

Herbal Cosmetics: Used for Skin and Hair

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Abstracts: The concept of beauty and cosmetics is as ancient as mankind and civilization. Women are obsessed with looking beautiful. So, they use various beauty products that have herbs to look charming and young. Indian herbs and its significance are popular worldwide. An herbal cosmetic have growing demand in the world market and is an invaluable gift of nature. Herbal formulations always have attracted considerable attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. Herbs and spices have been used in maintaining and enhancing human beauty. Indian women have long used herbs such as Sandalwood and Turmeric for skin care, Henna to color the hair, palms and soles; and natural oils to perfume their bodies. Not too long ago, elaborate herbal beauty treatments were carried out in the royal palaces of India to heighten sensual appeal and maintain general hygiene. The herbal cosmetics manufactured and used commonly for daily purpose include herbal face wash, herbal conditioner, herbal soap, herbal shampoo etc. The industry is now focusing on the growing segment with a vast scope of manifold expansion in coming years. Herbal cosmetics are defined as the beauty products which posses desirable physiological activity such as healing, smoothing appearance, enhancing and conditioning properties because of herbal ingredient. Here we reported the introduction, classification, common herbs used in cosmetics.

INTRODUCTION

The word cosmetic was derived from the Greek word "kosm tikos" meaning having the power, arrange, skill in decorating ¹. The origin of cosmetics forms a continuous narrative throughout the history of man as they developed. The man in prehistoric times 3000BC used colours for decoration to attract the animals that he wished to hunt and also the man survived attack from the enemy by colouring his skin and adorned his body for protection to provoke fear in an enemy (whether man or animal) ². The origin of cosmetics were associated with hunting, fighting, religion and superstition and later associated with medicine ³.

Herbal Cosmetics, here in after 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 ⁴".

Beginning 1990's cosmetic manufacturer adapted a term 'cosmeceuticals' to describe the OTC skin care products that claims therapeutic benefit by addition of plant based active ingredient such as alpha-hydroxy acid, retinoic acid, ascorbic acid and coenzyme Q10 ⁵. These active ingredients serves many purposes viz. increase in skin elasticity, delay in skin aging by reducing the wrinkles, protection against UV radiation by antioxidant property and to check degradation of collagen respectively ⁶.

The skin and hair beauty of individuals depends on the health, habits, routine job, climatic conditions and maintenance⁷. The skin due to excessive exposure to heat will dehydrate during summer and causes wrinkle, freckles, blemishes, pigmentation and sunburns. The extreme winter cause damages to the skin in the form of cracks, cuts, maceration and infections⁸. The skin diseases are common among all age groups and can be due to exposure towards microbes, chemical agents, biological toxin present in the environment, and also to some extend due to malnutrition⁹. The only factor they had to rely on was the knowledge of

nature compiled in the ayurveda. The science of ayurveda had utilized many herbs and floras to make cosmetics for beautification and protection from external affects ¹⁰. The natural content in the botanicals does not cause any side effects on the human body; instead enrich the body with nutrients and other useful minerals ¹¹. The cosmetics, according to the Drugs and Cosmetics Act is defined as articles intended to be rubbed, poured, sprinkled or sprayed on, introduced into or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness or altering the appearance¹². The cosmetic does not come under the preview of drug license. The herbal cosmetics are the preparations containing phytochemical from a variety of botanical sources, which influences the functions of skin and provide nutrients necessary for the healthy skin or hair ¹³. The natural herbs and their products when used for their aromatic value in cosmetic preparation are termed as herbal cosmetics ¹⁴. There is common belief that chemical based cosmetics are harmful to the skin and an increased awareness among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations¹⁵.The increased demand for the natural product has created new avenues in cosmeceutical market. The Drug and Cosmetics Act specify that herbs and essential oils used in cosmetics must not claim to penetrate beyond the surface layers of the skin nor should have any therapeutic effect ¹⁶. The legal requirement and the regulatory procedures for herbal cosmetics are same as that for other chemical ingredients used in cosmetic formulations ¹⁷.

The requirements for the basic skin care:

- Cleansing agent: which remove the dust, dead cells and dirt that chokes the pores on the skin. Some of the common cleansers include vegetable oils like coconut, sesame and palm oil ¹⁸.
- Toners: The toners help to tighten the skin and keep it from being exposed to many of the toxins that are floating in the air or other environmental pollutants. Some of the herbs used as toners are witch hazel, geranium, sage, lemon, ivy burdock and essential oils¹⁹.
- Moisturizing: The moisturizing helps the skin to become soft and supple. Moisturizing shows a healthy glow and

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Table 1: Skin Types and their Care

| Skin Type | Features | Suitable Skin Care | |
|--------------------|---|---|--|
| | | Herbal | Essential oils |
| Normal | Has even tone, soft, smooth texture, no visible pores or blemishes and no greasy patches or flaky areas. | Pomegranate leaves juice, Herbal Face Pack, Gingili Oil | Chamomile, Fennel, Geranium, Lavender, Lemon, Rose, Sandal Wood, Patchouli. |
| Dry | Low level of sebum and prone to sensitivity. Has a parched look, feels "tight. Chapping and cracking are signs of extremely dry, dehydrated skin. | Aloe Vera, Olive Oil, Calendula Comfrey | Chamomile, Fennel, Geranium, Lavender, Lemon, Rose, Sandal Wood Patchouli, Almond, Avocado |
| Oily | Shiny, thick and dull coloured Chronically oily skin has coarse pores and pimples and other embarrassing blemishes. Prone to black heads | Aloe Vera, Burdock Root chamomile Horsetail, Oat Straw, Thyme, Lavender, Lemon Grass, Liquorice, Rose Buds, Witch Hazel | Bergamot, Cypress Frankincense Geranium, juniper, Lavender, Lemon, Sage Evening Primrose |
| Combination | Some parts of your face are dry or flaky, while the center part of your face, nose, chin, and forehead (called the T- zone) is oily. | Witch Hazel, Menthol, Aloe Vera, Turmeric, Wheat Germ, Sweet Flag | Citrus Oils, Jasmine Oil, Sandal Wood Oil |

Table 2: Special Skin Problems and Herbal Remedies

| S. No. | Skin Problem | Features | Remedies |
|--------|----------------|---|--|
| 1. | Chapped Skin | Rough texture which sometimes causes the skin to crack | Application of oils of St. John Wort, Olive Oil or Mashed Avocado after bathing or massaging with warm Olive Oil, Mustard or Coconut Oil half an hour before bathing |
| 2. | Withered Skin | Very tough texture, full of wrinkles | Carrot Juice along with a mixture of egg white and honey |
| 3. | Sallow Skin | No color look, skin becomes lusterless and shows lack of vitality | Inclusion of Vitamin B in diet. |
| 4. | Sensitive Skin | React quickly to both heat and cold. Sunburns and wind burns occur easily. Skins become dry delicate and prone to allergic reactions. | Use of essential oil of Chamomile, Lavender Neroli, Rose and Sandal Wood Oil. |
| 5. | Acne | Pockets of infection that manifest as red sores, boils and pimples. | Usage of Red Sandal Wood Oil. |

Table 3: List of Plants with Cosmetic Application for Skin Care

| Scientific Name | Common Name | Part Uses | Uses |
|---|----------------|-----------------|--|
| <i>Acarus calamus (Araceae)</i> | Sweet flag, | Rhizome | Aromatic, Dusting powders, Skin lotions |
| <i>Alhagi camelorum (Leguminosae)</i> | Jawasa | Leaves | Skin disorders |
| <i>Allium sativum (Liliaceae)</i> | Garlic | Bulb | Promotes skin healing, Antibacterial |
| <i>Aloe vera (Liliaceae)</i> | Aloe vera | Leaf | Moisturizer, Sun screen, Emollient |
| <i>Alpinia galangal (Zingiberaceae)</i> | Galanga | Rhizome | Aromatic, Dusting powders |
| <i>Avena sativa (Gramineae)</i> | Oat | Fruit | Moisturizer, Skin tonic |
| <i>Azadiracta indica (Meliaceae)</i> | Neem | Leaf | Antiseptic, reduce dark spots, Antibacterial |
| <i>Bauhinia racemosa (Leguminosae)</i> | Kanchivala | Bark and leaves | Skin disorders |
| <i>Calendula officinalis (Compositae)</i> | Marigold | Flower | Skin care, Anti-inflammatory, Antiseptic Creams. |
| <i>Centella asiatica (Apiaceae)</i> | Brahmi | Plant | Wound healing, Reduce Stretch marks |
| <i>Mesua ferrea (Guttiferae)</i> | Cobras saffron | Flower | Astringent |
| <i>Panax ginseng (Araliaceae)</i> | Ginseng | Root | Stimulate blood flow to skin |
| <i>Zizyphus jujube (Rhamnaceae)</i> | Zizyphus | Fruit | Skin Care |
| <i>Zingiber zerumbet (Zingiberaceae)</i> | Zamabad | Rhizomes | Skin Care |

are less prone to aging ²⁰. Some of the herbal moisturizers include vegetable glycerin, sorbitol, rose water, jojoba oil, aloe vera and iris ²¹.

Herbal Cosmetics Can Be Grouped Into Following Major Categories

- Cosmetics for enhancing the appearance of facial skin
- Cosmetics for hair growth and care
- Cosmetics for skin care, especially in teenager²² (acne, pimples and sustaining)
- Shampoos, soaps, powders and perfumery, etc.
- Miscellaneous products

Indian Extracts for Herbal Cosmetics

Herbs play a significant role, especially in modern times, when the damaging effects of food processing and over-medication have assumed alarming proportions²³. They are now being increasingly used in cosmetics, foods and teas, as well as alternative medicines. The growing interest in herbs is a part of the movement towards change in life-styles²⁴. This movement is based on the belief that the plants have a vast potential for their use as a curative medicine.

Oat (*Avena sativa*)

It is a species of cereal grain grown for its seed, which is known by the same name (usually in the plural, unlike other grains)²⁵. Oats are not only consumed for nutritional purposes, but are also recognized as possessing healing and soothing properties. The gentle process used to extract oat oil from the whole oat kernels ensures that the biological value remains unaltered. Oat oil is rich in antioxidants, essential fatty acids and natural emollients²⁶. Oat oil is used in many lotions, creams, facial oils, salves and balms since its properties add unique benefits.

Marigold (*Calendula officinalis*)

Calendula officinalis is a plant known as pot marigold. It should not be confused with other types of plants more commonly known as marigold, such as those in the genus *Tagetes*²⁷. A number of ingredients used in cosmetics and personal care products are made from *Calendula officinalis*, including an extract of the whole plant (*Calendula officinalis* Extract) the flowers, flower extract and flower oil (*Calendula officinalis* Flower Extract, *Calendula officinalis* Flower Oil) and the seed oil (*Calendula officinalis* Seed Oil)²⁸. Of the *Calendula*-derived ingredients, the flower extracts are the most commonly used in cosmetics and personal care products.

Wild Cherry Bark (*Prunus serotina* Bark)

Wild cherry bark is the bark of *Prunus serotina*²⁹. Wild Cherry Bark has properties that makes the hair smooth, silky, and adds body to the hair. The dried stem bark of *Prunus serotina*, collected in autumn in North America. Used in lipsticks and cherry flavorings for food and medicines³⁰. Also used as a sedative and expectorant medicinally

Chicory (*Cichorium intybus*)

Chicory, *Cichorium intybus*, is somewhat woody, perennial herbaceous plant usually with bright blue flowers, rarely white or pink³¹. It was believed that the plant could purify the blood and liver, while others have relied on the herb for its power to cure passions of the heart. Chicory continues to be a popular herbal remedy due to its healing effects on several ailments³². Chicory is taken internally for loss of appetite, jaundice, gallstones, gout and rheumatism. In addition, the leaves of chicory may also be used as compresses to be applied externally to ease skin inflammations and swellings. As a mild diuretic, it increases the elimination of fluid from the body, leading to its use as a treatment for rheumatism and gout. The root and the

leaves are appetizer, cholagogue, depurative, digestive, diuretic, hypoglycaemic, laxative and tonic³³. It favors blood circulation by making blood more fluid and allowing it a better travel through vein and arteries.

Tulsi (*Ocimum sanctum*)

Holy basil, called Tulsi in India, is ubiquitous in Hindu tradition. Perhaps its role as a healing herb was instrumental in its "sacred" implication³⁴.

Ghritkumar (*Aloe vera*)

It is a most ingenious mixture of an antibiotic, an astringent coagulating agent, a pain inhibitor and a growth stimulator (also called a "wound hormone"), whose function is to accelerate the healing of injured surfaces³⁵. It is used for pain relief and healing of hemorrhoids, applied externally and internally it's also used for sunburn, scratch and a cleansing purge for the body or skin. It is an aid to growing new tissue and alleviating the advance of skin cancer caused by the sun³⁶.

Multani Mitts (Fullers Earth)

It is Mother Nature's own baby powder³⁷. Clay was one of the earliest substances to be used as a beauty mask to draw oils from the skin, natural moisturizers for hairs, teeth, gums and hair, To remove pimple marks, treating sunburn, helps unclog pores, to cleanse the skin of flakes and dirt³⁸.

Chamomile (*Matricaria chamomilla*)

Matricaria chamomilla, known as scented mayweed or German chamomile (also spelled camomile), is an annual plant of the composite family Asteraceae³⁹. Chamomile is also used cosmetically, primarily to make a rinse for blonde hair and as a yellow dye for fabrics⁴⁰.

Raktachandan

This was another natural component available in attractive color and hence was used as fresh, red bindi / tika (dot) on the forehead⁴¹.

Aloe vera

With the traits that prevent aging and regenerate growth of cells this was used as an essential component to keep oneself fit, protect the skin⁴², prevents and heals skin irritations⁴³.

Chandan and Vertiver (Usheer)

It was used as scrubs and face packs that were applied on face and whole body to remove dead cells, regenerate growth of new cells and give a young look⁴⁴.

Haldi (Turmeric)

It was used as a face pack along with usheer (vertiver) and also as an antiseptic⁴⁵.

Medicinal Herbs used in Cosmetics

The medicinal herb mentioned in ayurveda by experienced sages basically state that the function of ayurvedic herbs is to purify blood and eliminate vitiated

doshas (vata, pitta, kapha) from the body as they are mainly responsible for skin disorders and other diseases⁴⁶. Among the written information on ayurveda like in Charakh Samhita, the sage Charakh stated numerous medicinal plants in Varnya Kashaya. The herbs mentioned can be used to obtain glowing complexion. Various herbs for which description and usage can be found in ayurvedic inscriptions are chandana, Nagkeshara, Padmak, Khus, Yashtimadhu, Manjistha, Sariva, Payasya, Seta (shweta durva), Lata (shyama durva)⁴⁷. There is also the mention of various herbs from Kushthagna Mahakashaya that are effective curatives for skin disorders are Khadira, Abhaya, Amalaki, Haridra, Bhallataka, Saptaparna, Aragvadha, Karavira, Vidanga, Jati. Like the notifications of charakh and other sages, Sushrut said that Eladi Gana contains, -Ela, tagar, kusstha, jatamansi, tvak, dhmamaka, patra, nagkeshar, priyangu, harenuka, vyaghranakha, shukti, stouneyaka, choraka, shriveshta, khus, goggol, sarjarasa, turushka, kundaru, agaru, ushira, devdaru, keshara, and padmakeshara⁴⁸. All these herbs can eliminate toxins from the body, clear the complexion that leads to a glow on the skin and alleviates puritus, kusstha and boils (Table 2 and Table 3).

The Benefits of Herbs May include the Following

- Enhance physical and mental well-being
- Strengthen the immune system
- Detoxification
- Aid in sleeping, digestion
- Increase stamina and reduce fatigue etc.

Herbal products in cosmetics or herb in cosmetics can also be referred as botanical origin products in cosmetics⁴⁹. According to the Drugs and Cosmetics Act 1940 cosmetics may be defined as, any substance intended to be rubbed, poured, sprinkled, or otherwise applied to human being for cleansing, beautifying, promoting attractiveness⁵⁰. Cosmeceuticals are the cosmetic products which contain biologically active principles or ingredients of plant origin having effect on user or they are combination product of cosmetics and pharmaceuticals intended to enhance the health and beauty of skin⁵¹. Herbal cosmetics are defined as the beauty products which possess desirable physiological activity such as healing, smoothing appearance, enhancing and conditioning properties because of herbal ingredient⁵² (Table 3).

Advantages of Herbal Medicine

- Herbal medicine have long history of use and better patient tolerance as well as acceptance.
- Medicinal plants have a renewable source, which is our only hope for sustainable supplies of cheaper medicines for the world growing population⁵³.
- Availability of medicinal plants is not a problem especially in developing countries like India having rich agro-climatic, cultural and ethnic biodiversity.
- The cultivation and processing of medicinal herbs and herbal products is environmental friendly⁵⁴.
- Prolong and apparently uneventful use of herbal medicines may offer testimony of their safety and efficacy.

- Throughout the world, herbal medicine has provided many of the most potent medicines to the vast arsenal of drugs available to modern medical science, both in crude form and as a pure chemical upon which modern medicines are structured⁵⁵.

Limitations of Herbal Medicines

Like any other branch of science and technology, present scenario of herbal medicine has its own limitations arising out of its own technical constituents. The prominent limitations of herbal medicines can be summarized as follow⁵⁶:

Dry Skin Treatment

Coconut oil

Coconut oil comes from the fruit or seed of the coconut palm tree *Cocos nucifera*, family *Arecaceae*. The melting point of coconut oil is 24 to 25°C (75-76°F) and thus it can be used easily in both liquid and solid forms and is often used in cooking and baking⁵⁷. Coconut oil is excellent as a skin moisturizer and softener. A study shows that extra virgin coconut oil is effective and safe when used as a moisturizer, with absence of adverse reactions. (3) A study found that coconut oil helped prevent protein loss from the wet combing of hair when used for fourteen hours⁵⁸.

Sunflower Oil

It is the non-volatile oil expressed from sunflower seeds obtained from *Helianthus annuus*, family *Asteraceae*. Sunflower oil contains lecithin, tocopherols, carotenoids and waxes. In cosmetics, it has smoothing properties and is considered noncomedogenic⁵⁹.

Aloe

A native of southern Africa, the aloe vera plant has fleshy spiny-toothed leaves and red or yellow flowers⁶⁰. It is an ingredient in many cosmetics because it heals moisturizes, and softens skin. Simply cut one of the aloe vera leaves to easily extract the soothing gel.

Anti-Aging Treatment

Golden Root

Rhodiola rosea (Roseroot, Aaron's rod), is a plant in the *Crassulaceae* family that grows in cold regions of the world. The *Rhodiola* root has long been used in the traditional medical systems in Europe and Asia to increase an organism's resistance to physical stress, currently; it is widely thought to have antioxidative properties⁶¹.

Carrot

It is obtained from the plant *Daucus carota* belonging to family *Apiaceae*. It is a valuable herb since ages as it is rich natural source of Vitamin A along with other essential vitamins. Carrot seed oil is indicated for anti-aging, revitalizing and rejuvenating⁶². As it promotes the formation of new cells and helps in reducing wrinkles. It acts as Natural toner and rejuvenator for the skin.

Ginkgo

Ginkgo comes from the ginkgo tree, *Ginkgo biloba* belongs to family Ginkgoaceae, which grows to a huge size. It is best known, as a circulatory tonic, in particular for strengthening the tiny little capillaries to all the organs, but especially to the brain⁶³. The capillaries become more flexible and as a result more oxygen is delivered to the brain and eyes (to protect against degenerative eye diseases like macular degeneration), so important as we age. Ginkgo also protects the nervous system and fights oxidation⁶⁴.

Dandruff Treatment

Ayurved has numerous natural medications wherein the most common herbs include Neem, Kapoor (naphthalene), and Henna, Hirda, Behada, and Amalaki, Magic nut, Bringaraj, Rosary Pea, Sweet Flag, Cashmere tree and Mandor⁶⁵.

Henna

Henna comes from the plant, *Lawsonia inermis* family Lythraceae, which contain a dye molecule called Lawsonone, which when processed becomes Henna powder. Henna has a natural affinity with the proteins in our hair, making it able to "stain" the colour onto the hair shaft⁶⁶.

Skin Protection

Green Tea

Green tea is tea made solely with the leaves of *Camellia sinensis* belonging to family Theaceae. Whether applied topically or consumed as a beverage or dietary supplement, green tea is a premiere skin protectant⁶⁷. It protects against direct damage to the cell and moderates inflammation, according to research from the Department of Dermatology, Columbia University, New York. Studies suggest that the catechins in green tea are some 20 times stronger in their antioxidant powers than even vitamin E⁶⁸. Men, women and children need to position this super shield on their side against the ravaging effects of the sun⁶⁹.

Turmeric

Turmeric, *Curcuma longa* is a rhizomatous herbaceous perennial plant of the ginger family Zingiberaceae. Turmeric is used in many celebrations of Hindus⁷⁰. Especially in Hindu wedding brides would rub with turmeric on their bodies for glowing look. New born babies also rubbed with turmeric on their forehead for good luck. Traditionally women rub turmeric on their cheeks to produce a natural golden glow⁷¹.

Hair Care

Amla

Amla is obtained from the plant *Emblica Officinalis*, Family Euphorbiaceae⁷². Amla is rich in vitamin C, tannins and minerals such as phosphorus, iron and calcium which provides nutrition to hair and also causes darkening of hair⁷³. Hibiscus consists of calcium, phosphorus, iron, vitamin B1, riboflavin, niacin and vitamin C, used to stimulate thicker hair growth and prevents premature graying of hair⁷⁴.

Almond Oil

The almond oil is obtained from *Prunus dulcis*. The almond oil basically contains about 78% of this fat. This oil contains very small amounts of super-unsaturated Omega-3 essential fatty acids⁷⁵. It proves to be very nourishing, and softens and strengthens the hair⁷⁶. The almond oil also proves to be a very good cleansing agent. Almond oil has been used for many centuries, even before it's spread as a commercial agro-product⁷⁷.

CONCLUSION

The knowledge of medicinal plants used by the people of seems to be well known to its culture and tradition⁷⁸. In the present study we identified many plants used by the people to cure dermatological disorders and as cosmetics⁷⁹. Some of the plants were found to have dual use, both as curative and cosmetic. Quality control test must be carried out for herbal cosmetics. It is assumed to be safe for longer periods of time⁸⁰.

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