RESEARCH ARTICLE

EXOTIC MEDICINAL PLANTS USED BY TRIBAL POPULATION OF SIRUVANI REGION, COIMBATORE – AN ETHNOBOTANICAL SURVEY

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Abstract: The exotic underutilized plants with diverse source of medicinal properties contribute colossal benefits in the daily livelihoods of the mankind. The present study aims and reveals about the vast wealth of ethnomedicinal properties and the uses of wild underutilized plants located in the siruvani tribal tract of Coimbatore district in Tamil Nadu. The investigation was performed by collection of underutilized plants with medicinal properties, personal observations and steered field walks in consultation with local tribal elders of the study area. The paper highlights some new and less known ethnomedicinal uses of 25 underutilized plants by the tribes of siruvani. Since, the tribal population believes that many dreadful health infringements can be cured by locally available medicinal plant source and prime importance was provided to popularize the imperative source of traditional herbal value. Thus, the present study emphases on documentation of medicinal properties from traditional underutilized plant sources which remunerate the welfare of humanitarian.

Keyword: Ethnomedicinal, Underutilized, Siruvani, Tribal, Traditional

INTRODUCTION

India is rich in medicinal plant diversity which is distributed in different geographical, environmental conditions and associated tribal & folk knowledge systems. The tribal people mostly depend on forests for their livelihood and up to 70% of the rural population still depends on traditional medicine as a primary healthcare source. Plants are playing an important role in the health of millions of people's life in many villages of India in their day today life by its traditional usage. The tribal and rural people of various parts of Indian states are highly reliant on medicinal plant therapy for fulfilling their health care needs (Das and Hui Tag, 2006). However, valid scientific data on the custom of ethnomedicinal plants is rather obscure. Richness of medicinal plants in the Western Ghats parts of Coimbatore and Nilgiri districts of Tamil Nadu is high due to the existence of varied types of ecosystems in this landscape (Ramachandran, 2007).
The indigenous people nurture rich knowledge about medicinal plants developed over generations by bold experimentation through trial and error methods (Sahai, 2003). This treasure of knowledge has been passed orally without any written documents and is still retained by them (Sakthinathan and Udhaya Nandhini, 2018).In the last few years, there has been an exponential growth in the field of herbal or traditional medicine and these drugs are gaining popularity because of their natural origin and exhibit remarkable efficacy in the treatment of various ailments (Perumalsamy and Ignacimuthu, 2000).

MATERIALS AND METHODS

Study area

Siruvani is located in suburb of Coimbatore in the Indian state of Tamil Nadu. It is a western suburb of Coimbatore city. Siruvani is located 10° 93' 0" North, 76° 68' 0" East. Siruvani receives an average of 730 mm of rainfall yearly and the average annual temperature is 25.5 °C. The traditional healers of Siruvani region of Tamil Nadu are having a commendable knowledge of the medicinal values those grow around them. This knowledge is now stated to disappear due to modernization and the tendency among younger generation to discard their traditional life style. There is an urgent need to study and document this precious for the future generation. Few elders in this community have the knowledge on medicinal uses of plants which are used mainly for first aid remedies like stomach problems, fever, headache, skin problems, etc. Collection and documentation of these rare ameliorative plant species will support the future next generation in exceptional hale and hearty livelihood.

Survey of information

Customary survey with the tribal neighbourhoods was used to gather the knowledge on ameliorative use of medicinal herbs from the rural people of this village. The questionnaire contains the details of the plants with botanical and vernacular names, plant parts used medicinal uses and mode of action of remedies. The information regarding the medicinal uses of plants, perception of the local people regarding use of plants in common diseases were collected through questionnaires among the traditional practitioners in the study area. In addition

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to these ameliorative uses of few rare medicinal plants were also collected from the villagers.

Documentation

Initial documentation of underutilized medicinal plants was done by probing questionnaires of fresh plants products from the field with the aid from villagers. Few village respondents were more informative and co-operative. They have shown fresh plants in the habitat, which was useful for the final identification. The identification of plant materials was confirmed with the help of available facts published.

RESULTS AND DISCUSSION

The preparation of drug and medicine among the tribal communities is really an art. The use of medicinal plants was a chosen practice in this region throughout history, the knowledge of which was gathered through the experience of many generations. This survey revealed that the tribes of the area have sound knowledge about the uses of medicinal plants available in the region.

The present investigation revealed that the following 25 species of plants belonging to 18 families, being used by the tribes of Siruvani, Coimbatore district to cure many diseases like Asthma, Jaundice, Tuberculosis, Leprosy, Rheumatism, cough, fever, vomiting, skin diseases, hypertension, wound healing, diabetes, anti-inflammation, etc. This is consistent with the general observations made earlier in relation to ethno botanical studies on irula tribal communities of Tamil Nadu. The plant names are given in tabular form. For each species, plant name, family, vernacular name, parts used, methods of preparation, mode of administration and uses are enumerated in Table 1.

This study found that different parts (roots, leaves, seeds, fruit, etc.) of medicinal plants are used by traditional healers to prepare herbal remedies. Among the different parts used leaves were found to be the most frequently used plant parts accounting for 14 preparations followed by whole plant parts (6),stem (4), seed (4), bark (4) root (3), fruit (2),and others such as flower and rhizome. Most of the ethnobotanical studies confirmed that leaves are the major portion of the plant used for the treatment of diseases. This might be due to that they are easily accessible and are active in photosynthesis and production of metabolites (Ghorbani, 2015).

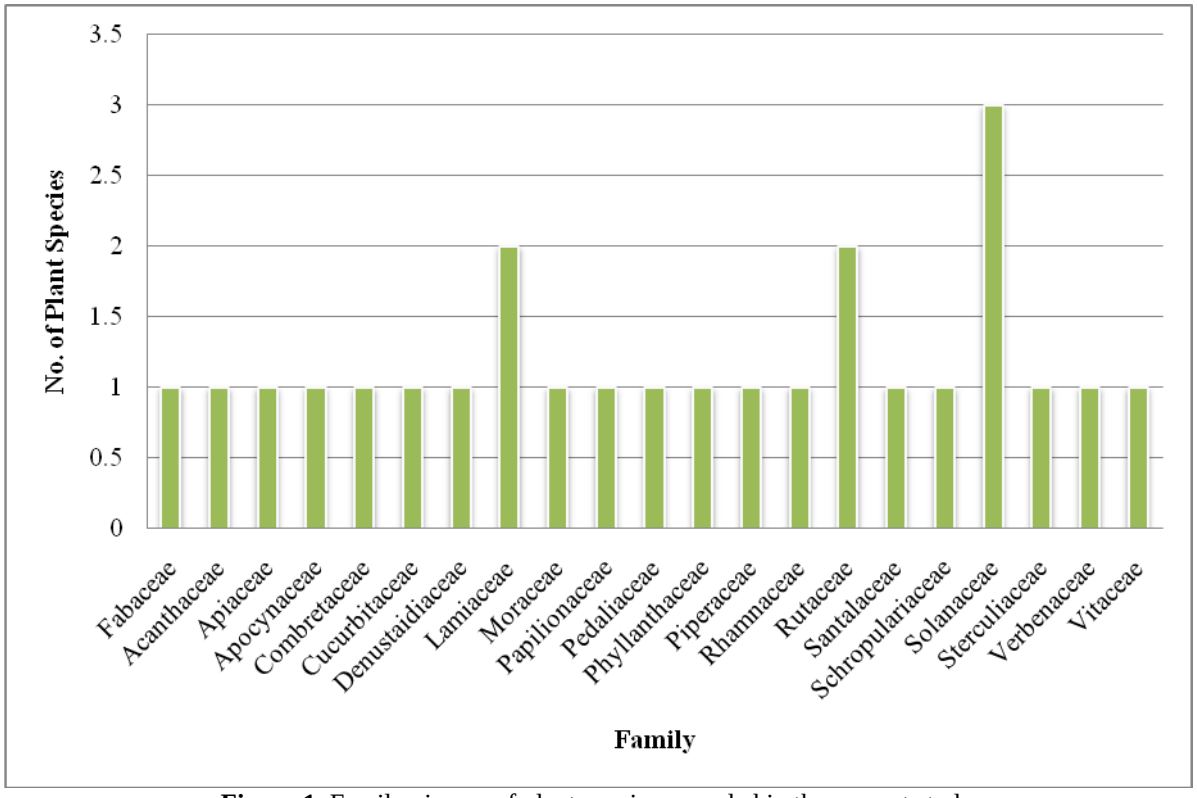

Figure 1. Familywise no of plant species recorded in the present study

Among the 21 families, family Solanaceae, Rutaceae and Lamiaceae represents the highest number of plants with 2species each and rest 17 families represent only one species each (Figure 1).Previous reports on the ethnobotany of are an evidence for the presence of numerous ethnomedicinal plants used by the tribes (Jeyaprakash *et al*., 2011). It is evident from the present study that the tribes are dependent on a variety of medicinal plants for treatment of various ailments. These useful plants need protection and more cultivation in the present context, so that the tribal people may more be benefited and our valuable flora may also survive (Nayar, 1957).

It was observed that plant products are consumed fresh (raw) or made to paste/ juice, sometimes it is taken as decoction (juice)/ infusion (oral treatment) (Siddhiqui *et al.*, 1995). It was observed that paste forms of preparations were invariably used for external application (to treat cut/ wound, skin infection and poisonous bites). Decoction, juice, infusion were used to treat ailments internally (cold, cough, jaundice, ulcer and diabetics). Preparations made from fresh leaves, root and stem were preferred and more frequently used when compared to other plant parts (Figure 2). However, in most of the cases, it was recorded that oral consumption predominates external application. The local healers were using specific plant parts and specific dosages for the treatment of diseases and the dose given to the patient depends on age, physical status and health conditions.

The loss of biodiversity resulting in extinction of many useful species has also posed a serious concern to the global medical scientists and researchers (Teklehaymanot *et al.*, 2007). Therefore, there is urgent need to document complete biodiversity, prioritize useful threatened plants, and conserve them *in-situ* and *ex-situ* for sustainable utilization in health care and human welfare.

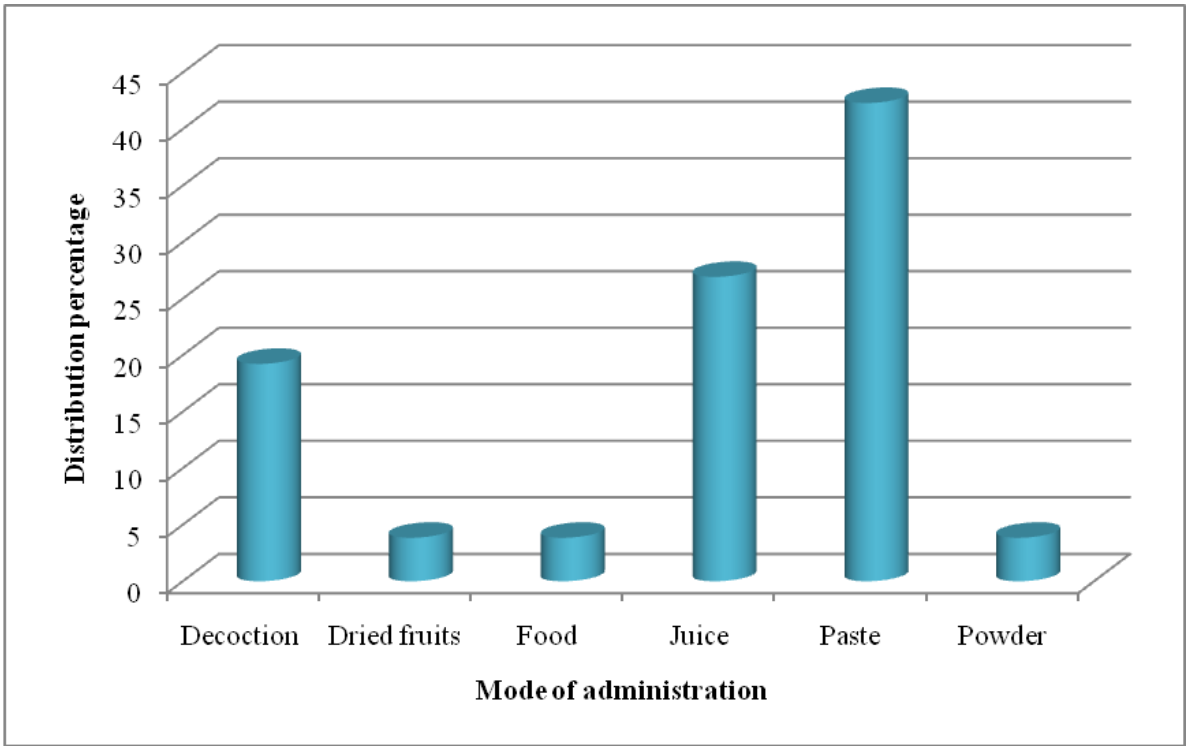

Figure 2. Distribution percentage of medicinal plants according to their mode of administration

Table 1. Medicinal plants used by tribals of Siruvani region, Coimbatore district

S.No	Botanical Name	Family	Vernacular Name	Parts used	Medicinal Usage	Mode of action
1.	*Abromaaugusta*L.	Sterculiaceae	Sivappututti	Bark, Roots	Urine Sensation	Decoction
2.	*Asplenium nidus*	Denustaidiaceae	Pannam	Leaves	Bone fracture,Body ache	Paste
3.	*Andrographispaniculata*	Acanthaceae	NilaVembu	Seeds & leaves	Snake bite,Malarial fever	Powder
4.	*Bonnayabracheata*	Schropulariaceae	Umari keerai	Leaves, Roots	Urine sensation,Tuberculosis	Paste
5.	*Centellaasiatica*	Apiaceae	Vallarai	Whole plant	Jaundice	Paste
6.	*Clitoriaternatea*, L.	Fabaceae	Sanku poo	Leaves	Swelling of legs.	Paste
7.	*Cissus quadrangularis*L.	Vitaceae	Pirandai	Stem, leave	Digestive and stomache	Paste
8.	*Cocciniaindica*	Cucurbitaceae	Kovaikkai	Roots	Antidote	Food
9.	*Datura metel*	Solanaceae	Oomathai	Flowers	Ear pain	Decoction
10.	*Ficuscarica*, L.	Moraceae	Simaiyattai	Bark, leaves,	Anti-inflammatory, throat infection	Paste

				shoot		
11.	*Hamidesmasindicus*	Apocynaceae	Nannari	Whole plant	Temperature maintenance	Juice
12.	*Murrayakoenigii* (L.)*Spreng.*	Rutaceae	Karuveppilai	Whole plant	Indigestion, chicken pox, stomach-ache	Paste
13.	*Ocimum sanctum*	Lamiaceae	Thulasi	Whole plant	Cold cough fever, scorpion bite,	Decoction, juice
14.	*Pedalium murex*	Pedaliaceae	Yanainerunjil	Whole plants	Puerperal diseases, digestive	Juice
15.	*Phyllanthusniruri*	Phyllanthaceae	Keelanelli	Leaves	Jaundice	Paste
16.	*Piper betle*L.	Piperaceae	Vetrilai	Leaves	Skin diseases, digestive, scorpion bite	Juice
17.	*Plectranthusamboinicus*	Lamiacea	Karpooravalli	Leaves	Cold & cough	Juice
18.	*Pongamia pinnata*	Papilionaceae	Pungamaram	Seed, flower, seeds	Skin diseases, diabetes, rheumatism	Paste
19.	*Santalum album* L.	Santalaceae	Sandhanam	Leaf and stem	Gastric irritability, dysentery skin diseases	Paste
20	*Solanum nigrum*L.	Solanaceae	Manathakkali	Whole plant	Stomach-ache, ulcer, wounds, fever	Decoction, juice,
21.	*Solanum trilobatum*	Solanaceae	Thoothuvalai	Leaves	Cold, cough	Decoction
22.	*Terminalia chebula*	Combretaceae	Kadukkai	Fruits	Cough, Chestand Stomachpain	Dried fruits
23.	*Vitexnegundo*	Verbenaceae	Notchi	Leaves stem	Asthma, headache, fever, cough	Juice
24.	*Zanthoxylum acanthopodium*	Rutaceae	Thejyovathi	Leaves Bark	Stomach Pain	Paste
25.	*Zizyphusjujuba*	Rhamnaceae	Elandhai	Leaf, Fruit and Bark	Ulcer, fever, abdominal pain.	Decoction

CONCLUSION

The reckoned medicinal plant species are frequently used for healing of various infirmities by the local peoples of this tribal region. The contemporary traditional healers are very old, due to lack of interest among the younger generation as well as their tendency to migrate to cities for lucrative jobs; there is a possibility of losing this wealth of knowledge in the near future. Hence, proper documentation and preservation of traditional skills and technology of medicinal plants is a vital necessity for the welfare of next gen humanitarian.

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