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A REVIEW ON HERBAL COSMETIC

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ABSTRACT

Herbs have been used by humans for a variety of purposes, including food, medicine, and cosmetics. The Greek term “kosm tikos,” which means to have the ability to organize, Power, and skill in decorating, is where the word "cosmetic" originated. The story of how cosmetics came to be tells the chronicle of human development throughout history. In prehistoric times, around 3000 BC, man utilized color to attract the animals he wanted to hunt. He also used color to protect himself from enemy attacks by adorning his body and skin to make an adversary (whether human or animal) afraid.Originally connected to religion, warfare, hunting, and superstition, the field of cosmetics later became linked to medicine. The term “Herbal Cosmetics” refers to products that are produced utilizing a variety of approved cosmetic compounds as the base, and then one or more herbal ingredients are added to provide specific cosmetic benefits. Herbal cosmetics are natural plants and their products utilized for their aromatic qualities in cosmetic preparation. There are now more opportunities in the cosmeceuticals sector due to the rising demand for natural products.

1. INTRODUCTION

Cosmetics are goods designed to be applied to the body in order to enhance attractive traits, clean, beautify, or change look. [1]

Herbal cosmeceuticals-

Cosmetics with an active component derived from plants are referred to as herbal cosmetics.Cosmetic Preparation is separated into three groups. Solid: Talcum, Face, and Compact Powders Semisolid: cream, ointment, liners; liquid: mouthwashes, sprays, hair oil, lotion, etc.[2]

How Are Herbs Used?

Herbs were utilized in the past for both medical and cosmetic purposes.These were utilized in both their fresh and dried forms.These can be applied directly to the body and mashed, either with or without other ingredients. Actually, this was the only method these were utilized in the past. Nevertheless, there are currently just a few herbal manufacturers in India that produce their extracts, decoctions, infusions, tinctures, steam distillates, etc. There are several ways to use herbs.

1. **Infusions**: essentially, they are potent herbal teas that can be made in stainless steel or china clay pots.Aluminum containers are not recommended since they can contaminate infusions.
2. **Decoctions**: made by heating the herb in water to a boil.
3. **Extracts and tinctures**: typically, high alcohol content hydroalcoholic solvents are used to create extracts.
4. **Flower waters:** they are prepared similarly to infusions. You can use the same amounts of water and herbs.[3,4]

Herbal cosmetics provide advantages over traditional cosmetics [4].

1. They have no unfavorable side effects and don’t cause allergic reactions.
2. They blend in with skin and hair with ease.
3. Compared to other cosmetics in smaller quantities, these are much more effective.
4. Plant extracts have the right pharmacological effects while reducing the bulk qualities of cosmetics
. 5. Accessible and present in a wide range of plant species.
6. When it comes to their herbal ingredients, they are more stable, pure, and effective.
7. Simple to produce.
8. Herbal cosmetics are easier to handle and store over an extended period of time
9. Low price.[5

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Oils, waxes, gums, hydrophillic colloids, colors, fragrances, protective agents, bleaching agents, preservatives, antioxidants, and other auxiliary agents are among the raw materials commonly used in herbal cosmetics.[6, 7]

1. Oils:

Used in cosmetics, oils are derived from plant and mineral sources. Almond oil, avocado oil, castor oil, olive oil, and coconut oil are a few types of vegetable oils. Mineral oils include things like light and heavy paraffin

. A) Almond Oil: This fixed oil has a distinct golden color and scent that comes from the seeds of Prunes amygdalus, a member of the Rosaceae family. The combination of glycoside with oleic acid, linoleic acid, myristic acid, and palmitic acid constitutes the key active ingredients. It is utilized in the making of creams and lotions due to its emollient properties.

B) Arachis Oil: This fixed oil is similarly made from the seeds of the Leguminoseae family plant Aarchishypogea.

The oil has a light golden color and a subtle nutty smell. Colorless, refined groundnut oil contains active ingredients such as oleic acid. Modest amounts of other acids as well as linoleic acid. It becomes hazy around 3°C and solidifies at lower temperatures. It is utilized in the creation of brilliantines and hair oils.Castor oil is extracted from the seeds of the Euphorbiaceae family plant, Ricinius communis. It smells somewhat, and the oil is either colorless or yellow in hue. It is composed mostly of ricinoleic acid, which makes up 80% of the mixture of glycosides. It becomes a transparent liquid at 0° C. It is a component of lipsticks, hair oils, creams, and lotions as an emollient.

C) Olive Oil: This oil is made from the fruit of the Olea europea plant, which is a member of the Oleaceae family. The oil has a faint smell and is either pale yellow or greenish yellow in color. It is composed of the glycerides of myristic, stearic, linoleic, and oleic acids. It is partially or completely solid at lower temperatures. It offers calming, emollient qualities. It is employed in the production of bath oils, lotions, and creams.[8]

D) Coconut Oil: The dried solid endosperm of the coconut, Cocosnucifera, belonging to the Palmea family, is used to make this oil. In the winter it is an unctuous white or pearl-white mass; in the summer it is colorless.

E) Light liquid paraffin :is an oily liquid with no color or smell that is made up of a blend of hydrocarbons. In light liquid paraffin, both viscosity and weight per milliliter (0.83-0.87g) are minimal. Because of its improved spreadibility, it is used to make bath oils, hair oils, brilliantines, lotions, and creams.

F)Heavy liquid paraffin: This oily, colorless, and odorless liquid is made up of a mixture of hydrocarbons. It is utilized in creams, lotions, brilliantines, hair oils, and bath oils because of its calming impact on the skin. Petroleum is used to make heavy liquid paraffin.

2. Wax:

The esters that are produced when high molecular straight chain fatty acids condense with high molecular straight chain monohydric alcohol from the methanol series are known as waxes. They serve as a basis for oils and fats in cosmetics. Lipsticks, for instance. A quick discussion of common waxes is provided below.

[a)]Beeswax: This refined wax is extracted from the honeycomb of Apismellifera bees, who are members of the Apidae family. Seventy percent of beeswax is ester myricylpalmitate. It is solid, yellowish brown in color, and smells like honey. It turns brittle in cold weather and solidifies into a yellowish-white color with a subtle, distinct smell after bleaching. Beeswax melts between 62°C and 65°C. The inclusion of water to produce an emulsion is aided by beeswax

B) Carnauba wax: This comes from the leaves of the palmae family plant Copernicacerifera, also known as the Brazilian wax palm. Grades of carnauba wax are available. Light-brown to pale-yellow is the highest grade. It has the shape of flakes or powder that is quite gritty and has a distinct bland flavor.This wax melts between 81°C and 86°C. This hard wax is utilized in the production of furniture polishes, candles, and wax varnishes.

c) Paraffin Wax: Petroleum is distilled to produce it. The composition of this mixture of solid hydrocarbons is mostly made up of n-paraffins and, to a lesser degree, their isomers. Thus, it is also known as hard paraffin wax. Paraffin wax is a colorless, odorless, or white substance that resembles wax and feels somewhat greasy to the touch. Wax paraffin melts between 50°C and 57°C.

d) Spermaceti: A solid wax derived from the entire sperm, Physestercolodon, a member of the Physeteridae family, including the head, blubber, and ear case. It is mostly made up of cetylpalmitate and cetyimyristate spermaceti in a solid wax form. It is an unctuous, transparent, crystalline mass that has a faint pear-white color and minimal taste or odor. At roughly 0.94 specific gravity, it dissolves. A combination of saturated fatty acid and saturated fatty alcohol esters makes up synthetic spermaceti, which is also accessible. White to off-white translucent flakes with a crystalline structure and a pearly sheen are the form in which synthetic spermaceti is obtainable. Synthetic spermaceti melts between 43°C and 47°C.

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3. Colors:

Humans have been using color in cosmetics from the beginning of time. Basically, sight, touch, and smell are the three senses that influence the impulse to purchase a cosmetic product. Thus, one of the most crucial components of cosmetic compositions is color. A certain wavelength or set of wavelengths emitted by an object through one or more of the following phenomena—emission, reflection, refraction, or transmission—can produce color, which is a visual sense. Here, we'll touch briefly on natural colors like chlorophyll, saffron, and cochineal. [9]

A) Cochineal: A red dye made from the dried female insect of the Coccidae family, Dactilopius coccus, is called cochineal. Cochineal's primary coloring ingredient is carminic acid. When carminic acid crystallizes, it produces crimson needles that darken at 130°C and carbonize at 250°C. Water is used to remove the cochineal in order to prepare caramine. The red aluminum salt known as carmine lake is precipitated out of this solution by adding alum.

B) Saffron: This plant, Crocus sativa, a member of the Iridaceae family, is used to make it. Its stigmas and styles are what make it up. This perennial shrub is cultivated in India's Jammu and Kashmir region. Saffron powder is used as a flavoring and coloring agent in food preparations since it is yellowish and readily soluble in water. There are several carotenoids in saffron; one significant natural carotenoid is crocin. A colorless bitter glycoside called picrocrocin is the source of saffron's distinctive smell.

C) Chlorophyll: This natural green pigment is widely distributed in the natural world. It's the part that makes photosynthesis possible.

D) Rose: This member of the Labiatae family of plants is made by steam distilling the petals of the Rosemarina officinalis plant. The blossoms are picked just before sunrise, before they open, in order to extract rose oil.

E) Jasmine Essential Oil: Derived from the blossoms of the Oleaceae family plant Jasminum grandiflorum, the oil is extracted using a solvent and utilized in the perfumery sector.

F) Lavender: This member of the Labiatae family is derived from the blooms and stalk of lavandulaofficinals.

G) Tuberose: The tuberose is also known as the "mistress of the night." The oil has a thick, sensual aroma and is viscous and brown in color.

H) Geranium: Pelargonium graveolens, a member of the Geranigceae family, is the source of this oil, which is extracted from its flowers, leaves, and stalks. The plant's blooms and stems are used in the distillation process to extract its essence. Geranium bourbon is the name given to the geranium

I) Champa: The Micheliachampaka flower is the source of this substance.The flower's color ranges from yellow to deep orange.

J) Cinnamon: The leaves, bark, and roots of the cinnamon tree are the sources of cinnamon oil. Cinnamon Zeylanicum is a member of the Lauraceae family. The most precious oil is that extracted from the bark. The oil has a flavor that is warm, spicy, and sweet.

K) Neroli: The bitter orange tree's bloom is used to extract the essential oil by distillation. It can be kept in the refrigerator in bottles with an amber color.

L) Clove: The essential oils included in it are extracted from the buds of the Eugincacarryophylus plant, a member of the Myrataceae family.

M) Ambrtie: The expression method can be used to extract the oil from ambrtie seeds. The oil has a deep aroma that is musky, sweet, and floral. You can use the oil as an anti-aging remedy.

N) Sandalwood: This wood, which belongs to the Sundalaceae family, is derived by steam distillation from the hard wood of the Santalurn album. This is an ingredient used as a fixative in most perfumes.

3. Protective Agents:

Silicones serve as protective agents in cream formulations; they can be combined with other barrier agents, such as paraffin, petroleum jelly, beeswax, etc., to create superior barrier creams.

A) Chemicals for Bleaching The list of most popular bleaching agents is provided below. Compounds of Mercury: Mercury compounds that can be employed for their skin-whitening properties include ammoniated mercury, red mercuric oxide (HgO), and mercuric chloride (Hgcl). Mercury compounds are currently not allowed to be used in cosmetics.

B) Hydroquinones: At a concentration of 1.5%–2%, they are mostly utilized as bleaching agents to temporarily lighten skin. It is possible to experience burning and redness at 5% concentration. Hydroquinones have a reversible effect when exposed to sunshine.A similar outcome can also be seen if hydroquinone-containing cosmetics are stopped.

C) Catechol and its derivatives: Catechol partially demonstrates the skin illumination effect. 4. It has been discovered that isopropycatechol is one of the most effective de-pigmenting agents. At concentrations of three percent or above,

they can cause discomfort and a sensitization reaction.

D) Ascorbic Acid and its derivatives: Although its use has been determined to be safe, ascorbic acid does not appear to be a very effective de-pigmenting agent. It is mostly utilized in skin-whitening lotions, where hydroquinone is an antioxidant and stabilizer. Ascorbyloleate is used in skin-whitening creams at concentrations of 3% and 5% to bleach freckles on human skin.

5. **Oxidizing Agents**: Skin bleach products use hydrogen peroxide as an oxidizing agent. The qualities of zinc peroxide have not been established, yet it is occasionally utilized in anhydrous ointments like bleaching agents.
6. **Opaque Covering Agents**: A variety of cosmetic products, such as talc, zinc oxide, titanium dioxide, kaolin, bismuth, and others, that include white or pale pigments can provide the appearance of temporarily but noticeably changing the skin's color.
7. **Preservatives**: These substances are used to stop cosmetics from spoiling.They are byproducts of both the development of microbes and the oxidation of oils and fats. If preservatives are not included, most cosmetic preparations—especially those that contain water—are likely to degrade.

Characteristics of preservatives

The following qualities are essential in a preservative:

1. It should work well with the formulation
2. .Soluble to the degree required to reach a concentration that works.
3. Robust enough to maintain an antibacterial action over time
4. Colorless and odorless, or almost colorless.
5. The amounts utilized are non-allergic and non-irritating.
8. **Antioxidants**: During the refining process, naturally occurring antioxidants such tocopherols found in fats and oils are eliminated. Antioxidants must thus be included in order to prevent oxidative degradation from turning fats and oils in cosmetics rancid. Several antioxidants are frequently utilized in the creation of cosmetics.

- Amines: lecithin and purines
- Phenols: methyl gallate and gallic acid Quinones: Hydroxychromans, Tocopherols Di-lauryl thiopropionate esters
- Acids organic: Ascorbic acid
- Sorbitol and Mannitol are alcohols [10]

3. Herbal Cosmetics Classification [11, 12]

1. Skincare products
- Lip balm
- Cream
- Scrubbing
- Lotion & Liniment
- Face pack
- Antiperspirant & Deodorant
- Bath prep

2. Hair care products:
- Shampoo,
- oil,
- colorant

3. Tooth cosmetics:
- toothpaste,
- powder,
- mouthwash

4. Preparing nails
5. Making preparations by shaving
6. Preparing the feet The utilization of herbal products in cosmetics.

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The utilization of herbal products in cosmetics.

- Herbal Skin Care Products: 7 Skin Care Creams, Lavender Herbal Body Powder, Lotions Creams, and Silk Soaps.[13] Henna (Lawsonia inermis), Amla (Emblica Officinalis), Shikakai (Acacia Concinna), Brahmi (Bacopa monnieri), Bhringraj (Eclipta Alba), and Guar gum (Cyamopsistetragonolobus) are examples of herbal hair care cosmetics.
- Herbal Cosmetics for Lip Care: Herbal Lip Plumpers, Herbal Lip Gloss, Herbal Lip Balm, and Herbal Lipsticks
- Herbal Eye Care Cosmetics: Herbal Moisturizers, Rich Face and Hand Cream, Aloe Moisturizing Hand Cream, Eye Shadows, Eye Gloss, and Liquid Eye Liners
- Herbal oils: They work well for baldness, hair loss, hair thinning, dandruff, scalp irritation and itching, patchy baldness, and maintaining a good head of hair.
- Fragrances & Herbal Perfumes: Citrus Fragrance: More feminine smells, such as flowers, fruits, and chypre, are frequently blended with the light, fresh character of citrus notes, such as bergamot, orange, lemon, petitgrain, and mandarin.
- Fragrance Chypre: Mostly woodsy, occasionally with some floral notes. Perfumes from Chypre have a somewhat arid, less pleasant scent.[14, 15]

Table:1 herbs for skin cosmetic

Botanical Name/Part Used	Common Name	Part used	Use
Acorus calamus rhizome	Sweet Flag	Rhizomes	Dusting Powders, Skin Lotions
Allium Sativum bulbs	Garlic	Allicin	Promotes Skin healing
Avena sativa fruit	Oat	Bran layer	Skin tonic / Moisturizer
Aloe Vera Leaf	Aloe	Leaf	Radio-protective Moisturizer, Sun screen
Azadirachataindica	Neem	Leaf	Antiseptic

Table:2 herbs for hair

Botanical name/part Used	Name	Part used	Use
Cetrus lemon	Lemon	Peel	Prevent hair loss
Acacia concina	Shikakai	Pod	Cleansing agent
Aloe Vera Leaf	Aloe	Leaf	Moisturizer
Lawsonia alba	Henna	Leaf	Hair growth

Table:3 herbs for tooth

Botanical name/part Used	Name	Part used	Use
Azadirachataindica	Neem	Leaf	Toothache
SalvadoraPersica	Plllu	Twing	Antimicrobial

2. CONCLUSION

In the current pharmacological preparations, where the deleterious effects of food processing and overmedication have reached alarming dimensions, herbs play a crucial role. These days, alternative medicine, food, and teas, as well as cosmetics, are being

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