



A Review on Herbal Cosmetics and Cosmeceuticals

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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 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. The herbal Cosmetics have been the first choice of the customers, for being more potent, easily available and thought to be less side effective. Herbal cosmetics are Fastest growing field of personal care products. Cosmeceuticals is the fastest growing segment of the personal care products these are cosmetic preparations which contain biologically active principles or ingredients of plant origin. In recent years there is an increased demand for the use of herbs in cosmetics due to their mild action and less toxic in nature and they are found to be more effective. The desire of good looking and to be beautiful gave a huge market for the herbal cosmetics. Now a days desire to be look younger than original age, to be look beautiful, fresh, charming and fair have directly increased the demand of herbal cosmetics as well as of the Cosmeceuticals in the market. Hence the review overlooks on the use of herbal cosmetics and cosmeceuticals. It also describes about herbs as cosmetics. 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.

Keywords: Herbal cosmetics, cosmeceuticals, herbs, skin care, skin cosmetics, tooth cosmetics, hair cosmetics.

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-seborrhetic, 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. Cosmeceuticals is the fastest growing segment of the personal care products, these are cosmetics products which contains biologically active principles and ingredients of plant origin. To study the functions and efficacy of naturally derived ingredients for the use in cosmetics, a new branch of science is developed known as “Cosmetic Phytognosy” which deals with biochemical properties of plant derived ingredients to be use in herbal cosmetics. According to Drug and Cosmetic Act 1940, describes as, Any Article or preparation intended to rubbed, poured, sprinkled or sprayed on or introduced to or applied to any part of human body for cleaning, perfuming, beautifying, promoting, attractiveness or altering the appearance and includes any article intended for use as component of cosmetics. The use of natural herbs ingredients in personal and health care product has been emerged for its better experiences. Recent researchers proves that herbs while being more effective as they mild and soothing. Potent synthetic preparation and chemicals, though effective, constitute a toxic burden to human body. Herbal Cosmetics, referred as Products formulated by various natural herbal ingredients are used in as base in preparation of effective herbal cosmetic. Herbs do not produce instant cures. They offer a way to put the body in proper tune with nature ⁵. 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 ⁶. 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 both cosmetic and therapeutic benefits ⁷. Cosmeceuticals are cosmetic-pharmaceutical hybrids intended to enhance health and beauty through ingredients that influence the skin's biological texture and function ⁸.

Advantages of herbal cosmetics over synthetic ⁹

1. Naturally available

Herbal cosmetics are made by herbs which are easily available from nature; they are free from all the harmful synthetic chemicals. Although herbal cosmetics prepared by naturally available plant parts and plant extracts, they may as effective as synthetic product. e.g. aloe-vera gel and coconut oil. They also consist of natural nutrients like Vitamin E, Vitamin C that beautify skin and provide nourishment to the skin. For example, Aloe vera is an herbal plant species belonging to liliaceae family and is naturally and easily available ¹⁰. There are number of consumers concerned about toxic synthetic chemicals, mineral oils which is may use as ingredients in many cosmetics. They demand more natural products with traceable and more natural ingredients, free from harmful chemicals and effectiveness ¹¹.

2. Safer to use

As compared to synthetic products, herbal cosmetics are safe to use. They are less allergenic, non toxic, tested and proven by dermatologists to be safe to use. Since they are made of natural ingredients.

3. Less side effects

The synthetic beauty products can irritate your skin, and cause rash on skin. Sometime they might block skin pores and make skin dry or oily. With herbal cosmetics, we need not worry any adverse reactions. The natural ingredients used assure no side effects; it can apply on the skin assuredly. For example herbal cosmetics are free from parabens that are the most widely used preservative in cosmetics and can penetrate the skin ¹². And are suspected of interfering with hormone function (endocrine disruption) ¹³.

4. Economical to use

Natural cosmetics are not that expensive. In fact, some of these products are more affordable than synthetic ones. They are offered at discounted prices and are sold for a cheap price during sales. Just need to survey enough to look for great deals. An estimate of WHO demonstrates about 80% of world population depends on natural products for their health care, because of side effects inflicted and rising cost of modern medicine. World Health Organization currently recommends and encourages traditional herbal cures in natural health care programs as these drugs are easily available at low cost and are comparatively safe ¹⁴.

Cosmeceuticals

‘Cosmeceuticals’ is fastest growing segment of the beauty industry. Cosmeceuticals are cosmetic-pharmaceutical products intended to improve the health and beauty of the skin by providing a specific result, ranging from acne control, sun protection to anti-wrinkle, anti-aging effects. They are skin protecting as well as skin glowing agent ¹⁵. 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 ¹⁶ 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.

Cosmetic preparation is divided into 3 categories

Solid: Face Powder, Talcum Powder, Compact Powder

Semisolid: Cream, Ointment, Liniments

Liquid: Lotion, Hair Oil, Shampoo, Mouthwashes, Sprays etc ¹⁷.

How to use herbs

In earlier time, herbs were used for both medicinal purposes 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 ^{18,19}.

Raw materials generally used in herbal cosmetics

Oils, Waxes, Gums, Hydrophillic Colloids, Colours, Perfumes, Protective Agents, Bleaching Agents, Preservatives, Antioxidants And Other Auxillary Agents^{20, 21}.

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 Leguminosae. 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 asmall 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.

c) **Castor Oil:** Oil is obtained from the seeds of Ricinus communis 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.

d) **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 ²².

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

f) **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 spreadability.

i) **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, Apismellifera 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, Copernicacerifera, 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 whole, Physestercolodon, which belongs to the Physeteridae family. It consists mainly of cetylpalmitate and cetymyristate 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, refraction or transmission. Natural colours such as cochineal, saffron and chlorophyll are discussed in brief here. ²³

a) **Cochineal:** Cochineal is a red dyestuff derived from the dried female insect, Dactilopiuscoccus, 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 aflavouring and colouring agent in food

preparations. Saffron contains a number of carotenoids - crocin is an important natural saffron carotenoid. Picrocrocins are colorless bitter glycosides 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 *Rosmarinus officinalis* which belongs to the Labiateae 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 Labiateae 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 *Micheliachampaka*. 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 ($HgCl_2$), 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 lightening 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 lightening 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). Ascorbyl oleate used in skin bleaching cream for bleaching freckles in human skin is used at a concentration of 3% and 5%.

5. Oxidizing 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 who 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 refining process. Hence, the addition of antioxidants is essential to avoid the rancidity of fats and oils in cosmetics due to oxidative deterioration.

Some of the common antioxidants used in 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 ²⁴.

Herbs used in cosmetics/cosmeceuticals

There are numerous herbs available naturally having different uses in cosmetic preparations for skincare, hair care and as antioxidants, Perfumes as follows.

1. Skin care

➤ Coconut oil: Coconut oil is excellent as a skin moisturizer and softener. Coconut oil is derived from the fruit or seed of the coconut palm tree *Cocos nucifera*, family Arecaceae which contains about 60- 65% of the oil. Coconut oil contains a high amount of glycerides of 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.

➤ Olive oil: This oil is a fixed oil extracted from the fruits of *olea europaea*, family oleaceae. The major constituents are triolein, tripalmitin, trilinolein, tristearate, monosterate, triarachidin, squalene, β -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: Aloe vera is an herbal plant species belonging to 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 ⁶. 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.

➤ Green tea: The tea plant (*Camellia sinensis*) has been cultivated in Asia for thousands of years ¹⁵. The 4 major polyphenolic catechins present in green tea leaves 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 epigallocatechin (EGC)-3-gallate (EGCG), inhibited two-stage chemical carcinogenesis (eg, induced by 7,12-dimethylbenz(a)anthracene [DMBA] and 12-O-tetradecanoylphorbol 13-acetate [TPA]), and photocarcinogenesis (induced by UVB).

➤ Calendula: *Calendula officinalis* is 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 α -thujene, α -pinene, 1,8-Cineole, dihydrotangetone and T-muurolol ²⁵.

➤ Turmeric: It is a deep yellow-to-orange powder that comes reduce the number of ultraviolet B (UVB)- induced sunburn. It is skin protecting agent as well as antiseptic in nature.

➤ Multani mitts (Fuller's earth): It is Mother Nature's own baby powder. Clay was one of the earliest substance to be used as a beauty mask to draw oils from the skin, natural moisturizers for hairs, teeth, gums, and hairs, to remove pimple marks, treatment on sunburn, helps unclog pores, to clean the skin of flakes and dirt.

➤ Oat (*Avena sativa*): Oat oil is rich in antioxidants and natural emollient property. It also use in many lotions, creams and facial oils.

➤ Chandan: It was used as scrubs and face packs that were applied on face to remove dead cells. Regenerate growth of

new cells and gives a young look. It also use as detanning agent in sunburn treatment.

➤ 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 ²⁶.

➤ *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 ²⁷.

➤ 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 β -carotene, and lesser amounts of α -carotene and γ -carotene. α and β -carotenes are partly metabolized into vitamin A in humans ²⁸.

2. Hair care

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* family Lythraceae, which contain a dye molecule called Lawsone, which when 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 hennatannic acid and an olive oil green resin, soluble in ether and alcohol. Lawsone edible fruit. It is highly praised both for its high vitamin C content and for the precious oil, which is extracted from its seeds and pulp and used as a treatment for hair and scalp problems. It is used in eye syndromes, hair loss, and children ailments etc.

➤ Shikakai: *Acacia concinna* Linn. (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, anthraquinone glycosides.

➤ Amla: Amla is the fruit of a small leafy tree (*Emblica officinalis*), which grows throughout India and yields an characteristics. There are mainly four species of roses for oil production. These are *Rosa damascena* Mill., *R. gallica* L., *R. moschata* Herrm. and *R. centifolia* L. Rose oil and rose water have many therapeutic effects. Rose oil helps soothe the mind and heals depression, grief, nervous stress and tension. It also helps to heal wound and skin health.

➤ Hibiscus: A Red colour obtained from the extract of *Hibiscus sabdariffa* family Malvaceae. Hibiscus consist of calcium, phosphorus, iron Vitamin B1 used to stimulate thicker hair growth and prevent premature greying of hair.

➤ Walnut: Juglance regia family Juglandaceae, leaves are used in traditional medicine for external applications such as eczema, loss of hair, scalp itching, peeling and dandruff.

➤ 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 dandruff³¹.

3. Antioxidants

➤ Tamarind: Tamarind or Tamarindus indica L. of the Fabaceae, subfamily Caesalpinioideae consists 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.

➤ 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 β -carotene, and lesser amounts of α -carotene and γ -carotene. α and β -carotenes are partly metabolized into vitamin A in humans²⁸.

➤ Vitamin C: Vitamin C is necessary for the hydroxylation of proline, procollagen, and lysine. Vitamin C improves the changes caused by photo damage. Vitamin C has been used effectively to stimulate collagen repair, thus removing some of the effects of photo-aging on skin.

➤ Vitamin E: (Alpha-tocopherol) is the major lipophilic antioxidant 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. Its major role is generally considered to be the arrest of chain propagation and lipid peroxidation by scavenging lipid peroxy radicals, hence protecting the cell membrane from destruction.

4. Essential oils

➤ Rose oil: Roses are widely referred to as the world's favorite flower in part due to their vast diversity in plant habitat and floral characteristics. There are mainly four species of roses for oil production. These are *Rosa damascena* Mill., *R. gallica* L., *R. moschata* Herrm. and *R. centifolia* L. Rose oil and rose water have many therapeutic effects. Rose oil helps soothe the mind and heals depression, grief, nervous stress and tension. It also helps to heal wound and skin health.

➤ Eucalyptus oil: There are around 700 different species of Eucalyptus in the world, of which at least 500 produce a type of essential oil. It is produced by steam distillation from the leaves of Eucalyptus species (*E. cinerea* F. Muell., *E. baueriana* 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.

5. Oral care

➤ Meswak (*Salvadora persica*): Chewing stick have been widely used in the Indian subcontinent, Meswak, a derivative from Arak tree, is used by many people in different cultures as a traditional toothbrush for oral hygiene. It is suitable for

cleansing teeth, comparatively cheap, it's also found its way into the dentifrices in the recent years as antiplaque and antigingivitis agent. It is believed that chewing on these stem facilitate salivary secretions which possibly help in oral cleaning and plaque.

➤ Red Clover (*Trifolium pratense*): Red clover mouthwash is healing for irritated and diseased gums. After making red clover tea, prepare an ointment from the strained blossoms and leaves. Rub the ointment, which has antibiotic properties, on gums that are abscessed from sore or root canal therapy or other dental procedure.

➤ Peppermint Oil: Peppermint contain menthol as a volatile oil, methyl acetate, tannic acid, and Vitamin C. Peppermint oil is used to relieve toothache by soaking a cotton ball in the oil and placing it in cavity or rubbing it on the tooth. Peppermint mouthwash can be used to relieve gum inflammation.

Applications of herbal products in cosmetics

Herbal Skin Care Products: Lavender Silk Soaps, Lotions creams, Body powder, Lavender Herbal body powder, Skin Care Creams³²⁻³⁵.

Herbal Hair Care Cosmetics: Henna (*Lawsonia inermis*), Amla (*Embllica officinalis*), Shikakai (*Acacia concinna*), Brahmi (*Bacopa monnieri*), Bhringraj (*Eclipta alba*), Guar Gum (*Cyamopsis tetragonolobus*).

Herbal Lip Care Cosmetics: Herbal Lipsticks, Herbal Lip Gloss, Herbal Lip Balm, Herbal Lip plumper

Herbal Eye Care Cosmetics: Eye Make Up, Eye Shadows, 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 sweet³⁵⁻⁴⁰.

Results and Discussion

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 antiaging, revitalizing and rejuvenating agent.

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.

Herbs produce anti-fungal, anti-bacterial and pain relieving that can treat dandruff, Henna, neem. Lawsonia 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.

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 epigallocatechin (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.

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 peroxyl 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. Herbal cosmetics are the preparations containing phytochemical from a variety of botanical sources, which influences the functions of skin and provide nutrients necessary for the healthy skin or hair. There is common belief that chemical based cosmetics are harmful to the skin which increase the awareness among consumers for herbal products. Herbal cosmetics are prepared, using one or more herbal ingredients to treat different skin ailments and for the beautification. The Cosmeceuticals are the agent that protects skin and gives nourishment to the skin which may produce from the herbal drug which are stated in present review. The cosmetic products are the best option to reduce skin problems such as hyper pigmentation, skin wrinkling, skin ageing and rough skin texture etc. The demand of herbal cosmetic is rapidly expanding. Hence the herbal cosmetics have the most advantageous over the synthetic cosmeceuticals due to its effectiveness. 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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