

Traditional Knowledge on Medicinal Plants Used by the Irula Tribe of Hasanur Hills, Erode District, Tamil Nadu, India

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Abstract

An ethnobotanical survey was carried out among the ethnic groups (Irula) in Hasanur Hills (Southern Western Ghats). The tribal communities of Irulas nurture rich knowledge about medicinal plants and its uses. Therefore, we have done an exhaustive ethnobotanical survey in this area. In this present investigation, it is observed that the tribal's use 70 wild valuable plant species belonging to 42 families were identified with relevant information and documented in this paper with regard to their botanical name, family, local name, parts used and utilization by the local tribal people for different human ailments. The common diseases treated by the herbal practitioner were asthma, digestive problems, paralyzes, skin diseases and diabetes.

Keywords: Hasanur Hills; Irulas; Medicinal plants; Traditional use.

Introduction

Plants have been used in traditional medicine for several thousand years. The knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems such as Ayurveda, Unani and Siddha. In India, it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine (Pei, 2001).

During last few decades there has been an increasing in the study of medicinal plants and their traditional use in different parts of the world (Lev, 2006). Herbal remedies are considered the oldest forms of health care known to mankind on this earth. Prior to the development of modern medicine, the traditional systems of medicine that have evolved over the centuries within various communities, are still maintained as a great traditional knowledge base in herbal medicines (Mukherjee and Wahil, 2006). Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written document (Perumal Samy and Ignacimuthu, 2000) and is still retained by various indigenous groups around the world.

Documenting the indigenous knowledge through ethnobotanical studies is important for the conservation and utilization of biological resources. Ethnobotanical survey has been found to be one of the reliable approaches to drug discovery (Fabricant and Farnsworth, 2001). Several active compounds have been discovered from plants on the basis of ethnobotanical information and used directly as patented drugs (Carney *et al.*, 1999). As indigenous cultures are closely maintained by the tribal and other forest dwellers throughout the world, the ethnobotanical investigation is a prerequisite for any developmental planning concerned with the welfare of tribal and their

environment. It is an urgent, necessity to record as quickly as possible all information about plants and the role of tribes in conserving them. The main focus of the present study is to ascertain the detailed information on the use of plants and their therapeutic practices among Irula tribals of Hasanur Hills, Tamil Nadu.

Methodology

An ethnobotanical survey was carried out in Hasanur Hill area, which is found in Sathyamangalam forest sanctuary, Erode District, Tamil Nadu (Fig 1). Sathyamangalam forest is a part of Western Ghats covered with mixed deciduous vegetation. The Hasanur Hill is situated at 933 meters above the sea level with a total area of 4532.53 ha. It lies 77°3'42' N longitudes and 11°40'16' latitude. It includes almost all types of vegetations and one river named Binahanalli. The ethnobotanical survey was carried out among local population and the tribe called Irulas living in this area. The tribal community was met in their residential areas. The field visit was conducted several times to the study area.

Ethnobotanical data were collected according to the methodology suggested by Jain (1964) through questionnaire (Appendix A), interviews and discussions among tribal practitioners in their local language. Our questionnaire allowed descriptive response on the plant prescribed, such as part of the plant used, medicinal uses, and detailed information about mode of preparation (i.e., decoction, paste, powder and juice) form of usage either fresh or dried and mixtures of other plants used as ingredients.

There were 23 informant between the ages of 35 to 68 in the study area. Among them 5 were farmers and 18 were regular herbal practitioners. They were accompanied us to the forest area where they showed us plants that are used in their traditional medicines

The collected plant specimens were carefully identified with the help of experts in the Botanical Survey of India, Coimbatore. The specimens were properly processed and finally deposited in the herbarium of Department of Botany, Bharathiar University. Details regarding their uses, medicinal importance, mode of administration and their local names were recorded. The Flora of Presidency of Madras was used to ascertain the nomenclature. Data are tabulated with plant name along with family, local name, parts used, method of preparation and utility (Table 1).



Fig. 1 Location map for the ethnobotanical survey of the folk medicinal plants in Hasanur Hills.

Results

The result of this study have revealed 70 plant species belonging to 42 families that are used for various purposes by herbalists, traditional healers and tribal people of Hasanur Hills (Table 1). Seed and tender twigs were recorded as the least used plant parts. However, leaves were found most frequently used part and constituting 45% followed by root (14%), fruit (10%), and bark (8%) (Fig.2). Maximum use of leaves medicinal purpose indicates either these plants are easily availability or they may have strong medicinal properties.

The methods of preparation fall into seven categories. The plant parts applied as a paste (44%), boiled (14%), decoction (12%), juice extracted from the fresh plant parts (7%), powder made from dried plant parts (7%), Fumigate (4%), Infusion (3%), and others (9%) (Fig.3). Paste is the main methods of preparation, either for oral or for external administration. The underground parts viz. roots, rhizomes, tubers, etc. were preferably harvested either at the time of senescence or before dormancy break to retain maximum potency of crude drug.

The mode of administration of these formulations is concerned about 41 preparations were prescribed to consume orally and 26 formulations were reported for external use only. Largest number of remedies are skin diseases (29%) followed by digestive problems (27%), respiratory disorders (17%), diabetes (5%), paralyze (7%), genital disorders (10%), snake bite (3%), toothache (2%) (Fig.4). Common health ailments in the study area were skin problems such as wounds, boils, psoriasis and the larger number of the remedies were used to treat these ailments. Common medicinal plants such as *Achyranthus aspera*, *Lantana camera*, *Indigofera aspalathoides*, *Terminalia bellarica* are used for skin diseases.

Among the plants surveyed, *Ocimum basilicum*, *Adhatoda vasica* are used frequently for the preparation of medicines for the treatment of respiratory disorders. The result showed that *Cassia tora*, *Solanum xanthocarpum* are weeds, which is used as a vegetable. Fruits of *Flacourtia ramontchi*, *Zyzyphus oenoplia*, and root of

Hemidesmus indicus are used as edible by the tribal people. The tribal people mostly eat vegetables of leafy varieties which grown as wild weeds.

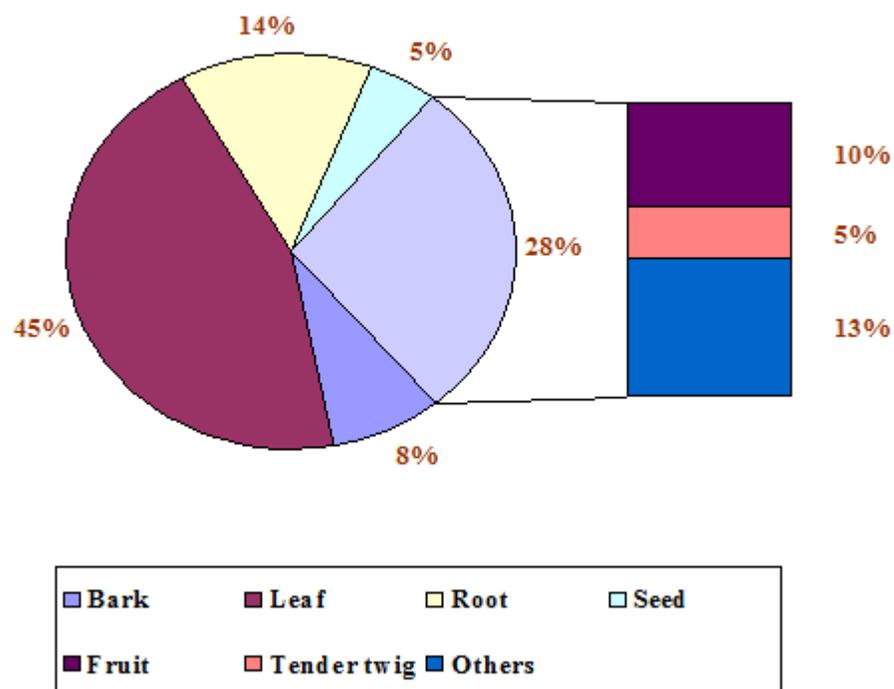


Fig. 2. Plant parts used by Irula tribes for various ailments.

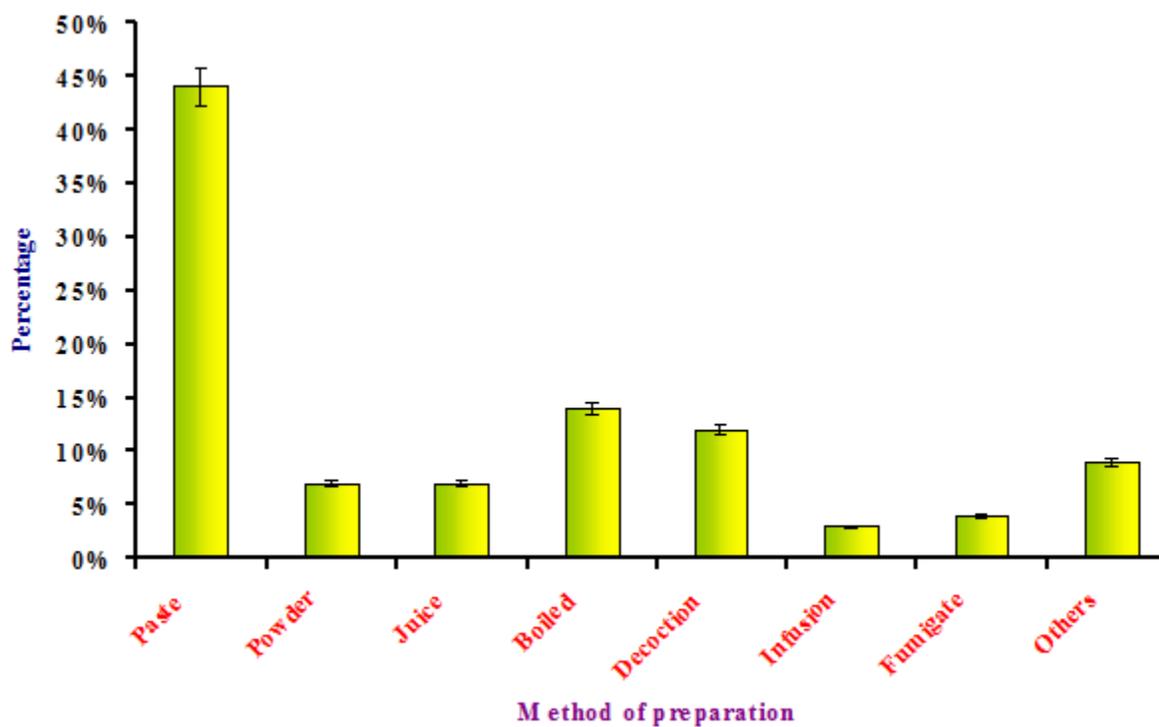


Fig. 3. Drug preparation methods for various ailments.

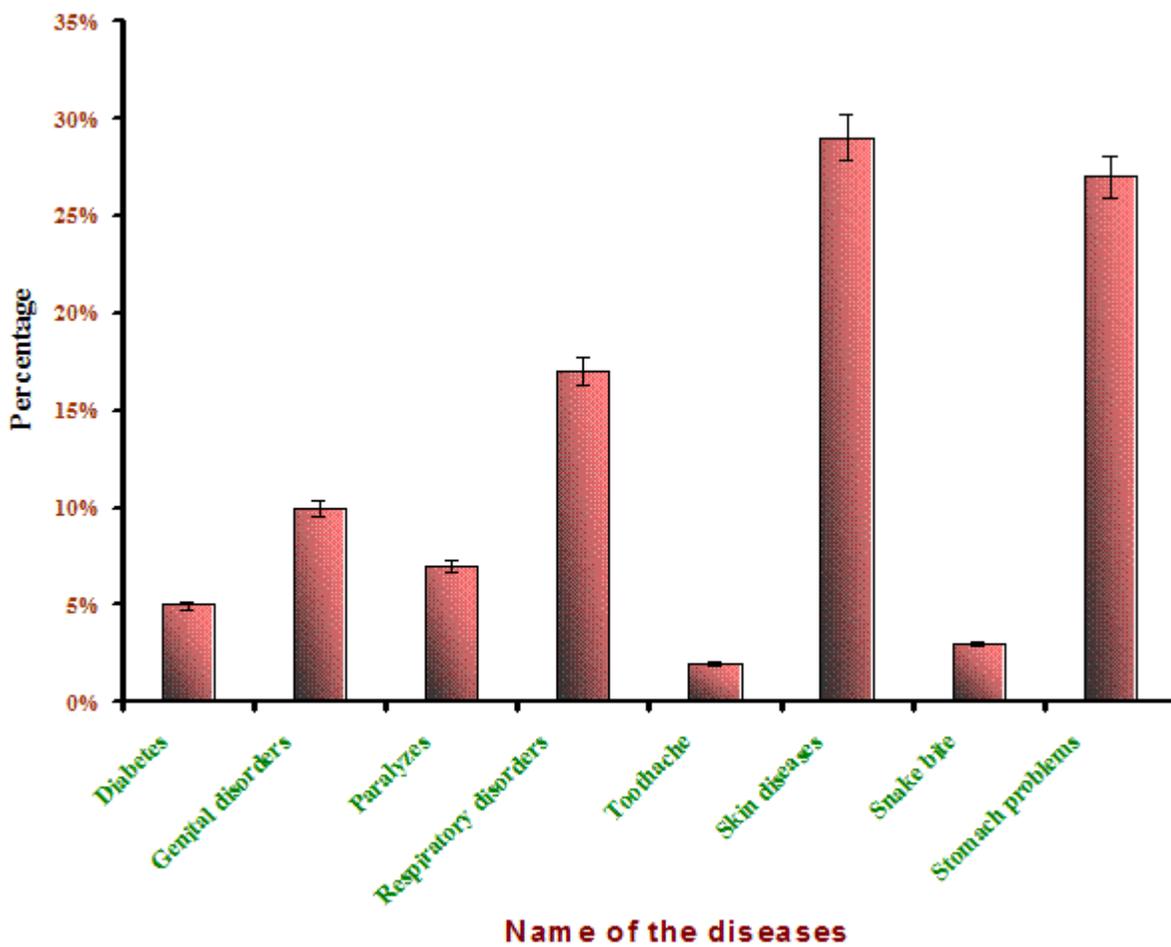


Fig. 4. Percentage of the plants having different pharmacological actions

S. No	Botanical name	Family	Local Name	Habit	Parts used	Method of preparation and mode of usage	Ailments treated
01.	<i>Adina cordifolia</i> Hk. f.	Rubiaceae	Manjal Kadambai	Tree	Bark	Fresh bark is ground with brown sugar and cumin. The paste of this mixture is taken internally to treat female asthenia.	Body Weakness and Uterus related problems
02.	<i>Toddalia asiatica</i> Lamk.	Rutaceae	Masiha chedi	Herb	Bark	Paste is prepared from fresh stem bark and it is taken internally as well as topically to cure paralyzes	Paralyzes
03.	<i>Strebulus Asper</i> Lour	Moraceae	Kembara	Shrub	Leaf	Leaf paste is applied topically to treat measles like swellings on the skin	Skin diseases
04.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Neermuthi	Shrub	Leaf and Root	Leaf and root powder is mixed with breast milk. The paste is taken internally to improve immunity of children	Weakened immunity
05.	<i>Cardiospermum helicacabum</i> Linn.	Sapindaceae	Thatu putu	Climber	Leaf	Paste of leaves with onion and coconut oil is taken orally for joint pain	Arthritis

06.	<i>Randia dumetorum</i> Lamk.	Rubiaceae	Kaarai kai chedi	Shrub	Seed and Fruit	Fruits are rubbed on hard substances and paste is applied topically to cure skin diseases	Dermatitis
07.	<i>Andrographis paniculata</i> Nees.	Acanthaceae	Periaa nangai	Shrub	Leaf	Leaf paste is taken orally for snake bite and to reduce pain	Snake bite, Chikun kunai
08.	<i>Ziziphus oenoplia</i> Mill.	Rhamnaceae	Churipala chedi	Shrub	Fruit and Bark	Bark and Fruit paste along with cumin is taken internally to treat diarrhea	Diarrhoea
09.	<i>Caesalpinia sepiaria</i> Roxb.	Caesalpiniaceae	Intha chedi	Shrub	Leaf	Leaves are cooked and taken orally with food for digestion problems	Stomach disorder
10.	<i>Amaranthus spinosus</i> Linn.	Amaranthaceae	Mullu Keerai	Herb	Leaf and Root	Leaf paste along with lemon juice is taken with food to cure stomach ulcer	Stomach ulcer
11.	<i>Acacia torta</i> Craib.	Mimosaceae	Seeva keerai	Climber	Leaf and Young twig	Leaf is cooked with onion and taken with food. It facilitates the expulsion of gas.	Stomach disorder
12.	<i>Zizyphus mauritiana</i> Linn.	Rhamnaceae	Kodithotti maram	Tree	Leaf	Paste of leaf along with the leaves of <i>Ailanthus excelsa</i> Roxb. is taken internally as well as	Paralyze

						topically to treat paralyze	
13.	<i>Sida acuta</i> Burm.	Malvaceae	Kala karandai	Herb	Leaf	Crush the fresh leaves and the juice is applied topically to treat boils	Boils
14.	<i>Spilanthes acmella</i> Murr.	Asteraceae	Manjal Poo chedi	Herb	Flower	Flowers are crushed and applied on the site of toothache	Toothache
15.	<i>Ailanthes excelsa</i> Roxb.	Simarubaceae	Peevari maram	Tree	Leaf	Decoction is prepared from leaves and taken internally to treat paralyze	Paralyze
16.	<i>Hemidesmus indicus</i> R. Br.	Asclepiadaceae	Nannari	Climber	Leaf	Root and Leaf decoction is taken orally to regulate digestion	Stomach disorder
17.	<i>Argemone mexicana</i> Linn.	Papaveraceae	Manjal Paal chedi	Herb	Latex	Latex of the plant is applied topically on the site of boils	Boils
18.	<i>Mimosa pudica</i> Linn.	Mimosaceae	Thotta sinungi	Herb	Leaf	Root and Leaf infusion is applied on the wounds	Wound healing
19.	<i>Leucas aspera</i> Spreng.	Lamiaceae	Kennathumbai	Herb	Leaf	Leaf paste or crushed leaf is taken both externally & internally to treat snake bite, It is also applied topically on the forehead to cure one side headache	Snake bite, One side headache

20.	<i>Ruellia patula</i> Jacq.	Acanthaceae	Puni chedi	Herb	Leaf	Leaf paste is applied topically all over the body to treat children fever	Children fever
21.	<i>Cissus quadrangularis</i> Linn.	Vitaceae	Perandai	Lianas	Stem and leaf	Paste of stem and leaf is taken orally with food for easy digestion and to increase appetite	Stomach disorder
22.	<i>Achyranthes aspera</i> Linn.	Amaranthaceae	Nauruvi	Herb	Leaf	Paste of leaf with onion is applied externally on the bitten site of dog and to cure skin diseases	Rabies, Skin diseases
23.	<i>Syzygium cumini</i> Linn.	Myrtaceae	Naval palam	Tree	Seed	Seed powder mixed with either hot water or cow's milk are taken orally in empty stomach to treat diabetes	Diabetes
24.	<i>Abrus precatorius</i> Linn.	Fabaceae	Vellai kundumani	Climbing shrub	Seed	Decoction of seed is taken orally to increase sperm count and to treat stomach pain	Stomach problems and sexual disorder
25.	<i>Lantana camera</i> Linn.	Verbanaceae	Unichedi	Shrub	Leaf	Leaf paste is applied topically to treat wounds	Wound healing
26.	<i>Solanum nigrum</i> Linn.	Solanaceae	Chukuti chedi	Herb	Leaf and Fruit	Leaves and fruits are chewed and	Mouth ulcer

						swallowed to cure mouth ulcer	
27.	<i>Sesbania. aegyptiaca</i> Pers.	Fabaceae	Sitha hathi	Shrub	Tender twig and seed	Tender twig and seeds are infused with coconut oil and applied topically on the hair regularly for healthy and black hair	Problems in hair growth and body heat
28.	<i>Tridax procumbens</i> Linn.	Asteraceae	Mookuthi chedi	Herb	Leaf	Leaf juice is applied topically on wounds	Wound healings
29.	<i>Phyllanthus amarus</i> Linn.	Euphorbiaceae	Keela nelli	Herb	Root and fruit	Roots and fruits are crushed and mixed with goat's milk. The mixture is taken orally to cure jaundice and liver problems	Liver problems
30.	<i>Euphorbia Hirta</i> Linn.	Euphorbiaceae	Ammaan pachcharsi	Herb	Leaf and fruit	Leaf and fruit powder is mixed with cow's milk and taken orally to treat Leucorrhoea and to keep the body cool	Leucorrhoea
31.	<i>Jatropha curcas</i> Linn.	Euphorbiaceae	Katta amankku	Shrub	Bark and latex	Decoction prepared from bark and mixed with water. The water is used to take bath for the treatment of stomach problems during	Stomach related problems during pregnancy

						pregnancy. Latex is taken orally for same purpose	
32.	<i>Bauhinia retusa</i> Ham.	Fabaceae	Aathi	Shrub	Leaves and fibres	Leaves are fumigated and s inhaled to get relief from fever. The stem fibres are used in coir production.	Fever
33.	<i>Azima tetragantha</i> Lamk.	Salvadoraceae	Mullu kuthi chedi	Herb	Leaf	Decoction prepared from leaves and is taken orally to treat cold and cough	Cold and cough
34.	<i>Flacourtia ramontchi</i> 'L'Herit.	Bixaceae	Kejalika chedi	Herb	Fruit	Ripened fruits are taken orally to keep the body cool	Body heat
35.	<i>Cassia tora</i> Linn.	Fabaceae	Thahara chedi	Herb	Shoot tip	Tender twigs are cooked with onion and taken with food	Used as a vegetable
36.	<i>Solanum xanthocarpum</i> Schrad	Solanaceae	Kandan kattiri	Herb	Fruit	Unripe fruits are cooked and taken with food	Used as a vegetable
37.	<i>Solanum indicum</i> Linn.	Solanaceae	Mullu chundal	Herb	Fruit	Unripe fruits are cooked and taken with food to expel tapeworms. These fruits are used to preparing pickles	Expelling worms
38.	<i>Ficus retusa</i> Linn.	Moraceae	Athi maram	Tree	Leaf and fruit	Paste of Leaf along with their fruit combined with cumin	Diabetes, bone fracture , cold, swellings

						is taken orally to cure swellings, Lung blockage. It is best for treat diabetes and applied topically over the fractured bones.	
39.	<i>Spilanthes calva</i> Wt.	Asteraceae	Vettu marunthu chedi	Herb	Leaf	Leaf paste is applied directly on wounds	Wound healings
40.	<i>Capparis sepiaria</i> Linn.	Violaceae	Thotti chedi	Herb	Fruit and Root	Leaves are pasted with lemon juice and are applied topically to treat swellings. The fruits are edible.	Swellings
41.	<i>Launaea pinnatifida</i> cass.	Goodeniaceae	Kaatu thumbi	Herb	Leaf	Leaf decoction is taken internally to get relief from fever	Fever
42.	<i>Oxalis Corniculata</i> Linn.	Oxalidaceae	Puliyarai	Small herb	Root	Paste of Root is taken orally to treat common fever	Fever
43.	<i>Euphorbia heterophylla</i> Linn.	Euphorbiaceae	Paal Poodu	Herb	Leaf	Leaf is cooked with coconut oil and onion. It is taken with food for stomach problems and to treat dysentery	Stomach problems and dysentery
44.	<i>Ocimum basilicum</i> Linn.	Lamiaceae	Thiruneetru pachai	Herb	Leaf	Dried leaves are kept in fire and the	Asthma and other breathing problems

						smoke is inhaled to cure Asthma	
45.	<i>Croton sparsiflorus</i> Morang.	Euphorbiaceae	Sinathamani chedi	Herb	Latex	Plant latex is applied externally on the site of wasp sting	Wasp sting
46.	<i>Cocculus hirsutus</i> Diels.	Menispermaceae	Vella katha kodi	Climber	Leaf	Paste is prepared from leaves and it is administered orally to treat Leucorrhoea	Leucorrhoea
47.	<i>Abutilon indicum</i> G. Don.	Malvaceae	Thuthi	Herb	Leaf	Leaf is cooked with onion and taken orally to treat piles	Piles
48.	<i>Eclipta prostrate</i> Linn.	Asteraceae	karisalanganni	Herb	Whole plant	The powder of <i>Eclipta prostrata</i> , <i>Leucas aspera</i> and <i>Phyllanthus niruri</i> are mixed with butter milk and taken orally to cure jaundice	Jaundice
49.	<i>Lawsonia inermis</i> Linn.	Lythraceae	Maruthondri	Shrub	Leaf	The fresh leaves are ground and gargled to treat mouth ulcer.	Mouth ulcer
50.	<i>Datura metel</i> Linn.	Solanaceae	Karu oomathai	Leaf	Herb	The fresh leaves are boiled with gingelly oil and applied topically on joints to cure swellings	Swelling in joints
51.	<i>Mukia maderaspatans</i> Linn.	Cucurbitaceae	Musu musukai	Leaf	Climber	Boil the leaf juice with gingelly oil	Asthma

						and applied topically on the head before taking bath to cure Asthma	
52.	<i>Trianthema decandra</i> Linn.	Aizoaceae	Sathi charanai	Root	Herb	The root of this plant is taken internally to treat Elephant dialysis	Elephantiasis
53.	<i>Santalum album</i> Linn.	Santalaceae	Santhana maram	Tender twig	Tree	The paste of tender twig mixed with the juice of <i>Phyllanthus emblica</i> are taken orally to treat urinary tract infection and it is best for diabetes	Urinary tract infection and diabetes
54.	<i>Indigofera aspalathoides</i> Vahl.	Fabaceae	Sivanar vembu	Whole plant	Herb	The ash of the whole plant is added with coconut oil and applied topically to treat psoriasis	Skin diseases
55.	<i>Plumbago zeylanica</i> Linn.	Plumbaginaceae	Kodiveli	Root	Herb	Root is pasted with gingelly oil and applied topically to cure piles	Piles
56.	<i>Bauhinia tomentosa</i> Linn.	Caesalpiniaceae	Mantharai	Leaf	Shrub	The leaf powder is mixed with honey are taken internally to treat digestive problems and vomiting	Digestive disorders

57.	<i>Rubus ellipticus</i> Sm.	Rosaceae	Vella mulli	Root	Climber	The root paste is taken internally to treat paralyzes	Paralyze
58.	<i>Cipadessa baccifera</i> Miq.	Meliaceae	Seeruholi maram	Root, leaf and bark	Tree	The paste of root, leaf and bark is applied topically to cure psoriasis	Skin diseases
59.	<i>Cassia hirsuta</i> Linn.	Caesalpiniaceae	Paaparettai	Root	Shrub	The root is pasted with cumin and taken internally to treat stomach burning after a meal.	Digestive disorders
60.	<i>Glycosmis pentaphylla</i> correa.	Rutaceae	Molehulukki	Root	Shrub	The root is pasted with cumin and taken internally to treat Asthma.	Asthma
61.	<i>Alangium salvifolium</i> Wang.	Alangiaceae	Marada kodi	Whole plant	Climber	The fresh plants are fried and taken internally to treat chest burning	Burning sensation
62.	<i>Grewia tiliaefolia</i> Vahl.	Tiliaceae	Thadasu maram	Bark	Tree	The decoction of bark is apply all over the head before taking bath to treat mental illness	Mental illness.
63.	<i>Terminalia bellarica</i> Roxb.	Combretaceae	Thaanthi maram	Bark and root	Tree	The bark and root are grind & took extract, which is applied topically to treat	Skin diseases

						unnecessary peelings on the skin.	
64.	<i>Curculigo orchioides</i> Gaetrn.	Hypoxidaceae	Nilappanai	Whole plant	Tree	The leaf paste taken internally to increase sperm count.	Genital disorder
65.	<i>Rubia cordifolia</i> Linn	Rubiaceae	Chevvali kodi	Leaf	Climber	The leaf paste is applied topically to scorpion sting and dizziness	Scorpion sting
66	<i>Boerhaavia diffusa</i> Linn	Nyctaginaceae	Saranda kodi	Whole plant	Herb	The plant is pasted with cumin and taken internally to cure digestive problems	Digestive disorder
67.	<i>Lantana whitiana</i> Wall.	Verbanaceae	Vella uni chedi	Leaf	Shrub	The leaf is ground with <i>Cipadessa baccifera</i> root, leaf and bark & applied topically to treat Psoriasis	Skin disease
68.	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Adathodai	Leaf	Shrub	The leaf decoction is taken internally to cure cold and cough.	Cold and cough
69.	<i>Jasminum angustifolium</i> Vahl.	Oleaceae	Kattu mallige	Leaf	Shrub	The leaf is boiled in water and taken with food to cure diahbroea	Diahbroea
70.	<i>Murraya paniculata</i> (L) Jack.	Rutaceae	Sedisil maram	Leaf	Shrub	The leaf paste is applied over the wounds to heal	Wounds

Discussion

Herbal remedies are considered the oldest forms of health care known to mankind on this earth. Prior to the development of modern medicine, the traditional systems of medicine that have evolved over the centuries within various communities, are still maintained as a great traditional knowledge base in herbal medicines (Mukherjee and Wahil, 2006). Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written document (Perumal samy and Ignacimuthu, 2000) and is still retained by various indigenous groups around the world. 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. When fresh plant parts are not used as simple drugs and some plants are used with some other plant parts. The information collected from this study is in agreement with the previous reports (Jain, 2001; Sandhya et al., 2006; Ganesan et al., 2004; Udayan et al., 2005; Mahapatra and Panda, 2002).

From this survey herbs (46%) were found to be most used plants followed by shrubs (26%), trees (14%) and climber (14%) in descending order. Many Species of the family Euphorbiaceae, Fabaceae, Solanceae and Asteraceae are frequently used in this study area. The first two families contribute to 10 remedies; the information is showed.

The parts of the plant used for medicinal purposes are leaves, root, stem, fruits, the complete aerial parts, the whole plant, barks (root and stem) and flowers. However, leaves were found most frequently used part.

Common health ailments in the study area were skin problems. Kani tribals in Tirunelveli Hills of Tamil Nadu were using 14 plants for the treatment of skin problems (Ayyanar & Ignacimuthu, 2005). Tribals of Uttar Karnataka district used 52 herbal preparations from 31 plants for skin diseases, a nearest state of Tamil Nadu (Harsha et al., 2003) and people of Eastern Cape Province, South Africa used 38 plant species for the treatment of wounds (Grierson and Afolayan, 1999).

Several studies have enumerated the plants used for wound healing and skin diseases in various parts of the world (Chah et al., 2006; Ayyanar and Ignacimuthu, 2005; Harsha et al., 2003). Ghorbani (2005) reported 16 plant species that were used for respiratory diseases and 48 plants for the treatment of gastrointestinal disorders in north Iran. Safety and efficacy of the treatment for respiratory tract infections were reviewed (Coon and Ernst, 2004). Traditional healers of Kancheepuram district used nine plant species to treat stomach problems among them 3 plants to treat stomachache and 6 plants to cure digestive problems (Chellaiah et al., 2006). Muthukumarasamy et al., (2003) has reported the use of 21 medicinal plants from 20 families to treat gastro-intestinal complaints by using paliyar community.

The tribal people of Western Madhya Pradesh of India used 13 plants for the treatment of Jaundice (Samvatsar and Diwanji, 2000). In the present study on *Phyllanthus amarus* and *Eclipta prostrate* were used for the treatment of jaundice. *Spilanthes acmella* was used to treat toothache. *Syzygium cumini*, *Santalum album* and *Ficus retusa* are reported to treat diabetes. It is in agreement with earlier reports in the treatment of oral diseases (Tapsoba and Deschampus, 2006; Hebbar et al., 2004). *Andrographis paniculata*, *Catheranthus roseus* and *Gymnema sylvestre* were used to treat diabetes by the local traditional healers (Chellaiah et al., 2006). The tribal people of Sikkim and Darjeeling Himalayan region in India utilized 37 species of plants belonging to 28 different families as antidiabetic agents (Chherti et al., 2005).

In this present study ten remedies were used to alleviate problems of the respiratory system. Among the plants surveyed, *Ocimum basilicum*, *Adhatoda vasica* are used frequently for the preparation of medicines for the treatment of respiratory disorders. Whereas, 14 remedies were used to alleviate the respiratory problems, among

the plants surveyed, *Adhatoda zeylanica* and *Vitex negundo* are used frequently (Ignacimuthu et al., 2006).

From our survey of ethnomedicinal plants, the results obtained confirm the therapeutic potency of some plants used in traditional medicine. In addition, these results form a good basis for selection of potential plant species for further phytochemical and pharmacological investigation. The leaf paste of *Zizyphus mauritiana* along with the leaves of *Ailanthus excelsa* is taken internally as well as topically to treat paralyzes. *Andrographis paniculata* is used to treat poison bites; Leaf juice of *Mukia maderaspatana* with gingelly oil is applied topically on the head before taking bath to cure Asthma. Leaf and fruit powder of *Euphorbia hirta* is mixed with cow's milk and taken orally to treat Leucorrhoea, *Leucas aspera* (headache and snakebite) and *Cardiospermum helicacabum* (Arthritis) also documented.

Conclusion

The data collected shows that majority of the remedies are taken orally. Herbal medicines prescribed by tribal people are either preparation based on single plant or a combination of several plant parts. Most of the reported preparations are drawn from a single plant; mixtures are used rarely. The fresh plant parts are used for the preparation of medicine. When fresh plant parts are unavailable, dried parts are also used. Generally, the people of the study area still have a strong belief in the efficacy and success of herbal medicine. The results of the present study provide evidence that medicinal plants continue to play an important role in the healthcare system of this tribal community.

This study provides an ethnobotanical data of the medicinal plants used by the tribal people of Irulas to cure different diseases. Moreover, this study will promote a practical use of botanicals and must be continued focusing on its pharmacological validation. Further detailed exploration and collection of ethnobotanical information, chemical studies and screening for medicinal properties will provide cost effective and reliable source of medicine for the welfare of humanity.

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