

## Research Article



## ETHNOPHARMACOLOGICAL APPLICATION OF MEDICINAL PLANTS FOR SKIN AILMENTS AND COSMETICS USED BY VARIOUS TRIBAL COMMUNITIES IN KOLLI HILLS OF SOUTH INDIA

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### ABSTRACT

The present investigation is an attempt to find out ethnopharmacological application of medicinal plants to cure skin diseases and in folk cosmetics. The information regarding the usage of medicinal plants for curing skin diseases and as cosmetics were collected by discussing the elder's in tribal communities and herbal healers in the Kolli hills. A total of 34 plant species have been documented. The parts of the plant used for medicinal purposes are leaves, root, stem, fruits, the complete aerial parts, the whole plant, barks and flowers. However, leaves were found most frequently used part. We recommended for further research to isolate the bio active properties responsible for the treatment of skin diseases and as cosmetics.

**Keywords:** Traditional medicine, Skin diseases, Cosmetics, Kolli hills.

### INTRODUCTION

Plants are important sources of therapeutic drugs and play a significant role in the survival of the tribal and ethnic communities. India is rich in cultural and floristic diversity and also store house of ethno-botanical knowledge. Indian populations still rely on plant-based medicines as they are abundantly available, economical, and have little or no side effects<sup>1,2</sup>. The traditional systems of medicine together with folk medicine systems continue to serve a large portion of inhabitants, particularly in rural and tribal area regardless of the dawn of modern medicine. Out of about 15,000 species of higher plants in India, medicinal uses have been attributed to 1500 species. India has second largest tribal population in the world after Africa<sup>3</sup>.

Skin diseases include several conditions like eczema, leucoderma, ringworm, scabies and many others without distinct symptoms. 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. Traditional medicine uses several plant species for treatment of skin diseases caused by microbial pathogens. Several initiatives, independently has been taken up by different groups across the country to collect and document information about the use of medicinal plants by the local/ tribal communities to treat skin related disorders<sup>4,6</sup>.

Herbal Cosmetics, referred as Products, are formulated, using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic benefits only, shall be called as "Herbal Cosmetics". The demand of herbal medicines is increasing rapidly due to their lack of side effects<sup>7</sup>. Cosmetics are used almost regularly and universally in different forms to enhance beauty.

Cosmetics are developed to reduce wrinkles, fight acne and to control oil secretion. For various types of skin ailments formulations like skin protective, sunscreen, anti wrinkle and anti aging are designed using varieties of materials, either natural or synthetic. The herbs used in cosmetic preparation have varieties of properties like antioxidant, anti-inflammatory, antiseptic and antimicrobial etc. These herbal products claim to have no side effects, commonly seen with products containing synthetic agents. Attractiveness of such herbal preparations has socially as well as technologically resulted in flooding of market place in India<sup>8</sup>.

Tribal people provide considerable information about the use of many plants or plant parts as a medicine, according to World Health Organization (WHO) as many as 80% of the world's population depend on traditional medicine for their primary healthcare needs. In this paper, an attempt has been made to collect and document the traditional medicinal plant knowledge of local herbal healers of different communities residing in the Kolli hills of Namakkal district.

Kolli Hills (Kollimalai) lies between 11°10'5"-11°30' 00" N latitude and 78°15' 00" E longitude. It is situated in the Namakkal district of Tamil Nadu above the river Cauvery, covering an area of about 503 km<sup>2</sup>. Physiographically, it is a hilly region with altitude ranging from 180 m at the foothill to 1415 m at the plateau. The slope of this region varies from gentle to very steep. Geologically, the study area occupied by the hill is highly undulating, cut by a network of streams and most of them are semi-perennial and seasonal flowing in all directions, but mostly in the eastern and southeastern directions.



## MATERIALS AND METHODS

An ethno-medicinal survey was carried out in the Kolli hills, the information regarding the usage of medicinal plants for curing skin diseases and as cosmetics was collected by discussing the elder's in tribal communities and herbal healers in the Kolli hills. The presented information was gathered through questionnaire, personal interviews and discussions among the village elder peoples, herbal medicine practitioners and other traditional healers in their local language (Tamil). The questionnaire allowed descriptive responses on the plant prescribed, such as documented as to Botanical name, family, vernacular name (Local name), parts used and medicinal uses. Plant parts that were identified as having use in ethnobotany were collected and compressed. Plant species collected were identified with the help of flora books<sup>9-12</sup>. The Botanist, J. K. K. Nataraja College of Arts & Science, verified the identities of the plants and a voucher specimen was also deposited, the medicinal importance of each plant was enumerated.

## RESULTS AND DISCUSSION

Results of present investigation are presented in Table 1 where plants species are arranged in alphabetical order along with their botanical name, local name, parts used

and applications. A total of 34 plant species have been documented for their ethnopharmacological application against skin diseases and in folk cosmetics. Also the traditional healers are using these plants to cure cold, fever, cough, headache, fertility problems, toothache, stomach ache etc. 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 with in various communities, are still maintained as a great traditional knowledge base in herbal medicines<sup>13</sup>. Traditionally, this treasure of knowledge has been passed on orally from generation to generation without any written document<sup>14</sup> and is still retained by various indigenous groups around the world. 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. Several studies have enumerated the plants used for skin diseases in south India<sup>4,5,15</sup> by different groups of indigenous communities. External applications were more preferred and used than internal consumption of the preparations for the treatment of skin related diseases<sup>15-17</sup>.

**Table 1:** List of medicinal plants of Kolli hills

S. no	Botanical name	Family	Local name	Parts used	Uses
1.	<i>Acacia Concinna</i>	Fabaceae	Shikakai	Pods	Promotes hair growth, preventing dandruff
2.	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppaimeni	Leaf	Itching
3.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Nayuruvi	Leaf	Skin disease
4.	<i>Allium sativum</i>	Alliaceae	Vellapoondu	Bulb	Promotes skin healing, Antibacterial
5.	<i>Aloe vera</i> L.	Liliaceae	Sotthukatthalai	Leaf	Leaf Moisturizer, Sun screen, Emollient
6.	<i>Aristolochiabracteata</i> Retz.	Aristolochiaceae	Aduthinnapalai	Whole plant	stiff hair, boils, skin disease
7.	<i>Asparagus racemosus</i> Willd	Asparagaceae	Thanneer veteankilangu	Root	Skin disease, hair growth
8.	<i>Avena sativa</i>	Poaceae	Oats	Fruit	Moisturizer, Skin tonic
9.	<i>Azadirachta indica</i>	Meliaceae	Veppamaram	Leaf, Stem bark	Reduce dark spots
10.	<i>Carica papaya</i> L.	Caricaceae	Pappali	Fruit, fruit pulp	Facial cream, skin softening , Pimples
11.	<i>Centella asiatica</i> Urban.	Apiaceae	Vallarai	Plant	Darkening of hair, Hair oil
12.	<i>Chloris barbata</i> SW.	Poaceae	Pullu	Leaves	Skin diseases
13.	<i>Cissus quadrangularis</i> L.	Vitaceae	Perandai	whole plant	Skin diseases
14.	<i>Citrus aurantium</i>	Rutaceae	Orange	Peel	Soaps, Shampoos
15.	<i>Citrus limon</i>	Rutaceae	Lemon	Peel	Prevents hair loss
16.	<i>Crocus sativus</i>	Iridaceae	Kungumappu	Flower	Skin cleansing lotion
17.	<i>Eclipta alba</i> Hassk.	Asteraceae	Karishalanganni	Whole Plant	Promoting hair growth, Shampoos, Hair oil
18.	<i>Ficus religiosa</i> L.	Moraceae	Arashamaram	Leaf	Skin diseases.
19.	<i>Gloriosa superba</i> L.	Liliaceae	Kalappankilangu	Leaf	Leprosy, Skin diseases
20.	<i>Hemidesmus indicus</i> R. Br.	Asclepiadaceae	Nannari	Leaf	Skin diseases
21.	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Semparuthi	Flowers	Healthy hair and black hair.
22.	<i>Jatropha curcas</i> L.	Euphorbiaceae	Amanakku	Leaf	Eczema, scabies
23.	<i>Kirganelia reticulata</i> (Poir.) Baillon	Euphorbiaceae	Vellaipoola	Leaf	Skin diseases
24.	<i>Mangifera indica</i> L	Anacardiaceae	Mamaram	Fruit	Wrinkled skin
25.	<i>Ocimum sanctum</i> L	Lamiaceae	Tulasi	Leaves	Leprosy
26.	<i>Orthosiphon diffusus</i> Benth.	Lamiaceae	Karpooravalli	Whole plant	Skin diseases, prevent falling of hair.
27.	<i>Oryza sativa</i> L.	Poaceae	Nelllu	Kernel	Carbuncle
28.	<i>Pongamia pinnata</i> L. Pierre.	Fabaceae	Pungamaram	Seeds, bark	eczema, scabies and ringworm infection
29.	<i>Rosa rosa</i>	Rosaceae	Roja	Flower	Eczema, Abscess on eyes.
30.	<i>Sesamum indicum</i> L.	Pedaliaceae	Ellu	Seeds	Eyes become brighter, hair gets beautiful
31.	<i>Solanum nigrum</i> L.	Solanaceae	Manattakkali	Fruits, leaf	Skin diseases
32.	<i>Solanum tuberosum</i> L.	Solanaceae	Urulaikkilangu	Root	Skin burn
33.	<i>Tridax procumbens</i>	Asteraceae	Thatapoodu	Leaves	Infected skin
34.	<i>Vernonia cinerea</i> L. Less.	Asteraceae	Mukuthipoondu	whole plant	leprosy and Scabies



Herbal Cosmetic products mostly used by film personalities and stage actors, the use of cosmetics to the purpose of creating a dramatic effect. The hair care cosmetics which were an insignificant product until a few years back emerged as the most essential fashion accessory since the nineties. Recently a woman's started using cosmetics to highlight their facial features as well. Some common cosmetics include lipsticks, eyeliners, mascaras, rose powders, and eye shadows. Perfume is another popular cosmetic product used by young and elder people in the worldwide. It is a fragrant mixture made using various oils and aromatic compounds. Nowadays hair falling is a main problem in young and elder peoples, most of the plant products are being used to treat dandruff and to prevent hair fall. The natural cosmetics are easily available, cheap and there is no side effect.

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. Elder peoples still depend on natural medicine but due to lack of interest among younger generation as well as their tendency to migrate cities for sophisticated jobs and modern life styles, so that it is very important to document this medicinal value for future generations. Therefore, we recommended for further research to isolate the bio active properties responsible for the treatment of skin diseases and as cosmetics and many other diseases.

### CONCLUSION

The study indicated that, the Kolli hills have plenty of medicinal plants to treat skin diseases and used as natural cosmetics. The knowledge and usage of herbal medicine for treatment of various skin diseases and cosmetics among Koll hills communities is still a major roll of their tradition. In the present study we found, many plants used by the people to cure skin related diseases, cosmetics and many other ailments. Accurate knowledge of the plants and their medicinal properties are held by only a few elder individuals in this community, but the young people are not interested to know about this miracle medicine system. There is a possibility of losing this wealth of knowledge in the near future, it is important for documentation of an ancient medicinal knowledge for future generations.

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