Medicinal plants used by ethnic people of Medak district, Andhra Pradesh

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Ethnobotanical studies of Medak district yielded 80 angiospermic medicinal plants in the course of field surveys from 2002-2006. All the taxa have been collected, identified and data documented in consultation with the local old-age tribal people especially from Natuvaidyas village and elders cum owners of cattle, goat and sheep. In the enumeration, data is presented with botanical name, family, vernacular name, and uses.

Keywords: Ethnomedicine, Medicinal Plants, Andhra Pradesh

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India is endowed with a rich biological heritage and possesses more than 53m tribal people belonging to 300 tribal communities, constituting about 8% of the total population of the country. The tribal knowledge regarding use of plant species for various purposes depend on the surrounding plants. With the process of civilization and urbanization rapidly advancing, there is an imminent damage of losing forever these valued treasures of information. Concurrently, the knowledge about ethnic therapies should also be restored and maintained, as this provides enormous data regarding the medicinal properties of plants not known to the modern men. Medak, one of the 10 districts of Telangana region of Andhra Pradesh, lies between 17°27' and 18°18' Northern latitude and 77°28' and 79°10' of Eastern longitude. It was originally known as Methukudurgam, which subsequently changed into Methuku due to the cultivation of fine and coarse rice in this area. The total geographical area of the district is 9,699 sq km, accounting for 3.5% of the total area of the state. The district is bounded on the North by Nizamabad and Karimnagar districts, on the East by Warangal and Nalagonda districts, on the South by Ranga Reddy district and on the West by Bidar district of Karnataka state. The elevation of the ground in the district is between 500–600 m with occasional hills up to 638m above the Mean Sea Level. The soils are mainly red earths comprising loamy sands, sandy loams and sandy-clay loams. The climate is characterized by a hot summer and generally dry weather with some pleasing showers, except during the Southwest monsoon season. The average annual rainfall is 896.7 mm, and it increases from the South towards northern parts of Medak. The mean daily maximum temperature is about 40°C and the mean daily minimum temperature is about 26°C. During the cold season, the night temperature may sometimes go down to about 6°C. The forests are of southern tropical dry deciduous type and account for 9.9% of the total geographical area. Plant crude drugs, which include 80 plant species of 72 genera representing 47 families of Magnoliophyta have been in use as traditional medicine for myriad of diseases and disorders in Medak district. Of these, Asclepiadaceae, Amaranthaceae and Caesalpiniaceae are the dominant families. The available information on ethnomedicine (human and veterinary) is not only scanty but also scattered for Andhra Pradesh in general and Medak district in particular. The information is intended to preserve this ethnic knowledge by documenting and providing information on the plant-based ethno human and veterinary curative techniques found in Medak district of Andhra Pradesh for various diseases/ailments.

Methodology

The data is an outcome of extensive survey of medicinal plants in the Medak district conducted...
during 2002 to 2006. For this purpose, aged ethnic male cum owners of cattle, goat and sheep, besides the local vaidyas and elderly people, whose empirical knowledge was respected by every one in the area, were interviewed. Data on local name of folk drug plants, parts used, methods of preparation, dosage recommended, and precautions (if any) were recorded. Medicine men were requested to accompany in the field to facilitate the identification of different plant drugs specially employed by them to treat the diseases. The information was also discussed with different medicine men in other localities to validate the claims as far as possible. Based on the information and material provided by medicine men, the weight measurements in dosage forms were determined by using a scale either in the field or camp and names of all key informants were noted. In the preliminary study, many angiospermic medicinal plants have been collected, identified and confirmed with herbarium of Botanical Survey of India (BSI), Coimbatore. All the medicinal plants, following standard methods have been housed in the Herbarium of the Laila Research Centre, Vijayawada, Andhra Pradesh for further reference.

Enumeration

The information gathered on ethnomedicinal uses for different diseases and disorders in the Medak district by the local tribal inhabitants and herbal practitioners are enumerated with scientific names of the plant species, family name in parentheses, local name and ethnomedicinal uses.

- Abutilon indicum (L.) Sweet, (Malvaceae), Botla benda, Gotla benda

  Uses: For curing leucorrhoea, leaves and stem bark are chewed and the sap is swallowed. Leaf paste is soaked in pudding in a mud pot, tied with lid, soaked pot kept in soil for 3 days for fermentation and fermented leaf extract is administered daily twice for three days. During diarrhoea, stem bark extract is administered daily thrice for three days and in abdominal diseases, leaf paste is administered orally twice in a day.

- Acacia torta (Roxb.) Craib., (Mimosaceae), Murikitumma

  Uses: During menstrual pain, stem bark extract crushed with seven peppers is administered daily once for 4-5 days.

- Achyranthes aspera L., (Amaranthaceae), Chiticaalu, Kukkachitika mokka

  Uses: During burns, leaf juice is applied externally as a lotion; during cold & cough, root powder is administered with a cup of cow’s milk daily twice for three days; during scorpion sting, leaf paste is rubbed over the bitten area and during suppression of appetite, seed paste is fried on pan and eaten.

- Aegle marmelos (L.) Correa. (Rutaceae), Bilva, Patri, Maaredu

  Uses: For treating ulcers and maggot infested sores, leaf paste is used as an external application; for anthrax, leaf extract is administered with sufficient quantity of garlic paste daily once for three days. During bone fracture, paste prepared from stem bark extract with pepper and kusuma (Carthamus tinctorius) oil is applied over fracture area and tied with bandage twice in a week for a fortnight. For retained placenta, decoction of leaves with those of tella vavili (Vitex negundo) and sesame seeds is administered orally. For the treatment of opacity of cornea, leaves along with those of Dolichandrone falcata, pinch of common salt and turmeric crushed with goat’s milk is used as an eye drop twice a day until it is cured.

- Ageratum conyzoides L., (Asteraceae), Gana gaaju

  Uses: For kidney stones, leaf extract is administered twice a day.

- Argemone mexicana L., (Papavraceae), Vuluvanjel, Jerripothumokka

  Uses: For eye diseases, latex is applied to the eyes; for skin diseases, latex is used as a lotion while in leucoderma, latex used as an external application. For red leucorrhoea, root extract with cumin seeds and sugar candy is administered daily once for four days.

- Barleria prionitis L., (Acanthaceae), Gattugolmiti, Poddupulupu poolu

  Uses: During gout, whole plant paste is applied externally as an ointment. To increase sexual vigour, seed extract is administered daily once for a fortnight. For curing mouth ulcers, leaves are chewed and sap is swallowed; for oedema, seed paste is taken daily once until it is cured while during toothache, leaf paste is applied over the affected area.

- Biophytum sensitivum (L.) DC., (Oxalidaceae), Atipatti

  Uses: During body pain, leaves boiled in a bucket of water are used for bath while during hydrocele, leaf paste is applied over the affected area.

- Buchanania lanzan Spreng., (Anaciaceae), Morri Morli
Uses: Seed pulp is eaten. Fruit pulp is used for the preparation of ale. During body pain, gum dissolved in cold pudding is applied locally. In case of bone fracture, stem bark crushed with goat milk is administered daily twice for a fortnight.

*Caesalpinia bonduc* (L.) Roxb., (Caesalpiniaceae), *Gaccha*

Uses: Seed paste is administered daily twice for a week as anthelmintic. During fever, decoction of tender tips is administered daily twice; during paralysis, slightly warmed leaf decoction is poured over the affected area daily twice.

*Caesalpinia sepiaria* L., (Capparaceae), *Nalluppi*

Uses: During backache, stem bark extract is administered daily twice for a week; for external tumours and boils, leaf paste with garlic, a pinch of common salt and turmeric powder is used externally daily once for five days.

*Caesalpinia zeylanica* L., (Capparaceae), *Adonda*

Uses: During diabetes, ripe fruits are consumed daily twice for a fortnight and during indigestion, stem bark extract is administered thrice daily.

*Cassia fistula* L., (Caesalpiniaceae), *Rela, rella*

Uses: During rheumatic pain, flower extract is administered daily once for a fortnight; flower paste is administered daily once for one month as general tonic; during insect bite, stem bark paste is applied over reddening area.

*Cassia occidentalis* L., (Caesalpiniaceae), *Pedda chennangi, Advi-chennangi*

Uses: During indigestion, leaf extract is administered twice or thrice a day, until relief; leaf juice is administered as a lotion on wounds; leaf juice is used as eye drop and during rheumatic pain, leaf crushed with *Plumbago zeylanica* (Chitramoolam) root paste is administered with a cup of milk.

*Cassia tora* L., (Caesalpiniaceae), *Tailancha, Tailanchi*

Uses: In maggot infested sores, leaf paste is used as an external application. For external tumours, leaf juice is used as a lotion and in eye diseases in children, leaf paste is applied on eye lids.

*Cassytha filiformis* L., (Lauraceae), *Paachi teega*

Uses: In hydrocele, plant paste used as an external application. During burns, decoction of whole plant boiled in goat urine is applied externally. For easy delivery in cattle, whole plant decoction is administered orally. Plant paste with goat urine is applied and tied with bandage during bone fracture.

*Celosia argentea* L., (Amaranthaceae), *Batukamma puvvu, Gunaka kura*

Uses: For thirst alleviation in children, root decoction is administered thrice in a day. During skin diseases, paste of leaves crushed with those of *Phyllanthus reticulatus* (*Nalla pulicheru*) is applied externally like an ointment. During stomachache, leaves are used as a vegetable.

*Chloroxylon swietenia* DC., (Flindersiaceae), *Tella bitluka*

Uses: Stem bark paste is used as an external application on wounds. In yoke gall, paste of stem bark ash mixed with *kanuga* (*Pongamia pinnata*) oil is applied over the affected area.

*Cissus vitiginea* L., (Vitaceae), *Kuddu dimae*

Uses: During conjunctivitis, stem bark paste with pepper powder and *kusuma* oil is used as an external application. In anthrax, stem bark decoction is administered orally, while stem bark paste is applied externally on wounds.

*Cleome gynandra* L., (Cleomaceae), *Talati, Vaminta*

Uses: During earache, leaf juice is used as ear drops; during cold, leaf juice is administered daily twice. For inducing fertility in women, leaves crushed with the same quantity of pepper and garlic is administered daily once for three days after completion of menstrual period.

*Cocculus hirsutus* (L.) Diels, (Menispermaceae), *Dusaari, Paathala-bheri*

Uses: Tender leaves are used as a curry during mouth ulcers; during leucorrhoea, leaf juice is taken daily twice until cure while during malaria, leaf juice is administered daily twice for three days. During flatulence in cattle, leaf paste with garlic and pepper is given twice daily.

*Cordia obliqua* Willd., (Cordiaceae), *Iriki*

Uses: During body pain, fruit paste is used as an external application while fruit paste is administered daily once for a fortnight during general debility. In case of diarrhoea, stem bark decoction is administered thrice daily.

*Cyperus rotundus* L., (Cyperaceae), *Chiru pungeram*

Uses: Extract of tuber with *Abutilon indicum* (*Botlu benda*) leaves and cumin (*Cuminum cyminum*) seeds is administered daily twice for three days during leucorrhoea. During diabetes, dry tuber powder is administered daily twice.
Dalbergia paniculata Roxb., (Fabaceae), Paccharugu, Pachogi

Uses: In postnatal complaints, stem bark extract is administered with a pinch of pepper powder daily once for one week. For treating baldness and dandruff, paste of dry stem bark powder mixed with neem oil is applied.

Derris scandens (Roxb.) Bentham, (Fabaceae), Nalla teega

Uses: Leaf juice is used as ear drops during earache. Leaf juice is administered daily in case of general debility. To increase potency and in nervous diseases, leaf extract is administered daily; during cold, cough and neck pain, leaf decoction is administered with a pinch of pepper powder daily.

Digera muricata (L.) Mart., (Amaranthaceae), Pindikura, Shanchalaaku

Uses: During constipation, leaves used as a vegetable; for kidney stones, tender tips extract is administered daily once until cured.

Diplocyclos palmaus (L.) C. Jeffrey, (Cucurbitaceae), Sivadonna, Ningidonna

Uses: During rheumatic swellings in cattle, slightly warmed leaf juice is used as a lotion. In yoke gall, paste prepared from plant stem with Somidi (Soymida febrifuga) stem bark is used as an external application. During stomachache, seeds crushed with seven peppers are taken orally.

Diospyros chloroxylon Roxb., (Ebenaceae), Illinja, Ullintha

Uses: During burns, leaf paste is used as an external application. In rheumatic pain in cattle, leaf crushed with those of Alangium salvifolium (Oodiga) mixed with mud is applied externally. During diarrhoea, leaf paste is administered with one cup of curd thrice in a day.

Dolichandrone atrovirens (Roth) Sprague, (Bignoniacaeae), Neeruddi

Uses: In ephemeral fever, extract of stem bark crushed with those of Anogeissus latifolia (Chiramanu) is given orally. During oedema, paste of bark crushed with Hygrophila auriculata (gobbi) leaves, pepper, garlic, turmeric and common salt is used as pickle.

Enicostemma axillare (Lam.) A. Raynal, (Gentianaceae), Raeshkha, Resca

Uses: For curing constipation in cattle, plant extract is administered twice or thrice daily. During menstrual pain, leaf extract is administered twice a day for three days; during intermittent fever, whole plant decoction is administered daily once for five days. During horn cancer, whole plant crushed with leaves of sabja (Ocimum basilicum), roots of Plumbago zeylanica, turmeric and earthworms is administered once a day. For boils, ulcers and wounds in cattle, whole plant paste with garlic and ginger is used externally.

Ficus hispida L.f., (Moraceae), Bommidi, Budda chettu

Uses: During diabetes, ripe fruits are consumed daily; for ulcers, burns, and wounds, tender leaf juice is used as lotion.

Gymnema sylvestre (Retz.) R.Br. ex Schult., (Asclepiadaceae), Poda patri, Teepi tiga

Uses: Leaf powder is administered twice daily during gastric trouble; leaf powder is administered daily in diabetes and in eye diseases, leaf juice is used as an eye drop.

Holoptelia integrifolia (Roxb.) Planch., (Ulmaceae), Nemali naara, Bai badangi

Uses: For rheumatic problems, stem bark extract is administered daily. During body swellings, stem fiber is used as a bandage thread over affected parts; during sprains, stem bark paste is used as an external application. During rheumatism in cattle, stem bark extract is administered daily once for a week.

Hygrophila auriculata (Schum.) Heine, (Acanthaceae), Gotamiti, Neeru gobbi

Uses: During body swellings and rheumatism, leaves are used as a curry daily; in oedema, root decoction is administered twice in a daily until cured.

Hypitis suaveolens (L.) Poit., (Lamiaceae), Maa beera, Peddinguva koora

Uses: During snakebite, leaf juice is used as lotion and also leaf extract is taken thrice daily.

Ipomoea obscura (L.) Ker.-Gowl., (Convolvulaceae), Golmadditiga, Machaaku

Uses: During acute stomachache, leaf extract is administered. In horn cancer, leaf decoction in gingelly oil (Sesamum indicum) is administered daily.

Martynia annua L., (Martyniaceae), Telukondi

Uses: To ward off bed bugs, chopped aerial parts are kept inside the beds; to kill lice and bugs in cattle sheds, plants are strewn in the cattle sheds.

Maytenus emarginata (Willd.), Ding Hou, (Celastraceae), Danthi

Uses: During mouth ulcer, tender shoots are chewed and the sap is swallowed. For treating boils and wounds, leaves crushed with those of Ximenia americana (Adavi nakkera) are used externally. During diarrhoea, tender tips crushed with those of
**Diospyros chloroxylon** (*Ullintha*), mixed in with curd is administered; during burning micturition, stem bark powder mixed with *Phoenix sylvestris* toddy (*Sendhi*) is administered and in epilepsy, paste prepared from root bark crushed with those of *Bauhinia racemosa* and earthworms is administered daily.

**Mitragyna parvifolia** (Roxb.) Korth., (Rubiaceae), *Rudraganam*

Uses: In rheumatism, stem bark extract is administered daily.

**Pentanema indicum** (L.) Ling, (Asteraceae), *Aggikura chettu, Adavi chemanthi*

Uses: During insect bite, leaf juice is used as a lotion. Root extract taken daily once in three days during menstrual period acts as an antifertility agent in women.

**Pergularia daemia** (Forssk.) Chiov., (Asclepiadaceae), *Gutaguta, jitta*

Uses: During cold, flower and fruit extract is administered daily twice for three days; in stomachache, aerial parts extract is administered twice daily. In gout, leaf juice mixed with wheat flour paste is applied and tied with bandage.

**Phyllanthus amarus** Schum.& Thonn., (Euphorbiaceae), *Nelusiri*

Uses: In case of burning micturition, extract of aerial parts crushed with cumin seeds is taken; pus oozing in ears, aerial parts crushed with cumin seeds and sugar is administered. During ephemeral fever, paste prepared from whole plant crushed with turmeric and common salt is fermented in two litres of toddy for 12 hrs, the fermented toddy is administered daily once for four days.

**Phyllanthus reticulatus** Poiret, (Euphorbiaceae), *Nalla puscheru*

Uses: Leaf decoction is administered daily once for a week in case of piles. For treating dysentery in cattle, leaf juice is administered thrice a day.

**Plumbago zeylanica** L., (Plumbaginaceae), *Tellachitra moolamu*

Uses: During fever, leaves are used in curry; root paste is applied to check tooth decay. To check sterility in women, decoction of root with garlic, and pepper is administered daily twice. Rice is to be taken with ginger pickle only.

**Premna latifolia** Roxb., (Verbenaceae), *Nelli*

Uses: Twigs are burnt and fumes are allowed inside the house or dried stem soaked in the water are used as mosquito repellant. For rheumatism, tender leaves are used as vegetable.
Uses: In case of general debility, fruit powder is administered with a pinch of pepper powder daily and in dog bite, slightly burnt seed paste is used as an external application.

Soymida febrifuga (Roxb.) A. Juss., (Meliaceae), Somi, somidi

Uses: During body pain, paste of tender tips mixed in a cup of Phoenix sylvestris toddy is administered daily twice for a week; in gynaecological disorders, stem bark paste mixed with Phoenix sylvestris toddy is administered daily once for three days. During dyspepsia, stem bark decoction is administered with sugar daily once for five days and in amenorrhoea, stem bark decoction is administered daily once for three days.

Streblus asper Lour., (Moraceae), Tella barrenka

Uses: In case of leucorrhoea, stem bark decoction is taken daily twice until cured; in babesiosis, stem bark extract is administered twice a day until cured. Fruits are eaten by local people.

Terminalia alata Heyne ex Roth., (Combretaceae), Nalla maddi

Uses: During earache, extract of stem bark crushed with the petiole of Borassus flabellifer (taadi) is used as ear drops; during heart pain, stem bark decoction is administered daily once for three days.

Tinospora cordifolia (Willd.) Miress ex Hook. f. & Thoms., (Menispermaceae), Bael tiga, Tippa teega

Uses: In case of bone fracture and wounds root paste is used externally and tied with bandage. During intermittent fever, stem decoction is administered daily once for three days.

Triumfetta rhomboidea Jacq., (Tiliaceae), Kusanga, Kusangi

Uses: In case of yoke gall, root is chewed and sap is spit over the affected part. During galactogogue, fruits are consumed daily once for 1-2 months.

Tylophora indica (Burm.f.) Merr., (Asclepiadaceae), Mekhameyani aku

Uses: Tender stem extract is administered as diuretic. In case of snakebite, root extract is given orally and root pieces are used as a necklace and in case of anthrax, leaves crushed with stem bark of Annona squamosa (Seethaphal) is given orally. In case of vomiting of poison, fresh leaves crushed with pudding is taken orally and in panting, paste prepared from roots crushed with Tinospora cordifolia (Bael tiga) is administered twice a day for a week.

Ventilago maderaspatana Gaertner, (Rhamnaceae), Surgudutiga, Yerra surgudu

Uses: In case of gout, stem bark paste is used externally and to increase potency, stem bark decoction is administered daily twice for 1-2 months.

Vitex negundo L., (Verbenaceae), Tella vavili, Gaja vavili

Uses: During rheumatic pain, body pain and postnatal complaints, leaves boiled in water is used for bathing. Freshly chopped leaves are used as a pillow for killing lice. During migraine and fever, tender tips paste is applied over the temples and forehead. During indigestion in cattle, leaf paste is fed.

Wattakaka volubilis (L.f.) Stapf, (Asclepiadaceae), Bandi gurja

Uses: During rheumatic pain, leaf paste is used externally and in foot cracks, leaf paste with sesame oil is used as a lotion.

Ximenia americana L., (Olacaceae), Nakker, Nakkeri

Uses: During diabetes, stem bark extract is administered. In maggot-infested sores, seed paste is applied externally. During body pain, stem bark paste is administered with a pinch of pepper powder. In case of tapeworms in children, paste of tender tips is taken daily once for a week and in case of gastric trouble, tender tips paste is administered with one cup of milk. Ripe fruits are eaten by local people.

Results & discussion

The knowledge and usage of herbal medicine for the treatment of various human and veterinary diseases and disorders in local villages is still a major part of tribal life and culture. During the interviews, the beneficiaries, elders and residents of the study area agreed to the efficacy of the herbal formulation suggested by the village herbalists. They also point out that allopathic medicines are expensive and have side effects in comparison to the traditional medicine. This might indicate the reason for the dependence of local peoples on traditional medicine. The mode of use of a particular plant species to cure diseases varies from one dialect to another, even within the same district. Interestingly, the same medicinal plant is often used by the village vaidyas in curing different diseases. It has been observed that some plants are known with different names among tribal groups. Therefore, the use of correct botanical names of plants for international communication among the medicine practitioners is also equally important. During the study, it has been observed that species like Aegle marmelos, Barleria prionitis, Gloriosa superba, Gymnema sylvestre, Plumbago zeylanica, Pseudarthria...
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