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# Herbal plant as cosmetic for skin care a review

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**ABSTRACT**

The use of herbal plants in medicines and cosmetics has been prevalent throughout history. People have long recognized their ability to treat various skin diseases and improve skin appearance. The herbal industry has made significant advancements in the 21st century, with herbal ingredients becoming more preferred over chemical substances due to their accessibility and minimal side effects. Cosmetics play a crucial role in enhancing the beauty and character aspects of individuals. They not only take care of the skin and body but also work towards preventing skin damage and ageing with the help of active ingredients. Herbal cosmetics have become popular among the population as they are believed to be effective and safe for regular use in daily life, avoiding the adverse effects commonly associated with synthetic products. Continuous use of synthetic compounds on the skin causes many adverse effects such as skin irritation, allergies, discoloration, and rashes. In contrast, the herbs used in the preparation of these skin cosmetics have general motives like providing antioxidants, anti-inflammatory agents, antiseptics, and antimicrobial properties. The purpose of this review article is to survey herbs for various skincare needs. Nature contains various types of herbs that gently improve and clarify the skin in different ways.

**Key Words**: *Herbal plants; Medicines and cosmetics; Skin diseases; Skin appearance*

## Introduction

The Greek word "cosmetics" derived from the cosmetic Word which means positioning, powers, skill in decorating [1]. Cosmetics have a continuous record of evolution throughout the history of man. In prehistoric times 3000BC, man used colors for garnishing to attract the animals he wanted to hunt and to survive enemy attacks by painting his skin and the opponent (be it man or animal). Beauty aids came in connection with the hunts, combats, worship, and magic. It evolved into medicine [2]. The use of natural herbs in personal and health care products has gained importance for the enhanced experiences it bears. Recent researchers have established that herbs are more potent yet mild compared to strong artificial compositions and chemicals, which could be a toxic burden on the human body. Many natural herbal components compose herbal beauty products that form a starting ground for making effective herbal cosmetics. Herbs do not give overnight remedies but provide a way in which one can harmonize their body with nature. Herbal medicines are now in great demand due to their skin-friendliness and lack of side effects. Herbal beauty aids are purely assembled with herbs and shrubs. Thus, the assembly makes them free from side effects. The natural constituents in the herbs provide the body with nutrients and useful minerals without causing any negative side effects to the human body. The corresponding author, Saman Pathan of the Department of Pharmacology at the All Indian Institute of Medical Science in Bhopal (M.P.) India retains the patent of this article, which is published under the terms of the Creative Commons criterion License 4.0. In this study, we investigated the important role of herbs in skin care and the obstacles associated with their use. We conducted literature reviews from available databases like Google Scholar, MEDSCAPE, BMC, Science Direct, MEDLINE database, SCOPEMED, and other accessible electronic databases that were relevant in gathering information. We also found relevant studies by key words such as herbs, skin, phytoconstituents, and care.

## 1.Herbal Cosmetics

Researchers have been studying plant-derived products in an effort to identify some successful topical photo-protective agents with antioxidant activity.

Natural antioxidants have lately been more intensively applied in commercial products in skin care. Nowadays, knowing the chemical nature of herbal medications, we look for such chemical and pharmacological factors which may cause these

phenomena. The most effective botanic phytochemical compounds are tocopherols, flavonoids, phenolic acids, nitrogenous compounds (indoles, alkaloids, amines, and amino acids), and monoterpenes, which are commonly used in traditional remedies. Supplementing antioxidants locally to the skin may impact the antioxidant network. In this context, applications of formulations with antioxidant properties in aromatherapy may have promising avenues for future researches [5]. For the vast majority of cosmetic applications, data on efficacy and safety available from literature are satisfactory. Most of the antioxidants applied topically in cosmetics have scientific validation to create supplemental benefits for supporting texture, appearance, and tone among the more popular functional natural ingredients. The ancient civilizations ground or dried and pulverized plant powders, but making them compatible with established cosmetic products is not easy. Highly colored or gritty plant extracts must be blended without imperfections into "milky" or non-colored creams, lotions, and gels. Common sense and art are applied in tandem in this regard. Plant extracts have been gaining in popularity as the source of ingredients used for cosmetic formulation mainly due to the bad reputation of extracts obtained from animals that have been portrayed in the last couple of years. The main source for cosmetic ingredients was initially plants but with the advancement of science and ways through which synthetic methods for synthesizing compound with the same characteristics were achieved, many commercial cosmetic products now comprise natural molecules sourced from plant extracts, hence creating an exciting avenue for further research. In the modern world, herbal cosmetics retain the color, fragrance, beauty, and potency effectively, and this leads to the following advantages. [8,9].

**2.Advantages of Herbal Cosmetics over Synthetic**

The modern trend in beauty and fashion is leaning towards using natural products. Most women these days prefer herbal beauty aids over synthetic ones because they provide nutrients to the body, enhance health, and bring satisfaction. Natural beauty aids are free of synthetic chemicals and have fewer side effects compared to synthetic cosmetics. These benefits make them a better choice over synthetic cosmetics.

1. **Natural products**

The name itself suggests that herbal cosmetics are natural and free from all harmful synthetic chemicals which otherwise may prove to be toxic to the skin. They use different plant parts and extracts instead of aloe-vera gel or coconut oil, for instance, and still contain all the natural nutrients, such as Vitamin E, to keep the skin healthy, glowing, and beautiful. For instance, Aloe vera is a herbal plant species that belongs to the family of Liliaceae and is natural and easily available. Alongside the increasing consumer base of raw materials like synthetic chemicals and mineral oils, there has been a consequent demand for more and more natural products free of hazardous chemicals and which focuses upon properties of botanicals.

**2. Safe to Use Natural cosmetics, as compared to other beauty products safe to use.**

Dermatologists have tried and found them to be hypoallergenic and safe for use at any given time, anywhere. Since they are derived from nature, individuals do not have to be afraid of skin rashes or an itch. For instance, synthetic antioxidants such as BHA (Butylated Hydroxyanisole) and BHT (Butylated Hydroxytoluene) are very close cousins and are used as preservatives in lipsticks and moisturizers. However, they can cause allergic reactions in the skin and BHA is classified as a possible human carcinogen by the International Agency for Research on Cancer. In contrast, herbal cosmetics have natural antioxidants such as vitamin C [16].

**Natural cosmetics are compatible with all types of skin.**

They suit all skin types, be it dark-skinned or fair-skinned. There are several natural cosmetics such as foundation, eyeshadow, and lipstick that can suit your skin tone perfectly. The cosmetics do not make your skin oily or sensitive; therefore, you cannot have a gross situation where your skin condition worsens. Most cosmetics contain coal tar-derived dyes. Coal tar is an established human carcinogen. Thus, the primary concern with individual coal tar-based dyes is that they might cause cancer. However, dyes from herbs are safer.

**4. Huge choices available Beauty industry may term cosmetics as a new type, but they already have an insane amount of variety in beauty products available.**
Consumers get a variety of foundations, eye shadows, lipsticks, blushes, mascaras, concealers, and much more that are naturally formulated.
Locally produced natural cosmetic products or cosmetics from the world's top designers can also be sourced. There are various herbal extracts available, for instance; AndrographisPaniculata (Kalmegh), Asparagus Racemosus (Shatawari), Boswellia Serrata (SalaiGuggal), Asphalt (Shilajit) and many more. [18].

**5. Fit's in your budget  Natural cosmetics aren't that pricey. In fact, many are at a lower price than synthetic counterparts.**
Discounted prices avail these products at a cheaper rate in sale
Good deals are available, one has to do sufficient survey. WHO estimates that about 80% of the world's population relies on natural products for their health care; this is because of the side effects and rising costs of modern medicine. The World Health Organization presently advises and promotes folk herbal remedies in alternative natural health care programs, since these medications are readily available at a low price and are relatively nontoxic. [19]. 6. Tested on humans, not animals Natural cosmetics are tested on human skin because experts in laboratories carry out researches on them with the most advanced equipment, which ensures safety and effectiveness of these products on human beings without involving any animals in testing procedures. [10]. 7. No adverse reaction Synthetic cosmetics can be very irritating to your skin, causing you breakouts.
Similarly, they may block your pores and make it either dry or oily.
In natural cosmetics, you will not face these issues.
The contents used in natural cosmetics don't harm you and can be used anywhere you want.
For example, herbal cosmetics don't contain parabens whereas other cosmetics use parabens because parabens are widely known in cosmetic and it is reported that parabens penetrate into the skin easily. Parabens are also said to interfere with hormones in the human body, an endocrine disruption [13].

**3.Herbal Plants for Treatment of Various Ailments**
**1. Tulsi**


The plant known as Tulsi, whose botanical name is Ocimum tenuiflorum, is commonly referred to as holy basil, tulsi, or tulasi. It is an aromatic perennial plant in the family Lamiaceae, native to the Indian subcontinent, and cultivated throughout the Southeast Asian tropics. People have used Tulsi for its diverse healing properties for thousands of years as a prime herb in ayurvedic treatment. Charaka mentions Tulsi in the Charaka Samhita, which is the central teaching of ayurvedic medicine.

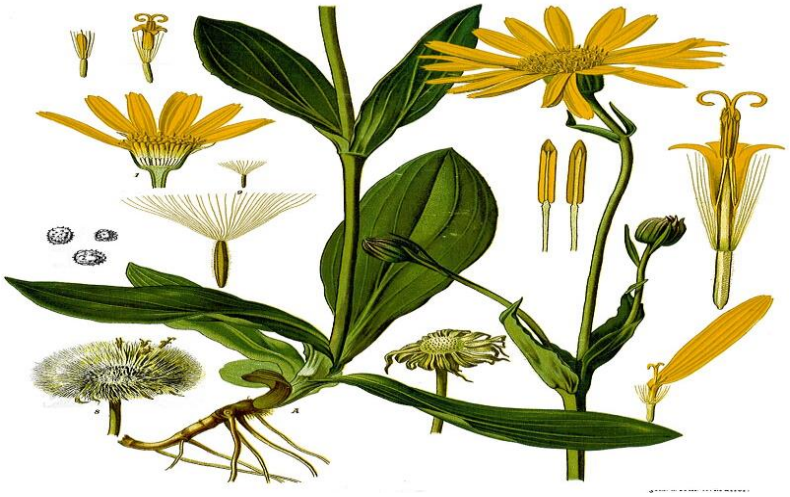
In ayurveda, Tulsi is considered an adaptogen, helping to balance different processes in the body and aiding in stress adaptation. Its strong aroma and astringent taste are believed to make it an "elixir" of life and contribute to promoting longevity. Ayurvedic remedies often contain Tulsi extracts for treating common colds, headaches, stomach disorders, inflammation, heart disease, various types of poisoning, and malaria. Traditionally, people take Tulsi in many forms such as herbal tea, dried powder, fresh leaf, or mixed with ghee. They also use essential oil extracted from kapoor. Tulsi is mostly used for medicinal purposes and in herbal cosmetics. It has been widely used in skin preparations for its antibacterial activity for centuries. People have also mixed the dried leaves of Tulsi with stored grains to repel insects. Recent studies suggest that Tulsi may be a COX-2 inhibitor, like many modern painkillers, due to its significant amount of eugenol (1-hydroxy-2-methoxy-4-allyl benzene). Other studies have shown Tulsi to be effective for diabetes by reducing blood glucose levels. The same study showed a significant reduction in total cholesterol levels with Tulsi. Another study indicated that

Tulsi's beneficial effects on blood glucose levels are due to its antioxidant properties. Tulsi also showed promise for protection from radiation poisoning and cataracts**2. Turmeric**
Turmeric (Curcuma longa) belongs to the ginger family zingiberaceae and is a rhizomatous herbaceous perennial plant native to tropical South Asia. Currently, some sunscreen formulations contain turmeric. Indian women use turmeric paste to inhibit excess hair growth, while brides and grooms in certain regions of India apply turmeric paste before marriage for its believed skin-enhancing and antibacterial properties. In Bangladesh and Pakistan, turmeric is thought to provide a radiant complexion and protect against harmful bacteria. The government of Thailand is sponsoring a project focused on extracting and isolating tetrahydrocurcuminoids (THC) from turmeric. THC, which should not be confused with tetrahydrocannabinol (THC), is a colorless compound that may possess antioxidant and skin brightening attributes and could potentially be utilized in skincare formulations for cosmetic purposes. Turmeric has anti-inflammatory wound healing, anticancer, and antibacterial properties. It is beneficial for treating skin conditions such as acne, alopecia, atopic dermatitis, facial photoaging, pruritus, and psoriasis. The antioxidants in turmeric protect skin cells from free radical damage and aid in the quick recovery of wounds due to its antiseptic qualities. [21,22,23].

**3. Sandalwood**
S. album trees or shrubs are root parasites that synthesize their own food but tap roots of other species for water and inorganic nutrients. They produce highly aromatic wood, which is used for fragrance, perfume, and herbal medicine. The Indian sandalwood tree is a well-known and commercially valued species of woody flowering plant that belongs to the S. album family. It is also used as a flavoring agent in Ayurvedic medicine to manage inflammatory reactions that cause various skin disorders. Additionally, it is used as an astringent and in face packs and masks. [26 - 29].

**4. Henna**
Henna or Hina (Lawasonia inermis, syn L. Alba) is a flowering plant belonging to the family Lythraceae, with the only species in the genus Lawsonia inermis. It is native to tropical and subtropical regions of Africa, southern Asia, and northern Australia in semi-arid regions. The dye molecules, lawsone, are primarily found in the leaves and are most concentrated in the petioles of the plant.
Products marketed as black henna or neutral henna are not derived from henna itself but may be sourced from indigo (from the plant Indigofera tinctoria) or Cassia obovata, potentially containing undisclosed dyes and chemicals. Henna has a long history of use for body art and hair coloring, dating back to the Bronze Age. In recent times, there has been a resurgence of interest in henna for body art, as traditional cultivation, processing, and use have been revitalized among diverse communities. Henna has many traditional and commercial uses. People commonly use it as a dye for hair, skin, fingernails, leather, and cloth, as well as a preservative for these materials. Henna flowers have also been utilized to create perfume since ancient times, and henna perfume is currently experiencing a resurgence on the internet. Historical records indicate that henna was used as a hair dye in India as far back as 400 CE. It was also popular in the Roman Empire and Spain for its convenience. Medical texts, such as the Ebers Papyrus from 16th BCE Egypt and writings by Ibn Qayyim al Jawziyya from 14th BCE Syria and Egypt, have mentioned henna as a medicinal herb. [30].

**5. Arnica Montana**
Arnica montana, also known as leopard Bane, wolf Bane, mountain tobacco, and mountain arnica, is a European flowering



plant with large yellow capitula distribution and habitat. People sometimes grow Arnica montana in herb gardens, and it has long been used medicinally. It contains the toxin helenalin, which can be poisonous if large amounts of the plant are eaten. Contact with the plant can also cause skin irritation. Additionally, the roots contain derivatives of thymol, which are used as a fungicide and preservative and may have some anti-inflammatory effects.

When used topically in gel form, arnica was found to have the same effect as the use of NSAIDs (such as ibuprofen) in treating the symptoms of hand osteoarthritis. However, a study found that the application of tropical arnica had no better

effect than a placebo in the treatment of skin bruises.. Currently, people use Arnica in liniment and ointment preparation for strains, sprains, and bruises. Professional athletes frequently use commercial Arnica preparation. Clinical studies have shown that the thymol derivatives concentrated in the plant roots effectively dilate subcutaneous blood capillaries. Topically applied Arnica preparation has been demonstrated to have anti-inflammatory properties and aid in the normal healing process by promoting the transport of blood and fluid accumulation through the dilation of subcutaneous blood capillaries. If ingested internally, the toxin helenalin can cause severe gastroenteritis and internal bleeding in the digestive tract if a sufficient amount is consumed.

**6. Amla**

Indian gooseberry (Emblica Officinalis) is a tree native to India and the Middle East. In Ayurveda, people use the dried and

fresh fruits of the plant as a common ingredient. The high tannin content of Indian gooseberry fruit acts as a mordant for fixing dyes in fabrics and is believed to nourish the hair and scalp, preventing premature grey hair.

People use Indian gooseberry in inks, shampoos, and hair oils. The fruit can be eaten raw or cooked into dishes like dal or amlamurabbah. Traditionally, it is consumed after meals.

In the Batak region of Sumatra, Indonesia, people use the inner bark of Indian gooseberry to give a traditional fish soup known as holat astringent and bitter taste. [31].

**7. Aloe vera**

Aloe vera, a species of succulent plant belonging to the genus Aloe, is widely distributed with about 500 species and is considered an invasive species in many world regions. People use Aloe vera in traditional medicine as a skin treatment. Early records show its use dating back to the fourth millennium BCE and it is mentioned in the Juliana Anicia Codex of 512 CE. However, there is little scientific evidence about the effectiveness or safety of Vera extracts for cosmetic or medicinal purposes and the positive evidence available is often contradicted by other studies. Despite these limitations, some preliminary evidence suggests that Aloe vera extracts may be useful in the treatment of diabetes and elevated blood count in humans. The cosmetic and therapeutic effectiveness of Aloe vera is limited and is typically contradictory in scientific evidence. Despite this, the cosmetic and alternative medicine industries regularly make claims regarding the soothing, moisturizing and healing properties of Aloe vera, especially through Internet advertising. Aloe vera is very bitter and unpalatable as a food, but its gel is used as an ingredient in commercially available yogurt, beverages, and some desserts. Cosmetic companies commonly add sap or derivatives from Aloe vera to products such as makeup, tissues, moisturizers, soaps, sunscreens, incense, razors, and shampoos. It has also been suggested that bio-fuels could be obtained from Aloe vera seeds. Other uses for extracts of Aloe vera include diluting semen for the artificial fertilization of sheep, using as a fresh food preservative, and aiding in water conservation on small farms. [32].

**8. Neem**

Neem, commonly known as Azadirachta Indica, nimtree or Indian lilac, belongs to the mahogany family Meliaceae. In India, people refer to it as the "divine tree," "heal all," "nature's drugstore," village pharmacy, and "panacea for all ailments." Neem-based products are known for their anti-helmintic properties and have been proven to be effective in treating various conditions such as fungal infections, diabetes, bacterial infections, viral infections, infertility, and promoting relaxation. Neem is a key ingredient in Ayurvedic medicine, particularly for treating skin diseases. It also has a role in herbal cosmetics, with neem oil being used in the production of soaps, shampoos, balms, and creams. Neem oil is beneficial for skincare, including acne treatment and maintaining skin elasticity. In traditional Indian medicine, practitioners recommend that patients suffering from Chicken pox sleep on neem leaves. Additionally, the neem tree is highly valued for its antidesertification properties and potential as a carbon dioxide sink. The seed and leaf oils derived from the neem tree are widely used in a variety of skin products, body lotions, and beauty care facial packs, often in combination with other natural ingredients. With the herbal cosmetic industry experiencing a boom phase, there is a significant opportunity for neem oil manufacturers worldwide to produce high-quality neem oil for use in the cosmetic industry. [32].

**9. Coconut oil**

Coconut oil is produced by crushing copra, the dried kernel, which contains about 60-65% of the oil. It contains high amounts of glycerides of lower chain fatty acids. The oil is obtained from the fruit or seed of the coconut palm tree Cocos nucifera, family Arecaceae. Its melting point is 24 to 25°C (75-76ºF), making it easy to use in liquid or solid forms, and it is commonly used in cooking and baking. Coconut oil serves as an excellent skin moisturizer and softener. [33]

**10. Jojoba oil**

The seeds of the desert shrub Simmondsia chinensis, family simmondsiaceae, produce a mixture of long chain, linear liquid wax esters. This substance is extracted to create jojoba oil, which is easily refined to remove any odor and color. Jojoba oil is oxidatively stable and is commonly used in cosmetics as a moisturizer and carrier oil for exotic fragrances. Human sebum and jojoba oil share almost identical properties. Sebum naturally protects and moisturizes the skin and hair, but it can be stripped away by chemicals, pollutants, the sun, and the aging process, leading to dryness. Jojoba oil helps to replenish what the skin and hair lose, restoring them to their natural pH balance. [34]

**11. Carrot**

The plant Daucus carota, belonging to the family Apiaceae, produces carrot seed oil. This oil has been valued for ages due to its high content of Vitamin A and other essential vitamins. It is used as an anti-aging, revitalizing, and rejuvenating agent [33]. Carrots obtain their bright orange color from β-carotene, as well as smaller amounts of α-carotene and -carotene. In humans, α and β-carotene are partially metabolized into vitamin A. [35].

**12. Rhodiola Rosea**

Rhodiola Rosea, also known as golden root, roseroot, Aaron's rod, arctic root, king's crown, lignum rhodium, orpin rose, is commonly grown in dry sandy plains at high altitudes in arctic regions of Europe and Asia. It has been utilized in traditional folk medicine for a variety of purposes such as improving physical stamina, enhancing work productivity, increasing longevity, boosting resistance to high altitude sickness, and treating fatigue, depression, anemia, impotence, gastrointestinal diseases, infections, and nervous system disorders. This plant is rich in phenolic compounds, which are recognized for their strong antioxidant properties. [37].

**Brahmi (Bacopa monnoria):**

Reetha powder is made from the dried fruit of Reetha. People use it as a face pack to improve facial complexion and as a hair application to make hair shiny and beautify them. It also helps in removing dandruff and lice from hair. Additionally, Reetha powder can be utilized for cleaning jewelry and washing woolen clothes. It plays a significant role in Ayurvedic preparations and the production of herbal shampoos.

**Multani Mitts (Fullers Earth):**
Mother Nature's own baby powder is clay, which people have used as a beauty mask to draw oils from the skin, provide natural moisturizers for hairs, teeth, gums, and hair. It helps to remove pimple marks, treat sunburn, unclog pores, cleanse the skin of flakes and dirt.

**Shikaka (Acasia cancina):**
Acasia concinna, a small shrub-like tree, grows in the warm, dry plains of central India. People who have access to this tree have used its podlike fruit for centuries to clean their hair. It is considered a superior cleanser for "lustrous long hair" and has been reported to promote hair growth, prevent dandruff, remove dandruff and lice, and effectively remove oil and dirt from hair. [38]

**Olive Oil:**
The fixed oil extracted from the fruits of Olea europaea, family oleaceae contains major constituents such as triolein, tripalmitin, trilinolein, tristearate, monosterate, triarachidin, squalene, β-sitosterol, and tocopherol. Cosmetic products like lotions and shampoos use this oil as a skin and hair conditioner. Additionally, it acts as a potent fatty acid penetration enhancer. [39]

**Sunflower Oil:**
The non-volatile oil extracted from sunflower seeds obtained from Helianthus annuus, family Asteraceae is known as sunflower oil. Sunflower oil contains lecithin, tocopherols, carotenoids, and waxes. It has smoothing properties and is considered noncomedogenic [40]. This simple yet cost-effective oil has been well tried and tested for generations in a wide variety of emulsions formulated for face and body products. [41]

**Green tea:**
The tea plant has been cultivated in Asia for thousands of years. People have cultivated the tea plant in Asia for thousands of years. Green tea is tea made solely with the leaves of Camellia sinensis belonging to the family Theaceae. Green tea manufacturers make green tea solely with the leaves of Camellia sinensis from the family Theaceae. 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. Green tea leaves contain four major polyphenolic catechins, including (2)-epicatechin (EC), EGC, (2)-EC-3-gallate, and the most abundant, EGCG. 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-di-methylbenz(a)anthracene [DMBA] and 12-O-tetra decanoylphorbol 13-acetate [TPA]) and photo-carcinogenesis (induced by UVB). Researchers found that green tea extracts or a specific green tea polyphenol (GTPP), particularly epigallocatechin (EGC)-3-gallate (EGCG), blocked two-stage chemical carcinogenesis (for example, induced by 7,12-di-methylbenz(a)anthracene [DMBA] and 12-O-tetra decanoylphorbol 13-acetate [TPA]) and photo-carcinogenesis (induced by UVB)[46]. The skin protectant is a premiere product that actively protects cells from direct damage and reduces inflammation. Green tea catechins possess antioxidant powers that are 20 times stronger than Vitamin E [43].

**Calendula**:
Calendula officinalis exhibits a remarkable antioxidant activity, anti-inflammatory activity, and wound healing activity [47]. A previous study showed that the essential oil of Calendula contains mainly α-thujene, α-pinene, 1,8-Cineole, dihydrotagetone, and Tmuurolol [48]. Topical use of Calendula in suspension or tincture treats acne, reduces inflammation, controls bleeding, and soothes irritated tissue [43]. Limited evidence suggests that calendula cream or ointment effectively treats radiation dermatitis. [49].

**Ginkgo**:
The ginkgo tree produces Ginkgo biloba, which belongs to the family Ginkgoaceae. It is most commonly known as a circulatory tonic that strengthens the tiny capillaries in all organs, with a particular emphasis on the brain. The capillaries become more flexible, allowing for increased oxygen delivery to the brain and eyes, providing protection against degenerative eye diseases like macular degeneration. As we age, this becomes increasingly important.

For thousands of years in China and Japan, the leaves and nuts of the Ginkgo biloba tree have been utilized to treat various medical conditions, such as poor blood circulation, hypertension, poor memory, and depression, especially among the elderly. It has also been used to address male impotence. Additionally, researchers are also attributing a similar reputation to Ginkgo biloba as an antioxidant and anti-inflammatory agent [50]. The natural mixture EGb 761, extracted from the leaves of the tree, contains flavone glycosides (33%), mainly quercetin and kaempferol derivatives, and terpenes (6%).

This extract has demonstrated the ability to show significant antifungal antibiotic effects when isolated from the leaves of Lawsonia inermis. [51].

**Almond Oil:**
Prunus dulcis produces almond oil, which is highly nourishing and has the ability to soften and strengthen hair. Additionally, almond oil serves as an effective cleansing agent.

**Arachis Oil:**
The seeds of the Arachis hypogea, belonging to the family Leguminoseae, produce a fixed oil that is pale yellow in colour with a faint nutty odour. This oil is actively used in preparing hair oils and 'Brilliantines'.

**Castor Oil**:
The seeds of Ricinus communis belonging to the family Euphorbiaceae yield this oil. People use it as an emollient in making lipstick, hair oils, creams, and lotions.

**Eucalyptus Oil**:
The generic name for distilled oil from the leaf of Eucalyptus, a genus of the Plant family Myrtaceae, is Eucalyptus oil. Eucalyptus oil has the ability to eliminate dandruff, which, in turn, promotes healthy hair growth.

**Rose Oil:**
Rose oil, which is well-known as an essential oil, is probably produced from the petals of Rosa damascena and Rosa centifolia, both belonging to the family Rosaceae. The steam-distilled version of rose oil is known as "rose otto", while the solvent extracted product is called "rose absolute". Perfumery commonly uses rose oil due to its distinctive scent, which is attributed to key flavor compounds such as beta-damascenone, beta-damascone, beta-ionone, and oxide.

**Citronella Oil:**
The leaves and stems of different species of the Cymbopogon family Cardiopteridaceae yield one of the essential oils. This oil has a crisp, rich citrus or lemon-like aroma that eliminates body odor and people use it in deodorants and body sprays, albeit in very small amounts. However, heavy doses of this oil can cause skin irritations. It is also possible to combine it with bathing water for a refreshing, body odor-concluding bath.

**Olive Oil**:
The fruits of Olea europaea, belonging to the family oleaceae, yield a fixed oil that contains major constituents such as triolein, tripalmitin, trilinolein, tristearate, monosterate, triarachidin, squalene, β-sitosterol, and tocopherol. This oil serves as a skin and hair conditioner in cosmetics like lotions, shampoos, etc. Additionally, it acts as a potent enhancer for fatty acid penetration. [52]

**Light Liquid Paraffin**:
The oily liquid, which has no colour or odour, consists of a mixture of hydrocarbons. This substance is utilized in the manufacturing of bath oils, hair oils, lotions, and creams because of its superior spreadibility.

**Heavy Liquid Paraffin**:
A mixture of hydrocarbons in the form of a colourless and odourless oily liquid composes it. It is used in creams, lotions, and hair oil for its soothing effect on the skin.

**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. An example is lipstick.

**Beeswax**:
Bees separate a purified wax from their honeycomb, Apis mellifera, which belongs to the family, Apidae. Beeswax consists of 70% ester myricyl palmitate and helps incorporate water to form an emulsion. [53].

**Antioxidants**:
Antioxidants, whether synthetic or natural, can effectively prevent free radical formation by scavenging them, promoting their decomposition, and suppressing such disorders [54]. Currently, there is a growing interest in natural antioxidants derived from herbal resources. [53].

**Tamarind**:
The tamarind plant parts consist of amino acids, fatty acids, and minerals. Tamarind has a sweet acidic taste due to tartaric acid, which is its most distinguished characteristic. In addition to being a rich source of sugars, tamarind fruit is also an

excellent source of Vitamin B and minerals. It exhibits a high antioxidant capacity that is associated with a high phenolic content, making it an important food source. [55-59].

**Vitamin C:**
Vitamin C plays a necessary role in hydroxylating proline, procollagen, and lysine. It also enhances the effects of photo damage. Additionally, Vitamin C effectively stimulates collagen repair, thereby reducing the impacts of photo-aging on the skin.

**Vitamin E:**
The major lipophilic antioxidant in plasma membranes and tissues is (Alpha-tocopherol). Vitamin E collectively refers to 30 naturally occurring molecules (4 tocopherols and 4 tocotrienols), all of which exhibit Vitamin E activity. It is generally considered to play a major role in arresting chain propagation and lipid peroxidation by scavenging lipid peroxyl radicals, thereby protecting the cell membrane from destruction. [60].

## 4. Conclusion

Herbal cosmetics use non-restrictive cosmetic ingredients to form a base for treating and beautifying various skin diseases. One or more herbal ingredients are incorporated into the formulation. These cosmetic products contain natural additives such as waxes, oils, colors, fragrances, and plant parts like leaves. Cosmeceuticals, which fall between pure cosmetics and pure medicine, are effective in addressing skin issues like hyperpigmentation, wrinkles, aging, and rough texture.

The demand for herbal cosmetics is on the rise due to their low cost, lack of side effects, eco-friendliness, and safety. Compared to synthetic cosmetics, herbal products offer a promising future. Proper regulation and standardization of these herbs can result in tremendous and significant growth in the herbal cosmetics sector. Olive Oil: Manufacturers extract this fixed oil from Olives.

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