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Traditional Phytomedicines in Kinathukadavu Hills in Southern Western Ghats of Coimbatore

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Abstract

The present paper highlights the traditional phytomedicine of the local communities in the study area. There are 92 medicinal plants used for common ailments occurring in their day to day life. This study shows that knowledge and usage of herbal medicine and also may provide basic clues of medicinal properties of medicinal plants used by natural people that may leads for novel drug discovery programmes.

Keywords: Phytomedicine, Ailments, Kinathukadavu, Southern Western Ghats, Coimbatore.

Introduction

Traditional phytomedicine is the, totality of all the adeptness and application whether definable or not, used in the dedication deterrent and depose of corporal, cerebral and civic imbalance. The plant-based traditional knowledge has become a recognized tool in research for new sources of drugs and neutraceuticals (Ghosh, 2003; Sharma and Majumdar, 2003). They are assumed to be great importance in the primary healthcare of individuals (Sheldon *et al.*, 1997) and communities in many developing countries as the herbal medicines are comparatively safer than synthetic drugs.

India is represented by rich culture, traditions and natural biodiversity and offer unique opportunity for the drug discovery researchers. It is one of diverse countries in the world, rich in medicinal herbs and plants. It is also blessed with two (Eastern Himalayas and Western Ghats) of the eighteen worlds hotspots of plant diversity and is seventh among the sixteen mega diverse countries in India. There are over 17,500 species of higher plants in India, and about 5640 species are recorded in Tamil Nadu.

Utilization of plants for medicinal purposes in India has been documented in ancient literature. The main traditional systems of medicine include Ayurvedic, Unani and Siddha use over 7500 plant species have been reported in India Even today, tribal's and certain local communities in India still collecting and preserving locally available wild and cultivated plant species for their day to day life (Mahishi *et al*., 2005). Traditional healers provide considerable information about the use of man plants or plane parts as medicine.

Study area

The present study was conducted in several hamlets around the Kinathukadavu hills of Coimbatore district in Tamil Nadu is situated at 10.82^0 N latitude and 77.02^0 E longitude with an altitude ranging from 300-350 MSL. The mean maximum and minimum temperature vary between 35^0 C to 24^0 C. The average rainfall is around 700 mm. The soil is characterized by clay loam soil. The forest type range from moist deciduous to dry deciduous. The total population of Kinathukadavu is 8154 living in 1700 households.

Methodology

The study focused on the ethno medicinal plants used as drugs by the hamlets around the Kinathukadavu hills (Plate - 1). The information was gathered from the local herbal medical practitioners and elderly people, who have a very long acquaintance with the usage of plants. The information thus gathered was adequately cross checked for the reliability and accuracy by interaction with different age grouped people to confirm the local name, uses, mode of administration and other relevant matters on various plants. Such plants were collected, tagged, entered in the field data book, air dried, identified with the help of Flora of the Presidency of Madras,(Gamble & Fischer,1915-1936) Flora of Coimbatore district (Chandra boss & Nair, 1988)

and the voucher specimen were deposited in the Botany Department Herbarium, Bharathiar University, Coimbatore, Tamil Nadu.

Results and discussions

In the present study identified therapeutic uses of 92 plant species belonging to 36 families were commonly used for their primary health care. These plants were arranged in the tabular form with details like, botanical name, family name, vernacular name, used parts and mode of administration (Table-1).

A) *Oxalis corniculata* L. B) *Commelina benghalensis* L. C) *Chromolaena odarata* L.

E) *Catharanthus roseus* (G). Bom. F) *Ocimum cannum* Sims. G) *Aerva lanata* Juss.

H) *Cleome viscosa* L. I) *Tribulus terrestris* L. J) *Catharantus pusillus* Murr.

Plate – 1: Medicinal Plants of Kinathukadavu Hills in Southern Western Ghats of Coimbatore

Skin diseases, cuts and wounds, cough and cold, diuretic, fever, heptoprotective, antidiuretic, antidote, antidiabetic, respiratory troubles, hair loss, ear problems, toothache, night blindness, memory power, eye problems, and bile complaints were the most common health problems identified among the people of Kinathukadavu hills for that they cured with the help of locally available plants. Among the plant parts the leaves used to cure maximum number of

diseases followed by latex, fruits, flowers, seeds, shoots, roots and rhizomes.

The dominant members of the families such as Acanthaceae-10, Fabaceae -8, Lamiaceae and Amaranthaceae (each 7 respectively). It is of common fact that the numbers of these families are most common in dry tropical forest in comparison to other families (Pandit,2003).The members of these families generally possessed higher ecological amplitude by having many adaptive feature at morphological, anatomical and physiological levels to resist xeric conditions (Perez-Garcian and Meave,2004; Fa-Hu Cheu *et al*.,2006).

This rich diversity of taxa may be attributed to the suitable microclimatic conditions available in the study area throughout the hill ranges from foot hills to top Paulsamy *et al.*, (2006, 2007) also identified a high number of medicinally important species in the nearby vegetation of Nilgiri hills.

Conclusion

This study shows that knowledge and usage of herbal medicine for the treatment of various ailments among people living in Kinathukadavu is still major part of their life and culture. Now a day, there is an increasing demand for the production of health care medicines from a plant origin based on the ancient knowledge is folk medicines. This study would provide some basic clues of medicinal properties of plant used by native of Kinathukadavu in Tamil Nadu. These findings have become basic leads for chemical, pharmacological, clinical and bio chemical investigations, which ultimately may birth to drug discovery. The over exploitation of these species in the name of medicine may lead some species ultimately to the disappearance in future, therefore special attention should also be made on proper exploitation and utilization of these medicinal plants.

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Table-1: List of herbal medicines in Kinathukadavu Hills in the Southern Western Ghats, India.

S. No.	Botanical name (Vernacular Name)	Family name	Part(s) of used	Mode of Administration
1.	*Acalypha indica* L. (Kuppaimeni)	Euphorbiaceae	Whole plant	The leaves are ground with salt and it is externally applied over skin infection.
2.	*Achyranthes aspera* L. (Nai-uruvi)	Amaranthaceae	Whole plant	The plant paste is to treat liver complaints.
3.	*Aerva lanata* Juss. (Poolaipoo)	Amaranthaceae	Whole plant	The infusion of Leaf extract is used for treating fever.
4.	*Aerva monsoniae* (L. f.) Mart., (Peerumpoolai)	Amaranthaceae	Leaves	Leaf decoction is used to cure dysentery.
5.	*Ageratum conyzoides* L.(Pumpillu)	Asteraceae	Whole plant	Decoction of whole plant used in diarrhoea, dysentery and gastro intestinal ailments.
6.	*Alternanthera sessilis* DC. (Ponnankannikeerai)	Amaranthaceae	Leaves and shoots	Leaves are used for the preparation of soups; young shoots are nutritious and also used in night blindness.
7.	*Amaranthus spinosus* L.(Mullukeerai)	Amaranthaceae	Whole plant	Whole plant decoction is used to treat snake bite.
8.	*Andrographis paniculata* Nees. (Nelavembu)	Acanthaceae	Whole plant	Whole plant decoction used for jaundice.
9.	*Anisomeles indica* L. (Peyimarutti)	Lamiaceae	Leaves	Leaves juice is applied externally to cure children for colic and fever.
10.	*Anisomeles malabarica* R.Br. (Peyimarutti)	Lamiaceae	Leaves	Leaf juice having in empty stomach to treat intestinal worms.

11.	*Apluda mutica* L. (Moongil-pul)	Poaceae	Whole plant	The decoction of whole plants is used to cure diuretic problems.
12.	*Argemone mexicana* L.(Ponnumattai)	Papaveraceae	Leaves Roots and Seeds	Crushed leaf and roots are applied over skin for various skin allergies Seed oil is used to cure wounds.
13.	*Asystasia gangetica* T.And. (Meddayakeerai)	Acanthaceae	Leaves	Leaf juice has internally to cure asthma and also cooked as leafy vegetable.
14.	*Barleria prionitis* L. (Cemmullu)	Acanthaceae	Leaves	Leaves chewed to relieve tooth ache.
15.	*Bacopa monnieri* (L.) Pennell .(Neer birammi)	Scrophulariaceae	Whole plant	Infusion of leaf juice is mixed with honey can increase memory power. It can also act as blood purifier.
16.	*Barleria buxifolia* L. (Chullimul)	Acanthaceae	Leaves and Roots	The decoction of both Leaves and roots are used to relief cough and inflammation.
17.	*Barleria cuspidata* L.	Acanthaceae	Roots and Leaves	The juice obtained from roots and leaves are used to cure stomachache.
18.	*Bidens pilosa* L.	Asteraceae	Whole plant	Whole plant juice of fresh plant is used to cure earache and wounds.
19.	*Biophytum sensitivum* L.(Mookuthipoodu)	Oxalidaceae	Whole plant	The decoction of leaves given for diabetes and asthma.
20.	*Blepharis maderaspatensis* L.(Pappadak-kodi)	Acanthaceae	Leaves	Juice extracted from the leaf is mixed with gingelly oil then warm heat and applied topically on affected places to heal wounds.
21.	*Boerhavia diffusa* L. (Mukkaratti)	Nyctaginaceae	Whole plant	The infusion of whole plant juice is used to cure stomach problem.
22.	*Cleome viscosa* L. (Naivelai)	Cleomaceae	Leaves	Juice is extracted from leaves is used to treat ear troubles.
23.	*Cleome gynandra* L.(Nallavelai)	Cleomaceae	Whole plant	Tender leaves are cooked as leafy vegetables and also recommended for lactating women. Roots juice is used to cure chest pain.
24.	*Cassia occidentalis* L. (Peyavarai)	Caesalpinaceae	Leaves	Leaf paste is applied externally for bone fracture.
25.	*Catharanthus pusillus* Murr.(Paalaichchetthai)	Apocyanaceae	Whole plant	Whole plant extracts is applied on hair to reduce hair loss.
26.	*Catharanthus roseus* (G).Bom.(Nithyakalyani)	Apocyanaceae	Roots	Root extract is taken orally for diabetes.
27.	*Chromolaena odarata* L.	Asteraceae	Leaves	Leaves extracts is used to cure cuts and wounds, crushed leaves are used to treat skin diseases.
28.	*Clematis gouriana* Roxb.	Ranunculaceae	Leaves	Leaf juice is used to cure mosquito skeletal disorder.
29.	*Cleome gynandra* L.(Nallavelai)	Cleomeaceae	Whole plant	Tender leaves are cooked as leafy vegetables and also recommended for lactating women. Roots juice is used for chest pain.
30.	*Commelina ensifolia* R.Br.	Commelinaceae	Whole plant	Whole plant is used as diuretic anti inflammatory, root juice taken internally for indigestion.
31.	*Crotalaria retusa* L.(Kilukilppai)	Fabaceae	Whole plant	Leaves are used to cure diarrhoea. Seeds are used to cure skin diseases.
32.	*Croton bonplandianum* Bail.(Reilpoondu)	Euphorbiaceae	Leaves and Roots	Leaves paste are applied for skin diseases. The infusion of root juices is curing gastric problems.

33.	*Cuscuta reflexa* Roxb. (Sadadari)	Solanaceae	Whole plant	Whole plant juice is used as diuretic.
34.	*Cynodon dactylon* L.	Poaceae	Whole plant	Juice is useful in vitiated conditions of bile complaints.
35.	*Cynotis cristata* Schulf.f.(Kulapoovu)	Commelinaceae	Whole plant	Fresh leaves used to feed animals daily in the morning to cure fever.
36.	*Datura metel* L.(Umathai)	Solanaceae	Leaves	Leaves used as mosquito repellent.
37.	*Datura stramonium* L.(Simaiyumathai)	Solanaceae	Flower	Flower juice is applied for ear ache.
38.	*Drymaria cordata* Willd.	Caryophyllaceae	Leaves	Leaves are applied to snakebite.
39.	*Emilia sonchifolia* DC.	Asteraceae	Leaves	Crushed leaf paste is used to cure dysentery and also cuts and wounds.
40.	*Euphorbia hirta* L.(Amman patcharisi)	Euphorbiaceae	Leaf and latex	Leaves used as vegetable. Latex applied to warts.
41.	*Evolvulus alsinoides* L. (Vishnukrandi)	Convolvulaceae	Whole plant	Expectorant, promoting growth of the hair. Useful in bronchitis and asthma.
42.	*Gomphrena serrata* L.	Amaranthaceae	Whole plant	Whole plant juice used for the treatment of diabetes.
43.	*Hedyotis corymbosa* L.(Parpatagam)	Rubiaceae	Whole plant	Plant juice is used for fever and leprosy.
44.	*Heteropogan contortus* Beauv (Oosipul)	Poaceae	Roots	Roots used as stimulant and diuretic.
45.	*Indigofera linnaei* Ali.(Seppunerunji)	Fabaceae	Whole plant	The whole plants juice is used to cure diuretic and venereal diseases.
46.	*Indigofera trita* L.(Punal murunkai)	Fabaceae	Seeds	Seeds are nutritive.
47.	*Indigofera uniflora* Buch-Ham.	Fabaceae	Whole plant	Relished by cattle, high nutritive value and also used as green manure.
48.	*Indoneesiella echioides* (L.) Sreem (Kopuranthanki)	Acanthaceae	Leaves	Leaf paste is applied to cure head ache.
49.	*Justicia tranquebariensis* L. (Sivanarvembu)	Acanthaceae	Leaves	Juice of leaves considered cooling and given to children suffering small pox.
50.	*Kalanchoe spathulata* (Poir.) DC.	Crasulaceae	Leaves	Leaves are used to cure skin diseases.
51.	*Kyllinga nemolaris* Forst.&Forst. (Veluttanirbasi)	Cyperaceae	Tubers	Tuber juice in morning and evening is used for diabetic patients.
52.	*Leucas aspera* Spreng. (Thumbai)	Lamiaceae	Whole plant	Flower paste is applied over eye once a day till cure red eye.
53.	*Merrimia tritendata* Halier.f.(Savalikkoti)	Convolvulaceae	Whole plant	The whole plant is useful for inflammation.
54.	*Mimosa pudica* L.(Thottalsinungi)	Mimosaceae	Leaves	Leaf powder is used to cure diabetics and obesity.
55.	*Mirabilis jalapa* L. (Andhimandharai)	Nyctaginaceae	Leaves and Root	Crushed Leaf paste is used to cure cuts and wounds.
56.	*Mitracarpus villosus* SW.	Rubiacee	Leaves	Crushed leaf paste is applied over cuts and wounds.
57.	*Molluga pentaphylla* L.(Seeragapoondu (Kuttuttiray)	Aizoaceae	Whole plant	The whole plant paste is applied over sores.
58.	*Ocimum canum* Sims. (Naithulasi)	Lamiaceae	Leaves	Leaf juice is used to cure cold and cough.

59.	*Ocimum gratissimum* L.	Lamiaceae	Leaves	The infusion of whole plant juice is used for dysentery.
60.	*Oxalis corniculata*.L.	Oxalidaceae	Whole plant	Leaves used as cooling agent.
61.	*Pedalium murex* L.(Perunerunji)	Pedaliaceae	Leaves	Leaf juice is used as diuretic.
62.	*Pergularia daemia* Forssk.(Veliparutthi)	Asclepidaceae	Leaves and Roots	Leaf juice is used to treat diarrhoea and dysentery.
63.	*Peristrophe bicalyculata* Nees.	Acanthaceae	Leaves	The leaf juice mixed with water and given internally to cure cough and fever.
64.	*Phyllanthus amarus* L.(Kezhanelli)	Euphorbiaceae	Leaves and Roots	Powder of leaves and roots are taken for jaundice.
65.	*Phyllanthus maderaspatensis* L.(Mealanalli)	Euphorbiaceae	Roots	Root decoction is used to treat constipation
66.	*Plectranthus amboinicus* (Lour.) Spreng. (Karpuravalli)	Lamiaceae	Leaves	Leaf juice is used for cough.
67.	*Plectranthus barbatus* Andr.(Poolankilangu)	Lamiaceae	Leaves and Roots	Pinch of leaf is used for making herbal tea.
68.	*Plumbago zeylanica* L.(Chithiramulam)	Plumbaginaceae	Roots	Root juice is used for diuretic.
69.	*Polycorpaea corymbosa* Lam.	Caryophyllaceae	Leaves	Leaf juice is used for jaundice.
70.	*Polygala javana* DC.	Polygalaceae	Whole plant	Plant powder is given orally given for snakebite.
71.	*Portulaca oleracea* L.	Portulaceae	Leaves	Consumption of leaves for cold and indigestion.
72.	*Priva leptostachya* Juss.	Verbenaceae	Leaves	Fresh leaf is applied for Ulcer problem.
73.	*Puppalia lappaceae* Moq.	Amaranthaceae	Leaves	The leaf paste is applied over the skin diseases.
74.	*Ruellia tuberosa* L.	Acanthaceae	Roots and Leaves	Roots and leaves used as cooling agent and also to cure stomach problem.
75.	*Sansevieria roxburghiana* Schult.(Marul)	Ruscaceae	Root and Rhizome	The paste obtained from the roots and rhizome is used as expectorant and also bone setting.
76.	*Sida acuta* Burm. (Arivamookukeerai)	Malvaceae	Leaves	Leaves used to cure wounds. Decoction of root applied on chest to treat cough.
77.	*Sida cordata* Burm.	Malvaceae	Root	Root paste is used against head ache and fever.
78.	*Sida cordifolia* L. (Nilatutti)	Malvaceae	Leaves and Roots	Leaf juice is used to cure dysentery.
79.	*Solanum xanthocarpum* L. *(Kandakathri)*	Solanaceae	Fruit and Leaves	This fruits applied over the chest for pain due to cough and asthma.
80.	*Spermococe hispida* L. (Naththaichuri)	Rubiaceae	Whole plant	Entire plant possesses medicinal properties it is administrated to cure vesicle.
81.	*Stachytarpheta jamaicensis* L.	Verbenaceae	Whole plant	The whole plant paste applied over various skin allergies.
82.	*Stylosanthus mucornata* Willd.	Fabaceae	Whole plant	An infusion of the whole plant is used as a chest pain.

83.	*Synedrella nodiflora* (L.) Gaertn.	Asteraceae	Roots	Swelling of abdomen for cattle crushed juice of roots are taken.
84.	*Tephrosia procumbens* Ham.	Fabaceae	leaves	Tender leaf paste is applied to cure skin diseases.
85.	*Tephrosia purpurea* Pres.(Kolunji)	Fabaceae	Roots and leaves	The root decoction is used to cure diarrhoea and urinary tract infection.
86.	*Trianthema decandra* L .	Aizoaceae	Leaves	The leaf paste is applied over the affected part of the body with various skin problems.
87.	*Trianthema portulacastrum* L.	Aizoaceae	Whole plant	Two spoonful of whole plant paste mixed with one spoon of pepper powder is administrated twice a day for 7 days for cough and asthma.
88.	*Tribulus terrestris* L. (Nerunji)	Zygophyllaceae	Fruits and Roots	Fruit is used as a tonic for diuretic and respiratory problems.
89.	*Tricodesma indicum* L.	Boraginaceae	Flowers Leaves and Root	Leaves and root decoction are used as a remedy for snakebite.
90.	*Tridax procumbens* L. (Vettukkaayathalai)	Asteraceae	Leaves	The leaf paste is applied over cuts and wounds
91.	*Vernonia cinerea* Less.(Mukuttipundu)	Asteraceae	Flowers and Seeds	Flower juice used to cure fever and rheumatism. Seeds used to treat skin diseases.
92.	*Waltheria indica* L.(Shembudu)	Sterculiaceae	Whole plant	Whole plant paste used for skin diseases.

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