



Research Article

SURVEY AND DOCUMENTATION OF INDIGENOUS AND TRADITIONAL KNOWLEDGE OF MEDICINAL PLANTS USED BY THE IRULAR TRIBE OF NILGIRI DISTRICT, TAMILNADU

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ABSTRACT

An ethnobotanical survey was carried out among the ethnic groups (Irular) in Nilgiri District, Tamil Nadu. The tribal communities of Irular have rich knowledge about medicinal plants and its traditional uses. Therefore, we have done an exhaustive ethnobotanical survey in this area. In this present investigation, it is observed that the tribes being used 43 wild valuable plant species belonging to 28 families were identified with relevant information and documented in this paper with regard to their botanical name, family, vernacular name, parts used and utilization by the local tribal people for different human ailments. The common diseases treated by the herbal practitioner were asthma, cold, cough, indigestion, aphrodisiacs, paralyzes, skin diseases and diabetes.

KEYWORDS: Ethnic groups, ITK, Irulas and skin diseases.

INTRODUCTION

The ethnomedicinal system and herbal medicine as therapeutic agent of a paramount importance in addressing health care problem of traditional communities (Ayyanar and Ignacimuthu, 2009). The medicinally important plants were identified to be used by ethnic people to cure various ailments such as diabetes, dysentery, fever, headache, rheumatism, snakebite, cough and some as food and food additives (Sarvalingam et al., 2011; Samyudurai et al., 2012). A large portion of the world population, especially in developing countries, depends on traditional medicine

for the treatment of diseases and injuries. The World Health Organization reported that 80% of the world populations rely chiefly on indigenous medicine and that the majority of traditional therapies involve the use of plant extracts or of their active constituents (Fabricant and Farnsworth, 2001).

The ethnic peoples huge amount of medicinal plant species are used for the various skin diseases like eruptions, eczema, leucoderma, sores, cracks, cuts, boils, wounds, external tumour and body pain, swellings (Reddy et al., 2010) and these diseases curative plants derives their daily needs from various plants growing around them (Kadavul and Dixit, 2009). Most of the tribal people having

traditional knowledge of medicinal plant that are used for primary healthcare, to treat cough, cold, fever, headache, wound healing, jaundice, ring worm and poisonous bites (Santosh kumar et al., 2015). In our present investigation enlightened several important medicinal plants of Irular tribes of Ariyalur district, which need to be documented for therapeutic values and traditional knowledge perpetuation in the future.

MATERIALS AND METHODS

Study area

This study survey was conducted in five different places of Nilgiri viz, Annaikatti, Mavanalla Pokkapuram, Sreeyur and Vazhaithottam. About hundred respondents were interviewed for their knowledge and mode of use of medicinal plants. Information was recorded by using a questionnaire.

The Irular Tribes

The Irular are as small tribal community that is part of the Dravidian language group that is spoken in south-eastern India. They were belonging to the Negrito race, which is one of the six main ethnic groups that add to the racial mosaic of India (Deepa et al., 2002). Their staple food consists of minor millets, grain legumes, and wild yams supplemented with rice. The Irular settlements are located within or on the edge of the forests and consist of tiny scattered huts.

They are ultimate jungle folk, and their knowledge of plants and animals is a data bank of immense value. Documentation of ITK of medicinal plants The method of exploration was conducted with representatives drawn from various age groups for conservation, proper documentation of their own valuable information. The information was collected by following the questionnaire in an informal way during interactions to avoid nervousness among the respondent. After collection of data it was analyzed with the help of relevant existing literature.

Table 1: Showed different age groups of Irular tribe's questionnaire by use of medicinal plants.

Sr. No	Village Name	More than 50 years		30-50 years		Less than 30 years	
		Person surveyed	Answered relatively	Person surveyed	Answered relatively	Person surveyed	Answered relatively
1.	Annaikatti	30	15	40	10	30	8
2.	Mavanalla	30	10	40	5	30	3
3.	Pokkapuram	30	8	40	6	30	4
4.	Sreeyur	30	13	40	8	30	7
5.	Vazhaithottam	30	7	40	5	30	2

RESULT AND DISCUSSION

Among the 5 different places and 3 different age groups, Annaikatti people answered relatively higher traditional knowledge information compared to other places. Among the different age group more than 50 year old persons gave highest information compared to middle and young age group (Table. 1).

The result of this study has revealed 43 plant species belonging to 28 families that are used for various purposes by herbalists, traditional healers and tribal people of Nilgiri District. All these medicinal plant species collected by local communities from the surrounding areas, forests and alpine meadows and used them as remedies for various ailments. Methods of using these plants vary according to the nature of diseases and knowledge of individuals. The methods of preparation categorized into six categories. The plant parts applied as a paste, boiled, decoction, juice extracted from the fresh plant parts, powder made from dried plant parts, others. Paste is the main methods of preparation, either for oral for external administration. The inhabitants in the villages of Nilgiri District used a number of medicinal plants for the treatment of various diseases. The indigenous knowledge about medicinal plants and therapies was composed verbally and passed orally from generation to generation. They fear that their recognition in the society which they have earned due to their knowledge will be lost and hence they want to keep it secret. The secrecy of traditional medical practice is also a common phenomenon found in other part of Haryana (Sharma et al., 1992), India (Upadhyay et al., 2007) and worldwide (Giday et al., 2009 and Ayyanar et al., 2005). Similarly the threat to traditional knowledge also observed in other parts of India due to less interest of the younger generation (Muthu et al., 2006).

Now the herbal medicine is a recognized system of medicine throughout the World. For centuries, plants with medicinal properties have been utilized successfully in the treatment of ailments of varying degrees of severity (Bartram, 1995). The leaves are most frequently used for the treatment of diseases. External applications and internal consumption are involved in the treatment of wounds, snake bite; headache and skin diseases (Nithyadevi and Shivaanath, 2015). Largest numbers of remedies are digestive problems followed by respiratory disorders, skin diseases, wound healing, genital disorders, snake bite and diabetes (Kausik Mondal et al., 2015).

Table 2: Showing the ethnomedicinal plants used by the indigenous irular tribe of Nilgiri district, Tamilnadu

Sr. No	Botanical Name	Family	Local Name	Parts Used	Method of preparation and uses
1	<i>Abutilon indicum L.</i>	Malvaceae	Thuthi	Leaf	Leaf paste is given orally for piles and prepare pillow by using leaves and using as a sitting seat.
2	<i>Achyranthes aspera L.</i>	Amaranthaceae	Nayuruvi	Leaf	Leaf Paste with onion is applied externally on the bitten site of dog and to cure skin diseases, the stem good for tooth which used as a tooth fresh.
3	<i>Aclypha indica L.</i>	Euphorbiaceae	Kuppaimeni	leaves	Fresh leaves paste is applied externally for skin problem and fresh leaf juice mixed with 5% salt given orally for cold.
4	<i>Adhatoda vasica Nees.</i>	Acanthaceae	Adathodai	Shrub	The leaf decoction or leaf powder or one leaf with one block pepper is taken internally to cure cold and cough and also taken in the form of rasam.
5	<i>Aegle marmelos L. Correa</i>	Rutaceae	vilvam	Leaf and fruit pulp	Leaf powder or decoction taken orally for nausea and fruit pulp act as a stomach cleans, body coolant and extra body weight reduction
6	<i>Agave sisalana Perrine.</i>	Agavaceae	Nrakatrzhai	Leaf	Fresh leaf juice is dropped in to ear for ear diseases.
7	<i>Allium sativum L</i>	Lilliaceae	Poondur	Bulb	Bulb paste taken in thuvaiyal, kozhambu, soup form for gastric stimulant and mother milk secretion.
8	<i>Andrographis paniculata Nees.</i>	Acanthaceae	Seriya nangai or nilavembu	Leaf	Leaf paste, powder and decoction is taken orally for snake bite, diabetic, cold ,skin diseases and fever
9	<i>Argemone maxicana L.</i>	Papaveraceae	Bhramma thundu	seed	Fried seed powder mixed with coconut oil given for cough
10	<i>Boerhaavia diffusa L.</i>	Nyctaginaceae	Mukkuratai	Leaf and root	Leaf powder is taken orally for kidney stone, sugar and body pain.
11	<i>Calotropis gigantea L</i>	Asclepiadaceae	Vella erukku	Leaf and Latex	Boiled leaf paste is applied externally for tumors. The 3- 5 drops of latex applied for stint of scorpion.
12	<i>Cardiospermum halicacabum L</i>	Sapindaceae	Mukakkathan	Leaf	Leaf paste is taken as kozhambu and Dosa form for body pain, joint pain and gastric problem. Leaves powder taken with honey also for same one.
13	<i>Cassia auriculata L.</i>	Caesalpinaceae	Avarai	Flower	Powdered flower is taken orally for Diabetes, skin brightness and flower decoction taken orally for jaundice. Young leaves are made into a paste and used as shampoo to make cleaning and cooling effect. This flower is used to reduce body odor. When it is consumed for once in 15days.

14	<i>Cissus quadrangularis L.</i>	Vitaceae	Pirandai	Stem	Fried along with tamarind, salt, onion, garlic etc grind in to chutney. It acts as an appetizer, cleans the stomach and is a good source of calcium and iron for strengthen the born.
15	<i>Citrullus colocynthis L. Schrad.</i>	Cucurbitaceae	Cumutti kai	Fruit and leaves	It added to the food in the form of koottu for ulcer, worm removal and wound healing
16	<i>Clerdendron phlomides Lina.</i>	Verbenaceae	Thazhuthalai	Leaf	Leaves decoction is taken for gastric problem. Leaves boiled in hot water bath for body pain.
17	<i>Coccinia grandis L.voigt</i>	Cucurbitaceae	Kovai	Leaves	It added to the food in the form of koottu for ulcer and wound healing and diuretic.
18	<i>Coleus aromaticus Benth.</i>	Lamiaceae	karpooravalli	leaf	Fresh leaves taken orally for cold. Fresh leaf juice is given orally for children.
19	<i>Corallocarpus epigaeus Benth</i>	Cucurbitaceae	Akasakarudan kizhangu	Tuber	Plant act as a chasing of the air born disease, root tuber powder used for bite of snake, beetle, dog rate, cat etc
20	<i>Curculigo orchioides Gaetm</i>	Hypoxidaceae	Nilappanai	Whole plant	The leaf and tuber paste and powder taken internally to increase sperm count
21	<i>Cynodon dactylon L.</i>	Poaceae	Arugampull	Leaf	Leaf juice is taken orally for digestion, body weight reduction and blood purification
22	<i>Datura metel L.</i>	Solanaceae	Uomathai	Leaf and fruit	Leaf paste is taken orally for asthma
23	<i>Dioscorea pentaphylla L.</i>	Dioscoreaceae	Valli Kizhangu	Tubers	Boiled tubers taken as a breakfast or dinner makes them, energetic and diuretic.
24	<i>Eclipta prostrata L</i>	Asteraceae	Manjal Karisalanganni	Leaf	The green leaf taken orally for the treatment of vision sight and hair growth. Strengthen the liver, kidney stomach and cure the jaundice.
25	<i>Erythrina indica L</i>	Fabaceae	Kalyanamurungai	Leaf	Leaf powder is given orally for few days – uterus problem and sperm count and wound
26	<i>Euphorbia hirta L.</i>	Euphorbiaceae	Ammann pachrasi	Leaf, fruit latex	Leaf and fruit powder is mixed with cow's milk and taken orally to treat ulcer, body cool and latex used for corn.
27	<i>Ficus religiosa L.</i>	Moraceae	Arasan	Leaf and fruit	Green leaf is taken orally for uterus problem and to increase sperm count, dry leaves have wound healing activity
28	<i>Hemidesmus indicus R.Br.</i>	Apocynaceae	Nannari	Root	Roots are used in the preparation of kozhambu which reduces the body pain. Its root powder will cure ulcer when it is consumed with sugar besides acting as a coolant to the body
29	<i>Hybanthus enneaspermus Jacq.</i>	Violaceae	Orithazhthamarai	Leaf	Leaf powder or paste used for the sperm count and lucavea.

30	<i>Lawsonia inermis L.</i>	Lythraceae	Maruthani	Flowers and Young leaves	Leaves acts as a cooling agent and inhaling the fragrance of flowers will induce deep sleep. Application of its leaf paste in hand and foot palms acts as a coolant to the body.
31	<i>Lippia nudiflora L. Greene</i>	Verbenaceae	poduthalai	Whole plant	Paste applied on hair for dandruff.
32	<i>Mimosa pudica L.</i>	Mimosaceae	Thotta sinungi	Leaf	Root and leaf infusion is applied for wound healing and boiled leaves used for skin diseases.
33	<i>Moringa oleifera Lam.</i>	Moringaceae	Murungai	Leaf, flower and fruit	Fresh leaf taken as food for to increase iron and Aphrodisiac
34	<i>Mukia maderaspatans L.</i>	Cucurbitaceae	Musumusukai	Leaf	Leaf taken orally for the treatment of cold.
35	<i>Ocimum sanctum L.</i>	Lamiaceae	Thulasi	Leaf	Leaf powder used for the cold and breathing problem.
36	<i>Phyllanthus amarus L.</i>	Euphorbiaceae	Keela nelli	Leaf and fruit	Roots and fruits are crushed and mixed with goat's milk. The mixture is taken orally to cure jaundice and liver problems
37	<i>Plumbago zeylanica L.</i>	Plumbaginaceae	Kodiveli	Root	The root used for skin disease and body pain.
38	<i>Solanum nigrum L.</i>	Solanaceae	Manathakkali	Leaves and fruits	Boiled leaves and fruits taken as food for mouth and stomach ulcer, body coolant.
39	<i>Solanum torvum Sw.</i>	Solanaceae	Kattu sundaikkai	Fruits	Dried fruit taken as food in the form of kozhambu, soup, fried for cold cough, stomach warms and diabetic.
40	<i>Solanum xanthocarpum L.</i>	Solanaceae	Kandankathiri	Leaf and fruit	Leaf and fruit powder mixed with honey or decoction taken internally to treat cold and cough.
41	<i>Syzygium cumini L.</i>	Myrtaceae	Naval	Seed and bark	Seed powder mixed with either hot water or cow's milk is taken orally in empty stomach to treat diabetes. Bark essence with curd taken for dysentery
42	<i>Tridax procumbens L.</i>	Asteraceae	Vettukaya poondu	Leaves	It is called as biological tincture iodine and is used for healing wounds when taken in either paste or juice form
43	<i>Tephrosia purpurea L.Pers.</i>	Fabaceae	Kolingi	Root	Root paste used as leprosy, ulcers, asthma, diarrhea, rheumatism and stop bleeding

CONCLUSION

Herbs are always considered as a very important source of medicine especially for the population of the rural areas and tribes because of the high cost and difficult accessibility to modern medicine. Indigenous tribal people used these medicinal plants for the treatment of various diseases like cold, cough, arthritis, body pain, diabetic, hair problem, stomach problem, genital disorders. It can be concluded from the study, these result forms a good basis for selection of potential plant species for further phytochemical and pharmacological investigation.

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