

**REVIEW ON HERBAL COSMETIC FOR HAIR AND SKIN****Hari Namdev Ghule\* and Yogeshwari Laxman Ghule**

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**ABSTRACT**

Various herbal plants are available naturally, having different types of chemical constituents used in cosmetic preparation. The different parts of herbal plants are used in the cosmetics such as leaves, flowers, stems, etc. The current article deals with the enhancing health and beauty of skin and hair. The herbs like coconut oil, castor oil, aloe Vera, sunflower oil, cocoa butter, olive oil, used for dry skin treatment. Turmeric is used in the treatment of Eczema. Carrot, ginkgo used as a antiaging treatment. Herbs like henna, rosemary, neem are used as a hair growth stimulants and antidandruff agents. Amla, eucalyptus oil, almond oil are used in a hair care. Herbal cosmetics are the beauty

products which posses desirable physiological activity like healing, smoothing appearance, enhancing and conditioning properties because of herbal ingredients.

**KEYWORDS:** Cosmetics, Herbal, Skin, Hair.

**INTRODUCTION****A. Cosmetics**

The term cosmetics have been derived from the term "COSMETIKOS" which means the skill to decorate. Thus, cosmetics are the art of decorating yourself to look beautiful.

**Herbal Cosmetics**

Herbal products in cosmetics or herbs in cosmetics can also be referred as botanical origin products in cosmetics. Personal care products containing ingredients from plant origin are finding an increasing receptive trend in domestic as well as world market.

The herbal cosmetics are defined as the beauty products, which possesses desirable physiological activities, such as skin healing, smoothening, appearance, enhancing and conditioning properties.

**The herbal cosmetics can be grouped into following major categories.**

1. For enhancing the appearance of the facial skin.
2. For hair growth and care.
3. For skin care specially in teenager (acne, pimples).
4. Shampoo, soaps, powders and perfumery.
5. Miscellaneous products.

### **Present Status**

Herbalists today, believe to help people build their good health with the help of natural sources. Herbs are thought to be food rather than medicine because they are complete, all-natural and pure, as nature intended. At the point when herbs are taken, the body begins to get purified, it gets decontaminating itself.

Unlike chemically synthesized, highly concentrated drugs that may produce many side effects, herbs can effectively realign the body's defences. Herbs don't create moment cures, yet rather offer an approach to put the body in legitimate tune with nature. From huge number of years, people have utilized herbs. Herbs have been used in following ways -, as perfumes, as disinfectants, in cooking for flavouring foods, to protect us against germs, as medicines to heal when we are sick.<sup>[5]</sup>

### **Advantages of Herbal Cosmetics**

Herbs are important for their disease prevention and health promotion properties having following advantages which are described below:

#### **1. Natural products**

Herbal cosmetics are natural and free from all the harmful synthetic chemicals which generally may turn out to be lethal to the skin.

#### **2. Safe to use**

Natural cosmetics are protected to utilize. They are hypo-allergenic and tested and proven by dermatologists to be safe to use anytime, anywhere. Since they are made of natural ingredients, people don't have to worry about getting skin rashes or experience skin itchiness.

### 3. Compatible with all skin types

No matter if you are dark or fair; you will find natural cosmetics like foundation, eye shadow, and lipstick which are appropriate irrespective of your skin tone.

### 4. No side effects

The synthetic beauty products can irritate your skin, and cause pimples. They might block your pores and make your skin dry or oily. With natural cosmetics, one need not worry about these. The natural ingredients used assure no side effects; one can apply them anytime, anywhere.<sup>[14,5]</sup>

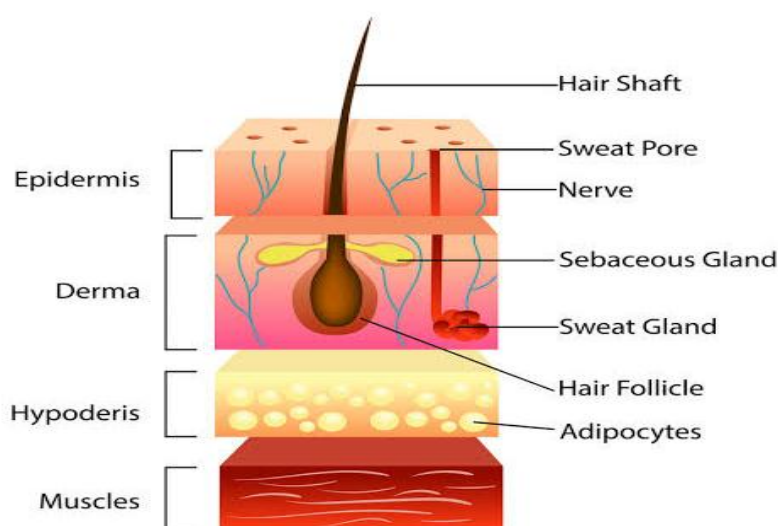
## B. Skin

Skin is the outermost and one of the largest and most complex organs of the human body. It act as protective cover for internal body.

### Structure

The skin (cutis, integument) and its derivatives constitute the integumentary system. The skin forms the external covering of the body and is its largest organ, constituting 15-20% of its total mass. It consist of three basic layer as follow.

- 1) Epidermis
- 2) Dermis
- 3) Hypodermis



**Fig-1: Structure of Skin.**

### Function and Physiology

“Beauty is skin deep” is a common adage.

The health and colour of the skin not only reflects its health status but skin as an organ also has a number of vital roles in the physiology of body.

1. Protection: It provide physical barrier that protects underlying tissues from external environment. Hairs and nails also have protective functions.
2. Sensation: It contains number of nerve endings and receptors that are sensitive to temperature, touch, pressure, pain and regulate body temperature.
3. Excretion: Excretion is carried out by exocrine secretions of sweat, sebaceous, and apocrine glands. Excretory secretions helps in detect certain blood diseases.
4. Endocrine Function: Skin is considered as endocrine organ as it secretes hormones, cytokines and growth factors.
5. Drug Delivery Route: Certain lipid soluble and low molecular weight drugs are administered through skin. E.g.- Nitroglycerin.<sup>[14,16]</sup>

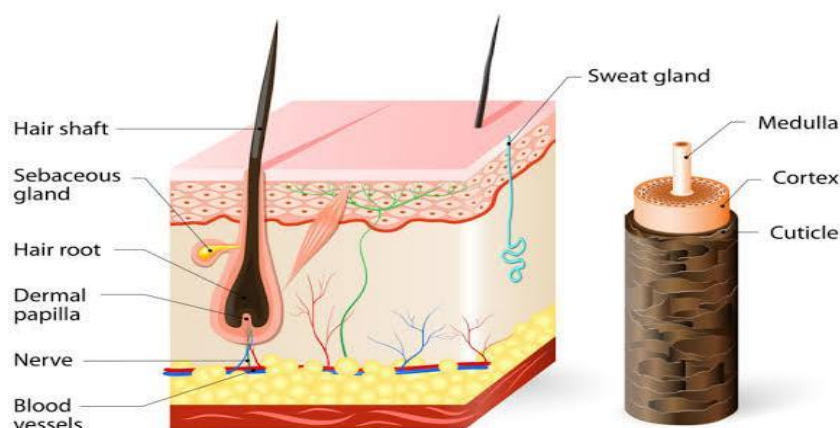
### C. Hair

Hairs or pili are growths of epidermis which are present over almost the entire body. They are however absent only from sides and palmar surfaces of hands, feet, the lips.

### Structure

A hair is composed of columns of dead, keratinized cells welded together. The *shaft* is superficial portion of hair. The *root* is portion of hair deep into the surface that penetrates into the dermis and sometimes into the subcutaneous layer. The *shaft* and *root* consist of three concentric layer as follow.

1. Medulla: Central part of the shaft.
2. Cortex: Located peripheral to medulla and forms major part of the shaft.
3. Cuticle: Outermost layer of hair and consists of a single layer of thin, flat cells which are heavily keratinized.



**Fig. 2: Structure of Hair.**

### Function and Physiology

In human beings, the role of hairs is limited to being protective and cosmetic.

1. Protective: Primary function is protection.
2. Cosmetics: Long locks of shiny hairs is a cosmetic requirement, especially in Indian context, where it is always appreciated. This is the reason why hairs are shampooed, oiled, groomed, styled, and even coloured.<sup>[14,16]</sup>

### D. Herbal plants use in skin and hair ailments

#### SKIN CARE

##### 1) Dry Skin Treatment

##### a) Coconut oil

Coconut oil comes from the fruit or seed of the coconut palm tree *Cocos nucifera*, family Arecaceae. Extra virgin coconut oil is excellent as a skin moisturizer. When used for fourteen hours coconut oil helped prevent protein loss from the wet combing of hair.<sup>[13,4,12]</sup>



**Fig. 3: Coconut Oil.**



**Fig. 4: Castor Oil.**

**b) Castor Oil**

The castor oil is the fixed oil obtained by the cold expression of the seeds of *Ricinus communis*, family Euphorbiaceae. The seeds contain 50% of the fixed oil, which is a viscous fluid, almost colourless when pure, possessing only a slight odour. The oil acts as a barrier agent to protect against harsh climate, and is soothing to the skin. Castor oil forms a clean, light-coloured, transparent soap, which dries and hardens well and is free from odour. Ricinoleic acid and its many derivatives have skin smoothing and moisturizing qualities, and improve various skin conditions such as rough skin and acne.<sup>[13,5]</sup>

**c) Aloe vera**

Aloes is the dried juice of the leaves of *Aloe barbadensis miller* and species belonging to family *Liliaceae*. 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. Aloe vera contains amino acids like leucine, isoleucine, saponin glycosides that provide cleansing action, vitamins A,C,E,B, choline, B12 and folic acid and provide antioxidant activity.<sup>[13,5,3]</sup>



**Fig. 5: Aloe vera.**



**Fig. 6: Sunflower Oil.**

**d) Sunflower Oil**

It is the non-volatile oil expressed from sunflower seeds obtained from *Helianthus annuus*, family *Asteraceae*. In cosmetics, it has smoothing properties and is considered noncomedogenic.<sup>[13,5]</sup>

**e) Cocoa butter**

Cocoa butter, from *Theobroma cacao* (Sterculiaceae) is particularly soothing after windburn or sunburn. It is used medicinally as a vehicle in suppositories and pessaries. Cocoa butter



contains trigly-cerides consisting mainly of oleic, stearic and palmitic acids, and about three quarters of the fats are present as mono-unsaturates. Cocoa butter is used widely as an emollient and in various topical cosmetic preparations, and has been reported to be a source of natural anti-oxidants.

#### f) Olive oil

Since ancient times people have used *Olea europaea* (Oleaceae) fruit and oil; the ancient Greeks used to bathe with olive oil. It has been used to moisturize dry skin, and as a lip balm, shampoo, hand lotion, soap, massage oil and dandruff treatment. Olive oil contains fatty acids, triglycerides, tocopherols, squalene, carotenoids, sterols, polyphenols, chlorophylls, volatile and flavour compounds. The extracts of mixtures of olive fruits, leave and stems show antiinflammatory and active oxygen scavenging effects.<sup>[4,5,13,15]</sup>



**Fig. 7: Coca butter.**



**Fig. 8: Olive Oil.**

#### 2) Eczema

Eczema or atopic dermatitis is a skin condition characterized by redness, swelling, scaling and itching.

#### g) Turmeric

Turmeric is the processed rhizome of *Curcuma longa* L. (Zingiberaceae). The rhizome is the portion of the plant that is used medicinally; it is usually boiled, cleaned and dried, yielding a yellow powder. The major component is curcumin, which is responsible for most of the biological activities. The literature indicates a great variety of pharmacological activities of turmeric or curcumin, such as antibacterial, antiparasitic, anti-HIV (human immunodeficiency virus effects). It appears to have a good potential as a wound healing

powder when applied externally to septic and aseptic wounds due to proven anticarcinogenic, antioxidant and inhibition of lipid peroxidation and antiinflammatory properties with few toxic effects. It is also used for prevention, treatment or control of psoriasis and other skin conditions such as acne, wounds, burns, eczema, sun damage to the skin and premature aging, due to inhibiting the activity of phosphorylase kinase.

In Ayurvedic medicine, turmeric is used for the treatment of sprains and swellings caused by injury. The people of Samoa sprinkle the powdered rhizome on newborn infants to help heal arecently cut umbilical cord, to prevent nappy rash from occurring and to keep the skin soft and resilient. The powder is also used as a paste or poultice to treat skin ulcers and to help heal extensive skin eruptions.<sup>[13]</sup>



**Fig. 9: Turmeric.**

### **3) Antiaging skin treatment**

The primary environmental factor that causes human skin aging is UV irradiation from the sun. Changes due to aging in the skin, in which degenerative changes exceed regenerative changes, are characterized by thinning and wrinkling of the epidermis together with the appearance of lines, creases, crevices and furrows, especially accentuated in lines of facial expression.

#### **h) Carrot**

It is obtained from the plant *Daucus carota* belonging to family *Apiaceae*. 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.



### i) Ginkgo

Ginkgo comes from the ginkgo tree, *Ginkgo biloba* belongs to family *Ginkgoaceae*. 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), as important as weage.<sup>[13,4,8]</sup>



**Fig. 10: Carrot.**



**Fig. 11: Ginkgo.**

### 4) Acne, Spots and Pimples

Acne is a skin condition that affects sweat glands and hair follicles, causing inflammation, black heads, white heads and pustules.

### j) Artemisia

It obtained from plant of *Artemisia vulgaris* and *Artemisia absinthum* belonging to family *Compositae*) are used traditionally in Philippines for skin diseases and ulcerative sores. The entire plant is made into a decoction and is used as a wash for many kinds of wounds and skin ulcers. The dried leaves, cut into small fragments, are used to help induce more rapid healing of wounds, and are used in eczema, herpes and prurulent scabies. Water extracts from *A. campestris* L. have antioxidant effects.

### k) Pumpkin

It is fatty acids isolated from plant *Cucurbita pepo* belonging to family *Cucurbitaceae*. seed oil, have been used in medicine for their antiinflammatory properties, and include mainly linoleic, followed by oleic, palmitic and stearic acid. The people of Central America and India rub the oil extracted from the seeds of pumpkin on herpes lesions, venereal sores, acne vulgaris and stubborn leg ulcers which refuse to heal up. Pumpkin leaves are also applied as a

poultice on sprains and pulled ligaments. The roots are made into an infusion and used on syphilitic sores, herpes lesions, pimples and blackheads.<sup>[15]</sup>



**Fig. 12: Artemisia.**



**Fig. 13: Pumpkin.**

### 5) Free-radical scavenging effects

Most plant extracts that scavenge free radicals contain phenolic derivatives, such as tannin and flavonoids. The number and location of the phenolic hydroxyl group on these chemicals are important factors determining the level of scavenging activity.

#### l) Tea

It obtained from leaves of plant *camellia sinensis* belonging to family Theaceae. It yields both black (red) and green tea. Black tea results from tea leaves that have undergone a fermentation process, while to produce green tea, the leaves are steamed immediately after harvest and then dried. Tea contains more than 500 chemical compounds, including tannins, flavonoids, amino acids, vitamins, caffeine and polysaccharides. The amount of vitamin C in 100 g of green tea is about 100 mg, which is similar to that found in lemons. In black tea, however, more than 90% of the vitamin C is destroyed during the fermentation process. Green and black teas contain similar amounts of vitamin B6 (nicotinic acid), vitamin E and vitamin K.<sup>[9]</sup>

#### m) Green tea

The major active ingredients in green tea are the polyphenols. Catechins are the most important polyphenols in green tea; others include flavandiols, phenolic acids and flavonols. Green tea is now the subject of a lot of attention for its proven antioxidant properties.<sup>[13,4,12]</sup>



**Fig. 14: Tea.**



**Fig. 15: Green tea.**

#### **n) Grape seed**

It is obtained from seeds of *Vitis vinifera L.* belonging to family Vitaceae and its many varieties contain polyphenolic proanthocyanidins, which in turn can bind to each other to form oligomers known as procyanidins. These procyanidins are strong antioxidants. Grape seed extracts show tyrosinase-inhibiting activity, and are useful in antiaging and skin-lightening cosmetics.<sup>[15]</sup>



**Fig. 16: Grape seeds.**



**Fig. 17: Cucumber.**

#### **6) Miscellaneous**

##### **o) Cucumber**

It is obtained from the fruit of Cucumber or *Cucumis sativa Linn* belonging to family Cucurbitaceae. It is cooling, healing and soothing to irritated skin, whether caused by sun, or the effects of a cutaneous eruption. In cosmetic preparations for the treatment of hyperpigmentation, both cucumber extract and lemon extract are used. These two ingredients do not appear to interfere with each other, and instead provide increased lightening capabilities.<sup>[15,9]</sup>

## HAIR CARE

Plant materials can be used as hair growth stimulation, hair colorants and dyes, and in a number of hair and scalp complaints such as dandruff.

### 1) Hair growth stimulants and antidandruff treatment

#### p) Henna



**Fig. 18: Henna.**



**Fig. 19: Rosemary**

It is obtained from plant of *Lawsonia alba* L belonging to family *Lythraceae*. It has been cited as a growth accelerator and was used in an ancient Egyptian formula to cure the loss of hair. The incidence of contact dermatitis appears to be extremely rare with the use of henna, since henna leaf extracts have mild antiinflammatory and antiallergic action and analgesic effects.<sup>[7,9]</sup>

#### q) Rosemary

It is obtained from the herb of *Rosmarinus officinalis* Linn belonging to family Labiatae. It is an aromatic herb surrounded by tradition and legends but with important culinary, medicinal and cosmetic properties. In folk medicine it is used to stimulate growth of hair as a rinse. The most important constituents of rosemary are thought to be caffeic acid and its derivatives such as rosmarinic acid; these compounds have antioxidant effects.<sup>[9]</sup>

#### r) Neem

It is obtained from the plant of *Margosa* is a botanical relative of mahogany. It is belonging to the family *Meliaceae*. The common treatment for the dandruff is neem as it produce antifungal, antibacterial, pain relieving and agnti-compound that would treat dandruff.<sup>[13,15,7]</sup>





**Fig. 20: Neem.**

**1) Hair care**

**s) Amla**

The amla is obtained from the dried and fresh fruits of plant of *emblica Officinalis* belonging to 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. 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.<sup>[3,2]</sup>

**t) 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.<sup>[13,15,4,5]</sup>



**Fig. 21: Amla.**



**Fig. 22: Eucalyptus Oil.**

**CONCLUSION**

In present days, skin and hair problems are the major issues in world wide. Peoples are use large number of synthetic cosmetic formulations; result in many issues. Herbal cosmetics are

advantageous over synthetic ingredients and continuously gaining popularity. Herbal cosmetics have less side effect, good potency and most important they are easily available in all over the world and they are cheap.

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