

## **A REVIEW ON DESIGN OF COSMETICS FROM HERBAL MEDICINAL PLANTS**

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### **ABSTRACT**

Herbal cosmetics are formulated using various cosmetic ingredients to form base in which many herbal ingredients which are used for treatment of various skin ailments. Compared to other beauty products such as synthetic cosmetic products, the natural cosmetics are very safe to use. Cosmeceuticals are the cosmetic-pharmaceutical hybrid products which are intended to improve the health and beauty of skin by providing various therapeutic effects ranging from acne-control, anti-wrinkle effects, to sun protection. These products improve the texture and functioning of skin by boosting collagen growth by removing and preventing harmful effects of free radicals, maintains keratin structure in good condition and making the skin healthier.

Various herbs available naturally which have different phyto-constituents which have their associated uses in the cosmetic preparations for skincare, hair care and as anti-oxidants are discussed in this review paper.

**KEYWORDS:** Cosmetics, skin ailments, herbal cosmetics, cosmeceuticals, synthetic cosmetics.

### **INTRODUCTION**

Cosmetics is an ancient Greek term which comes from *Kosmétikos*, which means "to make for beauty" or in other words "done or made for sake of appearance" or "correcting blights especially of the face", primarily it is "ornamental" or "cosmetic".<sup>[1]</sup> The concept of beauty is

one of the aspects of Greek word *komes* which means harmony and was used to attain perfection. Since primeval time numerous civilizations has used herbs as cosmetic applications. Even today the demand and the utilisations of phyto-cosmetics has increased in the personal care system.<sup>[2]</sup> Cosmeceuticals are hybrids that exist between drug and cosmetic products which are utilised to boost both skin health and beauty through their external and/or internal application. Natural cosmeceuticals include those elements which can have a medicinal effect on the acne, pigmentary disorders, melasma (photo-protectants), aging, skin inflammation, wrinkle formation and scarring as well as hair problems including thinning and alopecia<sup>[3]</sup> A majority of the plant ingredients (oat, walnuts, chamomile, carrot, almonds, cucumber, lavender, mint, rose, and sweet violet petals) are utilized in modern phyto-cosmetics, including, shampoos, creams, lotions, and sun care products. 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”. The natural herbs and their products when used for their aromatic value in cosmetic preparation are termed as herbal cosmetics. The increased demand for the natural product has created new avenues in cosmeceuticals market. According to the consumer products (Safety) Regulations 1989; a cosmetic product refers to ‘any substance or preparation intended for application to any external surface of the human body (that is to say, epidermis, hair system, nails, lips and external genital organs), or to the teeth or Buccal mucosa wholly or mainly for the purpose of cleaning, perfuming or protecting them, or keeping them in good condition or combating body odours or perspiration. Herbal ‘total extracts’ as well as ‘selective extracts’ are used in cosmetics. Total extracts are applied mainly according to the properties of their use. Herbal cosmetics are a modern trend in the field of beauty and fashion. These agents are gaining popularity as these days more women prefer natural products than chemicals to take care of themselves to enhance their beauty as these products provide the body with nutrients and improve health and provide satisfaction as this is chemical free and has side effects compared to synthetic cosmetics. They are tested and certified by a dermatologist to be safe to use anytime, anywhere. Made with natural ingredients, people need not worry about getting a rash or feeling itchy. For example - BHA (Butylated Hydroxyanisole) is closely related to synthetic antioxidants and is used as an oral anti-inflammatory and antioxidant.<sup>[4]</sup> BHA and BHT can cause an overactive reaction on the skin. According to the Sugathadasa et al.<sup>[5]</sup>, 1,430 species representing 181 households and 838 genera are taken into consideration as medicinal plant life. Out of the full quantity of medicinal plant species, 174 (12%) are

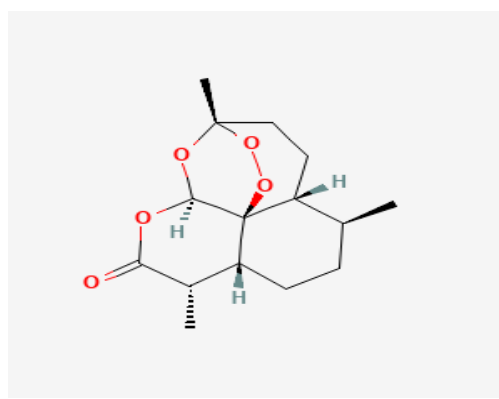
endemic to the country. As defined through Pushpakumara et al.<sup>[6]</sup>, 250 species of medicinal plant life are normally utilized in conventional remedy of which 50 species are closely used. Napagoda et al.<sup>[7]</sup> highlights the likely utilization of *Atalantia ceylanica* (Arn.) Oliver, *Hibiscus furcatus* Mullend., *Leucas zeylanica* (L.) W.T. Aiton, *Mollugo cerviana* (L.) Ser., *Ola x zeylanica* L., and *Ophiorrhiza mungos* L. for the improvement of photoprotective beauty merchandise through studying antioxidant hobby and the solar safety element (SPF). Moreover, studies take a look at carried out through Liyanaarachchi et al.<sup>[8]</sup> emphasizes approximately feasible utilization of *Artocarpus nobilis* Thw., *Artocarpus altilis* (Parkinson) Fosberg, *Elaeocarpus serratus* Heyne, *Curcuma aromatica*, and *Artocarpus heterophyllus* Lam. withinside the remedy of diverse pores and skin issues along with hyperpigmentation, to reap lighter pores and skin complexion, wrinkling, untimely growing older, and organic growing older through studying tyrosinase, elastase, and hyaluronidase enzyme inhibitory and antioxidant activities.<sup>[9]</sup>

#### MEDICINAL PLANTS USED IN THE FORMATION OF COSMETIC PRODUCTS

- 1) **ARTEMISIA:** *Artemisia Vulgaris* belonging to the family Compositae was used historically in Philippines for the pores and skin illness and ulcerative sores. It is used for washing of lots of wounds and pores and skin ulcers. The dried leaves, are used to assist result in the great recovery of wounds, and are utilised in eczema, herpes and purulent scabies. It contains Artemisinin and also has anti-oxidant properties.<sup>[10]</sup>



**Fig.1.1- Artemisia plant.**



**Fig.1.2- Artemisinin chemical structure.**

- 2) **PEA:** *Pisum sativum* belonging to the leguminosae family has been used for the remedy of pimples. The seeds of pea incorporates ellagic acid, proteins, lecithins, carbohydrates, fats and salts and are nutritive and have the dermatosis properties. The are face masks crafted from beaten peas are utilized in instances of pimples and on wrinkled skins.<sup>[11]</sup>



Fig.2.1- Pea plant.

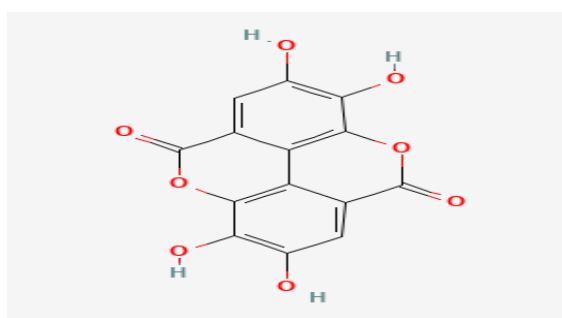


Fig.2.2- Ellagic acid chemical structure.

- 3) **PUMPKIN:** Fatty acids are obtained from Cucurbita pepo of Cucurbitaceae family seed oil. It has been utilized in the remedy for the inflammation. It consists of linoleic acid, oleic acid, palmitic acid and stearic acid. The people of Central America and India rub the oil which is extracted from pumpkin seeds for the remedy of herpes lesions, venereal sores, pimples vulgaris and cussed leg ulcers.<sup>[10]</sup>



Fig.3.1- Pumpkin plant.

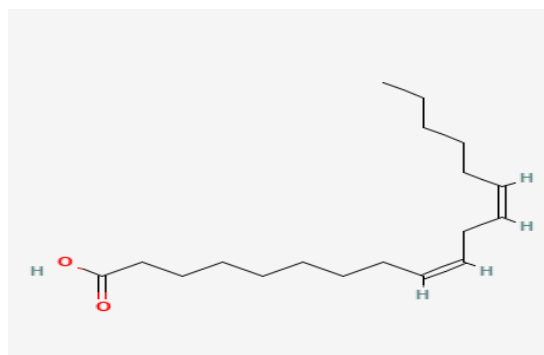


Fig.3.2- Linoleic acid chemical structure.

- 4) **ONION:** Allium cepa of Liliaceae family has been used historically for its useful consequences in the remedy for poultice for pimples, boils, abscesses and blackheads, to reduce infection, lower the irritation and intensify the recovery of skin. It has anti-allergic and anti-inflammatory properties because of the presence of flavonoids (quercetin and kaempferol)<sup>[5]</sup> and in addition, the onion juice has anti-microbial and anti-fungal properties.



Fig.4.1- Onion Plant.

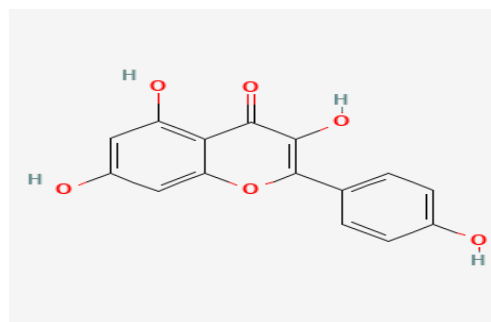


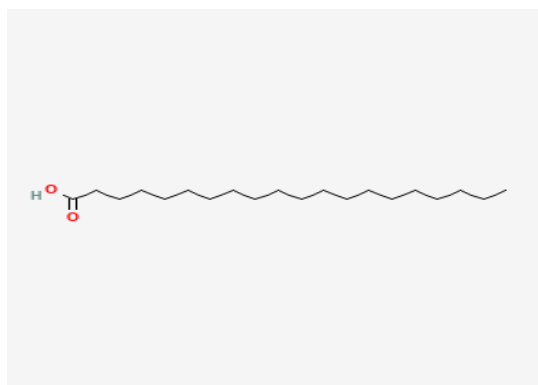
Fig.4.2- Kaempferol chemical structure.



- 5) **RED CLOVER:** *Trifolium pretense* L. of Fabaceae family was used from ancient time for its anti-inflammatory properties and is useful in the remedy for psoriasis, eczema, pimples and rashes. Isoflavones, the secondary metabolite of red clover has been associated with decreasing inflammatory oedema reaction and suppression of touch allergy caused due to UV radiations. Hence it is used as solar-protecting beauty ingredient.



**Fig.5.1- Red clover plant.**

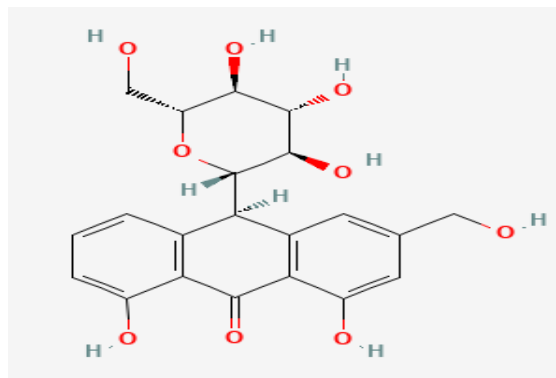


**Fig.5.2- Arachidic acid chemical structure.**

- 6) **ALOE:** It is native to South Africa, the aloe vera plant has honey-comb shaped leaves with red or yellow flowers. It belongs to Liliaceae family and contains aloin and emodin etc as chemical constituents. It has healing properties and softens the skin.<sup>[13]</sup>



**Fig.6.1- Aloe plant.**



**Fig.6.2- Aloin chemical structure.**

- 7) **TURMERIC:** In India it is known as “Haldi”. *Curcuma longa* belongs to the zingiberaceae family. It enhances the facial glow and has anti-inflammatory and anti-bacterial properties. The curcumin is the major constituent of turmeric which has the most medicinal properties.



Fig.7.1- Turmeric plant.

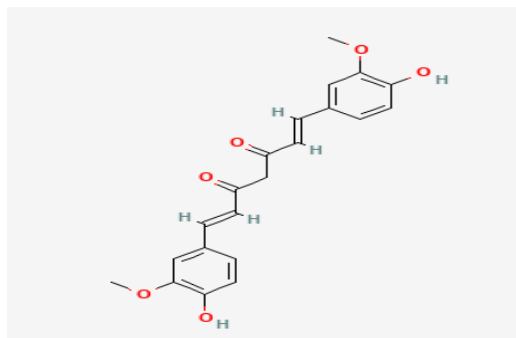


Fig.7.2- Curcumin chemical structure.

- 8) **AMLA:** *Emblica officinalis* belongs to the Euphorbiaceae family, is rich in Vitamin C, tannins and minerals such as- phosphorus, iron and phytochemicals provide nutrition to the hair and makes the hair dark.<sup>[12]</sup>



Fig.8.1- Amla plant.

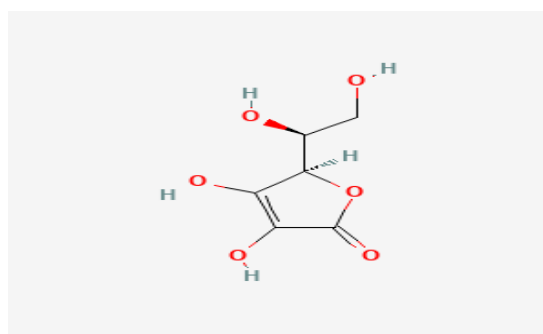


Fig.8.2- Vit. C (Ascorbic acid) chemical structure.

- 9) **SHIKAKAI:** *Acacia concinna* Linn. Of Leguminosae family, is a herbal plant which grows in tropical rainforests of Southern Asia. The fruits of this plant are useful to wash hair, in hair growth, as expectorant, emetic and purgative. It constitutes saponins, alkaloids, sugars, tannins, flavonoids and anthraquinone glycosides and acacic acid.



Fig.9.1- Shikakai plant.

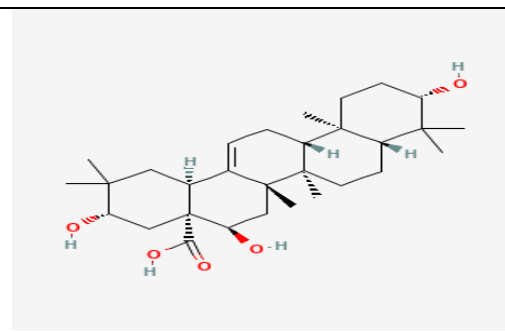
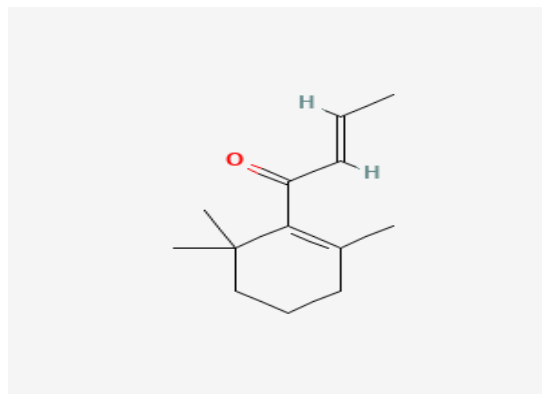


Fig.9.2- Acacic acid chemical structure.

**10) ROSE OIL:** Rose oil is an essential oil produced from the leaves of *Rosa damascena* and *rosa centifolia* belonging to the Rosaceae family. Steam rose oil is called “rose otto” and the extracted product is called “absolutely rose”. It has wide range use in perfume formation. The phytochemicals of rose oil which are responsible for its unique aroma are beta-damascening, beta-damascone, beta-ionone and oxide.



**Fig.10.1- Rose plant.**



**Fig.10.2- Beta-damascone chemical structure.**

#### APPLICATIONS OF HERBAL PRODUCTS IN COSMETICS

- **HERBAL SKIN CARE PRODUCTS:** Lavender Silk Soaps, Lotions creams, Body powder, Lavender Herbal body powder, 7 Skin Care Creams.<sup>[14]</sup>
- **HERBAL HAIR CARE COSMETICS:** Henna (*LawsoniaInermis*), Amla (*EmbllicaOfficinalis*), Shikakai (*Acacia Concinna*), Brahmi (*BacopaMonnieri*), Bhringraj (*Eclipta Alba*), Guar Gum (*Cyamopsistetragonolobus*).
- **HERBAL LIP CARE COSMETICS:** Herbal Lipsticks, Herbal Lip Gloss, Herbal Lip Balm, Herbal Lip plumper
- **HERBAL EYE CARE COSMETICS:** Eye Make Up, EyeShadows, Eye Gloss, Liquid Eye Liners.
- **HERBAL CREAMS:** Aloe Moisturizing Hand Cream, Rich Face and Hand Cream, Herbal Moisturizers
- **HERBAL OILS:** Herbal oils are Effective for Baldness, Falling of Hair, Thinning of Hair, Dandruff, and Irritation & Itching of Scalp, Patchy Baldness, and Maintenance of fine head of Hair
- **HERBAL PERFUMES & FRAGRANCES:** Citrus Fragrance: The light, fresh character of citrus notes (bergamot, orange, lemon, petitgrain, mandarin etc.) is often combined with more feminine scents (flowers, fruits and chypre).

- **CHYPRE FRAGRANCE:** Based on a woody, mossy and flowery complex, sometimes with aspects. Chypre fragrances smell slightly dry, not very sweet.<sup>[15]</sup>

**Table 1: Marketed cosmetic formulations.**

PRODUCT	BRAND NAME	COMPANY
Face wash	Deep cleansing Apricot face wash	Himalaya herbals
Shampoo	Anti-dandruff shampoo Volume and bounce	Himalaya herbals
Hair oil	Amla Brahmi hair oil	Ayur Herbal
Cream	Herbal massage cream	Ayur herbals
Anti-ageing cream	Dabur veda age renew cream	Dabur

## CONCLUSION

Herbs play a significant role in the modern pharmaceutical and cosmeceutical products formulations. In comparison to synthetic cosmetics and artificial beauty components, these natural merchandise are slight and biodegradable and those natural products are associated with no or very less toxicity. Herbal cosmetics are formulated using cosmetic ingredients that are approved to form a foundation where one or more herbal derived ingredient are used to treat and prevent various skin ailments and to create and enhance beauty. In the present study, we identified many herbal plants used by people to cure dermatological disorders and as cosmetics. Many of those herbal medicinal plants were found to have dual use also, both as curative and cosmetic.

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