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Survey of ethno medicinal plants, Veeramalai hills at Manaparai Taluk, Tiruchirappalli, Tamil Nadu, India

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ABSTRACT

An ethno medicinal Survey was conducted to collect information about medicinal plants used by Veeramalai tribal Village people located in the forest area. About 54 medicinal plants are used in various health problems; Majority of the plant part is leaves. The most representative family was Euphorbiaceae with 5 species, Asteraceae, Caesalpiniaceae and Solanaceae with 4 species, Asclepiadaceae, Apocynaceae and Malvaceae with 3 species, each and Liliaceae with 2 species. The other family had 1 species each associated with the treatment of the reports. The treatment mode is usually oral, but most of the plants used in paste. They use ethno medicinal plants to treat ailments like cold, cough, headache, stomachache, dysentery, skin disease, poison bites, cut and wounds, diabetes and sexual disorders.

Keywords: Ethno botanical survey, Medicinal plants, Veeramalai.

INTRODUCTION

Plants are collected from Veeramalai hills, located in Manapparai Taluk, Tiruchirappalli District, Tamil Nadu, India. Generally, the hills are rich in vegetation and plant biodiversity, good geographical and climate conditions. Enormous numbers of medicinal plants are available; many of the plants are used as primary healthcare in developing countries [1]. Biodiversity is the variation of life forms within a given ecosystem. Biodiversity is often used as a measure of the health of biological systems [2].They work on body and mind together to help cure an illness. Traditional medicinal knowledge of the medicinal plants and their uses by indigenous healers and not only useful for conservation of cultural traditions and biodiversity but also for community healthcare and drug development in the present and future [3]. Since the beginning of this Century, there has been an increasing interest in the study of medicinal plants and their traditional use in different parts of the world.

The World Health Organization (WHO) estimated that approximately 80% of world population relies mainly on traditional medicines, mostly plant drugs in their health care. Today, Ayurvedic coexists with modern system of medicine, and is still widely used and practiced. About 30%of the currently used therapeutics is of natural origin [4, 5]. Besides that there is a global consensus on the benefits of phytopharmacy and at present medicinal plants occupy a key position in the research and medicine. These facts associated with the progressive loss of traditional knowledge, due to rural exodus and with the threats to which plants Genetic Resources (PGR) are exposed, make the efforts to study and preserve PGR relevant in every respect [6]. These indigenous medicinal plants need to be studied and documented in the face of emerging threats of climatic change habitat degradation over harvesting and bio-piracy [7]. The study highlights the importance of documenting, ethno botanical information and indigenous

traditional knowledge about the medicinal plants used by the tribes in their day to day life to cure some common ailment [8].

India is one of the mega biodiversity of the world. Since time immemorial man has uses various part of medicinal plants in the treatment and prevention of many ailments [9]. The established systems of Ayurvedic and Unani medicine, folk medicinal practitioners have dispenses thousands years of medicinal plants preparations for treatments of wounds [10, 11, 12].

MATERIALS AND METHODS

Study area

The plant samples were collected from Veeramalai hills, situated at Manapparai taluk, Tiruchirappalli, Tamil Nadu, India. The collection was carried out 3 months interval for one year during (January, April, July, October) 2012, [13]. Plants were identified through interviews and detailed personal discussions were conducted with local peoples, who lane unique knowledge about medicinal plants. Further identification was carried out taxonomically the Indian medicinal plants literature to ascertain the nomenclature. Their specific medicinal value were verified with the knowledge of local people and also confirming the details available in recent studies [14-19].

RESULTS AND DISCUSSION

Medicinal plant diversity

The present study revealed the ethno medicinal knowledge of peoples in Veeramalai, Manapparai (Taluk), Tiruchirappalli, Tamil Nadu, India. In this study 54 plant species distribute in 32 families and 49 genera (Table: 1) were identified as being used to various treatments. The dominance of herbs concurs with the general pattern seen in most ethno botanical survey. This could be attributed to the abundance and year round availability of herbs in the study area [20]. The most representative family was Euphorbiaceae with 5 species, Asteraceae, Caesalpiniaceae and Solanaceae with 4 species, Asclepiadaceae, Apocynaceae and Malvaceae with 3 species, Liliaceae with 2 species. The other families had 1 species each associated with the treatment of the reports. Some of the families play a vital role to cure the common diseases among the tribal people of veeramalai.

Growth form and plant part used

The total number 54 plant species studied 6 growth forms were identified; herb, climber, Shrub, Under shrub, Trees and small trees. Most of the medicinal plants were herbs (28species), followed by shrub (10species), Trees (6species), under shrub (2species), Climbers (5species) and Small trees (3species). (Fig: 1). Among the various plant part used, the leaves (36%) were commonly utilized followed by the root (20%), whole plants (15%), Seeds, flowers (14%), fruits (9%) and Stem (4%). Fig: 2). In the ethno medicinal plants species, 4 different methods are used for the treatments. The major form application of plants species is paste (38%), then juices (24%), powder(20%),decoction (12%) and fresh part (6%). Fig:3). From this present survey and investigation, it was clear that the people of Veeramalai posse's knowledge of medicinal plants and has ability to cure wound and various infectious diseases with their Knowledge.

These plants are cultivated and widely used in the Egyptian folk medicine (21). This is constant with the other general observation which has been reported earlier in relation to medicinal plant studies by the Indian Traditional System of Medicine like Siddha and Ayurvedha (22, 23, 24). The parts of the plants mostly used for medicinal purposes are leaves, root, stem, fruits, the complete aerial parts, the whole plant, barks (root and stem) and flowers (including the flowering heads) in decreasing order. Internal uses invariably predominate over external uses. Juice (almost mixed with water and goat's or cow's milk) and paste are the main methods of preparation, either for oral or for external administration. For topical use, the most important methods used are direct application of the paste or ointment (with oil). Often Malasar people use more than one plant either separately or mixed together. They mix several plants as ingredients to cure diseases immediately. Generally, fresh part of the plant is used for the preparation of medicine. Most of the reported preparations are drawn from a single plant; mixtures are used rarely. In other parts of the country, the use of mixtures of plant species in treating a particular ailment is fairly common [25-29].

Table: 1 List of Medicinal plants & their parts used in different diseases

Family	Scientific name	Life form	Useful part	Medicinal uses
ACANTHACEAE	*Adhatoda vasica*(Nees.)	Herb	Root, leaves and flowers.	Antispasmodic, vomiting, jaundice, fever, antiseptic.
	Andrographis paniculata (Burm.f.)Wallich	Herb	Whole plants.	Stomach, dysentery, fever, liver jaundice, laxative.
	Justicia gendarussa Burm.f.	Under shrub	Root, leaves	Anti-inflammatory, diaphoretic, emetic.
AMARANTHACEAE	*Achyranthes aspera* L.	Herb	Leaves, seeds and roots	Piles, urinary diseases, boil skin disease, anorexia, colic, snake bite, cough, kidney stone, stomach pain, haemostatic.
	Amaranthus spinosus L.	Herb	Whole plant	Cooling, fever, snake bite, dyspepsia, hemophilic.
APOCYNACEAE	*Catharanthus roseus* (L.)Don	Herb	Leaves and flowers.	Diabetes mellitus, hypertension cancer, fever, malaria.
	Ervatamia divaricata L.	Shrub	Roots, root bark, leaves, flowers and milky juice	Pain-killer, febrifuge, toothache, fever, eye diseases.
ASCLEPIADACEAE	*Calotropis gigantea(L.)R.Br.*	Shrub	Root-bark, latex, leaves and flowers.	Dyspepsia, asthma, smallpox, epilepsy, indigestion.
	Pergularia daemia (Forsskal)	Climber	Leaves and roots.	Diarrhea, rheumatism, amenorrhea, emetic.
	Gymnema sylvestre Retz. R. Br.	Climbing	Roots and leaves.	Leaf used in fever, cough, bronchiole, asthma allergy.
ASTERACEAE	*Eclipta alba (L.)*	Herb	Leaves and roots.	Skin diseases, hair, cough, asthma, eye diseases, headache, Jaundice, antiseptic, ulcer, cattle wounds.
	Echinops echinatus Roxb.	Herb	Whole plant.	cough, hysteria, dyspepsia.
	Emilia sonchifolia (L.) Dc.	Herb	Whole plant.	Antiasthma tic, diarrhea, wounds intermittent fever, asthma.
	Sphaeranthus indicus L.	Herb	Whole plant.	Cooling, Tonic, digestives poison.
CAESALPINIACEAE	*Bauhinia variegate* L.	Tree	Bark, root, gum, leaves, seed.	Ulcers, swellings, leprosy, cough dysentery, piles, and diarrhea and skin diseases.
	Cassia alata L.	Herb	Leaves and flowers.	Skin diseases, poisonous, insect bites, snake bite, antifungal, eczema, asthma.
	Cassia angustifolia (Vahl.)	Shrub	Leaves and fruits	Dyspepsia, typhoid jaundice, anemia, leprosy.
	Cassia auriculata L.	Shrub	Bark, root, leaves fruits and seeds.	Urinary diseases tumors, skin diseases and asthma, Chronic fever, dysentery, diabetes.
CARICACEAE	*Carica papaya* L.	Tree	Leaves, milky juice, fruits.	Ripe fruits stomachic, diarrhea, dysentery, Milky juice or latex of digestive.
CAPPARIDACEAE	*Gynandropsis pentaphylla* (Verna.)	Herb	Seeds, leaves and roots	Fever, skin diseases, muscular pain, antispasmodic, cough, piles, snake bite
CONVOLVULACEAE	*Evolvulus alsinoides* L.	Herb	Whole plant.	Antispasmodic, dysentery, hair growth, fever, ulcer and asthma.
CRUCIFERACEAE	*Brassia nigra* (L.)	Herb	Leaves, seeds and seed oil	Stimulant, emetic, stomachic, affections, chronic, rheumatism, pneumonia.
CUCURBITACEAE	*Diplocyclos palmatus* (L.) C.Jeffrey.	Climber	Whole plant.	Skin diseases, cough.
EUPHORBIACEAE	*Acalypha indica* L.	Herb	leaves and root	Tooth and earache, pneumonia, asthma snake-bite, rheumatoid arthritis, skin affections, wheezing cough.
	Euphorbia hirta L.	Herb	Whole plants.	Cough, childhood, breast pain.
	Jatropha curcas L.	Shrub	Fruits, seeds, leaves, stem, root-bark.	Neuralgia, dropsy, pneumonia, ulcer, scabies, jaundice, stomachs, cough, fruits anemia, cancer, wounds, poisonous.
	Jatropha multifida L.	Shrub	Whole plant.	Piles, wounds, spleen, skin diseases, stomach pain, vomiting, indigestive, ulcer.
	Ricinus communis L.	Shrub	Leaves and seeds.	Stomach, toothache, malaria fever.
FABACEAE	*Tephrosia hookeriana* Wight &Arn.	Herb	Leaves, Roots, Stem, Seeds	Anti-inflammatory, Antiplasmodial, Anticancer, Ulcer, Laxative, pimples, cough, Diuretic, Febrile attack.
LAMIACEAE	*Ocimum sanctum* L.	Herb	Whole plant	Cough, fever, children dry cough.
LILIACEAE	*Aloe vera* (L.)Burm.f.	Herb	Leaves, fruits, flowers.	Diabetes, intestinal worms fever, jaundice, asthma.
	Asparagus racemosus Willd.	Under shrub	Roots and leaves.	Swelling, diarrhea, piles, eye diseases, ulcer, diabetes, jaundice and other urinary disorders, Dysentery, fever.
LYTHRACEAE	*Lawsonia inermis* L.	Small tree	Leaves, bark, flowers, seeds	Jaundice, skin diseases, leprosy, cool, headache.
MALVACEAE	*Abutilon indicum* L.	Herb	Seeds, bark, root, leaves and flowers	Leucorrhoea, piles, body heat.
	Hibiscus rosa- sinensis L.	Herb	Leaves and flowers.	Childbirth, blood sugar, dysentery, cough.
	Sida acuta Burm.f.	Herb	Root, seeds and leaves	Osteoarthritis, chest pain, Leucorrhoea, disorders of blood.
MELIACEAE	*Azadirachta indica* Adr.Juss.	Tree	Flowers, leaves, bark, seed oil.	Leprosy and skin diseases, fever, antiseptic ulcer, sneak-bite, flower is stomach.
MENISPERMACEAE	*Tinospora cordifolia* (Wlld.)	Tree	Stem and Leaves.	Antipatriotic, fevers, piles, jaundice, diabetes, dyspepsia, chronic dysentery.
MIMOSACEAE	*Mimosa pudica* L.	Herb	Whole plant.	Cooling, asthma, juice is antiseptic, blood purifier, diarrhea dysentery, piles.
MORACEAE	*Ficus religiosa* L.	Tree	Bark ,fruits, seeds, leaf buds and late	Smallpox, cholera, wounds, ulcer, skin diseases.
MYRTACEAE	*Psidium guajava* L.	Small tree	Root-bark leaves and fruits.	Antispasmodic, cholera, vomiting, diarrhea, dysentery.
NYTAGINACEAE	*Boerhaavia diffusa* (L.)	Herb	Whole plant.	Stomachic, antipyretic, Dysentery, asthma, anemia.
POACEAE	*Cynodon dactylon* (L.) Pers.	Herb	Whole plant.	Neurasthenia, piles, ulcer leucorrhoea.
PUNICACEAE	*Punica granatum* L.	Small tree	Leaves, flower, fruits, dried fruit bark	Stomachic, dysentery
ROSACEAE	*Rosa damascene* (Mill)	Shrub	Flowers.	Diabetes, cardiac diseases, tonic, cold humors, eye diseases.
RUTACEAE	*Aegle marmelos* L.	Trees	Leaves and fruits.	Jaundice, gastric ulcer, constipation, dysentery.
SCROPHULACEAE	*Bacopa monnieri* L.	Herb	Stem and leaves.	Ulcer, asthma, cough, dropsy, fever, arthritis, dyspepsia, diabetes.

SOLANACEAE	*Capsicum annuum* L.	Herb	Fruits.	Naves stimulant, increases capillarity of blood vessels. Stomachic, dyspepsia.
	Datura metel (L.)	Herb	Roots, leaves, flowers and seeds.	Ulcer, leprosy, fever, piles, anemia, Ear ache, eye diseases, diarrhea, skin diseases, dog-bites, antispasmodic.
	Solanum xanthocarpum Wendl.	Herb	Whole plant	Fever, cough, digestive, asthma, influenza, piles, urinary, heart diseases.
	Withania somnifera (L.)(Dunal.)	Shrub	Root and leaves.	Fever swellings, ulcer, and nervous breakdown.
UMBELLIFERAE	*Angelica sinensis* (L.)	Climber	Leaves and roots.	Osteoarthritis, rheumatism.
VITACEAE	*Cissus quadrangularis* L.	Climber	Roots, stem and leaves.	Aphrodisiac, stomachic dyspepsia, indigestion, piles, worms, asthma and scurvy, swelling digestive troubles.
VERBENACEAE	*Vitex negundo* L.	Shrub	Whole plant	Arthritis, ulcer, leprosy, malarial fever, dyspepsia.

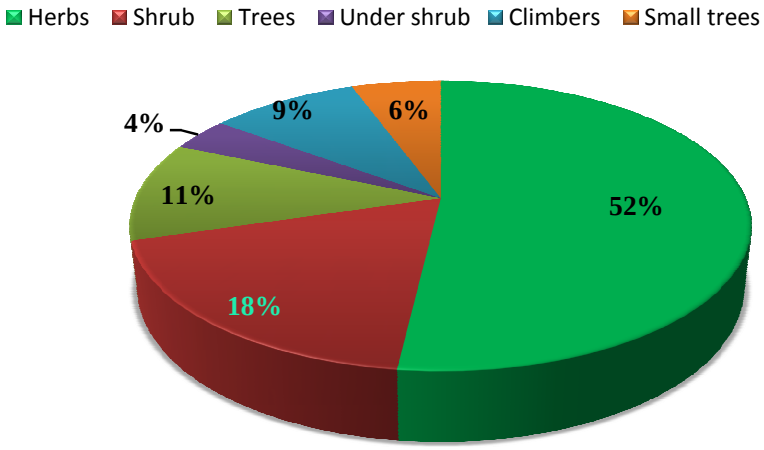

Figure: 1 Distribution Percentage of medicinal plant species according to their life form

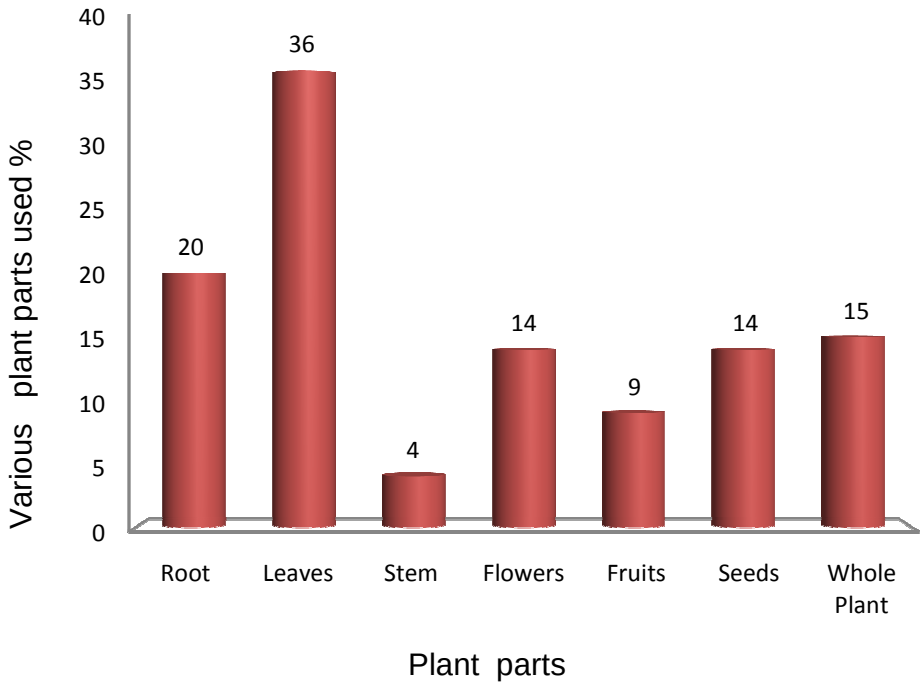

Figure: 2 Percentage of medicinal plant parts used by the traditional healers.

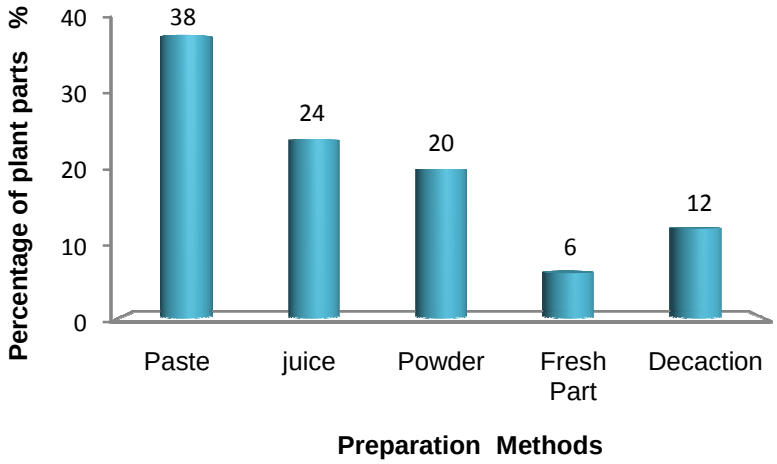

Figure: 3 Methods of preparations

CONCLUSION

This study concluded that even the accessibility of Western medicine for simple and complicated diseases is available, but many people in the study area Veeramalai hills at Manapparai Taluk, Tiruchirappalli district, is still continue to depend on medicinal plants, at least for the treatment of some simple diseases such as, cold, cough, fever, headache, poison bites, skin diseases and tooth infections. Well-knowledge healers have good interactions with patients and this would improve the quality of healthcare delivery. The present-day 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. It becomes necessary to acquire and preserve this traditional system of medicine by proper documentation and identification of species.

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