Ethnomedicinal plants used to cure jaundice in Khammam District of Andhra Pradesh, India

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Abstract
Twenty eight species included in 27 genera and 20 families are used to cure jaundice by the tribals of Khammam district, Andhra Pradesh. Half of the plants are herbs and one fourth trees. Euphorbiaceae and Cucurbitaceae are the dominant families. The ethnomedicinal practices involved plants ranging from one to five.

Keywords: Ethnomedicine, Jaundice, Khammam district, Andhra Pradesh

INTRODUCTION
Khammam district came into existence on October 1, 1953. It was carved out from the taluks of Warangal and East Godavari districts and occupies an area of 16,029 km² covering 46 Mandal Praja Parishads. It lies between 16° 45' and 18° 35' North latitude and between 79° 47' and 80° 47' East longitude. The total population of the district is 25,78,927 of which 6,82,617 (26.46%) are scheduled tribes as per 2001 census. The district presents a rough topography with dissected uplands and hills, which some times exceeds 600 m. Temperature varies from 10 to 44° C. The average rainfall of the district is 1045 mm. The main tribes of the district are Koyas, Gonds/Naikpods, Lambadas and Konda Reddis. The district has more than 52.6% forest land with 5 divisions. Dry deciduous, moist deciduous, riparian, scrub and grass land forest types are predominant. Though jaundice is an important disease exclusive studies on it are not many (Nagaraju and Rao 1990, Rajendran et al. 1996, Borthakur et al. 2004, Padma Rao et al. 2007, Binu 2009, Sarkar and Das 2010, Rao et al. 2011) necessitating the present investigation in Khammam district of Andhra Pradesh state.

METHODOLOGY
An ethnobotanical survey was conducted during 2008-11 among the tribal communities of the district. Elder people, medicine men, tribal physicians and village old mothers were consulted to record first-hand information on ethnomedicinal uses, methods of preparation and administration of crude drugs. The information from the tribal people was compared with literature. The voucher specimens were deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam.

Enumeration

Acalypha indica L. Euphorbiaceae VN: Muripinda E: Indian acalypha
Two spoonful of leaf juice mixed with a pinch of salt is administered twice a day for 6 days.

Andrographis paniculata (Burm. f.) Wall. ex Nees Acanthaceae VN: Nela veemu E: King of bitters
Fifty ml of whole plant decoction mixed with half spoon of dried ginger powder is administered twice a day for 7 days.

Aristolochia bracteolata Lam. Aristolochiaceae VN: Gadidagapa E: Bracteated birth wort
Twenty ml of leaf juice is administered twice a day for 5 days.

Asparagus racemosus Willd. Liliaceae VN: Pilli peechera, E: Climbing asparagus
Two spoonful of tuber decoction is taken orally twice a day for 5 days.

Azadirachta indica A. Juss. Meliaceae VN: Vepa
Two spoonful of stem bark decoction is taken orally twice a day for 5 days.

Balanites aegyptiaca (L.) Del. Balanitaceae VN: Gara E: Zachun-oil tree
Fruit pulp ground with whole plant of Boerhavia diffusa is administered in one spoonful once a day till cure.

Cassia fistula L. Caesalpiniaceae VN: Aru chettu, E: Indian laburnum
Tender leaves ground with tamarind is taken with rice orally once a day till cure.

Cordia dichotoma Forst. f. Boraginaceae VN: Eriki E: Sebesten plum
Two spoonful of leaf paste mixed with a cup of water is taken orally twice a day for 3 days.

Diplocyclos palmatus (L.) Jeffrey Cucurbitaceae VN: Pinna chettu, Linga donda
Thirty ml of whole plant decoction is administered twice a day for 3 to 5 days.

Ficus carica L. Moraceae VN: Anjooramu E: Common fig.
Twenty ml of leaf juice mixed with a cup of goat milk is administered early in the morning once a day for 3 days.

Holarrhena pubescens (Roxb. ex Fleming) Wall. Apocynaceae VN: Pala, E: Ivory tree

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Stem bark mixed with whole plant of *Andrographis paniculata* is ground and made into peanut seed size pills and one pill is administered twice a day for 6 days.

_Hygrophiula auriculata* (Schum.)Heine Acanthaceae VN: Guruvidi E: Long-leaved barleria

Root, roots of bajra and male inflorescence of *Borassus flabellifer* are roasted and powdered and 10 g of powder mixed with a glass of water is administered twice a day for 5 days.

_Jatropha gossypifo1a* L. Euphorbiaceae VN: Nalla adavi amudam E: Bronze leaved physic nut.

Tender leaves are ground with tomato fruit and the paste is eaten with rice only once.

_Leucas aspera* (Willd.) Link. Lamiaceae VN: Thumbe

Flower paste is applied as eyetext once a day till cure.

_Luffa acutangula* (L.) Roxb. Cucurbitaceae VN: Chedu beera E: Ridged gourd

Three drops of fruit juice is instilled into the nose once a day for 3 days.

_Merremia aegyptia* (L.) Urban. Convolvulaceae VN: Eluka chevi aku

Leaves are ground and 30 ml of the extracted juice is taken once a day till cure.

_Momordica charantia* L. Cucurbitaceae VN: Kakara E: Bitter gourd

Leaf juice mixed with a pinch of turmeric powder is administered in two spoonful once a day for 3 days.

_Murraya koenigii* (L.) Spreng. Rutaceae VN: Karivepaku E: Curry leaf

Leaf powder mixed with honey is administered daily once for 7 days.

_Nymphaea nouchali* Burm.f. Nymphaeaceae VN: Kaluva

Three spoonful of tuber powder mixed with one spoon of honey is taken early in the morning twice a day for 5-7 days.

_Pavetta indica* L. Rubiaceae VN: Papidi E: White paveta

Ten ml of root decoction is taken twice a day for 5-7 days.

_Phyllanthus amarus* Schum. & Thonn. Euphorbiaceae VN: Nela usini E: Kirineli

Whole plant decoction mixed with cumin seed powder is administered in two spoonful twice a day till cure.

_Solanum nigrum* L. Solanaceae VN: Nallibuddakasi E: Black night shade

Two spoonful of whole plant decoction is administered twice a day for 5 days.

_Tinospora cordifolia* (Willd.) Miers ex Hook.f. & Thoms. Menispermaceae

VN: Tippa teega E: Gulancha tinospora

Whole plant decoction is administered in 30 ml dose once daily for 7 days.

_Trianthema decandra* L. Aizoaceae VN: Tella galijeru

Leaves with tuberous roots of *Mirabilis jalapa, Boerhavia chinensis*, seeds of *Piper nigrum* and bulbs of *Allium sativum* taken in equal quantities are ground. Two spoonful of paste mixed in a glass of buttermilk is administered daily once early in the morning for 11 days.

_Trianthema portulacastrum* L. Aizoaceae VN: Yerra galijereu E: Horse-purslane

Two spoonful of whole plant paste mixed with one spoon of pepper powder is administered twice a day for 7 days.

_Tridax procumbens* L. Asteraceae VN: Gayapaaku E: Coat-buttons

Whole plant along with that of *Euphorbia hirta* is made into juice and two spoonful of it mixed with a spoon of old jaggery is taken orally once a day for 7 days.

_Wedelia chinensis* (Osb.) Merr. Asteraceae VN: Pasupuchamanthi

Three spoonful of stem decoction is administered with a spoon of honey twice a day till cure.

_Ziziphus mauritiana* Lam. Rhamnaceae VN: Regu E: Indian jujube

Three spoonful of stem bark decoction mixed with one spoon of honey is administered twice a day for 5-7 days.

RESULTS AND DISCUSSION

The present study yielded 28 species belonging to 27 genera and 20 families used for curing jaundice by the aborigines of the district. Half of them are herbs (14) and the rest trees (7), climbers (4) and shrubs (3). Euphorbiaceae and Cucurbitaceae are the dominant families (3 each) followed by Asteraceae and Aizoaceae (2 each) and others representing one family each. Except six all the practices (22) involved one plant only. The combination practices involved 2-5 plants. *Phyllanthus amarus* is widely used to cure jaundice in different regions of Andhra Pradesh (Nagaraju and Rao, 1990, Rajendran et al. 1996, Padma Rao et al. 2007, Rao et al. 2011) and in Pathanamthitta district of Kerala (Bini 2009). *Andrographis paniculata* is reported to cure jaundice in Andhra Pradesh (Padma Rao et al. 2007 and Rao et al. 2011) as well as in Assam (Borthakur et al. 2004). *Asparagus racemosus* is reported for the same purpose by Nagaraju and Rao (1990), Rajendran et al. (1996), Borthakur et al. (2004) and Rao et al. (2011). *Azadirachta indica, Cassia fistula, Hygrophila auriculata* (Nagaraju and Rao 1990, Rajendran et al. 1996), *Leucas aspera, Trian1hema portulacastrum* (Padma Rao et al. 2007 and Rao et al. 2011) and *Tinospora cordifolia* (Nagaraju and Rao 1990, Rao et al. 2011) are also used to cure jaundice in different parts of Andhra Pradesh.

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REFERENCES


