. HGUG-744	Solanaceae	Leaf	Kakkigida	Leaf paste or juice is applied on ringworm affected area for 3-4 d.
Sterculia foetida L. HGUG-869	Sterculaceae	Seed	Bhootale	Seed paste mixed with leaf juice is applied on ringworm affected area daily twice till it cures.
Semecarpus anacardium L. HGUG-33	Anacardiaceae	Bark	Karigeru	Bark paste is applied on Itching affected area daily twice for a week.
Tamarindus indica Linn. HGUG-224	Ceasalpiniaceae	Leaf	Hunase	Leaf paste is applied on cuts & wounds for 5-6 days.
Tectona grandis L. HGUG-766	Verbenaceae	Leaf	Sagwan	Young shoot paste is applied on cuts & wounds daily once till it cures.
Tinospora cordifolia (Willd.) J. Hook & Thoms. HGUG-576	Menispermaceae	Leaf	Amrutha balli	Leaves ground with equal amount of betel leaves to get a paste and applied on ringworm affected area.
Tephrosia purpurea (L.) Pers. HGUG-469	Fabaceae	Leaf	Koggi	Fresh leaf paste is applied on Itching affected area daily once till it cures.
Thevetia nerrifolia Juss. HGUG-26	Apocynaceae	Leaf	Haldi kanagile	Leaf paste with latex is applied on the ringworm affected area, daily once for 10-15 d.
Tribulus terrestris L. HGUG-782	Zygophyllaceae	Aerial part	Neggel mullu	Whole plant juice is applied on Psoriasis affcted area daily twice till it cures.
Tridax procumbens Linn. HGUG-80	Asteraceae	Aerial part	Tikki	Leaf paste is applied on cuts and wounds for 2 d.
Zingiber officinale Rosce. HGUG-1064	Zingiberaceae	Rhizome	Alla	Dried rhizome paste applied on allergic affected area for a week.
Zizyphus jujuba Lam. HGUG-684	Rhamnaceae	Bark	Baare	Bark paste is applied on eczema affected area till it cures.

name, parts used, method of drug preparation, mode of administration and probable duration of treatment. The plant parts used in treating skin diseases are present in Figure 2.

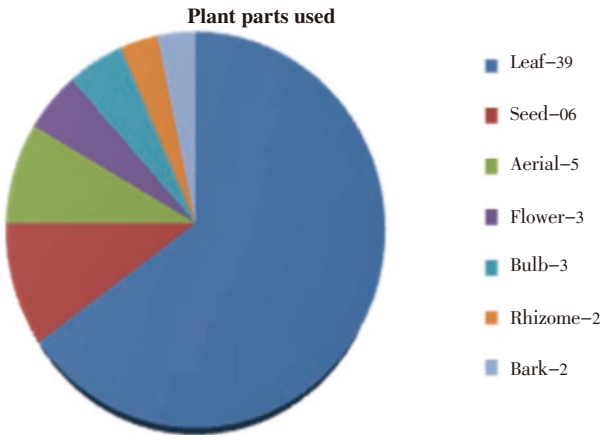

Figure 2. Plant parts used in treating skin diseases.

4. Discussion

Data was compared with the available literature and found that many of the usages listed are not recorded earlier[7-10]. However, the use of *Ocimum sanctum* leaves for ring worm, leaf of *Datura stromium* to reduce swelling, leaf, flower and bark of *Azadiracta indica* for all type of skin diseases and the leaves of *Tridax procumbens* for wounds and scabies are reported. In some cases, the plants are reported to be used for skin diseases, but the part used, mode of administration and drug preparation recorded were different. Leaf juice of *Datura stromium* is used externally in Hyderabad Karnataka region, where as warmed leaf juice is used at coastal districts of Orissa[11]. Latex of *Argemone mexicana* is used in Hyderabad Karnataka region, whereas seed powder mixed with *Curcuma longa* rhizome is used at Kanyakumari district of southern India[12], entire plant paste is used in Andhra Pradesh[13]. Bark, Leaf paste of *Santalum album* is used in Hyderabad Karnataka region whereas seed oil is used at Adilabad district of Andhra Pradesh[13]. The leaf juice of *Achyranthes aspera* is also used in control to dysentery[14]. Leaves and fruits of *Emblica officinalis* were used in treating Leucorrhoea in Banladesh[15]. In Karnataka, ethnobotanical studies on medicinal plants were conducted in Bellary, Kodagu, Uttar Kannada, Chikmagalur, Tumkur, Bidar and Gulbarga districts[14,16-26]. However in Hyderabad Karnataka region, no detailed study on ethnobotany of medicinal plants used in skin diseases is reported. The study represents a contribution to the existing knowledge of folk remedies that are in current practice for the treatment of skin diseases, which happens to be the most common ailment amongst rural population, because of their unhygienic living conditions. The documentation of such knowledge plays an important role in farming the health policies for the people and also for the extraction and characterization of the bioactive compounds. So that people in the same or in other regions can make use of it.

Conflict of interest statement

We declare that we have no conflict of interest.

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Comments

Background

Today, there is an increasing desire to unravel the role of ethno-botanical studies in trapping the centuries old traditional folk knowledge as well as in searching new plants resources of food, drugs, etc.

Research frontiers

The study report collected from different age group people from different villages. The same data can be used to cure disease in other parts of Karnataka.

Related reports

The author has collected sufficient literature national and international. The present work results support the other scholars' findings.

Applications

The study results are more useful in curing skin disease in Hyderabad-Karnataka regional area. The same research paper results can be accepted for publications.

Peer review

This research article generates a corpus of knowledge to the traditional medicinal practitioners and to the users. The crude drug extracted from different plant parts play important role in curing the disease. The mode administration also supports in curing the skin diseases.

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