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ETHNOMEDICINAL STUDIES OF PLANTS GROWING IN THE SALEM DISTRICT OF TAMILNADU, INDIA

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ABSTRACT

An ethnomedicinal research was carried out during November 2017- June 2018 in some rustic areas of Salem District of Tamilnadu, India, revealed significant knowledge about fifty-one plants utilized in the treatment of several disorders by the local populace. These folk claims are reported by traditional uses of 51 ethnomedicinal plant species 45 genera and 25 families along with botanical name, local name, parts used and method of preparation in respect to various ailments. The noted ethnomedicinal plants are mostly utilized in snake bite, skin diseases, diarrhoea, diuretic, toothache, ulcer, dyspepsia, dysentery, scorpion bite, eye diseases, blood purification, asthma, jaundice, diabetes, fever, headache, cold, cough, stomach disorder, leprosy, etc. The current paper focused on medicinal utilizes of plants.

KEY WORDS

Ethnobotany, Rural people, Medicinal plants, Salem district, General ailments.

INTRODUCTION

Jain (1987) [1] has defined ethnobotany as the complete native and traditional relationships and interactions between man and his surrounding plant abundance. Thus, Ethnobiology must have been the primary information procured by the early man by sneer essential, intuition, attention and experimentation, Ethnomedicine a further specialization of the above subjects, has acquired much observation of researchers since last three decades or so Ethnomedicinal investigations carried out with worthy scientific base have led to the publication of several useful documents of plants with medicinal potentialities [1-9].

Herbal drugs are also wide necessity in the advanced world for main health care because of their effectiveness, safety and fewer side effects. Plants have been used in traditional medicine for thousands of years [10]. Herbal medications from an integral part of healing utilizes by traditional healers. India has luxuriant inheritance of using medicinal plants in traditional medicines, as in the Ayurveda, Siddha, Unani, Homeopathy and Amchi modes besides folklore practices.

A large number of ethnomedicinal communication remained endemic to peculiar areas or people due to demand of knowledge. Herbal drugs are assistance to be of wonderful importance in the earliest health care of individuals and communites in various developing countries. Considering the modern evaluate of deforestation with the concurrent deficiency of biodiversity there is a essential for correct notable of the knowledge and experience of the traditional herbalists. Plants have always the principle of medicines and have various uses to mankind. Various studies accounting indigenous information through ethnobotanical investigations is notable for conservation of biological and cultural diversities as well as beneficial in utilization of resources [11-17].

Salem is one of the most famous districts of Tamilnadu. The complete geographical region of Salem district is covered by several categories of forests and blessed with varied flora and fauna. Salem is located in the North Central part of Tamilnadu. It lies between 11°14′46″ and 12°53′30″ North latitude and between 77°32′52″ - 78°53′05″ East longitude. The district is mountainous in nature. Enumerated below are some well-known Hills. They are Shevaroy Hills, Arunoothmalai, Kumaragiri Hills, Kanjamalai Hills, Kalrayan Hills, Suriyamalai, Palamalaii and Bodamali. The district is notable for its peculiar assemblage of vegetation luxuriant. In this current study is focused on the ethnomedicinal survey of plants for the medicinal utilizes of various sickness in Salem district of Tamilnadu, South India.

MATERIALS AND METHODS

Systematic field trips of ethnomedicinal research were undertaken in rustic areas of the study area inhabited by rural peoples during November 2017 to June 2018. The knowledge were consolidated from the village herbalists, village elder men, medicine men, village dwellers, women, and the aged and experienced populace the herbal medicine. Practioners and their traditional healers following the methodology of Jain and Rao (1976) [18] and Alagesboopathi (2009) [6]. Data was collected through questionnaires, bilateral conversation and open ended interviews on medicinal plants utilized by rural people. A total 120 informants have been interviewed on irregular basis. Knowledge about the botanical name of species, family, local name, plant parts utilized, method of preparation, dosage and time were documented [19] medicinal uses, plant parts that were identified as having utilize in ethnobotany wered gathered and compressed plant species were collected were identified with the assist of regional floras and other helpful works viz. Gamble 1936; Henry *et al*., 1987, Matthew, 1983 [20-22]. The voucher specimens were stored in the Herbarium at Department of Botany, Government Arts College (Autonomous), Salem, Tamilnaduu for future direction. It was found that several of the current information was not so far been usable in books.

RESULTS AND DISCUSSION

The knowledge on botanical name, local name, families, plant parts used, method of preparation and medicinal utilizes are presented in Table 1. In this study 51 plant species belonging to 25 families classified in 45 genera have been documented. The families which provided with species comprised as traditional medicines were: Acanthaceae (6 spp), Asclepiadaceae (5 spp) and Euphorbiaceae (4 spp), Apocynaceae, Solanacee, Lamiaceae and Liliaceae (3 spp. each), Amaranthaceae, Meliaceae, Aristolochiaceae, Rutaceae, Fabaceae and Asteraceae (2 spp each). The rest of the 12 families are each represented by one species only [Fig.1]. Among them 26 plants were herbs, 10 tree species, 4 shrubs and 11 climber species.

During current careful and interaction with the elder people, village herbalists, village dwellers, the herbal medication, practitioners and other traditional healers of Salem district of Tamilnadu. 51 angiospermic plants were enumerated with their medicinal significance. Out of 51 plant species studies, 47 is dicot and 4 is monocot. Seven species are utilized for scorpion bite. Many plants are considerably efficient in remedies diabetes, asthma, anthelmintic, cough, cold, dyspepsia, dysentery, ulcer and diuretic. Species such as *Andrographis paniculata, Andrographis alata, Andrographis serpyllifolia, Rauvolfia tetraphylla, Vitex negunda, Rhinacanthus nasutus, Aristolochia bracteolate and Muraya paniculata* are used to treat snake bite. Plants like *Azadirachta indica, Alangium salvifolium, Acalypha indica, Ageratum conyzoides, Aloe barbedensis* and *Wrightia tinctoria* are used to treat various kinds of skin disorders. Six species namely *Andrographis echioides, Abruus precatorius, Melia azedrach, Argemone mexicana, Solanum trilobatum* and *Eclipta alba* are utilized to cure fever.

Jaundice is remedies efficiently with *Tribulus terrestris, Boerhavia diffusa, Eclipta prostrata,* and *Phyllanthus amarus.* Populace also make use of *Datura metel, Adhatoda zeylanica, Tylophora indica* to treat asthma. The local people utilize *Aspargus racemosus* and *Aristolochia indica* are used to manage leprosy. Some medicinal plants namely *Aegle marmelos, Catharanthus roseus* and *Cyanodon dactylon* are used to treat blood pressure.

The current study noted that populace of both rural and urban is maximum medications used for remedies the sickness in the studied district were snake bite, Scorpion

bite, skin diseases, jaundice, asthma, headache, cough, stomach ache, insect bite, hair promoter, urinary disorders and leprosy. The medicinal plants are used as whole or their parts in their form of paste, juice, powder, latex, extract and decoction (Fig.2). The medicinal uses and properties with details such as the part(s) used lonely, fusion with other ingredients or mixed with other plant, system of preparation and manner of administration were well-known in the field. For treatment sickness, the utilize of aerial plant parts was highest (86.27%) than the underground parts (13.72%). Among the 51 medicinal plants gathered dicots are represented by 47 species of 41 genera and 23 families. While monocots are represented by 4 species of 4 genera and 2 families. Leaves were notable as the largest familiar plant part followed by others, such as root, bark, fruit, latex, tuber, flower and whole plant. The percentage of plant parts used is as follows: Leaves 74.50%, followed by root 11.76%, whole plant 9.80%, latex 5.88%, bark 3.92%, flower 1.96% and tuber 1.96% (Fig.3). Greatest utilized of leaves as medication reveals either these plants are conveniently usable or they may have useful medicinal potentialities.

Based on Table 1, maximum numbers of medicinal plants species were used for the manage of scorpion bite (13.72%), snake bite (11.76%), fever (11.76%) and skin ailments (9.80%). Due to extensive necessity of ethnomedicinal plants and more earnings, regional villagers have been motivated for propagation and conservation of these medicinal plants.

Ethnomedicine is assurance and decreased costly therefore, the rural populace of this district still useful traditional sickness. The enumeration has been valued with prominent published literature and it was found that previously [23]. Similar performance on medicinal plants in similarity to their utilized and conservation has been conducted in several parts of India [8, 17, 24-27].

The populace of the research district still has a serviceable confidence in capability and successful of herbal treatment. *Phyllanthus amarus* is utilized to treat Jaundices in the study area and the similar use was also reported by Umapriya *et al.,* (2010) [12]. *Rhinacanthus nasutus* plant paste is given for snake bite and skin diseases. But the same plant leaf extract has been noted for chronic wounds [28].

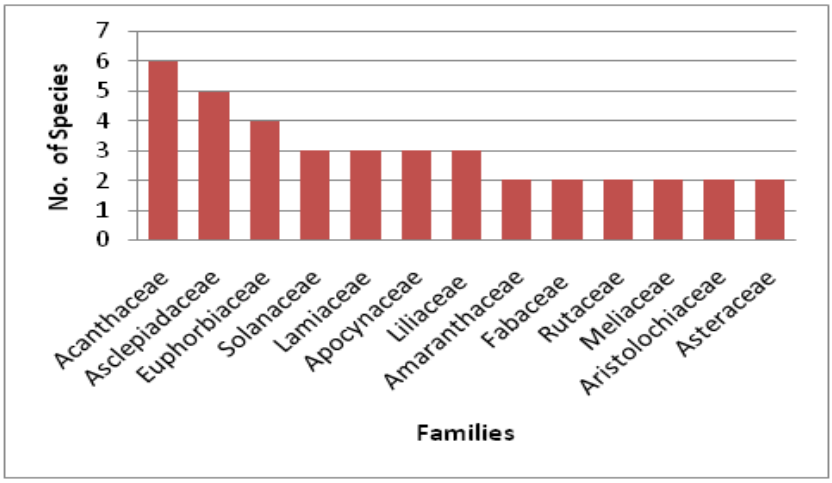

Fig. 1 – Graph showing important families

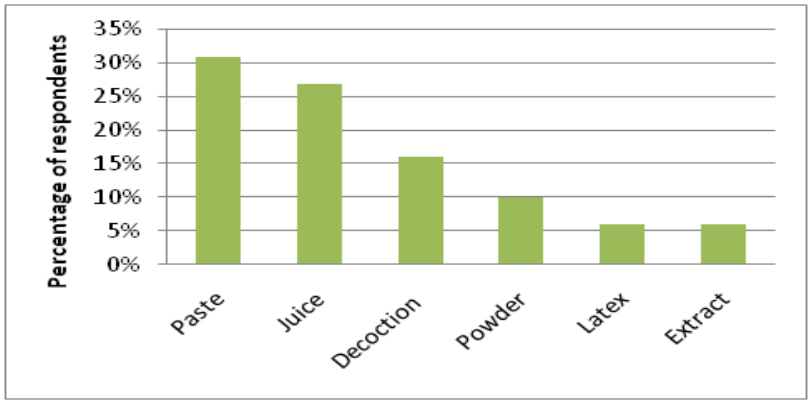

Fig. 2 – Analysis of method of preparation of ailments

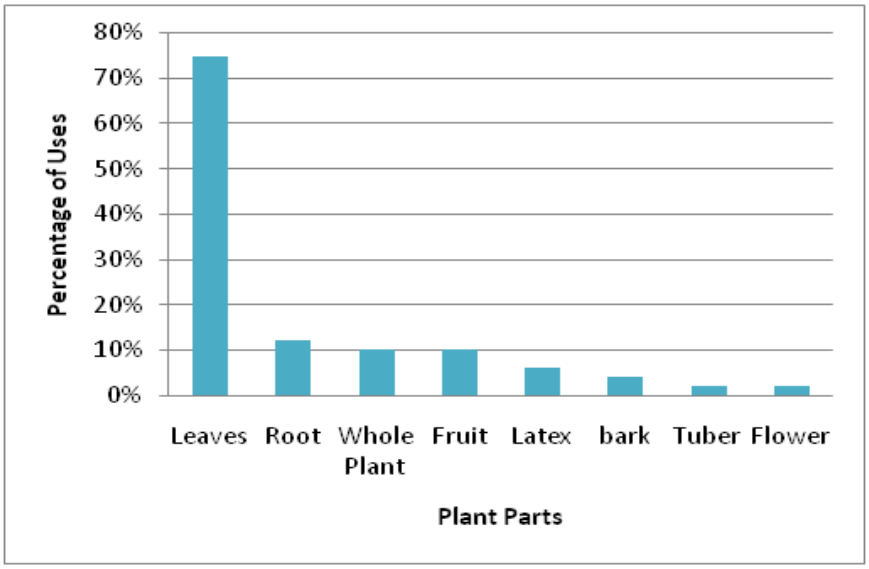

Fig. 3- Percentage of plant parts utilized in ailment administration

Enumeration

The medicinal plants are arranged in alphabetical order. The enumeration of plants contains botanical name, family, local name. The medicinal utilizes are qualities with details such as the parts utilized lonely, combination with other ingredients or mixed with other plants, manner of preparation and procedure of administration were carefully accounted in the field. The following is the list of 51 plants studied (Table 1). The local populace were essentially willing to share their knowledge on herbal drug.

Table 1. Enumeration of plants utilized for several disorders by local people of Salem district of Tamilnadu, India

S.No.	Botanical Name	Family	Local Name	Parts used	Method of Preparation
1.	*Abrus precatorius* L.	Fabaceae	Gundumani	Leaves	Leaf powder mixed with milk and is given orally to cure fever and cough.
2.	*Abutilon indicum* Sweet	Malvaceae	Thutti	Leaves	Leaf paste is applied externally to treat insect bite.
3.	*Acalypha indica* L.	Euphorbiaceae	Kuppaimeni	Leaves	Paste of the leaf is applied externally to treat skin diseases.
4.	*Achyranthes aspera* L.	Amaranthaceae	Nayuruvi	Leaves	Leaf paste is applied externally to manage scorpion bite and insect bite.
5.	*Adhatoda zeylanica* Medicus	Acanthaceae	Adaadhodai	Leaves	Decoction of the leaves is taken to treat asthma and cough.
6.	*Aegle marmelos* Corr. Serr	Rutaceae	Vilvam	Leaves, Bark and Fruit	Leaf juice is utilized to manage blood pressure. Bark juice is used against fever. Fruit decoction taken orally with water used to dyspepsia and dysentery.

7.	*Aerva lanta* (L.) Juss	Amaranthaceae	Sirukanpulai	Leaves and Root	Root powder mixed with milk and is given internally to cure headache. The leaf juice is given orally twice a day for one week to treat diuretic and anthelmintic.
8.	*Ageratum conyzodies* L.	Asteraceae	Sethupunthalai	Leaves	The leaf paste is applied externally to manage skin disorders, itches and sores.
9.	*Alangium salvifolium* L.	Alangiaceae	Alangimaram	Leaves and fruit	Leaf paste is applied externally to cure skin diseases. The Juice of the fruit is used in eye diseases.
10.	*Aloe barbedensis* Mill	Liliaceae	Sothukattalai	Leaves	Leaf juice is used for skin disorders and promote coolness. The smooth gel is applied externally to treat pimples.
11.	*Andorgraphis alata* Nees	Acanthaceae	Periyanangai	Leaves and Root	Leaf paste is applied externally to manage snakebite. Powder of root is mixed with cow's milk and drink to treat dengue fever and stomach ache.
12.	*Andrographis echioides* Nees	Acanthaceae	Gopuranthangi	Leaves	Leaf juice is mixed with hot water to drink which cure fever and stomachache problems. Leaf paste is applied on wounds and cuts.
13.	*Andrographis panicuulata* Nees	Acanthaceae	Siriyanangai, Nilavembu	Leaves	Leaf paste mixed with honey which treat snake bite and scorpion bite. Leaf juice 50 ml mixed with cow's milk used to malarial fever.
14.	*Andrographis serpyllifolia* Wight	Acanthaceae	Kattuppooraan Kodi	Leaves	Leaf paste is applied on affected part of snake bite and scorpion bite. Decoction of the leaves is taken to treat fever.
15.	*Argemone mexicana.* L.	Papaveraceae	Perammathandu	Latex and Leaves	Latex is applied externally for Scorpion bite. Leaf juice 100 ml mixed with hot water used to fever.
16.	*Aristolochia bracteolata* Lam	Aristolochiaceae	Aduthinnapalai	Whole plant	Whole plant paste is applied externally to treat snake bite.

17.	*Aristolochia indica* L.	Aristolochiaceae	Perumarundukodi	Root and Leaves	Root powder is taken with water orally thrice a day in scorpion sting. Leaf juice is mixed with cow's milk which treat leprosy.
18.	*Asparagus racemosus* Willd	Liliaceae	Thannervittan kilangu	Root	Decoction of the roots is taken to treat leprosy, epilepsy and body pain.
19.	*Azadirachta indica* A.Juss	Meliaceae	Vempu	Leaves	The juice of the leaves is used in liver tonic. The leaf paste mixed with the powdered *Curcuma longa* is applied twice a day to cure various skin diseases.
20.	*Boerhavia diffusa* L.	Nyctaginaceae	Mukkurattai	Leaves	Decoction of leaves is given orally to get relief from jaundice abdominal pain and dyspepsia.
21.	*Calotorpis procera* R.Br.	Asclepiadeaceae	Erukku	Latex	Latex is applied externally to treat scorpion bite and dog bite.
22.	*Catharanthus roseus* G. Don	Apocynaceae	Nithyakalyani	Root	Root powder mixed with milk and is given orally to treat cancer and high blood pressure.
23.	*Cissus quadrangularis* L.	Vitaceae	Pirandai	Whole plant	The whole plant paste is used to treat bone fractured body parts.
24.	*Coleus aromaticus* Benth.	Lamiaceae	Omavalli	Leaves	Leaf juice is given orally to manage cold and cough.
25.	*Cyanondon dactyhlon* Pers	Poaceae	Arugampullu	Whole Plant	50 ml of whole plant juice is given internally for the manage blood purification.
26.	*Datura metal* L.	Solanaceae	Oomathai	Leaves	Leaf extract is mixed with black pepper and is given orally to treat asthma and cough.
27.	*Eclipta alba* Hassk	Asteraceae	Manchal Karisalankanni	Whole plant	Whole plant extract mixed with honey is taken orally to cure fever. Paste of the leaf is used to promote hair growth.
28.	*Eclipta prostrata* L.	Asteraceae	Karisalai	Leaves	Leaf juice is mixed with cow's milk is given orally to cure jaundice. Leaf extract is mixed with coconut oil as hair promoter.

29.	*Embica officinaliss* Gaertn	Euphorbiaceae	Nelli	Leaves and Fruits	Leaves and fruits are utilized for diabetes.
30.	*Enicostemia axillare* A.Raynal.	Gentianaceae	Vellaragu	Leaves	Paste of leaves is used to manage abdominal ulcers.
31.	*Euphorbia hirta* L.	Euphorbiaceae	Amampatchaiarisi	Leaves and latex	Latex is applied externally once a day for three day to treat pimples. Leaves crushed mixed with common salt and cow's milk is used to control diarrhoea and dysentery.
32.	*Gloriosa superb* L.	Liliaceae	Kalappaikilangu	Tuber	50 ml of tuber extract is mixed with water is given orally for abortion.
33.	*Gymnema sylvestre* R.Br.	Asclepiadaceae	Shiru-kurunjan	Leaves	The fresh leaf juice is taken with hot water internally twice a day for one week to cure diabetes.
34.	*Hemedesmus indicus* R.Br	Asclepiadaceae	Nannari	Root	Root decoction is mixed with cow's milk and taken internally to cure fever and to keep the body cool.
35.	*Hybanthus enneaspermus* F.Muell.	Violaceae	Orilai Thamarai	Leaves and Flower	Leaf and flower decoction is given orally to treat heart diseases.
36.	*Leucas aspera* Spreng	Lamiaceae	Thumbai	Leaves	Leaf paste is applied externally to treat ringworm infection.
37.	*Melia azedarach.* L	Meliaceae	Malaivembu	Leaves	The juice of leaves is used to cure fever and cough.
38.	*Muraya panniculata* Jack	Rutaceae	Angarapputhalai	Leaves	Leaf powder mixed with hot water and is given orally to cure snake bite, various skin diseases and insect bite.
39.	*Ocimum santum* L.	Lamiaceae	Tulasi	Leaves	Decoction of leaves is taken internally to control cough and cold.
40.	*Pedalium murex* L.	Pedaliaceae	Yaanainerunji	Leaves	Decoction of leaves mixed with goat's milk is used against diabetes.
41.	*Pergularia daemia* Chior	Asclepiadaceae	Veliparuthi	Leaves	Leaf paste is applied externally to cure headache.
42.	*Phyllanthus amarus* Schu. & Thonn	Euphorbiaceae	Keelanelli	Whole plant	50 ml of whole plant juice is mixed with cow's milk and taken internally once a day for seven days to control jaundice.

43.	*Rauvolfia tetraphylla* L.	Apocnaceae	Pampukalachedi	Whole plant	Whole plant paste is applied externally as antidote to snake bite and scorpion bite.
44.	*Rhinacanthus nasutus* Kurz.	Acanthaceae	Nagamalli	Leaves	The leaf paste is applied externally to treatment of snake bite and skin disease.
45.	*Sesbania gradiflora* Pers.	Fabaceae	Agathi	Leaves	50 ml of leaf juice is given orally to cure stomach ache problems.
46.	*Solanum surratense* Burm	Solanaceae	Kandankathiri	Fruits	Fruit is used against toothache.
47.	*Solanum trilobatum* L.	Solanaceae	Thuthuvalai	Leaves	Leaf juice is mixed with cow's milk used to control asthma, cold and fever.
48.	*Triibulus terrestris.* L.	Zygophyllaceae	Nerunchi	Fruits and Leaves	Fruit juice is given orally to control urinary disorders. The leaf juice is given orally to manage jaundice.
49.	*Tylophora indica* Merr.	Asclepiadaceae	Asthmakodi	Leaves	50 ml of fresh leaf extract is mixed with cow's milk used to treat asthma and stomach problems.
50.	*Vitex negundo* L.	Verbenaceae	Notchi	Leaves	Leaf paste is applied externally to treat snake bite. Leaves are boiled with water and the steam is inhaled once a day for three days to cure cold.
51.	*Wrightia tinctoria* R.Br.	Apocynaceae	Veppaalai	Bark	Bark paste is applied externally to cure several skin disorders.

CONCLUSION

The information of the study visualize that the herbal drug have superior potentialities to remedies several illnesses. Villagers essentially need on the medicinal plants for all ailments. They are perceptively of the plant drug for popular disorders such as jaundice, skin diseases, cough, cold, fever, diuretic, leprosy, eye diseases, high blood pressure, asthma, dyspepsia, dysentery and diarrhoea. They are also wide familiar with the antidotes for snake bite, scorpion bite and insect bite. Clinical research and pharmacological qualities will strengthen in the confirmed of the efficiency of the announce medicinal plants. Their way of preparation and method of administration are also simple and acceptable and the remedies are without any side causes. For the support of the local populace the noted plant species should be taken attention of and also steps should be taken for conservation of significant medicinal plants of the area with genetic biodiversity.

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