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Medicinal plants used for the treatment of respiratory diseases in Alagar Hills of Madurai district, Tamil Nadu, India

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Abstract

The present study was conducted in Alagar Hills to focus special attention towards medicinal properties of medicinal plants to cure Respiratory ailments. Traditional remedies are frequently used in treating various respiratory ailments and are very important in the primary health care of the people living in Alagar hills of Madurai district. Novel information gathered from survey like the present study is important in preserving indigenous knowledge.

Keywords: traditional remedies, respiratory ailments, alagar hills, Tamil Nadu

1. Introduction

Traditional is used globally and is rapidly growing in economic importance. In developing countries, traditional medicine is often the only accessible and affordable treatment available. The WHO reports that traditional medicine is the primary health care system for important percentage of the population in developing countries. In many Asian countries traditional medicine is widely used, even though western medicine is often readily available. In Japan, 60-70% of Allopathic doctors prescribe traditional medicine for their patients.

Globally there have been a number of studies on the traditional use of plants to treat respiratory illness. In India, a few search studies have been conducted (Ballabh and Chaurasia, 2007; Goutam *et al.*, 2007; Savithamma *et al.*, 2007). In one such study the use of traditional remedies for colds, cough and fever, By the Buddhists of an Indian tribal communities was investigated. In another study the knowledge of traditional healers on plants used to treat asthma were recorded. In the present study an attempt has been made to collect Medicinal knowledge and medicinal uses of plants to cure human Respiratory diseases

2. Experimental Methods

2.1 Geographical details of the study sites

The study area of Alagar hills has a tropical forest cover which extend from Alagar kovil in the south to Natham in the north. The Alagar hills lies approximately 77°30 and 78°20 longitude and 10°05'-10°09' latitude.

2.2 Weather details

As all the study sites selected for this present investigation were located within the distance of 10 km in total, there is no any fluctuations in temperature and rainfall of the study sites. The temperature of the study area ranges from 20 °C during winter and about 39 °C during summer. The average rainfall reaches 700 mm per year.

2.3 Interview with informants

In order to document the utilization of the plants presented in selected study sites as Ethno medicine by the local inhabitants of Alagar hills, an extensive survey was carried out in Alagar hills from April 2015 to December, 2017. A standard method was followed to collect the valuable information on Ethno medicine [4]. The informants interviewed numbered 15 (11 Male, 4 Female) which include Traditional healers, Villagers and old aged people who had strong links with traditional practices. The age of the informants was ranged 40 – 70.

2.4 Botanical identification of plants

All the medicinal plants recorded during the field visits were botanically identified by referring

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Flora of Tamil Nadu Carnatic ^[5] and an Excursion Flora of Central Tamil Nadu, India ^[6].

The Details of collected plants with their scientific name, family, local name, parts used, Diseases Cured are presented in (Table 1).

3. Results and Discussion

Table 1: The Details of collected plants with their scientific name, family, local name, parts used

S. No	Binomial Name	Family	Local Name (Tamil)	Parts Used	Diseases Cured
1	<i>Abrus precatorius L</i>	Fabaceae	<i>Gundumani</i>	Leaf extract	Bronchitis, Cough
2	<i>Acalypha indica L</i>	Euphorbiaceae	<i>Kuppaimeni</i>	Whole plant extract	Asthma
3	<i>Achyranthes aspera L</i>	Amaranthaceae	<i>Nayuruvi</i>	Whole plant Extract dry ash	Cold and cough
4	<i>Allium cepa L</i>	Liliaceae	<i>Vengayam</i>	Bulb extract	Asthma
6	<i>Allium sativum L</i>	Liliaceae	<i>Vellaippoondur</i>	Garlic gloves	Cough
7	<i>Azadirachta indica A. Juss</i>	Meliaceae	<i>Vembu</i>	Leaf extract	Bronchitis
8	<i>Boswellia serrata Rox.</i>	Burseraceae	<i>Parankisambirani</i>	Gum-Resin	Asthma
9	<i>Calotropis gigantea (L) R. Br Ex Ait</i>	Asclepiadaceae	<i>Erukku</i>	Root bark	Cough, Cold
10	<i>Carica papaya</i>	Caricaceae	<i>Pappali</i>	Fruits	Emphysema
11	<i>Cassia occidentalis</i>	Caesalpinaceae	<i>Peyavarai</i>	Leaves, Flowers	Asthma, Chronic Respiratory disorder, Cough and Cold
12	<i>Cassia tora Linn</i>	Caesalpinaceae	<i>Tagarai</i>	Shoot and leaves	Cough, Asthma and Bronchitis
13	<i>Centella asiatica (L)</i>	Apiaceae	<i>Vallarai</i>	Leaves	Asthma
14	<i>Coccinia indica</i>	Cucurbitaceae	<i>Kovai</i>	Leaves	Asthma
15	<i>Coleus aromaticus Benth</i>	Lamiaceae	<i>Karpura valli</i>	Leaves	Whooping cough, Breathlessness and Influenza
16	<i>Curcuma longa Sal.</i>	Zingiberaceae	<i>Kasthuri Manjal</i>	Rhizome Powder	Cough
17	<i>Cymbopogon citratus Stapf.</i>	Poaceae	<i>Lemon grass</i>	Leaves	Cough
18	<i>Cyanodon dactylon L</i>	Poaceae	<i>Arugam pul</i>	Leaves	Asthma
19	<i>Drypetes roxburghii wall.</i>	Euphorbiaceae	<i>Puttira-civi</i>	Bark	Cough
20	<i>Euphorbia hirta L</i>	Euphorbiaceae	<i>Amman pacharisi</i>	Whole plant extract	Asthma
21	<i>Ficus racemosa L</i>	Moraceae	<i>Athi</i>	Fruits	Asthma
22	<i>Grewia hirsute Korth.</i>	Tiliaceae	<i>Tavuttai</i>	Root, Fruit	Tuberculosis, Chronic respiratory disease
23	<i>Gymnema sylvestris (Retz). Shult.</i>	Asclepiadaceae	<i>Sakkarai Kolli</i>	Leaves	Cough
24	<i>Hemidesmus indicus (L)</i>	Asclepiadaceae	<i>Nannari</i>	Root	Cough, Cold and Asthma
25	<i>Holorrhena pubescens</i>	Apocyanaceae	<i>Paambu Kaalachchedi</i>	Root, Bark	Cough
26	<i>Justicia Adhatoda L</i>	Acanthaceae	<i>Vasambu</i>	Leaves	Cold and Cough
27	<i>Kalanchoe pinnata (Lam K) Pers.</i>	Crassulaceae	<i>Rana Kalli</i>	Leaves	Tuberculosis
28	<i>Lantana camara L.</i>	Verbinaceae	<i>Arisimalar</i>	Leaves	Asthma
29	<i>Leptadenia reticulata W&A</i>	Asclepiadaceae	<i>Palaikkodi</i>	Root and leaf decoction	Asthma, Tuberculosis and cough
30	<i>Leucas aspera Spreng</i>	Lamiaceae	<i>Thumbai</i>	Leaves and flowers	Asthma, other respiratory disease can also be cured with inhalation of thumbai leaves
31	<i>Myrtica dactyloides Gaert.</i>	Myrtaceae	<i>Kattu Jatikkai</i>	Leaf and Fruit	Cough, bronchitis
32	<i>Ocimum sanctum L.</i>	Lamiaceae	<i>Tulsi</i>	Leaves	Asthma, Bronchitis,
33	<i>Piper betle L.</i>	Piperaceae	<i>Vetrilai</i>	Leaves	Bronchitis, Cough
34	<i>Plectranthus amboinicus (Lour)</i>	Lamiaceae	<i>omavalli</i>	Leaves	Cough and Asthma
35	<i>Psidium guajava L.</i>	Myrtaceae	<i>Koyya</i>	Leaves	Pneumonia
36	<i>Punica granatum L.</i>	Punicaceae	<i>Madhulai</i>	Juice of fruit	Asthma, Bronchitis

The plant part predominantly used was the leaves. Others parts used included either bark or their underground parts. The most common way of preparing these herbal medicines is taking a handful of plant material, Mixed, or alone, adding cold water and bringing the mixture to boil. Leaves, and Roots are being used for various medicinal purposes such as Asthma, Bronchitis, Pneumonia, Tuberculosis, Emphysema, Cough, Cold. The Leaves of medicinal plants such as *Ocimum sanctum*, *Plectranthus amboinicus*, *Piper betle*, *Psidium guajava*, and *Leucas aspera* are used to cure Asthma, Bronchitis, Pneumonia, Cold, and Cough.

4. Conclusion

The findings of the present investigation mainly focused on the role of Use of Medicinal plants which are closely associated with Rural, Tribal community, and also Traditional healers. The investigation will assist in making information available on how these drugs obtained from medicinal plants are prepared and administered. Further Pharmacological and clinical studies on these plants may provide effective natural medicines for various respiratory disorders.

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