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Herbal Plants: Used as a cosmetics

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ABSTRACT

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. Herbal Cosmetics 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 since time immemorial. 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.

Key Words: Cosmetic, Hair, Medicinal plants, Skin.

INTRODUCTION

A large number of cosmetic and toiletry formulations have been developed based on Indian Herbs recently. Apart from traditionally documented applications, some modern trials have also established the utility of Indian herbs in Personal Care products. 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.[1] The best thing of the herbal cosmetics is that it is purely made by the herbs and shrubs. The natural content in the herbs does not have any side effects on the human body; instead enrich the body with nutrients and other useful minerals. By the European Directives 93/35/EEC (European Commission), the "cosmetic products", are defined as a any substance or preparation intended to be placed in contact with the various external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and

the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance and/or correcting body odors and/or protecting them or keeping them in good condition.[2] There is now, however, growing scientific evidence that plants possess a vast and complex arsenal of active ingredients (photochemical) able not only to calm or smooth the skin but actively restore, heal and protect the skin.

Dry Skin Treatment

Coconut oil

Coconut oil comes from the fruit or seed of the coconut palm tree *Cocos nucifera*, family Areaceae. The melting point of coconut oil is 24 to 25 °C (75-76 °F) and thus it can be used easily in both liquid or solid forms and is often used in cooking and baking. 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 hours. [4]

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 noncomedogenic.

Aloe

A native of southern Africa, the aloe vera plant has fleshy spiny-toothed leaves and red or yellow flowers. 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), as shown in figure 1, 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[5], currently; it is widely thought to have antioxidative properties.[6]



Figure 1: *Rhodiola rosea*



Figure 2: *Ginkgo biloba*

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 rejuvenating. As it promotes the formation of new cells and helps in reducing wrinkles. It acts as Natural toner and rejuvenator for the skin.[7]

Ginkgo

Ginkgo comes from the ginkgo tree, as shown in figure 2, *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 brain. 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 oxidation.

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 Mandor.

Henna

Henna comes from the plant, as shown in figure 3, *Lawsonia inermis* family Lythraceae, which contain a dye molecule called Lawsone, 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 shaft. [8]



Figure 3: *Lawsonia inermis*

Neem

The herb, *Azadirachta indica*, family Meliaceae has been found to have the properties of a Blood purifier, beauty enhancer. It is used for a number of medicinal purposes. Some areas where it can be used in the treatment of common cosmetic problems are skin cleanser.[9]

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 protectant. 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 E. Men, women and children need to position this super shield on their side against the ravaging effects of the sun.[10]

Table : 1 Herbal plant for Skin care

Latin name	Common name	Part used	Uses
<i>Acorus calamus</i>	Sweet flag	Rhizome	Aromatic, Dusting powders, Skin lotions
<i>Allium sativum</i>	Garlic	Bulb	Promotes skin healing, Antibacterial
<i>Aloe vera</i>	Aloe	Leaf	Moisturizer, Sun screen, Emollient
<i>Alpinia galanga</i>	Galanga	Rhizome	Aromatic, Dusting powders
<i>Avena sativa</i>	Oat	Fruit	Moisturizer, Skin tonic
<i>Azadirachta indica</i>	Neem	Leaf	Antiseptic, Reduce dark spots, Antibacterial
<i>Echinacea purpurea</i>	Echinacea	roots, stem, and leaves	Skin regeneration
<i>Centella asiatica</i>	Gotu kola	Plant	Wound healing, Reduce
<i>Symphytum officinale</i>	Comfrey	leaves	cell regeneration, stimulates the growth of new cells, rejuvenate the skin
<i>Crocus sativus</i>	Kesar	Flowering top	Skin cleansing lotion

Calendula

Calendula, pot marigold, is a genus of about 12–20 species of annual or perennial herbaceous plants in the daisy family Asteraceae as shown in figure 4. Calendula in suspension or in tincture is used topically to treat acne, reducing inflammation, controlling bleeding and soothing irritated tissue.[11] There is "limited evidence" that calendula cream or ointment is effective in treating radiation dermatitis.[12,13] In a randomized study of 254 radiation patients, topical application of 4% calendula ointment resulted in far fewer occurrences of Grade 2 or higher dermatitis than occurred in the group using trolamine. Calendula users also experienced less radiation-induced pain and fewer breaks in treatment.[14]

**Figure 4: Calendula**

Turmeric

Turmeric, *Curcuma longa* is a rhizomatous herbaceous perennial plant of the ginger family Zingiberaceae. Turmeric is used in many celebrations of Hindus. 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 glow.

Hair Care

Amla

Amla is obtained from the plant *Emblica Officinalis*, Family Euphorbiaceae. 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 hair.[15] Hibiscus consists of calcium, phosphorus, iron, vitamin B1, riboflavin, niacin and vitamin C, used to stimulate thicker hair growth and prevents premature graying of hair.[16]

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 acids. It proves to be very nourishing, and softens and strengthens the hair. 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-product.

Table : 2 Herbal plants used for Hair care

Latin name	Common name	Part used	Uses
<i>Aloe vera</i>	Aloe	Leaf	Moisturizer, Shampoos
<i>Bacopa monneri</i>	Brahmi	Entire herb	Hair growth, Good for sleep, Shampoos
<i>Arctium lappa</i>	Burdock root	Roots	Promotes hair growth.
<i>Cedrus deessential oilsdara</i>	Dessential oilsdar	Wood	Soaps, Shampoos
<i>Centella asiatica</i>	Gotu kola	Plant	Hair care, Darkening of hair, Hair oil
<i>Citrus aurantium</i>	Orange	Peel	Soaps, Shampoos
<i>Citrus limon</i>	Lemon	Peel	Prevents hair loss
<i>Eclipta alba</i>	Bhringraj	Plant	Promoting hair growth, Shampoos, Hair oil
<i>Acacia Concinna</i>	Shikakai	Pods	promotes hair growth and preventing dandruff

Essential Oils

Essential oils are natural fragrances extracted from virtually every part of a plant. Essential oils are volatile and liquid aroma compounds from natural sources, usually plants. Essential oils are not oils in a strict sense, but often share with oils a poor solubility in water. Essential oils contain mainly volatiles as terpenoids, benzenoids, fatty acid derivatives and alcohols. The FDA and other authorities recognize essential oils generally as safe. Although essential oils are widely used in cosmetics their actual mode of action is not fully understood. The uses of essential oils are determined by their chemical, physical, and sensory properties, which differ greatly from oil to oil. Each of the individual chemical compounds that can be found in oil contributes to the overall character. Essential oils can be used in several ways for cosmetic purpose like Inhalation, Baths, Massage, Compresses, Steam treatments, Room Fragrance etc [17]

Most often essential oils are used as:

- Co-preserved: many essential oils have antibacterial activity and are added as supportive agents to synthetic preservatives.
- Fragrance: perfumery is the main use of essential oils in cosmetics although synthetic fragrances are more stable and have better longevity.
- Hair care: essential oils are used as conditioning
- Anti-dandruff & permanent waving agents.
- Skin care: essential oils are the ideal to topical active ingredients for any skin care product since they can penetrate the skin and bind the membranes of skin cells. Essential oils can thus have sustained effects in the skin.

Rose oil

The well-known essential oil is probably rose oil, produced from the petals of *Rosa damascena* and *Rosa centifolia*, family Rosaceae. Steam-distilled rose oil is known as "rose otto" while the solvent extracted product is known as "rose absolute". It is used more commonly in perfumery. The key flavor compounds that contribute to the distinctive scent of rose oil are beta-damascenone, beta-damascone, beta-ionone, and oxide.

Eucalyptus Oil

Eucalyptus oil is the generic name for distilled oil from the leaf of *Eucalyptus*, a genus of the plant family Myrtaceae. Eucalyptus oil can help to get rid of dandruff, which in turn can help to promote healthy growth of hair. Just mix about 9 to 10 drops of eucalyptus oil with shampoo and then gently massages scalp for a few minutes, after which rinse it off with water. Massaging scalp with eucalyptus oil can stimulate blood circulation and thereby, making hair healthy and beautiful. [18]

Citronella oil

It is one of the essential oils obtained from the leaves and stems of different species of *Cymbopogon* family Poaceae, as shown in figure 5. The crisp, rich citrus or lemon like aroma of this oil drives away body odour and is used deodorants and body sprays, although in very small quantities, since in heavy doses it may give skin irritations. It can also be mixed with the bathing water to have a refreshing, body odour ending bath.



Figure 5: *Cymbopogon*

Other essential oils which are used in cosmetics include anise oil, coriander oil, grapefruit oil, jasmine oil, palma rose oil, sandalwood oil

Antioxidants

Antioxidants, either exogenous or endogenous, whether synthetic or natural, can be effective in preventing free radical formation by scavenging them or promoting their decomposition and suppressing such disorders.[19,20-22] Currently, there is a growing interest toward natural antioxidants of herbal resources.[23-25] Epidemiological and in vitro studies on medicinal plants and vegetables strongly supported this idea that plant constituents with antioxidant activity are capable of exerting protective effects against oxidative stress in biological systems.[26-29] Free radical formation is controlled naturally by various beneficial compounds known as antioxidants.[30] In addition to fruits and vegetables, herbs of no particular nutritional value can also constitute an important source of antioxidants.[31] The leaves from black and green tea (*Camellia sinensis*), long used amongst western and Asian populations, respectively, constitute an important source of potentially health-protecting antioxidants[32,33] and world-wide represent the most popular form of daily herb consumption.

Tamarind

Tamarind or *Tamarindus indica*, family Fabaceae, is widely growth in tropical regions and has long been supplied as an *important* nutrition source and traditional medications. Tamarind seed has activity of radical scavenging [34], lipid peroxidation reducing [35] and anti-microbial activitie.[36] Its antioxidant activity is appropriate for anti-wrinkle cosmetics.



Figure 6: *Tamarindus indica*

Vitamin C

It prevents free radical damage due to its property of donating free radicals. It is beneficial in boosting immune system. The main source of Vitamin-C is carrots, peaches, sweet potatoes, oranges, broccolis, etc. [37]

Vitamin E

Both plants and animals serve as a source of vitamin E. It has been found beneficial against certain types of cancer & cardiac problems. It is known as '*scavenger of free radicals*'. Vitamin E is mainly present in nuts, whole cereal grains, almonds, vegetable oils etc.

CONCLUSION

The knowledge of medicinal plants used by the people of seems to be well known to its culture and tradition. In the present study we identified many plants used by the people to cure dermatological disorders and as cosmetics. Some of the plants were found to have dual use, both as curative and cosmetic. Further extensive ethanobotanical and ethanopharmacological study may lead to the discovery of plants and compounds for skin care and cure.

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