ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 9, Issue, 07, pp.53436-53438, July, 2017

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

ETHNO DERMATOLOGICAL PLANTS USED BY THE PALIYAR TRIBALS OF WESTERN GHATS, PULIANGUDI, TIRUNELVELI DISTRICT, TAMIL NADU, INDIA

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ARTICLE INFO

Article History:
Received 12th April, 2017
Received in revised form
17th May, 2017
Accepted 05th June, 2017
Published online 22nd July, 2017

Key words:

Ethno medicinal plant, Skin diseases, Paliyar tribals, Western Ghats, Puliangudi hills.

ABSTRACT

Traditional medicine and ethnobotanical information play an important role in scientific research, particularly when the literature and field work data have been properly evaluated. An ethnobotanical survey was conducted to document the ethnodermatological plants which are used by the Paliyar Tribes in Puliangudi forest area, Sivakiri Taluk, Tirunelveli District, Tamil Nadu Southern India. In the present study, 32 species of angiosperm plants and 22 families which are being potentially used by the tribals are documented. The aim of the study was to document the indigenous knowledge of Paliyar tribals of medicinal plants. The study on medicinal plants were conducted between June 2015 to December 2016 in Puliangudi forest area and documented traditional medicinal plants for skin diseases used by the Paliyar tribals. The best represented families were Euphorbiaceae and Fabaceae. The leaves were the most frequently used plant parts (75%) followed by root (10%), whole plant (10%) and tuber (5%).

Citation: Bharathajothi, P. and Jegatheesan, M. 2017. "Ethno dermatological plants used by the paliyar tribals of western Ghats, Puliangudi, Tirunelveli district, Tamil Nadu, India", *International Journal of Current Research*, 9, (07), 53436-53438.

INTRODUCTION

Traditional medicine which is widespread throughout the world has been recognized by World Health Organisation (WHO) as an essential building block of primary health care (Bannerman, 1982). Ethnomedical information are playing an important role for developing new scientifically validated standardized drugs both herbal and modern (Savnur, 1993). Since interest in traditional medicine has been increasing world over ethno botonical studies have gained prominence to explore the traditional knowledge particularly in developing countries (Joshi *et al*., 2000). Skin diseases include several conditions like eczema, leucoderma, ringworm, scabies and many others without distinct symptoms. These diseases occur all around the world but are prevalent in the rural and tropical regions. Modern medicines used in the treatment of skin diseases have side effects. Alternatively, herbal or plant based drugs are considered to safe for the treatment of skin diseases. The tribal's use their traditional knowledge for medical purpose and the knowledge is posed through oral communications from genenaration to generation (Ammal and Prasad, 1984). The present study was undertaken to assess the ethno dermatological plants used by the Paliyar tribals in the Western Ghats of Puliangudi forest area, Tirunelveli District, Tamil Nadu. Documenting of indigenous knowledge on medicinal plants is important for the conservation of biological resources as well as their sustainable utilization.

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MATERIALS AND METHODS

Study Area

The present study was conducted in Puliangudi forest area of Western Ghats, Tirunelveli District Tamil Nadu, India. Puliangudi is located on the southern extreme of Tamil Nadu state and it is located near the foot hills of Western Ghats in the coordinates of 9° 10'N 77° 25' E. The topography of the town is made of undulating terrain with west to east slopes. It has an average elevation of 189 meters above MSL. It is mainly on agricultural based town and it is famous for lemon market, Puliangudi is also called as 'Lemon City'. Reserve forest area forms a boundary along western side of the city.

Data collection

An ethno dermatological survey was conducted to collect information on traditional uses of medicinal plants used in the preparation of herbal medicines by the Paliyars colonized in Puliangudi forest range of Sivagiri taluk, Tirunelveli district, Tamilnadu. Paliyar tribals can be grouped into three gategories based on their life styles namely nomadic, semi nomadic and

settled. The field work took place during July 2015 – December 2016. Ethnobotanical data were collected according to the methodology suggested by (Jain and Goel, 1995). The ethno botanical data were collected using questionnaire, interviews and discussions in their local dialect. Each area was visited twice and the ethno botanical data like botanical names, local names, parts used, method of preparation, mode of administration (internal or external)and medicinal uses were recorded for each collected medicinal plants. Local and vernacular names of the plants where obtained from the tribals and the collected plants where identified with the help of regional floras (Gamble, 1956; Mathew, 1983). Voucher specimens of herbarium were deposited in the Herbarium of Siddha Department, Tamil University, Thanjavur for future reference.

(Maria Francis Jeffrey Bose *et al*., 2014), *Sapindus emarginatus* (Jeyaprakash *et al*., 2011), *Argemone Mexicana* (Prashantkumar and Vidyasagar, 2008), *Tridax procumbens* (Panda *et al*., 2016) reported from this area resemble previous reports. The plant *Emilia sonchifolia* (L.) is given mainly for skin diseases in Western Ghats of Puiangudi Paliyar tribals but the plant powder has been reported for tonsillitis by (Jaya Priya and Gopalan, 2014). Most of the medicinal preparations are used as external than internal. Among the various plant parts used for the preparation for the medicine, leaves were found to be the most frequently used parts in the study. External applications were more preferred and used than internal consumption of the preparations for the treatment of skin related diseases (Muthu *et al*., 2006; Ignacimuthu *et al*., 2006). Most of the medicinal plants reported in this study were

Table 1. Ethnomedicinal plants for skin diseases used by the Paliyar tribals of Puliangudi hills, Tirunelveli district, Tamil Nadu

S.No	Botanical name	Family	Vernacular names	Part used	Ethnomedicinal uses
1.	Abrus precatorius	Fabaceae	Guntrimani	Seed, root	Leucoderma
2.	Abutilon indicum	Malvaceae	Thuththi	Root, leaf	Pimples
3.	.Acalypha fruticosa	Euphorbiaceae	Chinnichedi	Leaf	Ringworm infection
4	Acalypha paniculata	Euphorbiaceae	Paruvathazhai	Leaf	Pimples
5	Alseodaphne semicarpifolia	Lauraceae	Vandukadi pattai	Bark	Eczema,insect bites
6	Anisochylus carnosus	Lamiaceae	Chethupunthazhai	Leaf	Itches, foot cracks
7	Anisomeles malabarica	Lamiaceae	Peymiratti	Leaf	Wounds
8	Argemone mexicana	Papaveraceae	Piramathandu	Latex, Leaf	Eczema
9	Argyreia cymosa	Convolvulaceae	Kattukkodi	Leaf	Cracks, wounds
10	Atylosia scarabaeoides	Fabaceae	Karappanchedi	Whole Plant	Scabies, Eczema
11	Bambusa arundinaceae	Poaceae	Moonkil	Leaf	Cuts, Wounds
12	Cassia auriculata	Leguminaceae	Aavarai	Leaves, flowers	Itching,, rashes
13	Clerodenrum serratum	Verbenaceae	Siruthekku	Leaf	Skin irritation
14	Clitoria ternatea	Fabaceae	Sangupushpam	Leaf	Scabies
15	Corallacarpus epigaeus	Cucurbitaceae	Karudakizhangu	Tuber	Skin infection
16	Dodonaea viscosa	Sapindaceae	Virali	Leaf	Eczema, pimples
17	Drymaria cordata	Caryophyllaceae		Whole plant	Wound
18	Emilia sanchifolia	Asteraceae	Muyalcheviyan	Leaf	Wound
19	Euphoria tirucalli	Euphorbiaceae	Thirugukalli	Latex	Boils, Acne
20	Evolvulus alsinoides	Convolvulaceae	Vishnukiranthi	Whole plant	Fungal infection
21	Gloriosa superba	Liliaceae	Kanvalikizhangu	Tuber	Iyching
22	Gyrocarpus americanus	Hernandiaceae	Kathadikai	Winged fruits	spider bite itching
23	Helictres isora	Sterculaceae	Valampurikkai	Root	Cuts, Wounds
24	Justica diffusa	Acanthaceae	Kodasuri	Leaf	Wounds, boils
25	Kalanchoe pinnata	Crassulaceae	Sanjeevi	Leaf	Urticaria
26	Mollugo cerviana	Poaceae	Moonkil	Leaf	Boils
27	Sapindus emarginatus	Sapindaceae	Soppukkai	Seeds	Itching, dandruff
28	Sida acuta	Malvaceae	Kurunthoddi	Leaf	Pimples
29	Syzygium cumini	Myrtaceae	Naval	Leaf	Skin diseases
30	Toddalia asiatica	Rutaceae	Milakaranai	Leaf	
31	Tridax procumbens	Asteraceae	Vettukayappoondu,i	Leaf	Wounds
32	Wrightia tinctoria	Apocyanaceae	Vetpalai	Leaf	Scabies, Psoriasis,

RESULTS AND DISCUSSION

Medicinal plants used in the treatment of skin diseases were listed in Table 1. The ethno dermatological study reveals that the Paliyar tribals of in and around Western Ghats of Puliangudi hills have rich information on medicinal plants used in skin problems. 32 medicinal plants were documented as ethno dermatological plants for the treatment of skin diseases. Most of the plants were used as single drug therapy. The plants were arranged alphabetically by the botanical names followed by family, local names, part used, method of preparation, mode of administration and ethno dermatological uses. Several studies have enumerated the plants used for skin diseases and wound healing in various parts of India (Maruthi *et al*., 2000; Harsha *et al*., 2003; Ayyanar and Ignacimuthu, 2005) by different groups of indigenous communities. The Paliyar tribals are using the medicinal plants to cure skin diseases like eczema, boils, fungal infection, itching, urticaria and insect bites. The therapeutic uses of *Alseodaphne semicarpifolia* collected from natural vegetation (85%) and individual collection (15%).

Conclusion

The survey indicated that, the study area has plenty of medicinal plants to treat a wide spectrum of skin diseases. Nearly 80% of the world's population still depends upon traditional remedies together with folklore system mainly based on phytotherapy. The tribal of Puliangudi hills, Tirunelveli district has been using numerous plants of therapeutic purpose.

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