



An ethnobotanical survey of medicinal plants used by traditional Healers of Perkapally, Karimnagar district, Telangana, India

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ABSTRACT

Ethnobotanical survey was undertaken to record information on medicinal plants from traditional healers in Perkapally, Karimnagar District, Telangana. The objective of this study to identify the medicinal plants used for treating different diseases. A total of 38 species of ethno medicinal plants belonging to 39 genera and 25 families were reported with the help of standardized questionnaires among three tribal informants between ages of 32-60. The focus was on plants used for infectious conditions and information regarding vernacular plant names, plant parts used, preparation (independently and in various combinations) and application was collected. A total of three lay people, were interviewed on their knowledge of medicinal plants used to treat various diseases like diarrhoea, coughing, diabetes, skin rashes and paralysis, mental disorders. The most plant parts used were leaves (42%), followed by fruits (23%), seeds (18%), bark (18%), flowers (2%), stem (2%) and roots (10%). Highest percentage of leaves are used in preparation. The youth should be encouraged to learn the traditional medicinal knowledge to preserve it from being lost with the older generation. This could be useful in novel drug discovery and to validate the ethomedicinal knowledge.

Keywords: Diseases, Karimnagar, Traditional healers, Telangana, Ethnobotanical.

INTRODUCTION

Meanwhile the reality of human civilization, plants and their products are being used by large number of inhabitants living in urban as well as rural, and remote areas for numerous determinations such as medicine, healthcare, food, clothing, shelter, agriculture, agrochemicals, pharmaceuticals, narcotics, etc. In the commencement, the bases of medicine were entirely from plants. Additional 7,000 plants are used in Indian Systems of Medicine such as Ayurveda, Homoeopathy, Unani, Siddha, etc.

The tribals have established their own pharmacopoeia of their traditional information about the medicinal uses of plants by trial and error methods. This pharmacopoeia has developed cultural heritage of our nation. It is essential to prepare and reserve the alphanumeric database of the traditional medicine for the profit of present and future cohorts. A decent deal of investigation work has been done on the inventorisation and citations of traditional acquaintance, particularly plant based medicines recycled by the numerous people of India including Perkapally of Karimnagar district, Telangana state.

MATERIALS AND METHODS

The information about the medicinal plants used by the local people of Perkapally village obtained from local traditional practitioners. Plant species recorded in the survey were collected and the voucher specimens have been deposited in the herbarium of the Department of Zoology, Kakatiya University, India. Identities of plants sampled were authenticated by senior taxonomist from the Department of Botany, Kakatiya University, India.

Study area:

Study area belongs to Telangana State, District Karimnagar. Akunur (perakapally) village is located in Saidapur Tehsil of Karimnagar district in Telangana, India. It is situated 5 km away from sub-district headquarter Saidapur and 50 km away from district headquarter Karimnagar. As per 2009 stats, Perkapalli is the gram panchayat of Akunur village. Perakapally (Akunuru) is surrounded by Kamalapur Mandal towards South, Husnabad Mandal towards west, Chigurumamidi Mandal towards west, Shankarapatnam Mandal towards

North. Minimum temperature ranging from 14°C to 23°C and maximum temperature ranging from 29°C to 44°C.



Figure 1. Study area - Karimnagar district located in Telangana State, India.

RESULTS AND DISCUSSION

Plants mentioned to treat various diseases:

The Medico botanical study has acknowledged 38 plants belonging to 25 families, which are used in the treatment of numerous diseases and this data including the plants scientific names, vernacular names, families, parts used and medicinal uses as shown in Table 1. Thirty-eight plant species were recorded in the present survey for the treatment of numerous diseases. These conditions include skin, diarrhoea, anaemia, ulcers, severe fever, Sexually Transmitted Infections, Immunity improvement, cold, cough and lung diseases and others. In these 31 families, *Solanaceae*, *Astaraece* and *Fabaceae* are the most denoted.

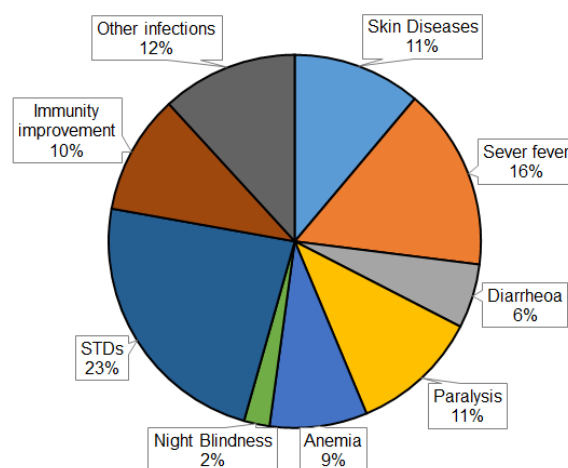


Figure-2. Percentage use of plants to treat various diseases

Table-1. Medicinal plants used for the treatment and management of various diseases by traditional healers of Karimnagar district.

| S.No | Botanical name | Common name | family | Part used | Medicinal uses |
|------|------------------------------|------------------------|------------------|-----------------------|--|
| 1 | <i>Mimosa pudica</i> | Sensitive plant | Fabaceae | Seeds | For fever cleaning of blood, motions, jaundice |
| 2 | <i>Musa paradisiac</i> | Banana | Musaceae | Leaves | For kidney stones, intestinal bacteria |
| 3 | <i>Withania somnifera</i> | Ashwagandha | Solanaceae | Fruits, leaves, roots | Weakness, good fertility, purifies cow's milk |
| 4 | <i>Justice adhatoda</i> | Malabar nuts | Acanthaceae | Leaves | For jaundice |
| 5 | <i>Linum usitatissimum</i> | Linseed plant | Linaceae | Leaves, flowers | Decreases fat, microbial infections, migraine, night blindness |
| 6 | <i>Malvineglecta</i> | Mallow tree | Malvaceae | Leaves | Back pain, cures dog bite, sight problem, urine infection |
| 7 | <i>Saraca indica</i> | Ashoka tree | Fabaceae | Flowers, bark | Over bleeding, white discharge, tuberculosis, miscarriage |
| 8 | <i>Ricinus communis</i> | Castor tree | Euphorbiaceae | Seeds | Treatment of paralysis, constipation |
| 9 | <i>Brassica nigrum</i> | Mustard tree | Brassicaceae | Seeds | Treatment of paralysis, dogs bite |
| 10 | <i>Cinnamomum verum</i> | | Lauraceae | Leaves | Utherus, vatha pittha |
| 11 | <i>Aristolochia indica</i> | Birthwort, pipeline | Aristolochiaceae | Leaves, roots | Uses for snake bite, scorpion bite, arthritis |
| 12 | <i>Achyranthus aspera</i> | Chaff- flower | Amaranthaceae | Seeds, leaves | Easy partuation, piles, dog's bite |
| 13 | <i>Phyllanthus amarus</i> | Bahu patra | Phyllanthaceae | Leaves, bark | Haigrowth, blood, heart diseases, round worm |
| 14 | <i>Datura metal</i> | Simson | Solanaceae | Flowers | Malaria fever, teeth pain, |
| 15 | <i>Alangium salviifolium</i> | Cage leaved alangium | Cornaceae | Bark | Piles scorpion bite |
| 16 | <i>Terminalia catappa</i> | Indian almond | Combretaceae | Flowers, stem | Increasing appetite, vomtings, phylaria |
| 17 | <i>Momordica charantia</i> | Bitter melon | Cucurbitaceae | Seeds | Diabetes mellitus, measles, fever, hepatitis, itch. |
| 18 | <i>Solnum nigrum</i> | Block night shade | Solanaceae | Leaves | Cold, eyediseases, liverdiseases |
| 19 | <i>Pongamia</i> | Millettia pinnata | Fabaceae | Seeds | Deaf in children, winds |
| 20 | <i>Sapindus emarginatus</i> | Soapberries | Sapinaceae | Fruits | Severe headache, snake bite |
| 21 | <i>Terminalia chebula</i> | Almond | Combretaceae | Fruits | Skin diseases |
| 22 | <i>Lycopodium clavatum</i> | Horn club moss | Lycopodiaceae | Leaves | Treatment of stones in kidneys |
| 23 | <i>Nerium oleander</i> | Nerium | Apocynaceae | Flowers | Treatment of dandruff, skin diseases |
| 24 | <i>Cynodon dactylon</i> | Indiandoab, grama | Poaceae | Leaves, roots | Treatment of vata diseases, urine diseases |
| 25 | <i>Eclipta prostrata</i> | False daisy, bhringraj | Asteraceae | Leaves | Treatment of headache, scorpion bite |
| 26 | <i>Thespesia populnea</i> | Indian tulip tree | Malvaceae | Bark | Treatment of skin diseases for children |
| 27 | <i>Myristica malabarica</i> | Nut mug | Myristicaceae | Leaves | Treatment of sleeping disorders |
| 28 | <i>Azadiracta indica</i> | Neem | Meliaceae | All parts of tree | Anti-bacterial, anti-viral, anti-diabetic |
| 29 | <i>Senna articulate</i> | Tangedu | Fabaceae | Flowers, leaves | Used for diabetes, skin diseases |
| 30 | <i>Myristica fragrans</i> | Jatipatri, jajikaya | Myristicaceae | Leaves, fruits | Nerve disorders, learns it's all health benefits |

| | | | | | |
|----|---------------------------|------------------------|-------------|----------------------------|--|
| 31 | <i>Medium oleander</i> | Medium | Apocynaceae | Flowers, leaves, and roots | Herbal ayurvedic plant, side effects |
| 32 | <i>Pongamia pinnata</i> | Beach tree | Fabaceae | Leaves, flowers, seeds | Antiseptic, antibelmatic |
| 33 | <i>Punicagranatum</i> | Bitter gourd | Punicaceca | Fruits, seeds, leaves | Treatment of respiratory disorders |
| 34 | <i>Cocus nucifera</i> | coconut | Palmaceae | seed | Dandritic, headache, hair conditions |
| 35 | <i>Aloevera</i> | kalabandha | Liliaceae | leaves | Jaundice, gulma, headache |
| 36 | <i>Lawsonia intermis</i> | henna | Lythraceae | bark | Treatment of swelling, decreasing of pains |
| 37 | <i>Abrus precatorius</i> | Crab's eye, rosary pea | fabaceae | leaves | Treatment of skin diseases |
| 38 | <i>Ocimum tenuiflorum</i> | tulasi | lamiaceae | Leaves, | Treatment of cough, cold, skin diseases |

During the survey, conversations, questionnaire and field visits were conducted and found total number of medicinal plants 38 and 25 Families. Figure-2 presents the proportions of plant species used to treat various disease conditions: skin diseases (10%), paralysis (10%), STDs (21%), severe fever (14.2%), Anaemia (7.6%), Immunity improvement (9.3%), diarrhoea/dysentery (5%), night blindness (2%) and other infections (10.6%).

Plant parts used and routes of administration:

During plant collection, it was perceived that some plants had more than one vernacular name due to the different local dialects used in the area. The medicinal use of certain plants or plant parts were frequently revealed by informants. Thus, in some cases, especially shrubs and trees, the whole plant had medicinal

application. Leaves and fruits were the most frequently used plant parts, especially for topical application, constituting 42%, followed by fruits (23%), seeds (18%), bark (18%), flowers (2%), roots (10%) and stem (2%) (Figure-3).

The recorded plant species were prepared in a variety of ways. The plant materials were used either fresh or dry in decoctions, macerations, pastes or powders. Administration of the different plant parts were mostly applied topically as a paste, powder, sap or latex on the affected part and followed by decoctions that were taken orally. The methods of preparation fall into few categories, i.e.: plant parts applied as a paste (42%), juice extracted from the fresh plant parts (14%), powder made from fresh or dried plant parts (36%), some fresh plant parts (11%), and decoction (6%) (Figure-4).

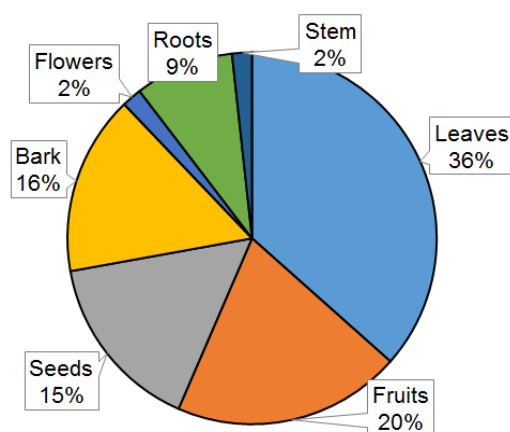


Figure-3. Percentage of plant parts used.

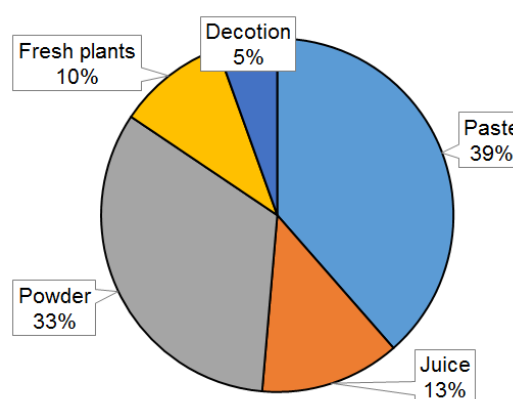


Figure-4. Percentage of plant preparation methods

External submissions (mostly for skin diseases and wounds) and internal consumption of the arrangements were elaborated in the treatment of diseases. It was observed that, most of the remedies contained of single plant part and more than one method of preparation. However, many of the remedies involved of different parts of the same plant species to treat single or more diseases. Children's prescriptions were usually less than those of adults. Baths were a widespread way of treating rashes or itchy skin complications and steaming was used for acne. In most cases, the use of a given drug research was continued up to at least three days after a symptomatic liberation was achieved. This was specifically the case for oral dosage forms, to make sure that the infection was cleared.

DISCUSSION

Medicinal plants have essential aids in the healthcare system of local communities as the central source of medicine for the standard of the rural population. Many investigations projected that about 82% of inhabitants in developing countries still be dependent on traditional medicine for their principal healthcare (WHO, 2011). The reputation of families Anacardiaceae and Euphorbiaceae in sexually transmitted infections treatment has been conveyed by previous authors (Ajibesin *et al.* 2011, Chinsebu & Hedimbi 2010). There may be requirement to discover these families for their bioactive ingredients, as well as Fabaceae and Apocynaceae, the highest frequency families in this study. In addition, the use-value of plant parts has inferences for protection of the species diversity. The leaves are reformative, and their practise in methods offers the benefit in supportable use of biodiversity over root and whole plant. Results attained in this study associates constructively with conclusions by Steenkamp (2003) who taken the widespread use of root and bark treatments by South African women for gynaecological objections. Similar assumptions were stated by Hedge *et al.* (2007) who notorious the widespread use of root and bark treatments for management reproductive ailments in India.

It was perceived that the plants documented in this survey are well known in the controlling of numerous diseases all-inclusive in spite of diversity of plants and cultures. Rahmatullah *et al.* (2011) premeditated the medicinal plants used by folk and tribal medicinal consultants of Bangladesh for the management of gonorrhoea. Traditional therapists appropriately cite

indications accompanying with HIV/AIDS such as STDs, skin disorders, severe fever, ulcers and others. Many of the medicinal plants are locally accessible, specifically in evolving and underdeveloped countries. Also, plants are frequently less prone to the advent of drug resistance. Due to all these compensations, plants endure to be a foremost source of new lead compounds. Medicinal plants have a long history of use and their use is widespread in both developing and developed countries.

Globally, there is continuing investigation curiosity on survey of medicinal plants with beneficial values in illnesses due to the incidence of infectious diseases and confrontation to drugs in developing countries. Qureshi *et al.* (2006) documented 27 plant species used for the management of ailments in the Gilgit District and surrounding areas of northern Pakistan. Phondani *et al.* (2010) recognised 86 plant species from 43 families used in the management of 37 ailments by Bhotiya tribal communities of Central Himalaya, India. In a survey of medicinal plants used for the controlling and treatment of skin diseases and related diseases, Swapna Gurrapu *et al.* (2016) recorded 42 medicinal plant species from 19 families in Telangana State, India.

Our study renowned 5% different plant species used to manage diarrhoea in Karimnagar district, Telangana State. Most of these plants have also been conveyed to extravagance chronic diarrhoea and dysentery in other studies (Rajendra Chary Vijayagiri, *et al.* 2012; Jernigan, 2009; Kayode, 2006 and Titanji *et al.* 2008). Severe fever and skin disorders are collective condition among patients in Telangana region, is accomplished with 14.2% and 10% plant species respectively. Some of these plants were initiate to indulgence numerous diseases in other studies conducted elsewhere (Titanji *et al.* 2008; Botsaris, 2007 and Prasad Paindla *et al.* 2013).

CONCLUSION

Today, the globalization outcome of the younger cohort always try to treatment the illness as soon as possible. They cannot essence on illness completely cure or not. But old age people even today trust their old-fashioned system of medicine. In present day traditional consultants expression the problem of damage of vegetation. Due to inhabitants rise then land practice and agriculture land extends to failure of surrounding vegetation. Earlier days the herbals obtainable almost everywhere since of their living in the way of

maintainable. The traditional herbal medicine preparation in low price. Examination, interview with traditional practitioners designate that the obtainability of medicinal plants extremely deterioration from the last five decades. Some of explanations for not opt the profession of, traditional practitioners, less elevation native herbal medicine as much as allopathic medicine. Any way there if prodigious acceptance in India –pure vegetable drugs are more authoritative in their efficiency than those which have made gone numerous laboratory procedures.

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