



IJPPR

INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

ISSN 2349-7203




Human Journals

Review Article

May 2020 Vol.:18, Issue:2


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An Overview of Herbal Cosmetics



IJPPR
INTERNATIONAL JOURNAL OF PHARMACY & PHARMACEUTICAL RESEARCH
An official Publication of Human Journals

ISSN 2349-7203



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Submission: 21 April 2020
Accepted: 29 April 2020
Published: 30 May 2020

Keywords: Herbal Cosmetics, Natural products, skincare, Hair Care, Anti-Aging Treatment

ABSTRACT

Since ancient age, human beings are using cosmetics to improve their external appearance, to improve the chance of social success, and to highlight their self-esteem. Human beings are using products derived from plants, animals, minerals, and other organic products as cosmetics. Herbal cosmetics are the products which contain various cosmetics as a base in permissible limit and one or more herbal ingredients having defined cosmetic benefits. The demand for herbal cosmetics is increasing at a faster rate as they contain nature-friendly ingredients and lack side effects. Currently worldwide turnover of the herbal industry is more than US\$10 billion and which is expanding at a rate of three to four percent annually. Herbs do not provide an instant cure but they help the body to tune with nature. Herbal cosmetics products claimed to have efficacy and intrinsic acceptability due to routine use in daily life and avoid the side effects which are commonly seen in synthetic products. The current article deals with the literature of herbal cosmetics related to present status, advantages, Indian extract, treatment of ailments, and properties related to herbal cosmetics.



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INTRODUCTION

Herbal Cosmetics, referred to 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”. Herbal cosmetics also is known as “natural cosmetics”. The demand for herbal medicines is increasing rapidly due to their lack of side effects [1]. The concept of beauty and cosmetics dates back to ancient mankind and civilization. Generally, herbal cosmetics are also referred to as natural cosmetics. Herbal cosmetics are formulated, using different cosmetic ingredients to form the base in which one or more herbal ingredients are used to cure various skin ailments. Plants are highly used for the development of new drug products for cosmeceuticals and pharmaceutical applications. Herbal cosmetics are the products in which herbs are used in crude or extract form. The herbal products/ drugs are derived from vegetable sources from various parts of the plants like root, leaf; flower fruit extrude or plant as a whole. There are three kinds of ingredients used in herbal products, Herbal, Mineral, and animal.

Ayurvedic cosmetics also are known as herbal cosmetics have the same admirable resources in the present-day period too. Many traditional medicines in use are derived from medicinal plants, minerals, and organic matter [2]. Herbs do not produce instant cures. They offer a way to put the body in proper tune with nature. A huge number of cosmetic and toiletry formulations have been designed and developed based upon Indian Herbs recently. Other than traditionally documented applications, some modern trials have also been using the utility of Indian herbs in Personal Care products. The demand for herbal medicines is increasing rapidly due to their skin-friendliness and lack of side effects. The best thing about 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 doesn't have any side effects on the human body; instead, it provides the body with nutrients and other useful minerals.

About 500 plants with medicinal use are mentioned in ancient texts and around 800 plants have been used in indigenous systems of medicine. The Indian subcontinent is a vast repository of medicinal plants that are used in traditional medical treatments[3], which also forms a rich source of knowledge. The various indigenous systems such as Siddha, Ayurveda, Unani, and Allopathy use several plant species to treat different ailments[4]. In India, around 20,000 medicinal plant species have been recorded recently[5], but more than 500 traditional communities use about 800 plant species for curing different diseases[6]. Currently, 80 % of

the world population depends on plant-derived medicine for the first line of primary health care for human alleviation because it has no side effects. Plants are important sources of medicines and presently about 25% of pharmaceutical prescriptions in the United States contain at least one plant-derived ingredient. In the last century, roughly 121 pharmaceutical products were formulated based on traditional knowledge obtained from various sources.

Advantages of Herbal Cosmetics [7]

Herbs are important for their disease prevention and health promotion properties having the following advantages which are described below:

Natural products

Herbal cosmetics are natural and free from all the harmful synthetic chemicals which generally may turn out to be lethal to the skin.

Safe to use: Natural cosmetics are protected to utilize. They are hypoallergenic 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.

Compatible with all skin types

No matter if you are dark or fair; you will find natural cosmetics like foundation, eye shadow, and lipstick which are appropriate irrespective of your skin tone. Women with oily or sensitive skin can also use them and never have to worry about degrading their skin condition.

Wide selection to choose from

These products are more affordable than synthetic ones. They are offered at economical prices and are sold for a cheap price during sales. An estimate of WHO demonstrates about 80% of the world population depends on natural products for their health care, because of the side effects inflicted and the rising cost of modern medicine.

No side effects

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.

Cosmeceutical

Cosmeceuticals are the 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 and antiwrinkle effects to sun protection.

Indian Extracts for Herbal Cosmetics [8]

Herbs assume a significant role, especially in present-day times, when the harming effects of food processing and overmedication have accepted alarming proportions. They are currently being progressively cosmetics, foods, and teas, as well as alternative medicines. The developing enthusiasm for herbs is a part of the development of change in the ways of life. This development depends on the conviction that the plants have tremendous potential for their utilization as a remedial medication.

i) Amla (*Emblica officinalis*): Amla grows throughout India and the name was given to the fruit of a small leafy tree (*Embilica officinalis*). This fruit has a high content of vitamin C which is extracted from its seeds it is used as a treatment for hair and scalp problem.

ii) Brahmi (*Bacopa monnieri*): It can be used as a face pack to improve facial complexion, as a hair application to make hair shiny, also removes dandruff and lice in hair.

iii) Shikaka (*Acasiacancina*): It is a small shrub-like tree, which grows in the warm, dry plains of central India. It helps in removing dandruff and lice & very effective in removing oil and dirt from hair.

iv) Neem (*Azadirachta indica*): "Sarva Roga Nivarini – the curer of all ailments" Neem's role as a wonder drug is stressed as far back as 4500 years ago. Some of its health benefits include immunity booster, effective in skin infection, blood purifier, etc.

- v) **Reetha Powder (Soapnut):** It is used in India as a natural hair and body cleanser.
- vi) **Tulsi (*Ocimum sanctum*):** Holy basil, called Tulsi in India, is ubiquitous in Hindu tradition. Its role as a healing herb, antiviral, and also in treating much disorder.
- vii) **Ghritkumar (*Aloe vera*):** It is used for pain relief and healing of 'hemorrhoids, applied externally, and internally it is also used for sunburn, scratch, and a cleansing purge for the body or skin. It is an aid to growing new tissue and alleviating the advance of skin cancer caused by the sun.
- viii) **Multani Mitts (Fullers Earth):** It is Mother Nature's baby powder. It is useful in removing pimple marks, treating sunburn; helps unclog pores, to cleanse the skin of flakes and dirt.

Applications of Herbal Products in Cosmetics [9,10, 11]

Herbs play an important role in the field of cosmetic.

- i) **Herbal Skin Care Products:** Lavender body powder and body soap, Silk Soaps, and Care Creams.
- ii) **Herbal Hair Care Cosmetics:** Herbal hair care cosmetics have several ingredients e.g. Shikakai (*Acacia concinna*), Henna (*Lawsonia inermis*), Guar Gum (*Cyamopsis Tetragonoloba*) Amla (*Embllica officinalis*), Brahmi (*Bacopa monnieri*).
- iii) **Herbal Lip Care Cosmetics:** Herbal Lip plumper, Herbal Lipsticks, Herbal Lip Balm, and Herbal Lip Gloss
- iv) **Herbal Eye Care Cosmetics:** Eye Shadow, Eye Gloss, Eye Make-Up, Liquid Eye Liners
- v) **Herbal Creams, Lotions, Gel: Creams:** Rich Face and hand Cream, Aloe Moisturizing Hand
- vi) **Herbal Oils:** Herbal oils are effective for baldness, falling of hair, thinning of hair, in treating irritation & Itching of scalp.
- vii) **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).

Marketed products of Herbal Cosmetics[8]

Various marketed preparation of herbal products is in the market which is given in the table below.

Table No. 1: Herbal skincare products

S. No.	Products	Brand Name
1.	Face pack	Amazing Herbal Scars Face Pack
2.	Massage gel Gel	Amazing herbal fruit massage
3.	Gel	Dr. Jain's forest cucumber
4.	Face wash	Combi neem Facewash
5.	Cream	Vicco turmeric cream
6.	Face scrub	Aloe indica face scrub
7.	Cold cream	Gayatri papaya & strawberry cold cream
8.	Face powder	Agarwal tulsi face powder

Table No. 2: Herbal hair care products

S. No.	Products	Brand Name
1.	Shampoo	Agarwal honey aloe vera shampoo
2.	Anti-dandruff shampoo	Himalaya antidandruff shampoo
3.	Hair gel	Aroma sikakai&tulsi hair gel
4.	Hair conditioner	Vedicoaloevare hair conditioner
5.	Hair color	Crown Heena hair colors
6.	Hair oil	Prakritisam gold hair oil

Table No. 3: Herbal Lip Care

S. No.	Products	Brand Name
1.	Lip gloss	Kometkozmetik lip gloss
2.	Lip plumper	Ruhi lip plumper
3.	Lipstick	Kamey lipstick
4.	Lip balm	Pallido lip balm

Table No. 4: Herbal Eyecare Products

S. No.	Products	Brand Name
1.	Eye shadow	Matrix eye shadow
2.	Eyeliner	Tonnie eyeliner
3.	Mascaras	Unicolor mascararas
4.	Eye pencils	Organic rose eye pencils
5.	Perfumes	Devy perfumes
6.	Deodorants	Always deodorants
7.	Soaps	Carmino herbal soaps
8.	Foundations	Carmino foundations

Herbal Medicines for Treatment of Various Ailments:[12,13,14]

Dry Skin Treatment

Coconut oil: Coconut oil comes from the fruit or seed of the coconut palm tree *Cocosnucifera*, family Arecaceae. Extra virgin coconut oil is excellent as a skin moisturizer. When used for fourteen hours coconut oil helped prevent protein loss from the wet combing of hair.

Sunflower oil: It is the non-volatile oil expressed from sunflower seeds obtained from *Helianthus annuus*, family Asteraceae. In cosmetics, it has soothing properties and is considered noncomedogenic.

Aloe Vera: A native of southern Africa, the aloe vera plant has fleshy spiny-toothed leaves and red or yellow flowers. It is an ingredient in many cosmetics because it heals moisturizes, and softens skin. Simply cut one of the aloe vera leaves to easily extract the soothing gel. 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.

Jojoba oil: Jojoba Oil is extracted from the seeds of shrub *Simmondsiachinenesi*, family Simmondsiaceae. It contains fatty acids such as stearic acid, Palmitic acid, Palmitoleic acid, Oleic acid, Linolic acid, arachidonic acid, and triglycerides. It is used used in cosmetics as a moisturizer and as solvent for exotic fragrances. Jojoba oil act as a humectant creates a protective film over the skin, thus it protects and moisturizes the skin and hair, replenishes skin and hair loss, and restores their natural pH balance. Jojoba oil is used in lotions, moisturizers, hair shampoos and conditioners. The pure oil can be directly applied to skin, hair, or cuticles. It also has analgesic, antipyretic, anti-inflammatory, antioxidant, antibacterial, and antiparasitic properties.

Olive oil: Olive oil is a fixed oil obtained by expression of the ripe fruits of *Oleaeuropoea*Linn. or Indian olive (*O. ferruginea*), belonging to family Oleaceae. Olive oil contains mixed glycerides of oleic acid (56–85%), palmitic (7–20%), linoleic (3–20%), stearic (1–5%), arachidic

(0.9%), palmitoleic (3%), linolenic, eicosenoic, gadoleic, lignoceric acids. The minor constituents are squalene up to 0.7%, phytosterol, and tocopherols about 0.2%. Italy-Spain type olive oil is higher in oleic acid and Greece-Tunisia type oil has higher levels of linoleic acid. Olive oil is used in the manufacture of pharmaceutical preparations, soaps, textile lubricants, sulphonated oils, liniments, cosmetics, plasters; as food in salads, and cooking and baking. It has demulcent, emollient, choloretic cholagogue, and laxative properties. It is a good solvent for parenteral preparations.

Castor Oil: Castor oil is the fixed oil obtained by cold expression of the seeds of *Ricinus communis* Linn., belonging to family Euphorbiaceae. Castor oil consists of glyceride of ricinoleic acid is ricinoleic, stearic, and dihydroxy stearic acids. Ricinoleic acid is responsible for the laxative property. Castor oil also contains vitamin F. 90% of the fatty acid content is ricinoleic acid. The ricinoleic acid is an 18-carbon acid having a double bond in the 9–10 position and a hydroxyl group on the 12th carbon. This combination of hydroxyl group and unsaturation occurs only in castor oil. Castor oil is mild purgative, fungistatic, used as an ointment base, as a plasticizer, wetting agents, as a lubricating agent. Ricinoleic acid is used in contraceptive creams and jellies; it is also used as an emollient in the preparation of lipsticks, in tooth formulation, as an ingredient in the hair oil. The dehydrated oil is used in the manufacture of linoleum and alkyl resin. The main use of castor oil is the industrial production of coatings, also employed to make pharmaceuticals and cosmetics in the textile and leather industries and for manufacturing plastics and fibers.

Cocoa butter: It is obtained from roasted seeds of *Theobroma cacao* Linn., belonging to family Sterculiaceae. It consists of glycerides of stearic (34%), palmitic (25%), oleic (37%) acids, and a small number of linoleic acids and arachidic acid. Glyceride structure is responsible for the nongreasiness of products. It is used as an emollient, as a base for suppositories and ointments, manufacture of creams, and toilet soaps. It reduces the formation of stretch marks during pregnancy by keeping the skin supple. It is used as an ingredient in lotion bars, lip balms, body butter, soaps, and belly balms for expectant mothers.



Figure No. 1: Coconut oil



Figure No. 2: Sunflower oil



Figure No. 3: Aloe Vera



Figure No. 4: Jojoba oil



Figure No. 5: Olive oil



Figure No. 6: Castor Oil



Figure No. 7: Cocoa butter

Anti-Aging Treatment:[12-15]

Carrot: - It is obtained from the plant *Daucuscarota* belonging to family Apiaceae. Carrot seed oil is indicated for anti-aging, revitalizing, and rejuvenating. As it promotes the formation of new cells and helps in reducing wrinkles. It acts as Natural toner and rejuvenator for the skin.

Ginkgo: - Ginkgo comes from the ginkgo tree, *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. The capillaries become more

flexible and as a result, more oxygen is delivered to the brain and eyes (to protect against degenerative eye diseases like macular degeneration), as important as weage.

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. *R. rose* is rich in phenolic compounds, known to have strong antioxidant properties.

Aloe Vera: A native of southern Africa, the aloe vera plant has fleshy spiny-toothed leaves and red or yellow flowers. It is an ingredient in many cosmetics because it heals moisturizes, and softens skin. Simply cut one of the aloe vera leaves to easily extract the soothing gel. 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.

Turmeric: Turmeric is the dried rhizome of *Curcuma longa* Linn. (syn.*C. domestica* Valetton), belonging to family Zingiberaceae. Turmeric contains yellow coloring matter called curcuminoids (5%) and essential oil (6%). The chief constituent of the coloring matter is curcumin I (60%) in addition with small quantities of curcumin III, curcumin II and dihydro curcumin. Turmeric is used as aromatic, anti-inflammatory, stomachic, uretic, anodyne for biliary calculus, stimulant, tonic, carminative, blood purifier, antiperiodic, alterative, spice, colouring agent for ointments and a common household remedy for cold and cough. Externally, it is used in the form of cream to improve complexion. Dye-stuff acts as a cholagogue causing the contraction of the gall bladder. It is also used in menstrual pains. Curcumin has choloretic and cholagogues action and is used in liver diseases. Curcumin is a nontoxic authorized color, heat resistant, and sensitive to changes in pH.

Ginseng: It consists of dried roots of *Panax ginseng* C.A. Mey and other species of Panax like *Panax japonicus* (Japanese Ginseng), *Panax pseudoginseng* (Himalayan Ginseng), *Panax quinquefolius* (American Ginseng), *Panax trifolius* (Dwarf Ginseng) and *Panax vietnamensis* (Vietnamese Ginseng), belonging to family Araliaceae. Several saponin glycosides belonging to the triterpenoid group, ginsenoside, chikusetsusaponin, panko side. More than 13ginsenosides have been identified. Ginsenosides consists of aglycone dammarol

whereas panaxosides have oleanolic acid as aglycone. It also contains a large amount of starch, gum, some resin, and a very small amount of volatile oil. The root is an adaptogen, alterative, carminative, demulcent, emetic, expectorant, stimulant, and tonic. It encourages the secretion of hormones, improves stamina, lowers blood sugar and cholesterol levels. It is used internally in the treatment of debility associated with old age or illness, lack of appetite, insomnia, stress, shock, and chronic illness. Ginseng is not normally prescribed for pregnant women, or patients under the age of 40, or those with depression, acute anxiety, or acute inflammatory disease. It is normally only taken for 3 weeks. Excess can cause headaches, restlessness, raised blood pressure, and other side effects, especially if it is taken with caffeine, alcohol, turnips and bitter or spicy foods[16].

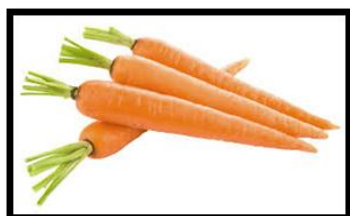


Figure No. 8: Carrot



Figure No. 9: Ginkg



Figure No. 10: *Rhodiola rosea*



Figure No. 11: Aloe Vera



Figure No. 12: Turmeric



Figure No. 13: Ginseng

Volatile oil Used in Skin Care Products

Citrus oils

When fruits are juiced, the peel oils from the rind are pressed and collected. These oils, whether they are from.

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Citrus Oils: When fruits are juiced, the peel oils from the rind are pressed and collected. These oils, whether they are from oranges, grapefruits, tangerines, lemons, or limes are complex mixtures of acids, alcohol, aldehydes, esters, ketones, and hydrocarbons. These components possess pleasant flavor and fragrance and are used to impart aroma and taste to a variety of products. The 'Citrus spp.'; is genera within the Rutaceae family which are among the leaders in the world market for essential oils, and are widely used in personal perfumes, where they are used pure or, more frequently, combined with synthetic molecules. The citrus by-products are natural, biodegradable, and relatively non-toxic. For all those reasons, the Food and Drug Administration (FDA) gives d-limonene and citrus oil a 'generally recognized as safe' (GRAS) classification. Given the versatility and composition of citrus oils, they can be adapted to the cosmetic industry. Among different types of citrus oils and aromas collected during juice processing, only cold-pressed oil, folded oil, and food graded-limonene are currently used in the cosmetic industry[17]. D-limonene is found in all citrus fruit peel oils and is used in a wide range of cleaning applications[18]. Oxidized citrus oil (R-limonene), is a frequent skin sensitizer since d-limonene oxidizes on-air exposure and during handling and storage (autoxidation) and allergenic oxidation products are formed[19, 20]. There is evidence that a compound isolated from lemon (*Citrus limonum* (L.) Burm. f.) oil, which is called Lem1, is endowed with strong antioxidant activity and that it is capable of inhibiting free radical-mediated reactions, evaluated by both in vitro and in vivo biochemical systems[21]. Sweet orange (*Citrus sinensis* [L.] Pers.) oil is composed largely of terpene hydrocarbons which are a source of flavor and fragrance compounds[22], it has more than 90% limonene and although it is primarily used in flavors, it does find use in Eaux de Cologne and soap fragrances. Grapefruit (*Citrus paradisi* Macfad.) oil is chemically similar to orange oil but it has a distinctive smell which is largely attributed to a ketone called nootkatone. Grapefruit oil does not find very wide use in perfumery[23].

Chamomile oil: It has been mentioned before that the ability of chamomile to reduce inflammation is one of its most highly prized features due to the presence of flavonoids. It is safe for skincare, and it is also credited with a gentle analgesic effect. Its effects as anti-inflammatory, antierythema, and antipruritic, at the same time as being gentle, soothing and antiseptic[24-27], may help in whitening age spots, take the soreness out of a boil, minor wound, burn, or an insect bite, or used for dry skin, windburn, sunburn, or even chronic skin conditions such as acne and psoriasis[25].

Geranium oil: *Pelargonium graveolens* (L.) L Her. exAit (Geraniaceae), obtained through steam or water plus steam distillation of shoot biomass, is extensively used in the fragrance industry and aromatherapy[28]. Geranium oil is a cleansing, toning, and sharpening oil and is so helpful with those problems that come with greasy, over-oily skin, acne, congested skin, and eczema. Care should be taken since there is the possibility of contact dermatitis in hypersensitive individuals. It is a very important component of high-grade perfumes due to its strong rose-like odor [29].

Lavender oil: Essential oils distilled from members of the genus *Lavandula* have been used both cosmetically and therapeutically for centuries. It is extensively employed in all types of soaps, lotions, and perfumes, with the most commonly used species being *Lavandula angustifolia*, *L. latifolia*, *L. stoechas*, and *L. xintermedia*. Among the claims made for lavender oil are that it is antibacterial, antifungal, and effective for burns and insect bites[30,31]. This oil in the herbal tradition is said to encourage cell growth and so should be used to help with mending and regeneration in all kinds of skin ailments: bites, stings, boils, burns, stretch marks, rashes, spots, cold sores, sunburns[32]. Lavender oil inhibits immediate-type allergic reactions in mice and rats. Topical and intradermal lavender oil inhibited the ear swelling response in mice and passive cutaneous anaphylaxis in rats. Peritoneal mast cells were also inhibited from releasing histamine or tumor necrosis factor in vitro when lavender oil was applied[33].

Tea tree oil or ti-tree oil: The name was given because early settlers in Australia brewed its leaves to make a drink, and now the essential oil of *Melaleuca alternifolia* Cheel (Myrtaceae) is distilled from these leaves. Tea tree oil is employed in personal care products, cosmetics, hair preparations, and skin creams[34] and it has applications in the treatment of many infections[35,36,37]. Many studies and clinical trials had confirmed the efficacy of tea tree oil as a natural preservative for pharmaceutical and personal care products and as an antifungal[35, 38,39], antiseptic, antiviral, and topical antibacterial agent. Tea tree oil is useful in the treatment of dandruff caused by the yeast *Pityrosporum ovale* as a result of its antifungal properties[40] and it can control hypersensitivity responses in the form of swellings, due to its anti-inflammatory effect[41]. It is widely employed in skincare for the treatment of sores, blisters, spots, rashes, warts[42], burns, and acne. The allergic potential of low concentrations of tea tree oil is presumed to be low on healthy skin[43]. In rare cases, tea tree oil can cause an allergic skin response in susceptible individuals; the symptoms –

reddening, and itching of the skin at the location where oil was applied – usually subside within a few hours of washing off the oil. There is evidence that tea tree oil is a mild to moderate irritant at concentrations of 75% or above, and minimal or nonirritant at 50% or below. Research has shown the need to control oxidation to limit the para-cymene content as this dramatically increases and causes the oil to be more skin irritant.

Black cumin: The essential oil of *Nigella sativa* L. (Ranunculaceae) seeds showed that thymoquinone, carvacrol, t-anethole, and 4-terpineol demonstrated radical-scavenging properties[44]. The seed various extracts and oil have antibacterial, antifungal[45-47]. anticarcinogenic, analgesic, and anti-inflammatory properties. The low toxicity of *N. sativa* fixed oil, evidenced by high LD50 values, suggests a wide margin of safety for therapeutic doses of *N. sativa* fixed oil[48].



Figure No. 14: Citrus Oil Figure No. 15: Chamomile oil Figure No. 16: Geranium oil



Figure No. 17: Lavender oil Figure No. 18: Tea tree oil Figure No. 19: Black cumin

Protection Agents against Acne, Spots, and Pimples:

Artemisia: *Artemisia vulgaris* and *Artemisia absinthium* (Compositae) is used traditionally in the Philippines for skin diseases and ulcerative sores. The entire plant is made into a decoction and is used as a wash for many kinds of wounds and skin ulcers. The dried leaves, cut into small fragments, are used to help induce more rapid healing of wounds and

are used in eczema, herpes, and prurulent scabies. Water extracts from *A. campestris* L. have antioxidant effects[49].

Tulsi: Tulsi consists of fresh and dried leaves of *Ocimum sanctum* Linn., belonging to family Labiatae. Tulsi leaves contain bright, yellow-colored, and pleasant volatile oil (0.1 to 0.9%). It contains approximately 70% eugenol, carvacrol (3%), and eugenol-methyl-ether (20%). It also contains caryophyllin. The fresh leaves, its juice, and volatile oil are used for various purposes. The oil is antibacterial and insecticidal. The leaves are used as stimulant, aromatic, spasmolytic, and diaphoretic. The juice is used as an antiperiodic and as a constituent of several preparations for skin diseases and also to cure earache. Infusion of the leaves is used as a stomachic. The drug is a good immune modulator agent.

Hair Care

Various oils derived from vegetable and mineral sources, and are used in cosmetics. Examples of vegetable oils are almond oil, Arachis oil, castor oil, olive oil, and coconut oil. Examples of mineral oils are Light and Heavy paraffin.

a) Amla: - Amla is obtained from the plant *Embllica Officinalis*, Family Euphorbiaceae. Amla is rich in vitamin C, tannins, and minerals such as phosphorus, iron, and calcium which provide nutrition to hair and also cause darkening of hair. Hibiscus consists of calcium, phosphorus, iron, vitamin B1, riboflavin, niacin, and vitamin C, used to stimulate thicker hair growth and prevent premature graying of hair.

b) Coconut oil: - this oil obtained from the dried solid part of the endosperm of the coconut- *Cocosnucifera*, family Palmae. It is white or pearl- white unctuous mass in winter and colorless in summer.

c) Almond oil: - The almond oil is obtained from *Prunusdulcis*. It proves to be very nourishing and softens and strengthens the hair. The almond oil also proves to be a very good cleansing agent.

d) Arachis Oil: - This is also a fixed oil obtained from the seeds of the *Arachis hypogea* belonging to the family Leguminosae. The oil is pale yellow, with a faint nutty odor. It is used in the preparation of hair oils and brilliantine.

e) Castor oil: - This oil is obtained from the seeds of *Ricinus communis* belonging to the family, Euphorbiaceae. It is used as an emollient, in the preparation of lipstick, hair oils, creams, and lotions.

f) Eucalyptus Oil: - Eucalyptus oil is the generic name for distilled oil from the leaf of *Eucalyptus*, a genus of the Plant family Myrtaceae. Eucalyptus oil can help to get rid of dandruff, which in turn can help to promote healthy growth of hair.

g) Rose oil: - The well-known essential oil is probably rose oil, produced from the petals of *Rosa Damascena* and *Rosacentifolia*, family Rosaceae. Steam-distilled rose oil is known as "rose otto" while the solvent extracted product is known as "rose absolute". It is used more commonly in perfumery. The key flavor compounds that contribute to the distinctive scent of rose oil are beta-damascenone, beta-damascone, beta-ionone, and oxide.

h) Citronella oil: - It is one of the essential oils obtained from the leaves and stems of different species of *Cymbopogon* family Cardiopteridaceae. The crisp, rich citrus or lemon-like aroma of this oil drives away body odor and is used deodorants and body sprays, although in very small quantities, since in heavy doses it may give skin irritations. It can also be mixed with the bathing water to have a refreshing, body dour ending bath.

i) Olive oil: This oil is a fixed oil extracted from the fruits of *Olea europaea*, family Oleaceae. The major constituents arteriole in, tripalmitin, triolein, tristearate, monostearate, 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.

j) Sunflower oil: It is the non-volatile oil extracted from sunflower seeds obtained from *Helianthus annuus*, family Asteraceae. Sunflower oil contains lecithin, tocopherols, carotenoids, and waxes. It has soothing properties and is considered non-comedogenic. A simple yet cost-effective oil, well tried and tested for generations in a wide variety of emulsions formulated for face and body Products.

k) Light liquid paraffin: - It consists of a mixture of hydrocarbons in the form of an oily liquid that has no color or odor. It is used in the manufacture of bath oils, hair oils, lotions, and creams, due to its better spreadability.

l) Heavy liquid paraffin: - It is composed of a mixture of hydrocarbons in the form of a colorless and odorless oily liquid. Due to its soothing effect on the skin, it is used in the creams, lotions, and the hair oil.

m) Waxes: - They 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. Examples: lipstick.

n) Beeswax: - It is a purified wax separated from the honeycomb of bees, *Apis mellifera* which belongs to the family, *Apidae*. Beeswax is composed of 70% ester myricylpalmitate. Beeswax helps in the incorporation of water to form an emulsion.

Table No. 5: Various Antioxidants as Skin Protective Agents

Sr. No.	Chemical Constituent	Source	Mechanism
1.	Anthocyanins	Strawberry, banana, Radish, Potato	Antioxidant, Neutralize Enzyme that destroys connective tissue, Repair protein damage.
2.	Proanthocyanidin	Grapes, Oak, White Chestnut, Pineapples, Berries, barley, Chocolate	Inhibit DNA mutation, Antioxidant, Inhibit elastase.
3.	Resveratrol	Grapes, Wine, Cranberries, Peanuts, and peanut products	Antioxidant, Antimutagen, Anti-Inflammatory effects.
4.	Quercetin	Evening primrose tea, Sunflower, Mayapple, Cranberry, Neem, onion	Antioxidant, Anti-Inflammatory effects, immunomodulator.
5.	Apigenin	Marigold, Artemisia, Cumin, Arnica, Carrot, Citrus, Peppermint.	Prevention of UVA/UVB induced carcinogenesis, Anti-Inflammatory agent.
6.	Silymarin	Milk Thistle	Reduced UV-Induced Sunburn cell formation and apoptosis, Antitumour, Prevents UVB-induced immune suppression, and Oxidative stress.
7.	Curcumin	Turmeric	Anti-Inflammatory, Antitumoral, and Antioxidant.
8.	Carotenoids	Fruits and Vegetables	Decreased UV-Induced erythema, Lipid peroxidation, and Subburn cell formation.
9.	Polyphenolics	Fruits, Vegetables, Tea, Grains, Wine	Antioxidant, Anti-Inflammatory effects, immunomodulator.
10.	Glycyrrhetic Acid	Licorice	Antioxidant Property, Sun protection.

Table No. 6: List of Plants Used as natural Color

Sr. No.	Common Name	Botanical Name	Constituents and Nature	Color
1.	Saffron	<i>Crocus sativus</i> Iridaceae	Crocin, Crocetin, Picrocrocin, Riboflavin Hydrophilic.	Yellow
2.	Turmeric	<i>Curcuma longa</i> Zingiberaceae	Curcumin Hrdrophobic	Yellow/Orange
3.	Madder	<i>Rubiactinctorum</i> Rubiaceae	Alizarin and Purpurin, Mildly hydrophilic	Red to Purple
4.	Monascus	<i>Monascus purpureus</i> Elaphomycetaceae	Rubropunctamine Hydrophilic	Red to Purple
5.	Nettle	<i>Urtica dioica</i> Urticaceae	Chlorophyll lipophilic	Green
6.	Paprika Extract	<i>Capsicum annum</i> Solanaceae	Capsanthin, Capsorubin lipophilic	Red/Purple
7.	Pomegranate	<i>Punicagranatum</i> Punicaceae	Punicalagin Hydrophilic	Red or Purple
8.	Red cabbage	<i>Brassica Oleracea</i> Brassicaceae	Cyanidin-3-glucoside and Delphinidin-3- glucoside hydrophilic	Pink or Purple
9.	Red Clover	<i>Trifolium pretense</i> Fabaceae	Formononetin Hydrophilic	Golden Yellow
10.	Red sandalwood	<i>Pterocarpus santalinum</i> Fabaceae	Santalin hydrophobic	Red
11.	Rosehip fruit	<i>Rosa canina</i> Rosaceae	Lycopene, β -carotene lipophilic	Red
12.	Safflower	<i>Carthamus tinctorius</i> Asteraceae	Lipophilic: Carthamin Hydrophilic: Carthamidin	Yellow or Red
13.	Sea buckthorn	<i>Hippophae rhamnoides</i> Elaeagnaceae	B-Carotene, Zeaxanthin, lycopene Lipophilic	Orange
14.	Spinach	<i>Spinacia oleracea</i> Amaranthaceae	Chlorophyll Lipophilic	Green/Yellow
15.	Spirulina	<i>Spirulina plantensis</i> Oscillatoriaceae	Phycocyanin and Phycocerythrin hydrophilic	Blue or Green
16.	St.John's Wort	<i>Hypericum perforatum</i> Hypericaceae	Hypericin lipophilic and Hydrophilic	Red
17.	Tomato	<i>Solanum lycopersicum</i> Solanaceae	Lycopene, lipophilic	Red/Orange
18.	Walnut	<i>Juglans nigra</i> Juglandaceae	Juglone, Lipophilic	Orange/Brown
19.	Woad	<i>Isatis tinctoria</i> Brassicaceae	Indigotin, Hydrophilic	Blue/Indigo
20.	Yarrow	<i>Achillea millefolium</i> Asteraceae	Chamazulene Lipophilic	Blue

Table No. 7: Different Plants Used for Skin Care

Sr. No.	Common Name	Botanical Name	Constituents and Nature	Uses
1.	Mango	<i>Mangifera indica</i> Anacardiaceae	Mangiferin, Isomangiferin, Tannins, catechin	Antioxidant
2.	Akashbel	<i>Cuscuta reflexa</i> Convolvulaceae	6,7-dimethoxy-2H-1-benzopyran-2-one,3-(3,4-dihydroxyphenyl)-2-propen-1-ethanoate, 2-(3-hydroxy-4-methoxyphenyl)	Control dermatitis, itching and ringworm infection
3.	Amla	<i>Phyllanthus emblicaa</i> Euphorbiaceae	Ellagitannins, emblicanin A, emblicanin b, Ellagic acid, Gallic acid.	Antioxidant
4.	Ashwagandha	<i>Withania somnifera</i> Solanaceae	Withanolides, (-) Sominolide, Corydaldine, fumaritine, protopine	Skin cleansing and Antioxidant
5.	German chamomile	<i>Matricaria chamomilla</i> Asteraceae	Herniarin, Umbelliferone, Chlorogenic acid, caffeic acid, apigeni	Leaves have antiacne property
6.	Almond	<i>Prunus amygdalus</i> Rosaceae	Catechin, Protocatechuic acid, Vanillic acid, p-Hydroxybenzoic acid.	Kernel: for fair skin and beautification, Sunscreen
7.	Chameli	<i>Jasminum grandiflorum</i> Oleaceae	Secoiridoidglucosides, Secoiridoid, Jasminanhydride.	Skin diseases, protection from sunburn.
8.	Sandal	<i>Santalum album</i> Santalaceae	A and β sotalol, cedrol, esters, aldehydes, phytosterols, squalene	Skin-soothing, cooling antioxidant, perfume.
9.	Cucumber	<i>Cucumis sativus</i> Cucurbitaceae	Vitamins, minerals, amino acids, phytosterols, etc..	Skin cooling, toning, and skin tightening properties
10.	Palas	<i>Butea frondosa</i> Fabaceae	6,8 di-C-rhamnosylapigenin, luteolin.	Leaves: for pimples Seed: Antifungal infections and bruises.
11.	Gophaa	<i>Leucas aspera</i> Lamiaceae	Triterpenoids, oleanolic acid, ursolic acid, β -sitosterol, nicotine, sterols	Leaves: for scabies, skin psoriasis, chronic skin eruption, and eczema
12.	Maca	<i>Lepidium meyenii</i> Brassicaceae	Vitamins(B1,B2,C,E), Minerals and trace elements	Radiant complexion, healthy, firm, smooth skin
13.	Lemon	<i>Citrus limon</i> Rutaceae	Limonene, β -myrcene, and decanal	Source of vitamin C: to treat skin

				itching and skin nourishment
14.	Takla	<i>Cassia tora</i> Caesalpiniaceae	Anthraquinone, naphthopyrone glucoside cinnamaldehyde, gum, tannins, Mannitol	Leaves and Seed: Skin infection, ringworm, skin eruption.
15.	Papaya	<i>Carica papaya</i> Caricaceae	Papain, chymopapain, carpain, carpasemine	Milky juice: soft and healthy skin, remove blemishes.
16.	Haraddodi	<i>Plukenetia volubilis</i> Euphorbiaceae	Omega 3 fatty acids, Omega 6 fatty acids, and vitamins	Protect the skin balance
17.	Sea buckthorn	<i>Genus hippophae</i> Elaeagnaceae	Vitamins, provitamins, antioxidants	Skin emollient, nourishment,
18.	Sunflower	<i>Genus helianthus</i> Asteraceae	Vitamin E, K, and Polyphenols	Healthy skin and hairs.
19.	Water lettuce	<i>Pistia stratiotes</i> Araceae	Palmitic acids, anthocyanin-cynidin-3-glucoside,	Leaves: treat chronic skin disorders
20.	Vasaka	<i>Adhatoda vasica</i> Acanthaceae	Vasicine, Vasicine acetate, 2-acetyl benzylamine.	Treat skin infections.

Table No. 8: Different Plants Used for Haircare Products

Sr. No.	Common Name	Botanical Name	Constituents and Nature	Uses
1.	Walnut	<i>Juglans regia</i> Juglandaceae	Oleic acid, macadamia, linoleic acid, linolenic acid, methionine, cystenin	Leaves and hull: Hair dyeing
2.	Arnica	<i>Arnica montana</i> Asteraceae	Helenalin, 11 α , 13-dihydrohelenalin	Flowers: hair tonic, stimulates the hair follicles.
3.	Bringraj	<i>Eclipta alba</i> Asteraceae	Alkaloid ecliptine, wedelolactone, wedelic acid, apigenin	Hair growth promoter
4.	Umber	<i>Ficus racemosa</i> Moraceae	Beta-Sitosterol, p-amyrinji	Aerial root: Hair fall resistant
5.	Behera	<i>Terminalia bellirica</i> Betulaceae	Tryptophan, threonine, Phenylalanine, tyrosine	Leaves: Antidandruff
6.	Birch	<i>Betula pendula</i>	Carotenoid, rubisco, uronic acids.	Leaves: Antidandruff
7.	Kushtha	<i>Saussurea lappa</i> Asteraceae	P-hydroxybenzaldehyde, ethyl-2-pyrrolidinone-5-carboxylate	Hair dye
8.	Lavender	<i>Lavandula augustifolia</i> Lamiaceae	A-pinene, Limonene, linalyl acetate, camphor, limonene	Improve blood circulation, tonic, controls oil production from the scalp
9.	Ritha	<i>Sapindus mukorossi</i> Sapindaceae	Saponins, Sugars, and Mucilage	Hair cleaner

10.	Safflowers	<i>Carthamus tinctorius</i> Asteraceae	Benzyl-O-β-D-Glucopyranoside, Syringarenol	Hair tonic
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CONCLUSION

The knowledge of medicinal plants used by the people seems to be well known to its culture and tradition. In India, more than 70% of the population uses herbal drugs for their health. There is vast experience-based evidence for many of these drugs. There are also some Institutes/Universities in India carrying our research on herbal drugs and medicinal plants. Herbal cosmetics are prepared, using cosmetic ingredients to form the base in which one or more herbal ingredients are used to treat different skin ailments and for the beautification. In the present study, we identified many plants used by the people to cure dermatological disorders and as cosmetics, some of the plants were found to have dual-use, both as curative and cosmetics. A quality control test must be carried out for herbal cosmetics. It is assumed to be safe for longer periods.

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