

**A REVIEW ON HERBAL COSMETICS**

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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 “kosm tikos” meaning having the power, arrange, skill in decorating. The origin of cosmetics forms a continuous narrative throughout the history of man as they developed. The man in prehistoric times 3000 BC used colours for decoration to attract the animals that he wished to hunt and also the man survived attack from the enemy by colouring his skin and adorned his body for protection to provoke fear in an enemy (whether man or animal). The origin of

cosmetics were associated with hunting, fighting, religion and superstition and later associated with medicine 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.

**KEYWORDS:** Herbal cosmetics, skin cosmetics, tooth cosmetics, hair cosmetics.

**INTRODUCTION**

Cosmetics are products that are created for application on the body for the purpose of cleansing, beautifying or altering appearance and enhancing attractive features.<sup>[1]</sup>

**Herbal cosmeceuticals**

Cosmetics containing an active ingredient obtained from plant origin are generally known as herbal cosmetics.

Cosmetic Preparation are divided into 3 categories.

**Solid:** Face Powder, Talcum Powder, Compact Powder

**Semisolid:** Cream, Ointment, Liniments

**Liquid:** Lotion, Hair Oil, Shampoo, Mouthwashes, Sprays etc.<sup>[2]</sup>

### How to Use Herbs ?

In earlier time, herbs were used for both medicinal purpose as well as for beautification .these had been used in both forms, i.e. fresh form & dried form .these can be used by mashing & directly applying to the body with or without using other ingredients. In fact in earlier times these were used this way only. But nowadays, their extracts, decoctions, infusion, tinctures, steam distillates etc. there are a few manufacturer of herbal in India. Herbs can be used in the form of following.

- **Infusions:** these are basically strong teas of herbs and can be prepared either in china clay pots or stainless steel vessels .aluminium vessels should not be used as these can taint infusions.
- **Decoctions:** these are prepared by boiling the herb with water.
- **Extracts and tinctures:** extracts are generally prepared with hydro alcoholic solvents with high percentage of alcohol.
- **Flower waters:** flower waters are made in the same way as infusions. the same proportions of herbs and water can be used.<sup>[3,4]</sup>

### Advantages of Herbal Cosmetic on Traditional Cosmetics<sup>[4]</sup>

1. They do not provoke allergic reactions and do not have any negative side effects.
2. They are easily incorporated with skin and hair.
3. These are very effective than other cosmetics with small quantity.
4. Extract form of the plants decreases the bulk properties of the cosmetics and gives appropriate pharmacological effects.
5. Easy to available and found in large of variety of plants.
6. They have more stability, purity, efficacy, with their herbal constituents.
7. Easy to manufacture.
8. The storage and handling of herbal cosmetics is easier and for prolong period.
9. Cheap in cost.<sup>[5]</sup>

**Raw Materials Generally Used in Herbal Cosmetics****Oils, Waxes, Gums, Hydrophillic Colloids, Colours, Perfumes, Protective Agents, Bleaching Agents, Preservatives, Antioxidants And Other Auxillary Agents<sup>[6, 7]</sup>**

**1. Oils:** Oils are derived from vegetable and mineral sources, and are used in cosmetics. Examples of vegetable oils are almond oil, arches oil, castor oil, olive oil and coconut oil. Examples of mineral oils are light and heavy paraffin.

**a) Almond Oil:** It is a fixed oil obtained by expressing the seeds of *Prunes amygdalus*, Family Rosaceae, The oil is pale yellow in colour, with a characteristic odour. The active principles are mainly the mixture of glycoside with oleic acid, linoleic acid, myristic and palmitic acid. It has an emollient action, so it is used in the preparation of creams and lotions.

**b) Arachis Oil:** This is also a fixed oil obtained from the seeds of the *Aarchishypogea* belonging to the family Leguminoseae. The oil is pale yellow in colour, with a faint nutty odour. Refined groundnut oil is colourless, with active principles like oleic. Linoleic acid and a small amount of other acids. At 3°C, it is cloudy, at a lower temperature, it solidifies. It is used in the preparation of hair oils and brilliantines.

**Castor Oil:** Oil is obtained from the seeds of *Ricinuscommunis* belonging to the family, Euphorbiaceae. It has a slight odour; the oil is either yellow in colour or colourless. It consists of a mixture of glycosides, in which 80% of ricinoleic acid is the major constituent. At 0° C it forms a clear liquid. It is used as an emollient, in the preparation of lipsticks, hair oils, creams and lotions.

**c) Olive Oil:** This oil is obtained from the fruit of the *Oleaeuropea*, belonging to the family, Oleaceae. The oil is either pale yellow or greenish yellow in colour, it has a slight odour. It consists of the glycerides of oleic acid, palmitic, linoleic, stearic and myristic acids. At a lower temperature, it is solid or partly solid. It has emollient, soothing properties. It is used in the manufacturing of creams, lotions and bath oils.<sup>[8]</sup>

**d) Coconut Oil:** This oil is obtained from the dried solid part of the endosperm of the coconut - *Cocosnucifera*, family Palmaea. It is a white or pearl-white unctuous mass in winter and colourless in summer.

**e) Light liquid paraffin:** It consists of a mixture of hydrocarbons in the form of an oily liquid which has no colour or odour. Viscosity and weight per ml (0.83-0.87g) are both low

in light liquid paraffin. It is used in the manufacture of bath oils, hair oils, brilliantines, lotions and creams, due to its better spreadibility.

**f) Heavy liquid paraffin:** It is composed of a mixture of hydrocarbons in the form of a colourless and odourless oily liquid. Due to its soothing effect on the skin, it is used in creams, lotions, brilliantines, hair oils and bath oils. Heavy liquid paraffin is obtained from petroleum.

**2. Waxes:** Waxes are the esters resulting from the condensation of high molecular straight chain fatty acids with high molecular straight chain monohydric alcohol of the methanol series. They are used in cosmetics as a base, along with oils and fats. Example: lipsticks. Commonly used waxes are briefly discussed below.

**a) Beeswax:** It is a purified wax separated from the honeycomb of bees, *Apis mellifera* which belong to the Family, *Apidae*. Beeswax is composed of 70% ester myricylpalmitate. It is yellowish brown in colour, solid, with a honey-like odour. Under cold conditions it becomes brittle; when bleached, it becomes yellowish-white solid with a faint characteristic odour. The melting point of beeswax is 62°C-65°C. Beeswax helps in the incorporation of water to form an emulsion.

**b) Carnauba Wax:** This is obtained from the leaves of the Brazilian wax palm, *Copernicia cerifera*, which belongs to the *Palmae* family. Carnauba wax is available in various grades. The highest grade is light-brown to pale-yellow in colour. It is in the form of moderately coarse powder or flakes, with a characteristic bland odour. The melting range of this wax is 81°C -86°C. It is a hard wax and is used in the manufacture of candles, wax varnishes, leather and furniture polishes.

**c) Paraffin Wax:** It is derived by the distillation of petroleum. It is a mixture of solid hydrocarbons consisting mainly of n-paraffins and, to some extent, their isomers. So, it also called hard paraffin wax. Physically, the paraffin wax is colourless, odourless or a white, translucent, wax-like solid, which is slightly greasy to touch. Paraffin wax melts at 50°C-57°C.

**d) Spermaceti:** It is a solid wax obtained from the head, blubber and ear case of the sperm whale, *Physeter colodon*, which belongs to the *Physeteridae* family. It consists mainly of cetylpalmitate and cetylmiristate spermaceti in a solid wax, which is a translucent crystalline,

pearly-white, unctuous mass with little odour and taste. It melts at a specific gravity of about 0.94. Spermaceti is also available synthetically and is composed of a mixture of esters of saturated fatty alcohols and saturated fatty acids. Synthetic spermaceti is available as white to off-white translucent flakes with a crystalline structure and a pearly lustre. The melting range of synthetic spermaceti is 43°C-47°C.

**3. Colours:** Colours have been used in cosmetics, since time immemorial, by human beings. Basically, the desire to buy a cosmetic product is controlled by three senses, namely, sight, touch and smell. So color is one of the most important ingredients of cosmetic formulations. Color is a visual sensation which can be caused by a definite wavelength or a group of wavelengths by an object through one or more of the following phenomena - emission, refraction, reflection or transmission. Natural colours such as cochineal, saffron and chlorophyll are discussed in brief here.<sup>[9]</sup>

**a) Cochineal:** Cochineal is a red dyestuff derived from the dried female insect, *Dactylopius coccus*, which belongs to the Coccidae family. Carminic acid is the main colouring constituent in cochineal. On crystallization, carminic acid forms red needles and at 130°C, the needles darken and also carbonize at 250°C.

For the preparation of carmine, the cochineal is extracted with water. Alum is added to this solution to precipitate the red aluminium salt called carmine lake.

**b) Saffron:** It consists of the stigmas and tops of the styles of the plant, *Crocus sativa*, which belongs to the Iridaceae family. It is a perennial plant grown in Jammu and Kashmir in India. Saffron powder is yellowish and is easily soluble in water, so it is used as a flavouring and colouring agent in food preparations. Saffron contains a number of carotenoids - crocin is an important natural saffron carotenoid. Picrocrocin is a colorless bitter glycoside responsible for saffron's characteristic odour.

**c) Chlorophyll:** It is the natural green pigment, found abundantly in nature. It is the component that is responsible for photosynthesis.

**d) Rose:** It is obtained by the steam distillation process from the flower petals of *Rosmarinas officinalis* which belongs to the Labiatae family. For obtaining rose oil, the blossoms are collected before they open, a little before sunrise.

e) **Jasmine Essential Oil:** Obtained from the flowers of *Jasminum grandiflorum* which belongs to the Oleaceae family, the oil is obtained by the solvent extraction method and its essence is used in the perfumery industry.

f) **Lavender:** It is obtained from the flowers and stalk of *lavandula officinalis* which belongs to the Labiatae family.

g) **Tuberose:** The nickname of the tuberose is "mistress of the night". The oil is a brown, viscous liquid with a sweet, heavy and sensuous scent.

h) **Geranium:** This oil is obtained from the flowers, leaves and stalks of the *Pelargonium graveolens*, which belongs to the Geraniaceae family. Its essence is obtained by the distillation process, from the flowers and stems of the plant. The geranium is known as geranium bourbon.

i) **Champa:** It is obtained from the flowers of the *Michelia champaka*. The colour of the flower is yellow to deep orange.

j) **Cinnamon:** Cinnamon oil is obtained from the different parts of the cinnamon tree - its leaves, bark and roots. *Cinnamomum zeylanicum* belongs to the family, Lauraceae. The oil obtained from the bark is most valuable. The oil has a warm, spicy and sweet character.

k) **Neroli:** It is an essential oil obtained through the distillation process from the flower of the bitter orange tree. It can be stored in amber-coloured bottles in the refrigerator.

l) **Clove:** It contains essential oils, obtained from the buds of the *Eugenia caryophyllus*, which belongs to the family, Myrtaceae.

m) **Ambrette:** Ambrette seeds contain oil; it can be obtained by using the expression method. The oil is rich; it is sweet, floral and musky in nature. The oil can be used as an anti-aging agent.

n) **Sandalwood:** It is obtained by the steam distillation process from the hard wood of *Santalum album* belonging to the family, Santalaceae. In most perfumes, it is used as a fixative agent.

**4. Protective Agents:** In the formulation of creams, silicones act as protective agents; a combination of silicones with other barrier agents like petroleum jelly beeswax, paraffin etc can produce excellent barrier creams.

**a) Bleaching Agents**

The most commonly used bleaching agents are given below.

**Mercury Compounds:** Mercuric chloride (Hgcl), red mercuric oxide (HgO) and ammoniated mercury are examples of mercury compounds that can be used, for their skin bleaching effects. Currently, the use of mercury compounds is prohibited in cosmetics.

**b) Hydroquinones:** They are mostly used as bleaching agents for temporarily lighting skin at a concentration of 1.5%-2%. In the case of 5% concentration, redness and burning may be produced. Reverse action of hydroquinones takes place on exposure to sunlight. If the cosmetics containing hydroquinone are discontinued, then too, a similar effect can be observed.

**c) Catechol and its derivatives:** Catechol exhibits skin lighting effect to an extent. 4-Isopropyl catechol has been found to be among the most potent de-pigmenting agents. They can produce irritation and a sensitization reaction at concentrations of 3% or more.

**d) Ascorbic Acid and its derivatives:** Ascorbic acid does not seem to be very effective as a de-pigmenting agent, but its use has been found to be safe. It is mostly used in skin bleaching creams, which contain hydroquinone as a stabilizer (antioxidant). Ascorbylolate used in skin bleaching cream for bleaching freckles in human skin is used at a concentration of 3% and 5%.

**5. Oxidising Agents:** Hydrogen peroxide has been used as an oxidizing agent in skin bleach creams. Sometimes, zinc peroxide is also used in anhydrous ointments such as bleaching agents, although the properties of zinc peroxide have been not proved.

**6. Opaque Covering Agents:** Various cosmetic products which contain white or pale pigments like titanium dioxide, zinc oxide, talc, kaolin, bismuth etc. can provide a temporary but remarkable change in the colour of the skin.

**7. Preservatives:** These are the agents which are used to prevent spoilage of cosmetic products/They are products of the oxidation of oils and fats and also the growth of

microorganisms. Most cosmetic preparations, especially those containing water are likely to deteriorate if preservatives are not added.

- **Properties of preservatives**

An ideal preservative must possess the following attributes;

1. It should be compatible with the formulation.
2. Soluble to the extent needed to achieve an effective concentration.
3. Stable enough to provide a sustained antimicrobial effect.
4. Colourless and odourless or nearly so.
5. Non-irritant and non allergic in the concentrations used.

### Examples

- **Organic acids:** Benzoic acid, Formic acid
- **Alcohols:** Ethyl alcohol, Isopropyl alcohol
- **Aldehydes:** Formaldehyde, Cinnamic aldehyde
- **Phenolics:** Cresol, Phenol
- **Esters:** Methyl p-hydroxy benzoate, Ethyl p-hydroxy benzoate
- **Mercury:** Thiomersol, Nitromersol
- **Surface active agents:** Benzalkonium chloride, Cetylpyridinium chloride
- **Miscellaneous compounds:** Ethyl Vanillin and Vanillin

**8. Antioxidants:** Natural antioxidants like tocopherols present in fats and oils are destroyed during therefining process. Hence, the addition of antioxidants is essential to avoid the rancidity of fatsand oils in cosmetics due to oxidative deterioration. Some of the common antioxidants usedin cosmetic preparation are.

- **Amines:** Purins and lecithin
- **Phenols:** Gallic acid, Methyl gallate
- **Quinones:** Tocopherols, Hydroxychromans
- **Esters:** Di-lauryl thiopropionate
- **Organic acids:** Ascorbic acid
- **Alcohols:** Sorbitol and Mannitol<sup>[10]</sup>

### 3. Classification of Herbal Cosmetics<sup>[11, 12]</sup>

#### 1. Skin cosmetics

- Cream
- Scrub
- Lip balm
- Powder
- Lotion & Liniment
- Face pack
- Deodorant & antiperspirant
- Bath preparation

#### 2. Hair cosmetics

- Shampoo
- Hair Oil
- Hair colorant

#### 3. Tooth cosmetics

- Tooth powder
- Tooth paste
- Mouth wash

#### 4. Nail preparations

#### 5. Shaving preparations

#### 6. Foot preparations

#### 4. 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>[13]</sup>
- **Herbal Hair Care Cosmetics:** Henna (*LawsoniaInermis*), Amla (*EmblicaOfficinalis*), 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  
**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>[14, 15]</sup>

**Table 1: Herbs for Skin Cosmetics.**

Latin Name	Common Name	Part Used	Uses
Acoruscalamus	Sweet flag	Rhizome	Aromatic, Dusting Powder, skin Lotions
Allium sativum	Garlic	Bulb	Promote Skin healing, Antibacterial
Aloe vera	Aloe	Leaf	Moisturizer, sun screen Emollient
Alpinia galangal	Galangal	Rhizome	Aromatic, Dusting powder
Avena sativa	Oat	Fruit	Moisturizer, skin tonic
Azadirachta indica	Neem	Leaf	Antiseptic, reduce dark spots, antibacterial
Calendula officinalis	Marigold	Flower	Skin care, anti-inflammatory, antiseptic
Centella asiatica	Gotu cola	Plant	Bound healing, reduce stretch marks creams
Cichorium intybus	Chicory	Seed	Clear skin of blemishes
Citrus aurantium	Orange	Peel	Skin creams, anti-acne, antibacterial
Curcuma longa	Turmeric	Rhizome	Antibacterial, antimicrobial skin creams
Cyperus rotundus	Nagarmotha	Roots	Suntan, astringent, anti-inflammatory
Daucus carota	Carrot	Seed	Natural source of Vit. A, creams
Euphorbia hirta	Spurge herbs	Entire	Skin diseases, cracked lips
Rubiaceae cordifolia	Manjistha	root	Wound healing, Lighten pigmentation marks

**Table 2: Herbs for Hair.**

Latin Name	Common Name	Part Used	Uses
Aloe Vera	Aloe	Leaf	Moisturizer, shampoos
Azadirachta indica	Neem	Leaf	Antif-atigue graying of hair, Alopecia
Bacopamonnei	Brahmi	Entire herb	Hair growth, Good for sleep, shampoos
Cerdu deodar	Deodar	Wood	Soap, shampoos
Centella asiatica	Gotu Kola	Plant	Hair care, Darkening of hair, hair oil
Citrus lemon	Lemon	peel	Prevent hair loss
Eclipta alba	Bhringraj	Plant	Promoting hair growth, Shampoos, Hair oil
Emblica officinalis	Amla	Fruits	Hair care, prevents grayness, Anti stress
Hibiscus rosasinesis	China rose	Flower	Improves hair, prevents premature greyness
Lawsonia alba	Henna	Leaf	Hair growth, Natural conditioner
Martica chamomilla	Chamomile	Flower	Hair tonic
Moringa oleifera	Benjamin	seed	Hair oils
Sapindus trifoliatus	Soap wort	Fruit	Natural detergent, shampoos
Triticum sativum	Wheat germ	Germ	Natural source of Vit.E, shampoos
Wedelia calendulaceae	Bhangra	Entire herb	Hair care, shampoos
Rosa centifolia	Gulab	Rose	Coolant, Antifatigue
Acacia concina	Shikakai	Pod	Natural cleansing agent, Detergent

**Table:3 Examples of Drugs Used for Tooth Preparation.**

Latin Name	Common Name	Part Used	Uses
Acacia Arabica	Babul	Bark	Teeth disorders
Azadirachta indica	Neem	Leaf	Toothache, Antibacterial, Dental carries
Barleria Prionitis	Vajradanti	Entire herb	Strengthens teeth, Tooth ache
Syzygium aromaticum	Clove	Bud	Toothache, Antiseptic
Salvadora Persica	Pilu	Twigs	Antimicrobial

## 5. SUMMARY AND CONCLUSION

Herbs play a significant role, especially in modern pharmaceutical preparations, when the damaging effects of food processing and over medication have assumed alarming proportions. They are now being increasingly used in cosmetics, food and teas, as well as alternative

medicines. The growing interest in herbs is a part of the movements towards change in life styles. This movement is based on the belief that the plants have a vast potential for their use as a curative medicines.

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 plants were found to have dual use, both as curative and cosmetic. Quality control test must be safe for longer period of time.

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