ABSTRACT

Objective: The present paper deals the studies on traditional medicinal plants used by ethnic groups like Konda Dora, Konda Kamma, Konda Kapu, Konda Reddi, Koya Dora, Manne Dora and Valmiki of East Godavari District, Andhra Pradesh, India.

Methods: The native plants used for medicinal purposes by few people were collected through structural questionnaire and personally interviewed during field trips during 2008-2013.

Results: A total of 90 medicinal plant species belonging to 45 families are using to treat 44 types of ailments were noted and collected during the surveys. Out of 90 plant species the dominant life form is herbs (32) followed by shrubs (24), trees (24), climbers (05), creepers (04) and lamas (01). The tribal’s using different plant parts and different forms of the drug. Among them roots and paste form and oral form of medication is occupied higher percentage. The plant based drugs were prepared by using them for the admixture of cow milk, garlic, gingelly oil, pepper, turmeric powder and other parts of the plant.

Conclusion: The indigenous knowledge of traditional healers of these ethnic groups has been disappearing due to decreasing the number of ancestors as well as followers. Only few people are practicing with little knowledge which was transmitted orally from their elders. A few aged persons are still able to furnish traditional ethnomedical values and continue to depend on medicinal plants at least for the treatment of primary healthcare. Hence the present study had been focused on the documentation of ethnic knowledge of East Godavari District. The documented information is useful for scientists, drug designers, medicinal plant boards and other scientific bodies for isolation of active ingredients to effective treatment.

Keywords: Ethnic groups, Medicinal plants, Traditional knowledge, East Godavari District.
Kms occupying a major portion of the delta area. The District lies North-East Coast of Andhra Pradesh and bounded on the North by Visakhapatnam District and the State of Orissa, on the East and the South by the Bay of Bengal and on the West by Khammam and West Godavari Districts (Fig. 1). Agency or hilly tracts consists of 07 mandals were selected for the present study as most of the ethnic groups are inhabited to this area. The district in the geographical condition of 16°30’ and 18°20’ of Northern latitude and 81°30’ and 82°36’ of Eastern latitude situated on the Northern part of Andhra Pradesh. The District can be broadly classified into three natural divisions namely the Delta, Upland and Agency or hill tracts. The general elevation of the district varies from a few meters near the sea to about 300 meters in the hills of the agency. The Eastern Ghats rise by gradations from the level of the coast and spread throughout the erstwhile agency Taluks of Rampachodavaram and Yellavaram. The forest area of the district is 3, 34,193.79 ha and nearly 30% of the total area is under forests. It is inhabited by 1, 91,561 tribal people comprising 3.91% of the total population. The major tribal communities are Konda Dora, Konda Kammaru, Konda Kapu, Konda Reddi, Koya Dora, Manne Dora and Valmiki.

RESULTS AND DISCUSSION

The study revealed 90 medicinal plant species belonging to 45 families used by leaders of ethnic groups. The plants were used to treat 46 human ailments (Table 1, Fig. 2). Of the species, the majority of (74%) species obtained from the wild and remaining are cultivated (26%). According to the habit of plants- herbs are the most utilized plants (32) followed by shrubs (24), trees (24), climbers (05), lianas (01) and creepers (04) (Fig.3). Different parts of the medicinal plants are using by the traditional practitioners, among them leaves (34%) are used for the preparation of medicines predominantly followed by roots (25%), fruits (12%), root tuber (07%), stem bark (07%), leaf latex (03%), rhizome (03%) whole plant (03%), flower (02%), root bark (02%) seed (01%) and stem (01%) (Fig.4). The most prevalent methods of drug preparation are paste (31%) followed by powder (27%), decoction (17%), juice (12%), natural form (07%), crushed form (02%), fumes (02%) capsules (01%) and tonic (01%) (Fig. 5). Preference ranking exercise on plants used against Wounds followed by Dysentery and Skin disease. 54% remedies are applied through oral route, 41% are applied topically and 5% are inhaled through nose (Fig. 6).

During the survey it was found that the practitioners of East Godavari District collect medicinal plants from variety of habitats mainly wild plants collected from nearby forests areas. For the preparation of drugs, the practitioners mainly using two methods. In the first method, drug preparation was done by shade drying and then pounding of the plant parts to form powder. The infusion or decoction of this powder is prepared after boiling with water. In the second method, pellets were prepared after mixing with honey or with other lubricant like oil of plants. Plants are used either single or in combination.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Scientific and Vernacular name</th>
<th>Family</th>
<th>Habit and Part used</th>
<th>Medicinal use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Abrus precatorius Linn. (Gurivinda)</td>
<td>Fabaceae</td>
<td>Creeper (Seed)</td>
<td>1 gm of Seed Powder taken orally with glass of hot water 3 days for Contraceptive.</td>
</tr>
<tr>
<td>2.</td>
<td>Acalypha indica Linn. (Kuppinta)</td>
<td>Euphorbiaceae</td>
<td>Herb (Leaf)</td>
<td>Leaf paste with lime and turmeric powder applied topically 3-6 days for the treatment of Skin disease.</td>
</tr>
</tbody>
</table>
3. **Achyranthes aspera** Linn. (Uthareni) - Amaranthaceae - Herb - Decoction from root and Terminalia chebula fruits are taken orally for Jaundice.

4. **Acorus calamus** Linn. (Vasa) - Araceae - (Root) - Rhizome Powder with glass of water taken orally for Cough and Squeeze rhizome in clean water, pore 2-3 drops in the nose for cold.

5. **Adhatoda zeylanica** Medik. (Addasaram) - Acanthaceae - Shrub - Capsules made from leaves taken orally for relief from Cough.

6. **Aegle marmelos** Linn. (Medu) (Maredu) - Rutaceae - Tree - Spoonful of Fruit juice taken orally for 2-3 days for the treatment of Dysentery.

7. **Ageratum conyzoides** Linn. (Pumpalu) - Asteraceae - Leaf - Leaf Powder with gingelly oil applied externally for the treatment of itching.


9. **Alstonia scholaris** R.Br. (Edakulapala) - Apocynaceae - (Stem bark) - Stem Bark Decoction taken orally 3 times per day for 2-3 days for the treatment of Malaria.

10. **Aloe vera** (Borugadu) - Liliaceae - Herb - Natural form of fresh sap from leaf rubbed externally for the treatment of Rheumatism.

11. **Andrographis paniculata** (Burm.f.) Wall.ex Nees. (Nelavemu) - Acanthaceae - Herb - Decoction from leaves and dried zinger are taken orally for indigestion.

12. **Argyreia nervosa** (Burm.f.) Bojer., (Samudrapala) - Convolvulaceae - Shrub - Leaf powder taken orally with honey for the treatment of stomach ulcers.


14. **Asparagus racemosus** Willd. (Pillithigalagi) - Liliaceae - (Root) - Root Decoction taken orally 1-2 days for the treatment of Diarrhea.

15. **Bauhinia purpurea** Linn. (Devaka kanchanamu) - Caesalpiniaceae - Leaf - Stem bark Powder taken orally 3 times for per day for the treatment of Leucorrhoea.


17. **Benincasa hispida** (Thunb.) Cogn. (Budda gummadi) - Cucurbitaceae - Creeper - Paste from fruit and dried zinger taken orally for Stomachache.

18. **Biddis pilosi** Linn. (Rakkala rani) - Asteraceae - (Leaf) - Leaf Paste poultice to externally for the treatment of Whitlow.

19. **Bixa orellana** Linn. (Jaffra) - Bixaceae - Tree - Root Decoction taken orally 2 times per day for Fever.

20. **Boerhavia diffusa** Linn. (Atuka mamyid) - Nyctaginaceae - Herb - Spoonful of Root Decoction taken orally 1 week for Jaundice.

21. **Bombax ceiba** Linn. (Buruga) - Bombacaceae - (Root) - Root Powder taken orally with glass of cow milk increases the Fertility.

22. **Boswellia serrata** Roxb. ex Colebr. (Induga) - Burseraceae - Tree - Teaspoon Stem bark Decoction taken orally 3 times per day for 3 days for the treatment of Diarrhea.

23. **Butea monosperma** (Lam.) Taub. (Mo-dug) - Fabaceae - (Stem bark) - Root bark Paste applied externally for the treatment of Wounds.


25. **Canna indica** Linn. (Metta thamara) - Cannaceae - Shrub - Paste from root tuber and turmeric powder is applied topically for the treatment of Ringworm.

26. **Carica papaya** Linn. (Boppayi) - Caricaceae - Tree - Natural form of fruit taken orally is used as Galactogaugue.

27. **Cascabela thevetia** (Linn.) Lipp. (Pachha gamuru) - Apocynaceae - Tree - Leaf juice along with honey and lime applied topically for the treatment of Skin diseases.

28. **Cassia alata** Linn. (Seema avina) - Caesalpiniaceae - Shrub - Juice from leaves with turmeric applied externally for Eczema.

29. **Cassia auriculata** Linn. (Thangedu) - Caesalpiniaceae - Shrub - Leaf Juice taken orally for the treatment of Dysentery.

30. **Cassia fistula** Linn. (Rela) - Caesalpiniaceae - Tree - Teaspoonful flower Powder taken orally for one time per day for one week for the treatment of Jaundice.

31. **Ceiba pentandra** (Linn.) Gaertn. (Tellu buruga) - Bombacaceae - Tree - Stem bark Paste poultice on diagnosed part for the treatment of Skin disease.

32. **Celosia argentea** Linn. var. plumose (Mayuravish) - Amaranthaceae - (Stem bark) - Juice from leaves along with honey taken orally for the treatment of stomach Ulcers.

33. **Cipadessa baccifera** (Roth) Miq. (Phaladonda) - Meliaceae - Shrub - Leaf Juice along with turmeric powder applied externally for the treatment of Chickenpox.

34. **Cissampelos pareira** Linn. (Chiru boddi) - Menispermaceae - Climber - Root Powder taken orally with a glass of hot water for Stomachache.

35. **Cissus quadrangularis** Linn. (Nalluru) - Vitaceae - Climber - Spoonful of Stem Paste taken orally for 20-30 days for the treatment of Paralysis.

36. **Coldenia procumbens** Linn. (Hamsa paidu) - Boraginaceae - Herb - Crushed form of leaves poultice to affected part for the treatment of Rheumatism.
74. *Leonotis nepetifolia* (Linn.) R. Br.  
Lamiaceae  
Herb  
Flower Paste applied externally for cuts and wounds.
### Fig. 2: List of some important medicinal plant photographs with their scientific names

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Habitat Type</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lucas aspera (Roth) Spreng.</td>
<td>Lamiaceae</td>
<td>Herb</td>
<td>Leaf juice poured at nostrils for the treatment of nasal congestion.</td>
</tr>
<tr>
<td>Madhuca indica (Ippa)</td>
<td>Sapotaceae</td>
<td>Tree</td>
<td>Fruit powder taken orally for diagnosis of dysentery.</td>
</tr>
<tr>
<td>Maerua oblongifolia (Forsk.)</td>
<td>Capparidaceae</td>
<td>Climber</td>
<td>The natural form raw root bulb with pepper is taken orally for diabetes.</td>
</tr>
<tr>
<td>Marsilea quadrifolia Linn.</td>
<td>Marsileaceae</td>
<td>Leaf</td>
<td>Leaf paste poultice to use for skin diseases.</td>
</tr>
<tr>
<td>Mucuna pruriens (Linn.) DC. (Dula dama)</td>
<td>Fabaceae</td>
<td>Climber</td>
<td>Fruit decoction taken orally and poultice at sting point for the treatment of scorpion sting.</td>
</tr>
<tr>
<td>Musa paradisiaca Linn.</td>
<td>Musaceae</td>
<td>Shrub</td>
<td>Root tuber paste taken orally for the treatment of dysentery.</td>
</tr>
<tr>
<td>Piper longum L.</td>
<td>Piperaceae</td>
<td>Creeper</td>
<td>The paste was prepared by using seeds of Trachyspermum ammi, fruits of Cuminum cyminum, Piper longum and bulb of Allium sativum is applied topically for the treatment of rheumatic pains.</td>
</tr>
</tbody>
</table>

### Fig. 3: Habitat wise distribution of Medicinal plants used by ethnic groups of East Godavari District

- **Climbers**: 35%
- **Creepers**: 30%
- **Herbs**: 10%
- **Leaves**: 5%
- **Fruits**: 25%
- **Leaf Latex**: 3%

### Fig. 4: Percentage of medicinal plant parts used by ethnic groups of East Godavari District

- **Seed**: 1%
- **Stem bark**: 7%
- **Stem**: 1%
- **Whole plant**: 3%
- **Flower**: 2%
- **Fruit**: 12%
- **Leaf**: 34%
Fig. 5: Percentage of different forms of drugs used by ethnic groups of East Godavari Dist

The most treatments were reported to be completed within three days. Somewhat are weeks to months. Biting or Snake bite treatment healers keep the patients under continuous observation till antivenin. The patients were considered only after confirmation of the patient's health. To tasteless and dosage is required to return to normal. Liquid remedies are usually measured by spoon or cup or number of drops. Patients did not show any sign of recovery to antivenin by the healers. The present study is providing additional information compared to previous studies. The ethnic groups of this district. The present study and additional information are recorded as endemic and related to the area.

CONCLUSION

Medicinal plants are still playing a significant role of various human diseases in the study area. Lead in the number of plants used in the preparation of remedies, which may be an indication of their relatively compared to other life forms. Traditional medicine is important not only for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to develop and market values but also for its potential to development and market values but also for its potential to development and market values but also for its potential to development and market values 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