



## HERBAL COSMETICS AND COSMECEUTICALS –A REVIEW IN NEW TECHNOLOGY OF COSMETOLOGY

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### ABSTRACT

Human beings have been using herbs for different purpose like food, medicine, beautifying. The word cosmetic was derived from the Greek word “Kosmtikos” meaning having the power arrange, skill in decorating. An herb is plant or plant extract including leaves, bark, berries, roots, gums, seeds, stems, and flowers which are afforded with nourishing and healing elements. Cosmeceuticals are a combination of cosmetics and pharmaceuticals. Cosmeceuticals are cosmetic products with biologically active ingredients purporting to have medical or drug like benefits. Cosmeceuticals are cosmetic-pharmaceutical hybrid products intended to enhance the health and wonder of the skin by providing a selected result, starting from acne control and anti-wrinkle

effects to sun protection. Cosmeceuticals are not only worn for beautifying but also for different skin ailments. The chemical agents used in the manufacture of cosmetics leads to undesirable effects and are toxic to use, which brought the scientists to look for a natural alternative. The natural alternative gave rise to herbal cosmetics. Saundry prasadkas (herbal cosmetics) are defined as the beauty products which acquire desirable physiological activity such as healing, smoothing appearance, enhancing and conditioning properties because of herbal ingredients. The name herbal cosmetics itself defines that they are natural and free from hazardous synthetic chemicals which are toxic to the skin. They are hypo-allergenic and tested and proven by dermatologists to be safe to use anytime, anywhere. These products improve the functioning/texture of the skin by boosting collagen growth by eliminating

harmful effects of free radicals, maintain ceratin structure in good condition, and making the skin healthier. Herbal cosmetics have gained popularity recently in the field of fashion and beauty as they are free from chemicals and suitable for every individual. The increased demand for the natural product has created new avenues in cosmeceuticals market. The current review article deals with the literature of herbal cosmetics related to present status, advantages, Indian extracts, herbs used in the cosmetics, classification of herbal cosmetics, herbal medicines for treatment of various ailments.

**KEYWORDS:** Herbal cosmetics, cosmeceuticals, cosmetic surgeries, antioxidants.

## INTRODUCTION

The development of beauty products and cosmetics is as old as civilization and the evolution of human beings.<sup>[1]</sup> Generally herbal cosmetics are also referred to as natural cosmetics.<sup>[2]</sup> At the times, there were no fancy fairness creams or any cosmetic surgeries. To begin with just thing they had was the information regarding nature, aggregated in the Ayurveda. With the art of Ayurveda, a few herbs and floras were used to make Ayurvedic cosmetics that truly worked. Ayurvedic cosmetics not only beautified the skin but acted as the shield against any kind of external affects for the body. Ayurvedic cosmetics are also known as the herbal cosmetics that have the same admirable resources in the present day period too.<sup>[6]</sup> Plants are highly used for development of new drug products for cosmeceuticals and pharmaceutical applications.<sup>[2]</sup> Herbal cosmetics are the products in which herbs are used in crude or extract form.<sup>[3]</sup> The term cosmeceuticals was first used by Raymond Reed founding member of U.S Society of cosmetics chemist in 1961. He actually used the word to brief the active and science based cosmetics. The above term was further used by Dr. Albert Kligman in the year 1984 to refer the substances that have cosmetic and therapeutic benefits.<sup>[4]</sup> Cosmeceuticals are cosmetic-pharmaceutical hybrids intended to enhance health and beauty through ingredients that influences the skin's biological texture and function.<sup>[5]</sup> IN 1990s, the term "cosmeceuticals" was coined to describe skin care products with active ingredients, such as alpha hydroxy acid, retinoic acid, ascorbic acid, and coenzyme Q10, that are also marketed as having medicinal benefits.<sup>[7]</sup> Cosmetics are generally used to enhance the appearance of the face and other body parts including the mouth, hair, nails, eye etc. It includes powder, cream, lotion, hair oil, moisturizer, shampoo, nail polish, etc. The various chemical toxin microorganisms, pollution, sunlight can lead damage the skin.<sup>[13]</sup> Hence cosmetics along with active ingredient can reduce skin problems such as wrinkles, acne dark circled dullness.<sup>[14]</sup>

Herbal cosmetics are free from chemical agents that are responsible for side effects such as allergic reactions due to butylated hydroxyl anisole (BHA) and butylated hydroxyl toluene (BHT)<sup>[15]</sup>, carcinogenicity due to coal tar<sup>[16]</sup>, genetic mutations due to dibutyl phthalate (DBP).<sup>[17]</sup> Chemical cosmetics usually contain parabens as preservatives and these parabens are easily absorbed through the skin and can interfere with endocrine hormonal function. People's skin and hair appearance is determined by their fitness, habits, daily work, environmental conditions, as well as maintenance.<sup>[8]</sup> Since the skin is dehydrated in the summer due to excessive heat exposure, wrinkles, freckles, blemishes, pigmentation, and sunburns are possible. During extremely harsh winters, the skin sustains damage like chapped lips, cuts, bruising, maceration, as well as infection.<sup>[9]</sup> Even people of all ages are susceptible to skin diseases, which can be caused by bacteria, chemical agents, or biological toxins in the water.<sup>[10-12]</sup> Herbal extracts possess various properties such as anti-aging, photoprotective, astringent, moisturizing, antioxidant, antimicrobial, etc. When skin is exposed to the sunlight, it produces several reactive species which can cause oxidative damage or react with cellular proteins and DNA. These can lead to skin cancer, pigmentation of the skin, aging of the skin, wrinkle formation, and loss of elasticity.<sup>[21]</sup> There is a wide variety of herbal cosmetics, which are manufactured and used every day. Herbal cosmetics are extremely popular among the masses, such as herbal conditioners, herbal soaps, herb-faced washings, herbal shampoos and many more. It is made entirely of herbs and shrubs, which is the best thing about herbal cosmetics.<sup>[18-19]</sup> Demand for natural products and natural extracts in cosmetic formulations has increased due to consumer awareness of the skin-toxic nature of conventional chemical based cosmetics.<sup>[10]</sup> Herbal cosmetics and other chemical ingredients used in cosmetic formulations must follow the same legal requirements and regulatory procedures.<sup>[11]</sup> The worldwide herbal industry is currently evaluated to be more than US\$10 billion dollars and expanding at a rate of three to four percent annually for reasons of increased consumption in processed foods and demand for ethnic foods, natural fragrances, and innovation in beverage products. The biggest markets, regarding of manufacturing and consumption, are in Europe, followed by Asia.

### **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're 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 defenses. Herbs don't create moment cures, yet rather offer an approach to put the body in legitimate tune with nature. Herbs have been used in the following ways - as perfumes, as disinfectants, in cooking for flavoring foods, to protect us against germs, as medicines to heal when we are sick.<sup>[20]</sup>

### **Advantages of Herbal Cosmetics**

The popularity of herbal cosmetics is increasing today as most of the women prefer natural products rather than chemicals to enhance their beauty, health and provide satisfaction as these are from synthetic chemicals and have relatively less side effects compared to the synthetic cosmetics.<sup>[23]</sup> The following are some of the benefits that make it a better alternative than the synthetic cosmetics.

### **Natural products**

Herbs are natural, pure and free from synthetic chemicals. Various plant components and plant extracts are used in these products instead of conventional synthetic products, e.g. Aloe Vera. There are also natural nutrients such as vitamin, which keeps the skin clean, glittery and beautiful. For example, Aloe Vera is a herbal plant species belonging to Liliaceae family and is naturally and easily available.<sup>[24]</sup>

### **Safe to Use**

Natural cosmetics are safe to use as they are hypo-allergenic and tested and proven by dermatologists to be safe to use anytime and anywhere. Since they are made of natural ingredients, people don't have to worry about getting skin rashes or experience skin itchiness.<sup>[25]</sup>

### **Compatible with all skin types**

Natural cosmetics are suitable for all skin types. No matter if you are dark or fair, you will find the most appropriate natural cosmetics like foundation, eye shadow, and lipstick irrespective of your skin tone. Females with oily or sensitive skin can use it and must never worry about the degradation of their skin.<sup>[22]</sup>

### **Wide Selection to Choose From**

Herbal cosmetics are more economical than synthetic ones.<sup>[27]</sup> Easy to available and found in large variety of plants. The storage and handling of herbal cosmetics is easier and for prolonged period.<sup>[28]</sup>

### **No Side Effects**

Synthetic cosmetics can cause skin irritation and allergies. They might also make the skin dry or oily. But in the case of natural cosmetics they are free from synthetic chemicals as they are made up of natural ingredients which do not cause any side effects and they can be used anywhere. They do not provoke any allergies and don't have any negative side effects.<sup>[26]</sup>

### **Less Expensive**

Natural cosmetics are less expensive and are more affordable than synthetic cosmetics. World Health Organization currently recommends and encourages traditional herbal cures in natural health care programs as these are easily available at low cost and are comparatively safe.<sup>[29]</sup>

### **Not Tested On Animals**

Some cosmetics was first tested on animals for safe and successful use of humans. But it is not appropriate to check natural cosmetics on animals. These natural formulations are tested by experts in laboratories using state of the art equipment without involvement of animals.<sup>[23]</sup>

### **Regulatory Status of Cosmeceuticals**

The legal difference between a cosmetic and a drug is determined by a product's intended use. The drugs and cosmetics Act 1940 defines a drug and a cosmetic as; Drug-“All medicines for internal or external use of human beings or animals and all substances intended to be used for; or in the diagnosis, treatment, mitigation or prevention of any disease or disorder in humans or animals”.<sup>[30]</sup> Cosmetic-“ Any article intended to be rubbed , poured, sprinkled or sprayed on or introduced into or applied to any part of the human body for cleansing, beautifying, promoting attractiveness or altering the appearance and includes any article intended for use as a component of cosmetic ”.<sup>[31]</sup>

### **Cosmetic and Drug**

Some products meet the definitions of both cosmetics and drugs. This may happen when a product has more than one intended uses. For example, a shampoo is a cosmetic when its intended use is to clean the hair. An anti-dandruff shampoo is a drug because its intended

useis to treat dandruff.<sup>[32]</sup> The claims made about drugs are subject to detailed analysis by the Food And Drug Administration review and approval process, but cosmetics are subject to mandatory FDA review. Although there is no legal category called cosmeceuticals, the term has found application to designate the products at the borderline between cosmetics and pharmaceuticals.<sup>[33,34]</sup>

Federal Food, Drug and Cosmetic Act do not recognize the term itself. It is also often difficult for consumers to determine whether 'claims' about the actions or efficacy of cosmeceuticals are valid unless the product has been approved by the FDA. Some countries have the classes of products that fall between the two categories of cosmetics and drugs : for example, Japan has 'Quasi-drugs' Thailand has 'controlled cosmetics' and Hong Kong has 'cosmetic-type drugs'. The regulations of cosmeceuticals have not been harmonized between the USA, European, Asian and other countries.<sup>[35]</sup>

### **Indian Extracts For Herbal Cosmetics**

Herbs play a significant role in modern times, when the harming effects of food processing and over-medication have assumed alarming proportions.<sup>[36]</sup> They are currently increasing cosmetics, foods and teas, as well as alternative medicines. The growing interests in herbs is a part of the movement towards change in lifestyles.<sup>[37]</sup> This movement is based on the belief that the plants have a vast potential for their use as a curative medicine

#### **1) Amla (*Emiblicaofficinalis*)**

Amla grows throughout the India and the name given to the fruit of a small leafy tree (*Embilicaofficinalis*), this fruit have a high content of vitamin C which is extracted from its seeds it is used as a treatment for hair and scalp problem.



**Fig. 1: Amla fruits.**

## 2) Brahmi (*Bacopamonnieri*)

It can also be used as a face pack to enhance the skin complexion and also used as hair applicant to make hair shiny and also removes the dandruff and lice in hair.



**Fig. 2: Brahmi leaves.**

## 3) Shikakai (*Acasiacancina*)

It is a small shrub-like tree, which grows in the warm, dry plains of central India. It helps effectively to remove pelts, lices, dirt and oil from the hair.



**Fig. 3: Shikakai fruits.**

## 4) Neem (*Azadirachataindica*)

The role of Neem, as a wonder medicine, is stressed 4500 years ago as “Sarva Roga Nivarini - the healer of all afflictions”. The health benefits includes improving immunity, efficient skin infection, blood washing, etc.



**Fig. 4: Neem leaves and fruits.**

**5) Reetha powder (soap nut)**

In India it is used as natural hair and body cleanser.



**Fig. 5: Reetha fruits.**

**6) Tulasi (Ocimum sanctum)**

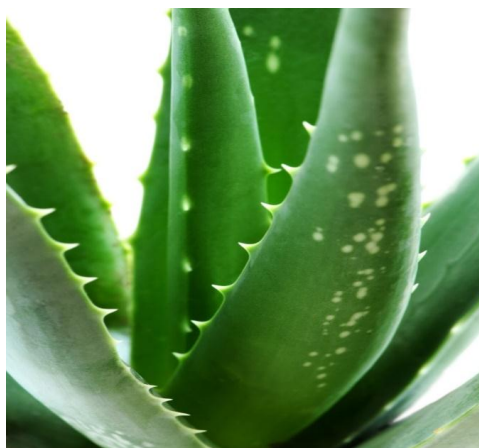
In India culture, Holy Basil, called Tulasi, is omnipresent. Its role is to cure the herb, the antiviral and many disorders as well.



**Fig. 6: Tulasi plant.**

**7) Ghritkumari (Aloe vera)**

It is used both internally and externally to relieve pain and treat Hemorrhoids, even sunburn, itch and scrub for body. It helps to grow new tissues and alleviates the development of sun-related skin cancer.



**Fig. 7: Aloe vera.**

**8) Multani mitts (Fullers Earth)**

It is mother Nature's own baby powder. It is useful in removing pimple marks, treating sunburn, helps unclog pore, cleanses the skin of flakes and dirt.



**Fig. 8: Multani mitts.**

**9) Turmeric (Curcumin)**

It is used as a face packs and also as an antiseptic.



**Fig. 9: Turmeric.**

### 10) Chandan

It is used in face packs and scrubs to remove dead cells on face and the whole body and generate growth of new cells and give a young look.<sup>[38]</sup>



**Fig. 10: Chandan.**

### Classification Of Herbal Cosmetics<sup>[39,40]</sup>

#### 1. Skin Cosmetics

- Cream
- Scrub
- Lip balm
- Powder
- Lotion & Liniment
- Face pack
- Deodrant & Antiperspirant
- Bath preparation

**2. Hair cosmetics**

- Hair oil
- Hair colorant
- Shampoo

**3. Tooth cosmetics**

- Tooth powder
- Tooth paste
- Mouth wash

**4. Nail Preparations****5. Shaving Preparations****6. Foot Preparations****Applications Of Herbal Products In Cosmetics****1. Herbal skin care products**

Lavender silk soaps, Lotions, Creams, Body powder.<sup>[41]</sup>

**2. Herbal hair care cosmetics**

Henna (*Lawsonia inermis*), Amla (*Emblica officinalis*), Shikakai (*Acacia concinna*), Brahmi (*Bacopa monnieri*), Bhringraj (*Eclipta alba*), Guar gum (*Cyamopsistetragonolobus*).

**3. Herbal lip care cosmetics**

Herbal lipsticks, Herbal lip gloss, Herbal lip balm, Herbal lip plumper.

**4. Herbal eye care cosmetics**

Eye make up, Eye shadows, Eye gloss, Liquid eye liners.

**5. Herbal creams, Lotions, Gels**

Aloe moisturizing hand cream, Rich face and Hand cream, Herbal moisturizers.

**6. Herbal oils**

Herbal oils are effective for baldness, Falling of hair, Thinning of hair, Dandruff, Irritation & Itching of scalp, Patchy baldness and Maintenance of fine hrad of hair.

## 7. Herbal perfumes & fragrances

Citrus fragrance: The light, fresh character of citrus notes (bergamot, orange, lemon, petitgrain, mandrain etc.) is often combined with more feminine scents (flowers, fruits and chypre).<sup>[42,43]</sup>

### Herbal Medicines For Treatment Of Various Ailments

#### Dry skin treatment

##### a) Coconut oil

Coconut oil comes from fruit or seed of the coconut palm tree *Cocos nucifera*, family *Arecaceae*. Extra virgin coconut oil is excellent as a skin moisturizer and softener.



Fig. 11: Coconut oil.

##### b) 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.



Fig. 12: Sunflower oil.

**c) Olive oil**

This oil is a fixed oil extracted from the fruits of *Olea europaea*, family Oleaceae. It is used as skin and hair conditioner in cosmetics like shampoos, lotions etc.<sup>[44]</sup>



**Fig. 13: Olive oil.**

**Anti-aging treatment****a) 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 help in reducing wrinkles. It acts as natural toner.



**Fig. 14: Carrot.**

**b) Ginkgo**

*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.



**Fig. 15: Ginkgo.**

**c) *Rhodiola rosea***

It is commonly known as golden root, roseroot, Aaron's rod, arctic root, king's crown, lignum rhodium, orpin rose. Traditional folk medicine used *R. rosea* to increase physical endurance, work productivity, resistance to high altitude sickness, and to treat fatigue, depression, anemia, impotence, gastrointestinal ailments, infections, and nervous system disorders.<sup>[45]</sup>

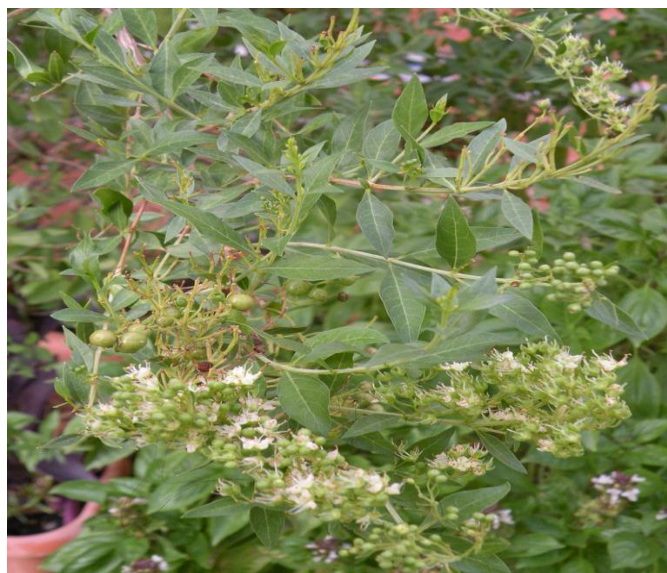


**Fig. 16: *Rhodiola rosea*.**

## Dandruff treatment

### a) Henna

Henna comes from the plant ,*Lawsonia inermis* family Lythraceace, which contain a dye molecule called Lawsons, 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.



**Fig. 17: Henna.**

### b) Neem

The neem, *Azadirachta indica*, family Meliaceae has been found to have the properties of a blood purifier, beauty enhancer. The common treatment for the dandruff is neem as it produces antifungal, anti microbial, pain-relieving, and anti-compounds that would treat dandruff.<sup>[46]</sup>



**Fig. 18: Neem leaves.**

**Skin protection****a) Green tea**

Green tea is made solely with leaves of *Camellia sinesis* belonging to family Theaceae. It is a premiere skin protectant. It protects against direct damage to the cell and moderate inflammation.



**Fig. 19: Green tea.**

**b) Calendula**

Calendula in suspension or in tincture is used topically to treat acne, reducing inflammation, controlling bleeding and soothing irritated tissue.<sup>[47]</sup>



**Fig. 20: Calendula.**

**Hair care****a) Almond oil**

The almond oil is obtained from *Prunus dulcis*. It proves to be very nourishing, and softens and strengthens the hair. The almond oil also proves to be very good cleansing agent.



**Fig. 21: Almond oil.**

**b) Castor oil**

This oil is obtained from the seeds of *Ricinus communis* belonging to the family, Euphorbia, Euphorbiaceae. It is used as an emollient, in the preparation of lipstick, hair oils, creams and lotions.<sup>[48]</sup>



**Fig. 22: Castor oil.**

**Antioxidants**

**a) Tamarind**

*Tamarindus indica*, family Fabaceae, is widely grow in tropical regions tamarind seed has activity of radical scavenging, anti-microbial activities and a lipid peroxidation reducing. Its antioxidant activity is appropriate for anti-wrinkle cosmetics.



**Fig. 23: Tamarind.**

**b) Pomegranate**

It has antioxidant and anti viral properties and it enhance the effectiveness of topical sunscreens. Pomegranate seed oil has been demonstrated to exhibit chemopreventive activity against skin cancer.



**Fig. 24: Pomegranate.**

**c) Liquorice**

*Glycyrrhiza glabra* extract has been used to treat skin irritation dermatitis, eczema, pruritus, and cysts. It has a chemopreventative action because of glycyrrhizin.



**Fig. 25: Liquorice.**

## CONCLUSION

More than 70% of people in India use herbal cosmetics for their wellbeing. In daily use, commonly-formulated herbal cosmetics include herbal face wash, conditioner, soap and shampoo. Natural herbs are rich in vitamins, minerals, and antioxidant. Herbs are continuously used for beautifying as they have less side effects and safe to use. Herbal cosmetics are not only used for beautifying but also used for treating different skin ailments. Various herbal formulations such as creams, lotions, gels, oils, shampoo, conditioner, etc are in the market. The demand of herbal cosmetic is rapidly expanding and has a great future as compared to the synthetic cosmetics. Proper regulation of these herbs and standardization will lead to tremendous and significant growth in herbal cosmetics field.

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