

## Medicinal plants for skin and hair care

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Traditional preparations for herbal beauty care contain several recipes, which may be applied in cosmetic industry without any side effects but with fruitful results. *Embolica officinalis* Gaertn. (Amla); *Acacia concinna* DC. (Shikakai); *Callicarpa macrophylla* Vahl (Priyangu); *Curcuma longa* Linn. (Haldi); *Rubia cordifolia* Linn. (Manjith) and *Curcuma amada* Roxb. (Amhaldi) are strongly suggested for skin and hair care. This paper provides information on uses of Ayurvedic medicinal plants for cure of skin and hair problems and also on herbal cosmetics. Soap-like plants with their source and essential oils are also reported.

**Keywords:** Herbal cosmetics, Ayurvedic medicine, Essential oils, Synthetic chemicals.

The desire to look beautiful is a human weakness and is as old as the origin of human being himself. Cosmetics are the substances especially prepared to enhance beauty and increase the attractiveness of the person. The prehistoric men who were cave dwellers used leaves of trees and skin of animals to protect themselves from vagaries of nature. The commonly available vegetation and minerals were used for cosmetic purposes<sup>1</sup>. The traditional systems have stood the test of time through centuries of continued use. They have given several new drugs and modern herbal cosmetics. In Ayurvedic literature there are records of number of herbs, which promote growth of hair, keep them

soft and silky and do not allow them to turn grey at an early stage. The experiences gathered over centuries went on accumulating and now cosmetology is a well defined science by itself. The study of primitive cultures indicates that forms of cosmetic beautification have been practiced in every part of the world<sup>2</sup>. The ancient Ayurvedic medical system predominantly depended upon plant based materia-medica. There is the concept of "Solah shringar" i.e., 16 modes of beautification from head to toe, mentioned in traditional Indian literature, in which single herb or herbal mixtures are applied for this purpose. Even certain metallic preparations and animal products have been prescribed for local application as well as oral administration to beautify

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different parts of the body<sup>3</sup>. In recent years there has been great upsurge in the study of Indian herbs. In Ayurvedic medicine from remote past, herbs have been an integral part of health care system. Besides health care, beautification of the body is also done by herbs, various cosmetics, and colour<sup>4</sup>. Though many Ayurvedic plant products have been replaced by synthetic chemical compounds, the safety and efficacy of natural products could not find suitable match. There is once again a revival of preference for natural products. In this paper information on herbs used in medicine and in cosmetics particularly for hair and skin care based on Indian community knowledge is presented.

Certain herbs like *Rubia cordifolia* Linn. (Manjith), *Acacia concinna* DC. (Shikakai), *Callicarpa macrophylla* Vahl (Priyangu), *Curcuma amada* Roxb. (Amhaldi), *Curcuma longa* (Haldi), *Emblica officinalis* Gaertn. (Amla) have been used for skin and hair problems. Different parts from these herbs are directly applied on face and hair in powder form. Most of these herbs are used alone; however, blending in various forms is also done for synergistic action.

## Enumeration

**1. *Emblica officinalis*** Gaertn. (Euphorbiaceae)

Common name—Amla

Part used—Dry fruits

Chemical content—Phyllembic acid is the chief constituent of fruits. Trigalloylglucose, terchebin, corilagin, ellagic acid are also isolated from fruits.

General and medicinal uses—Fruit sour and astringent, cooling, diuretic, laxative; a rich source of vitamin C; contains twenty times as much vitamin C as orange juice; used in hair dyes. Seeds yield oil.

Method of application for hair care—Dry fruit powder is used for shampooing hair. Also used as a tonic for hair roots. It is strongly suggested for hair care (Plate 1, Fig. A).

**2. *Rubia cordifolia*** Linn. (Rubiaceae)

Common name —Manjit, majith

Part used—Dry roots and stem

Chemical content—Colouring matter present, which is a mixture of purpurin and munjistin. Alizarin and its glucoside is present in the plant. A new anthraquinone derivative christofin is also reported.

General and medicinal uses—It has long been employed for dyeing coarse cotton fabrics, etc. Roots tonic, antidysenteric, antiseptic and deobstruent. Decoction of leaves and stems is used as vermifuge. Extract of the stem forms a constituent of the drug septilin used for rhinosinal infections. The roots are also used for colouring medicinal oils.

Method of application for skin care—Dry roots and stem powder rubbed with honey is recommended as a cure for dark spots on the face. Majith is strongly suggested for skin care (Plate 1, Fig. B).

**3. *Acacia concinna*** DC. (Mimosaceae)

Common name—Ritha, Shikakai

Parts used—Pods

## Plate - 1

Fig. A - Dry fruits of *E. officinalis* (Amla)Fig. B - Dry stem part of *Rubia cordifolia* (Majith)

## Plate - 2

Fig. C - Dry pods of *Acacia concina* (Shikakai)Fig. D - Dry fruits of *Callicarpa macocrophylla* (Priyangu)Fig. E - Dry rhizome part of the *Curcuma longa* (Haldi)Fig. F - Dry rhizome part of the *Curcuma amada* (Amhaldi)

Chemical content—A saponin is isolated from the seeds. It is a mixture of acacinin-A, and acacinin-B. Acacinin-A comprised acacic acid and carbohydrates moiety consisting of glucose, xylose, fructose, etc. Acacic acid lactone and sapogenin-B are isolated from pods.

General and medicinal uses—Tender acidic leaves are used in chutneys. Pods known as shikakai are used as detergent; they are also employed as a fish poison. Decoction of pods is purgative, and relieves biliousness. Seeds are roasted and eaten.

Method of application for hair care—Dry powder of the pods is used to promote hair growth and prevent hair splitting, falling and dandruff. It is also used for healthy growth of hairs and to keep the hairs in their original colour (Plate 2, Fig. C).

#### 4. *Callicarpa macrophylla* Vahl (Verbenaceae)

Common name—Priyangu

Parts used—Dry fruits

Chemical content—A new tetracyclic diterpene calliterpenone and its acetate are isolated and their stereostructures established. Other compounds like luteolin, apigenin, luteolin-7-O-glucuronide and apigenin-7-O-glucuronide are also isolated from dry fruits.

General and medicinal uses—Roots yield an aromatic oil used in stomach disorders; leaves warmed and applied to rheumatic joints.

Method of application for skin care—The dry fruit powder is blended in creams to treat acne, pimples, blemishes and other allergic skin patches (Plate 2, Fig. D).

#### 5. *Curcuma longa* Linn. (Zingiberaceae)

Common name—Haldi

Parts used—Dry rhizome

Chemical content—The major contents of dry rhizome are D- $\alpha$ -phellandrene, D-sabinene, cineol, borneol and zingiberene.

General and medicinal uses—In Ayurvedic system of medicine turmeric is used as a stomachic, tonic and blood purifier. The juice of fresh rhizome is used as an antiparasitic for many skin affections. The rhizomes contain an essential oil and the crystalline colouring matter curcumin used as a carminative, stomachic and tonic.

Method of application for skin care—Dry rhizome powder is used as cosmetic since ancient time. Turmeric paste with the addition of a little lime is a popular application for sprains and bruises. The rhizome is used in 'ubtan' to enhance the colour of the skin (Plate 2, Fig. E).

#### 6. *Curcuma amada* Roxb. (Zingiberaceae)

Common name—Amhaldi

Parts used—Dry rhizome

Chemical content—Campesterol, stigmasterol,  $\beta$ -sitosterol, cholesterol and fatty acids are isolated from rhizome. Fatty acids comprise saturated straight chain, saturated iso, monoenoic and dienoic acid.

Table 1 — Some selected Indian plants used in herbal cosmetics for skin and hair care

S.N.	Botanical name	Family	Common name	Part used	Cosmetic uses
1.	<i>Acacia concinna</i> DC.	Mimosaceae	Shikakai	Pods	Stops hair splitting, falling and dandruff.
2.	<i>Aloe barbadensis</i> Mill	Liliaceae	Ghikumar	Leaves	Hair falling, dandruff & sunburn.
3.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Shatavari	Roots	Used in cure of wrinkle on face.
4.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Neem	Different parts	Used in skin care, hair & scalp care
5.	<i>Bixa orellana</i> Linn.	Bixaceae	Latkan	Seed pulp	Seeds used for colour, mascaras & lipcare.
6.	<i>Callicarpa macrophylla</i> Vahl	Verbenaceae	Priyangu	Fruits	The fruits are blended in creams to treat acne.
7.	<i>Curcuma amada</i> Roxb.	Zingiberaceae	Amhaldi	Rhizome	A good face pack.
8.	<i>Curcuma longa</i> Linn.	Zingiberaceae	Haldi	Rhizome	Improves the colour of the skin.
9.	<i>Eclipta prostrata</i> Linn. syn. <i>E. alba</i> Hassk.	Asteraceae	Bhringraj	Whole plant	Used to keep the hairs in their original colour.
10.	<i>Emblica officinalis</i> Gaertn.	Euphorbiaceae	Amla	Fruits	Commonly used for hair care.
11.	<i>Abelmoschus moschatus</i> Medic. syn. <i>Hibiscus abelmoschus</i> Linn.	Malvaceae	Mushkdana	Seeds	Used to provide musk-like fragrance to cosmetics.
12.	<i>Lawsonia inermis</i> Linn.	Lythraceae	Mehandi	Leaves	Used to colour the hairs.
13.	<i>Opuntia dilleanii</i> Haw.	Cactaceae	Nagphani	Fruits	Used in lip care.
14.	<i>Rubia cordifolia</i> Linn.	Rubiaceae	Majith	Whole Plant	Application on skin and lip care, acne and pimples

General and medicinal uses—According to Ayurvedic system dry rhizomes are recommended for gastric and stomach problems, also used on contusions and sprains. They contain an essential oil.

Method of application for skin care—The dry rhizome powder is used in face packs to cure acne and blemishes (Plate 2, Fig. F).

According to community knowledge Majith, Haldi, Amahaldi, Priyangu can be successfully used for skin and face problems like acne and pimples, dark shadows and wrinkle on face. Shikakai and amla singly or in combination can be used in hair problems like dandruff, hair falling, hair splitting, scalp care and hair colour. Detailed information about Indian herbs particularly for skin and hair care is given in Table 1. Beside these herbs, some

Table 2 — Some selected Indian soap-like plants used as cosmetics

S.No.	Botanical name	Family	Common name
1.	<i>Acacia concinna</i> DC.	Mimosaceae	Shikakai (Kochi)
2.	<i>Achillea millefolium</i> Linn.	Asteraceae	Gandana (Milfoil)
3.	<i>Anthemis nobilis</i> Linn.	Asteraceae	(Roman chamomile)
4.	<i>Lawsonia inermis</i> Linn. syn. <i>L. alba</i> Linn.	Lythraceae	Henna
5.	<i>Matricaria chamomilla</i> Linn.	Asteraceae	Babuna
6.	<i>Myristica fragrans</i> Hoult.	Myristicaceae	Jayaphal
7.	<i>Nardostachys jatamansi</i> DC.	Valerianaceae	Jatamansi
8.	<i>Phyllanthus emblica</i> Linn.	Euphorbiaceae	Amla
9.	<i>Sapindus mukorossi</i> Gaertn.	Sapindaceae	Reetha (Soap nut)
10.	<i>Sapindus saponaria</i> Lour.	Sapindaceae	Reetha (Soap nut)
11.	<i>Sapindus trifoliatus</i> Linn.	Sapindaceae	Reetha (Soap nut)
12.	<i>Valeriana officianalis</i> Linn.	Valerianaceae	Tagger

Table 3 — Essential oils used in herbal cosmetics obtained from some selected Indian plants

S. No.	Botanical name	Family	Common name	Oil obtained from
1.	<i>Vetiveria zizanioides</i> (Linn.) Nash syn. <i>Andropogon squarrosus</i> Hook.f.	Gramineae	Khas	Roots
2.	<i>Citrus aurantiacum</i> Linn.	Rutaceae	Bergamot oil	Flowers
3.	<i>Eucalyptus dives</i> Schauer	Myrtaceae	Eucalyptus oil	Leaves
4.	<i>Jasminum officinale</i> Linn.	Oleaceae	Chameli	Flowers
5.	<i>Juniperus virginiana</i> Linn.	Pinaceae	Ceder wood oil	Wood
6.	<i>Mentha piperita</i> Linn.	Labiataeae	Peppermint	Aerial parts
7.	<i>Michelia champaca</i> Linn.	Magnoliaceae	Champa	Flowers
8.	<i>Mimusops elengi</i> Linn.	Sapotaceae	Moulsiri	Flowers
9.	<i>Pandanus fascicularis</i> Lamk. syn. <i>P. tectorius</i> Soland. ex Parkinson	Pandanaceae	Kewra	Male inflorescence
10.	<i>Rosa damascena</i> Mill.	Rosaceae	Gulab	Flowers
11.	<i>Santalum album</i> Linn.	Santalaceae	Sandal wood	Wood
12.	<i>Saussurea lappa</i> Clarke	Compositae	Kuth	Roots
13.	<i>Shorea robusta</i> Roth. ex Gaertn.f.	Dipterocarpaceae	Chua	Stem
14.	<i>Syzygium aromaticum</i> (Linn.) Merril & Perry	Myrtaceae	Clove oil	Flower bud
15.	<i>Viola odorata</i> Linn.	Violaceae	Biola	Flowers

other medicinal herbs having soap-like properties and used for skin and hair are listed in Table 2. Essential oil producing plants used for cosmetic purposes are listed in Table 3.

## Discussion

Several plants have economic qualities and are used for edible or medicinal purposes. They are being listed since time immemorial and are reported to have side benefits in place of adverse effects gener-

ally produced by the synthetic and chemical based harmful products<sup>5</sup>. The plants used in cosmetics do not merely enhance beauty but have definite medicinal value also<sup>6</sup>.

Formulations for cure of sunburn, complexion brightener, hair remover and preservatives can be prepared from herbs. The herbs mentioned above cover a number of skin, hair, general body complaints besides providing natural colours and nutrients to the body<sup>7</sup>. Ayurvedic texts contain several recipes, which may be applied in cosmetic industry with fruitful results. Safe and effective, some of these recipes are commonly used for beautification during auspicious occasions in every Indian home where the traditional concept of 'Solah Shringar' exists since time immemorial.

These products have side benefits, besides being effective in main problem; they tone up whole system thus ensure effective cure. There is a lot of scope for research on natural preservative, colour and herbs for internal use in cardiac, nervous and immune system diseases, which are sometimes induced by the artificial life. Medical practitioners and manufacturers can take the help of mother nature to provide safe and harmless sub-

stitute for harmful chemicals and synthetic products.

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