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Review Article

**REVIEW ON HERBAL COSMETICS IN SKIN CARE**Prof. Dhanapal Venkatachalam<sup>1</sup>, Samuel Thavamani B<sup>1</sup>, Vincy Varghese K<sup>1</sup>, Vinod K.R<sup>2</sup><sup>1</sup>Department of Pharmacognosy, <sup>2</sup>Department of Pharmaceutics,  
Sanjo College of Pharmaceutical Studies, Velappara, Palakkad, Kerala – 678 702.**Abstract:****Objective:**

Numerous herbal plants are available naturally; they having different chemical constituents used in cosmetics preparations. This review is based on focusing on the cosmeceuticals intended to enhance the health and beauty of skin.

**Methods:**

The isolated compounds from the herbal plants like coconut oil, sunflower oil, ojoba oil, olive oil, aloe-vera, were studied their skin care effects and adverse reaction. The herbs like rhodiolarosea, carrot, ginkgo, and turmeric were studied for their anti-aging property. Herbal plants like henna, neem were studied their antidandruff treatment. Herbal likes green tea, calendula, turmeric, shitake, rose oil were evaluated their skin protection capacity. Amla, eucalyptus oil were tested their hair growth character and also studied the antioxidant property of some vitamins.

**Results:**

The results obtained from the study, proved that effective and safe, when used as a moisturizer with absence of adverse reaction. Herbs are rich in vitamins, they have anti-aging, revitalizing and rejuvenating agent. Herbs produce anti-fungal, anti-bacterial and pain relieving that can treat dandruff. The plants produce anti-septic, anti-inflammatory, anti-oxidant, and insect repellent, help in wound healing and skin protection. Herbs have vitamins and other constituents. They provide nutrition to hair and also cause darkening of hair. It also provides antioxidant and photo aging on the skin.

**Conclusions:**

The current review highlights importance of herbal cosmetics, the herbs used in them and their advantages over the synthetic counterparts. The present study revealed that herbal cosmetics are very safe and does not produce any toxic and adverse reactions compare to marketed cosmetics products. We suggest that, use herbal cosmetics in future, will avoid skin problems.

**Key words:** Herbal cosmetics, antidandruff, antiaging, skin care**Corresponding author:****PROF DHANAPAL VENKATACHALAM**

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## INTRODUCTION:

Now-a-days the usefulness of herbs in the cosmeceutical production has been extensively increased in personal care system and there is a great demand for the herbal cosmetics. Cosmetics are the substances is to be applied to the human body for cleansing, beautifying, promoting attractiveness, and altering the appearance without affecting the body's structure or functions. The word cosmetic was derived from the Greek word "kosm tikos" meaning having the power, arrange, skill in decorating [1]. The origin of cosmetics was associated with hunting, fighting, religion and superstition and later associated with medicine. Various synthetic compounds, chemicals, dye are proved to cause various skin diseases having numerous side effects. Thus we are using herbal cosmetics as much as possible. The basic idea of skin care cosmetic lies deep in the, Ayurveda and unani and Homeopathic system of medicine. The herbs should have variety of properties like anti-oxidant, anti-inflammatory, antiseptic, emollient, anti-seborrhatic, anti-kerolytic activity and anti-bacterial etc

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-acne, anti-wrinkle and anti-aging are designed using varieties of materials, either natural or synthetic [2]. The skin and hair beauty of individuals depends on the health, habits, routine job, climatic conditions and maintenance. 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 infections [3].

Cosmetics are an extremely various and diversified set of product including creams, powders, perfumes, lotions, washing products, and the wide sector of decorative cosmetics or makeup. Natural substances are extensively used in the preparations of cosmetics, and there is an ever growing interest in the understanding of their mechanisms of action, in order to achieve a more sophisticated targeted design of skin care products. The demand of herbal medicines is increasing rapidly due to their skin friendliness and lack of side effects. The best thing of the herbal cosmetics is that it is purely made by the herbs and shrubs and thus is side-effects free. The natural content in the herbs does not have any side effects on the human body instead provide the body with nutrients and other useful minerals [4].

Compared to other beauty products, natural cosmetics are safe to use. 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. In the 21st century natural cosmetic is about developing "New skin care concept based on the perfect synergy between nature and technology, between the purest bioactive ingredients and premium performance innovation." Natural cosmetic philosophy is "Believe in the synergy of nature, in its simplest form, along with the most complex technology." Modern natural cosmetic products are free from potentially harmful substances and help promote our looks without damaging our skin..

The present study collect the details of herbal plants were used in different cosmetics discusses the constituents and its activities in cosmetics preparations.

## METHODS:

### NATURAL COSMECEUTICALS:

Cosmeceuticals are future generation of skin care. They are the advances made within the world of dermatological products and the new backbone in skincare. Cosmeceutical are typically cosmetic-pharmaceutical hybrids intended to enhance the health and beauty of skin. Some cosmeceuticals are naturally-derived while others are synthetic, but all contain functional ingredients with therapeutic, disease-fighting or healing properties [5] Raymond Reed, Founder of U.S. Society of cosmetic chemist, created the concept of "cosmeceutical" was popularized by American dermatologist. 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. For example herbal cosmetics are free from parabens that are the most widely used preservative in cosmetics and can penetrate the skin.

### SKIN CARE:

#### Coconut oil:

Coconut oil is derived from the fruit or seed of the coconut palm tree *Cocos nucifera*, belonging to the Family *Arecaceae*. It is produced by crushing copra, the dried kernel, which contains about 60-65% of the oil. Coconut oil contains a high amount of glycerides and lower chain fatty acids. The melting point of coconut oil is 24 to 25°C (75-76°F) and thus can be used easily in liquid or solid forms and is often used in cooking and baking. [6]

Figure 1- Coconut tree



Figure 2- Sun flower

**Sunflower oil:**

It is the non-volatile oil extracted from sunflower seeds obtained from *Helianthus annuus*, belonging to the Family Asteraceae. Sunflower oil contains lecithin, tocopherols, carotenoids and waxes. It is suspected of interfering with hormone function (endocrine disruption), carotenoids and waxes. It has smoothing properties and is considered non-comedogenic. Simple yet cost-effective oil, well tried

and tested for generations in a wide variety of emulsions formulated for face and body products [7]

**Jojoba oil:**

It is a mixture of long chain, linear liquid wax esters extracted from the seeds of the desert shrub *Simmondsia chinensis*, and belonging to the Family Simmondsiaceae. Jojoba oil is easily refined to remove any odour, colour it is oxidatively stable, and is often used in cosmetics as a moisturizer and as carrier oil for exotic fragrances [8].

Figure 3-Jojoba



Figure 4- Olive

**Olive oil:**

This oil is a fixed oil extracted from the fruits of *Olea europaea*, belonging to the Family Oleaceae. The major constituents are triolein, tripalmitin, trilinolein, tristearate, monosterate, triarachidin, squalene,  $\beta$ - sitosterol and tocopherol. It is used as skin and hair conditioner in cosmetics like lotions, shampoos etc. It is a potent fatty acid penetration enhancer

**Aloe vera:**

Aloevera is an herbal plant species belonging to the Family Liliaceae.. It is an ingredient in many cosmetics because it heals, moisturizes, and softens skin. Simply cut one of the Aloe vera leaves to extract the soothing gel. Aloe vera contains amino acids like leucine, isoleucine, saponin glycosides that provide cleansing action, vitamins A,B,C,E, choline, B12 and folic acid and provide antioxidant activity [9].



Figure 5- Aloe vera

**ANTIAGING:****Rhodiola rosea:**

It is commonly known as golden root, roseroot, Aaron's rod, arctic root, king's crown, *Lignum rhodium*, belonging to the family crassulaceae.

Traditional folk medicine used *R. rosea* to increase physical endurance, work productivity, longevity, resistance to high altitude sickness, and to treat fatigue, depression, anemia, impotence, gastrointestinal ailments, infections, and nervous system disorders [10].

Figure 6- Rhodiola rosea



Figure 7- Carrot

**Carrot:**

It is obtained from the plant *Daucus carota* belonging to the Family Apiaceae. It is a valuable herb since ages as due to its richness in Vitamin A along with other essential vitamins. Carrot seed oil is used as anti-aging, revitalizing and rejuvenating agent. The

carrot gets its characteristic and bright orange colour from  $\beta$ -carotene, and lesser amounts of  $\alpha$ -carotene and  $\Gamma$ -carotene.  $\alpha$  and  $\beta$ -carotenes are partly metabolized into vitamin A in humans [11]

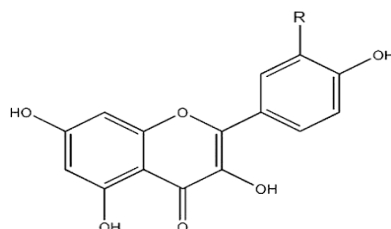
Figure 8- Ginkgo tree



**Ginkgo:**

The leaves and nuts of the *Ginkgo biloba* (*G. biloba*) belonging to the Family Ginkgoaceae, have been used for thousands of years to treat various medical conditions, including poor blood circulation; hypertension; poor memory, and depression, particularly among the elderly; male impotence. In addition, it is gaining a similar reputation as an

antioxidant and anti-inflammatory agent.. The *G. biloba* extract EGb 761, prepared from the tree's leaves, is a natural mixture containing flavone glycosides (33%), mostly quercetin and kaempferol derivatives, and terpenes (6%), which has exhibited the capacity to reduce the number of ultraviolet B (UVB)-induced sunburn cells in mice [12]



Quercetin R=OH

Kaempferol R=H

**DANDRUFF TREATMENT:**

Ayurveda has numerous natural medications in dandruff treatment 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 *Lawsonia inermis* belonging to the Family Lythraceae, which contain a dye molecule called Lawsone, which processed produces henna powder. Besides lawsone other constituents present are gallic acid, glucose, mannitol, fats, resin (2%), mucilage and traces of an alkaloid. Leaves yield henna tannic acid and an olive oil green resin, soluble in ether and alcohol [13].

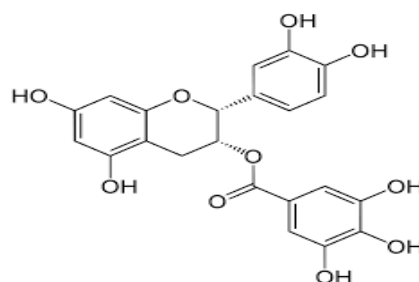
**Figure 9- Henna****Figure 10- Neem tree****Neem:**

Neem or Margosa is a botanical relative of mahogany. It is belonging to the Family *Meliaceae*. The common treatment for the dandruff is neem as it produces antifungal, antibacterial, pain-relieving, and anti- compounds that would treat dandruff [14]

**SKIN PROTECTION:****GREEN TEA:**

The tea plant *Camellia sinensis* have 4 major polyphenolic catechins, they are (2)-epicatechin (EC), EGC, (2)-EC-3-gallate, and EGCG, which is the most abundant. It was found that green tea extracts or an individual green tea polyphenol (GTPP), especially epigallo catechin (EGC)-3-gallate (EGCG), inhibited two-stage chemical carcinogenesis (e.g., induced by 7,12-dimethylbenz(a) anthracene [DMBA] and 12-O-tetra-decanoylphorbol 13-a cetate [TPA]), and photo carcinogenesis (induced by UVB) [15].

Figure 11- Green tea

**Calendula:**

*Calendula Officinalis* reported to have a remarkable antioxidant activity, anti-inflammatory activity and wound healing activity. A previous study

demonstrated that the essential oil of *Calendula* consists mainly of  $\alpha$ -thujene,  $\alpha$ -pinene, 1,8-Cineole, dihydrotagetone and muurolol [16]

Figure 12- Calendula

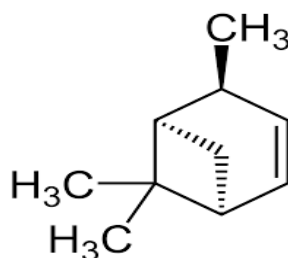
**Pinene**

Figure 13-Turmeric

**Turmeric:**

It is a deep yellow-to-orange powder that comes reduce the number of ultraviolet B (UVB)-induced sunburn cells in mice .Turmeric contains a wide range of phytochemicals including, demethoxycurcumin, bisdemethoxycurcumin, zingiberene, curcumol, curcumenol, eugenol, m tetrahydrocurcumin, triethylcurcumin, curcumin, turmerin, turmerones.. It is used as anti-septic, analgesic, anti-inflammatory, anti-oxidant, anti-

malarial, insect-repellant, and other activities associated to turmeric [17]

**Shikakai:**

*Acacia concinna* Linn belonging to the Family Leguminosae is a medicinal plant that grows in tropical rainforests of southern Asia. The fruits of this plant are used for washing hair, for improving hair growth, as an expectorant, emetic, and purgative. The powder of *Acacia Concinna* Linn shows the presence of saponins, alkaloid, sugar, tannin, flavanoids, and anthraquinoneglycosides [18]

Figure 14- Shikakai



Figure 15- Rose





**Rose oil:**

Roses are widely referred to as the world's favorite flower in part due to their vast diversity in plant habitat. There are mainly four species of roses for oil production. These are *Rosa amascene* mill.*R. Gallical*, *R. moschata*herrm, and *R. centifolia*L. Rose oil and rose water have many therapeutic effects. [19]

**Hair care:****Amla:**

Amla is the name given to the fruit of a small leafy tree *Emblica officinalis*, which grows throughout India. 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 [20]

**Figure 16-Amla fruit****Figure 15: Eucalyptus leaves****Eucalyptus Oil:**

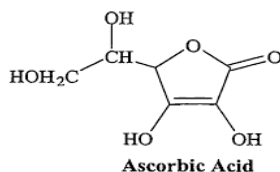
It is produced by steam distillation from the leaves of *Eucalyptus* species *E. cinerea* F. Muell, *E. aueriana* F. Muell., *E. smithii* R. T. Baker, *E. bridgesiana* R. T. Baker, *E. microtheca* F. Muell., *E. foecunda* Schau., *E. pulverulenta* Sims, *E. propinqua* Deane and Maiden, *E. erythrocorys* F. Muell etc. They are widely used in the preparation of liniments, inhalants, cough syrups, ointments, toothpaste and also as pharmaceutical flavors. The European Pharmacopoeia monograph for *Eucalyptus* oil sports a chromatographic profile: 1,8-cineole (eucalyptol; not less than 70%), limonene (4-12%),  $\alpha$ -pinene (2-8%),  $\alpha$ -phellandrene (less than 1.5%),  $\beta$ -pinene (less than 0.5%), camphor (less than 0.1%) [21]

**Tamarind:**

*Tamarindu syndical* belonging to the Family Fabaceae, of amino acids, fatty acids and minerals of tamarind plant parts. The most distinguished characteristic of tamarind is its sweet acidic taste due to tartaric acid. Besides being a rich source of sugars, tamarind fruit is also an excellent source of vitamin B and contain minerals, exhibit high antioxidant capacity that appear to be associated with a high phenolic content, and thus can be an important food source [22].

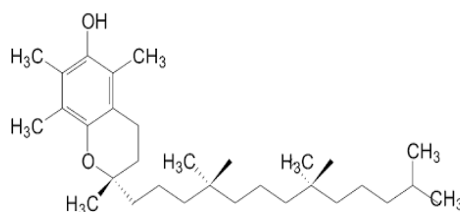
**Vitamin c:**

Vitamin C is necessary for the hydroxylation of prolife, precollege, and lysine. Vitamin C improves the changes caused by photo damage. [23]

**ANTIOXIDANTS:****Vitamin e:**

Alpha-tocopherol is the major lipophilic anti-oxidant in plasma membranes and tissues. The term vitamin

E collectively refers to 30 naturally occurring molecules (4 tocopherols and 4 tocotrienols), all of which exhibit vitamin E activity. [24]



## RESULTS & DISCUSSION:

### Skin care:

In this study prove effective and safe, when used as a moisturizer with absence of adverse reaction. The herbal plants like coconut oil, sunflower oil, jojoba oil, olive oil, aloe vera. 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. A study found that coconut oil helped prevent protein loss from the wet combing of hair when used for fourteen hours. Human sebum and jojoba oil are virtually identical. Sebum protects and moisturizes the skin and hair but is stripped away by chemicals, pollutants, sun and the aging process, resulting in dry skin and hair. Jojoba oil replenishes what skin and hair loss and restores them to their natural pH balance. Carrot seed oil is used as anti-aging, revitalizing and rejuvenating agent.

### Anti-aging:

Herbs are rich in vitamins, they have anti-aging, revitalizing and rejuvenating agent. The herbs like *Rhodiola rosea*, carrot, and ginkgo. *R. rosea* is rich in phenolic compounds, known to have strong antioxidant properties

### Anti-dandruff treatment:

Herbs produce anti-fungal, anti-bacterial and pain relieving that can treat dandruff, Henna, neem. Lawsone isolated from the leaves of *L.inermis* has shown significant antifungal, antibiotic effect. The common treatment for the dandruff is neem as it produces antifungal, antibacterial, pain-relieving, and anti- compounds that would treat dandruff.

### Skin protection:

The plants produce anti-septic, anti-inflammatory, anti-oxidant, insect repellent, help in wound healing and skin protection. Green tea, calendula, turmeric, shikakai, rose oil. It was found that green tea extracts or an individual green tea polyphenol (GTPP), especially epigallo catechin (EGC)-3-gallate (EGCG), inhibited two-stage chemical carcinogenesis (e.g., induced by 7,12-dimethylbenz(a) anthracene

[DMBA] and 12-O-tetra-decanoylphorbol 13- acetate [TPA]), and photo carcinogenesis (induced by UVB). Rose oil helps soothe the mind and heals depression, grief, nervous stress and tension. It also helps to heal wound and skin health.

### Hair care:

Herbs have vitamins and other constituents. They provide nutrition to hair and also cause darkening of hair. Amla, eucalyptus oil.

### Antioxidant:

Different vitamins like vitamin B and vitamin C which provide antioxidant and photo aging on the skin. Tamarind, vitamin C, vitamin E. Vitamin C has been used effectively to stimulate collagen repair, thus removing some of the effects of photo-aging on skin. Vitamin E is generally considered to be the arrest of chain propagation and lipid per oxidation by scavenging lipid peroxy radicals, hence protecting the cell membrane from destruction.

## CONCLUSION:

There are numerous herbs available naturally having different uses in cosmetic preparations for skincare, hair care and as antioxidants. The current review highlights importance of herbal cosmetics, the herbs used in them and their advantages over the synthetic counterparts. The present study revealed that herbal cosmetics are very safe and does not produce any toxic and adverse reactions compare to marketed cosmetics products. We suggest that, we use herbal cosmetics in future, we will avoid skin problems.

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