

Ethnomedicine for eye diseases by the tribes of Khammam district, Andhra Pradesh

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Abstract

The paper deals with 24 species belonging to 24 genera of 18 families used by the tribes of Srikakulam district, Andhra Pradesh, for hair wash. Malvaceae is represented by five species followed by Fabaceae and Lamiaceae (2 spp. each) and others. Trees are dominant with 11 species followed by shrubs (6) and others. Leaf is used in 12 practices followed by pod (6), seed (4) and others.

Key Words: Dandruff, Hair fall, Lice, Savara, Jatapu, Andhra Pradesh

Introduction

The tribals of Khammam district of Andhra Pradesh are using the plants in their vicinity for their daily medicinal needs and their vast knowledge has to be scrutinized and evaluated pharmacologically for the development of herbal medicines based on tribal claims. Khammam district is surrounded by Chhattisgarh and Orissa states in the North, Krishna district in the South, East and West Godavari districts in the East and Nalgonda and Warangal districts in the West. It lies between 16° 45' and 18° 35' N latitude and 79° 47' to 81° 47' E longitude occupying an area of 16, 029 sq km with a total forest area of 7, 594.38 sq km. Its topography is highly undulating with dissected uplands and hills which sometimes exceed a height of 600 m. The largest river of South India, the Godavari passes through this district.

The tribal populations of India and Andhra Pradesh are 8.2% and 7.0%, respectively (Census 2011). The Khammam district with 26.47% tribal population stands first in the state and is home to six tribal communities, viz., Koya, Lambada, Gond/Naikpod, Yerukula, Nayak and Konda Reddi. Though there are publications on ethnomedicine dealing with a variety of diseases (Upadhyay & Chauhan 2000; Raju & Reddy 2005; Manjula *et al.* 2013 a,b,c,d,e,f, 2014 a, b, 2015; Manjula & Reddi 2015, 2016, 2017a,b) not much information is available on eye diseases necessitating the present study.

Material and methods

Ethnobotanical survey was conducted in tribal rich habitations of Khammam district once in every two months from 2008 to 2012 each of 10-15 days duration. About 4-7 days were spent during each trip with different tribes in the forests. After establishing good rapport with

the tribes, the utility of plants and detailed methods of uses were documented. In 102 pockets of the study area, 102 *vaidhyas* and practitioners were consulted. Data collected were cross checked with the data obtained from same as well as from different settlements on different occasions for authenticity. Voucher specimens were collected in both flowering and fruiting stages and deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam (AUV). The plant specimens were identified using the Flora of the Presidency of Madras (Gamble 1915-1936).

Enumeration

The plants are enumerated alphabetically with valid botanical name followed by family, vernacular name, locality, collector and voucher number. Each ethnomedicinal practice is provided with the part(s) used, method of preparation of the drug and mode of administration and dosage. Plants and practices marked with an asterisk (*) are considered to be new or less known.

Artemisia vulgaris L. (Asteraceae), 'Machapatni' Yerram Padu, RRM 10170

***Sore eyes:** Two drops of leaf juice is heated in gingelly oil and instilled into eyes once a day for 3-5 days.

Azadirachta indica A. Juss. (Meliaceae), 'Vepa' Madupally, RRM 10144

***Night blindness:** Two drops of leaf juice is instilled into the ear and eye once a day for three days.

Chamaecrista absus (L.) H.S. Irwin & Barneby (Cesalpinaceae), 'Kantri senna' Venkatapuram, RRM 10048



- Ophthalmic disease:** Fine paste of seed is used as eyetex once a day till cure.
- Chloroxylon swietenia* DC. (Rutaceae), ‘Billudu’
Vissapuram, RRM 10156
***Eye infection:** Three drops of leaf juice is poured into eyes twice a day for 3-5 days.
- Cleome chelidonii* L. f. (Cleomaceae), ‘Kukka vaminta’
Mandalapadi, RRM 10188
***Eye infection:** Two drops of leaf juice is instilled into the eyes once a day till cure.
- Cyamopsis tetragonaloba* (L.) Taub. (Fabaceae), ‘Goruchikkudu’ Singhabhupalem, RRM 10282
Night blindness: Leaves are eaten as curry once a day till cure.
- Dalbergia sissoo* Roxb. ex DC. (Fabaceae), ‘Iridi’
Yetapaka, RRM10225
***Ophthalmic disease:** Leaf juice of two tender leaves is instilled into the eyes twice a day for 3-5 days.
- Euphorbia hirta* L. (Euphorbiaceae), ‘Reddivarinanibalu’
Bethampudi, RRM 10330
Eye infection: One drop of latex is applied in the eyes once a day for 3-5 days.
- Gymnema sylvestre* (Retz.) R. Br. ex Sm.
(Asclepiadaceae), ‘Yeda chettu’ Peruru, RRM 10325
Eye infection: Two drops of leaf juice is instilled into the eyes twice daily.
- Leucas aspera* (Willd.) Link (Lamiaceae), ‘Tummi’
Ellendu, RRM 10277
***Ophthalmic disease:** Two drops of flower juice is instilled into eyes once a day till cure.
- Memecylon edule* Roxb. (Melastomataceae), ‘Alli chettu’ Yetapaka, RRM 10206
Ophthalmic disease: Three drops of leaf juice is instilled into eyes once a day for four days.
- Moringa oleifera* Lam. (Moringaceae), ‘Karumunaga’
Vajedu, RRM 10307
***Clear vision:** Leaf juice is taken orally once daily till cure.
- Murraya koenigii* (L.) Spreng. (Rutaceae), Karivepaku
E: Curry leaf Kamayapalli, RRM 10341
***Night blindness:** Leaf chutney is taken with food once a day till cure.
- Nerium oleander* L. (Apocynaceae), ‘Ganneru’
Bayyaram, RRM 10232
- Eye infection:** Two drops of tender leaf juice is instilled into eyes once a day till cure.
- Pongamia pinnata* (L.) Pierre (Fabaceae), ‘Ganuga’
Ramakrishnapuram, RRM 10413
Night blindness: Seed paste is used as eyetex once a day till cure.
- Psidium guajava* L. (Myrtaceae), ‘Jama’ Jannaram,
RRM 10480
Eye infection: Two drops of flower juice is instilled into the eyes once a day till cure.
- Rauvolfia serpentina* (L.) Benth. ex Kurz (Apocynaceae), ‘Pathalagaridi’ Tekulapalem, RRM 10463
***Night blindness:** Leaf juice is instilled into the eyes once a day for 5-7 days.
- Ricinus communis* L. (Euphorbiaceae), ‘Amudamu’
Vissapuram, RRM 10492
Night blindness: Tender leaves are eaten once daily till cure.
- Rotheca serrata* (L.) Steane & Mabb. (Verbenaceae), ‘Bommalamarri’ Gummadi Doddi RRM10159
Eye infection: Two drops of leaf juice is instilled into the eyes once a day for two days.
- Strychnos potatorum* L.f. (Loganiaceae), ‘Chinna musti’
Chikupalli, RRM10444
***Night blindness:** Fine paste of seeds is applied on the eyes once a day till cure.
- Terminalia bellirica* (Gaertn.) Roxb. (Combretaceae), ‘Tani’ Chikupalli, RRM 10145
***Eye infection:** Fruit along with those of *Terminalia chebula* and *Phyllanthus emblica* are powdered and filtered with a cloth is administered in a 10 gm dose during night with lukewarm water once a day. For blood pressure and eye vision the medicine is taken in the early morning.
***Clear vision:** Fruit along with those of *Terminalia chebula* and *Phyllanthus emblica* are powdered and fried in cow ghee is taken in one spoonful along with a cup of cow milk once a day till cure.

Results and discussion

The present study deals with 21 species of plants covering 21 genera and 16 families used by the tribes of Khammam district for curing eye diseases viz., clear vision, eye infection, night blindness, sore eyes. Fabaceae is the dominant family with three species followed by Rutaceae, Apocynaceae and Euphorbiaceae with two species each and others with one species each.

Table 1. Some plants of Khammam district used for similar purposes in India and its neighbouring countries.

S.No.	Plant species	Tribes/Area/Region/Country	Reference(s)
1.	<i>Gymnema sylvestre</i>	Korku, Gond, Bharia, Mabasi of Pachmarhi forest, Madhya Pradesh	Jain & Patole 2001
2.	<i>Rotheca serrata</i>	Chenchu of Gundlabrahmeswaram in Nallamalai hills of Andhra Pradesh	Yasodamma <i>et al.</i> 2009
3.	<i>Azadirachta indica</i> , <i>Moringa oleifera</i>	Local people of 11 districts of Karnataka	Shiddamallayya <i>et al.</i> 2010
4.	<i>Chamaecrista absus</i> , <i>Euphorbia hirta</i> , <i>Leucas aspera</i>	Chenchu of Nallamala forests, Andhra Pradesh	Ratnam <i>et al.</i> 2010
5.	<i>Ricinus communis</i>	Malasar of Velliangiri hills of Western Ghats, Tamil Nadu	Murugesan <i>et al.</i> 2011
6.	<i>Artemisia vulgaris</i>	Konda kapu, Konda dora, Valmiki, Konda kammara, Manyadora of East Godavari district, Andhra Pradesh	Rudrapal <i>et al.</i> 2012
7.	<i>Leucas aspera</i>	Gond, Korku of Hoshangabad district, Madhya Pradesh	Kumar 2012
8.	<i>Azadirachta indica</i>	People of Chittagong, Bangladesh	Baul & Mohiuddin, 2012
9.	<i>Euphorbia hirta</i>	People of Mandi district, Himachal Pradesh	Sharma <i>et al.</i> 2015
10.	<i>Moringa oleifera</i>	People of Sambalpur district, Odisha	Debta <i>et al.</i> 2016
11.	<i>Euphorbia hirta</i> , <i>Terminalia bellirica</i>	People of Kullu district, Himachal Pradesh	Kumari <i>et al.</i> 2016
12.	<i>Euphorbia hirta</i> , <i>Rauwolfia serpentina</i>	People of Kutch district of Gujarat and Nepal	Mathur & Joshi 2016

Habit-wise analysis showed the dominance of trees with 10 species followed by herbs and shrubs (5 spp. each) and a lone climber. Morphological analysis showed the maximum utilization of leaf in 14 practices followed by seeds (3), flowers and fruits (2 each) and latex (1). They are administered either in the form of juice, paste or eye tex along with either cow milk or gingelly oil. Of the 22 practices 12 were found to be new or less known (Jain 1991, Kirtikar & Basu 2003). Plants used for similar purpose by various tribes in different parts of India, Bangladesh and Nepal are presented in Table 1.

The tribes are largely dependent on traditional healthcare system. Traditional beliefs of the tribes of Khammam district also have their own unintentional role in the conservation and sustainable utilization of medicinal plants. Hence, efforts should be made to protect these species of the area by involving local tribal communities in the preservation and conservation.

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