



A Review on Herbal Hair Care Cosmetics

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Abstract Herbal hair care products, including oils, shampoos, conditioners, and dyes, have gained traction due to their natural ingredients like amla, bhringraj, hibiscus, aloe Vera, and shiitake, which offer numerous benefits. These include promoting hair growth, strengthening hair, and addressing common scalp issues such as dandruff, dryness, and irritation. Herbal hair cosmetics are prepared, using colorful cosmetic constituents to form the base in which one or further herbal elements are used to treat various hair affections. Hair is an important part of the mortal body that protects the crown. Hair conditioners, soap, and hair oil painting are herbal hair care products that are applied to the hair and latterly used for sanctification, exertion, and irrigation. It's used to make the hair candescent and smooth. Increases the luster of hair. Herbal shampoos, formulated with natural cleansers such as neem and tea tree oil, offer gentle cleansing while maintaining scalp health. Additionally, herbal conditioners, containing ingredients like aloe Vera and hibiscus, provide hydration, reduce frizz, and improve hair texture. Natural hair dyes derived from henna and indigo provide a safer alternative to chemical dyes, covering gray hair while promoting hair vitality. The article also discusses the rising consumer awareness of the harmful effects of synthetic chemicals, which has contributed to the increasing demand for natural hair care products. The use of phytochemicals in these products enhances their ability to nourish, protect, and revitalize hair without adverse effects.

Keywords: Hair, Hair Care, Hair Cosmetics, Herbal Hair Oil, Herbal Shampoo, Herbal Conditioner, Herbal Colour

Introduction

The term "*cosmetic*," derived from the Greek word "*kosmetikos*," signifies the art of arranging and decorating, reflecting humanity's longstanding relationship with beauty and self-adornment. This relationship dates back to prehistoric times, around 3000 BC, when early humans used natural colors for decoration, both to attract prey and to invoke fear in potential threats, including predators and rival tribes. The evolution of cosmetics has been closely tied to fundamental human experiences—hunting, warfare, spirituality, and, eventually, medicine. In modern times, herbal cosmetics have emerged as a popular alternative, utilizing natural ingredients to enhance beauty while minimizing adverse effects associated with synthetic compounds.

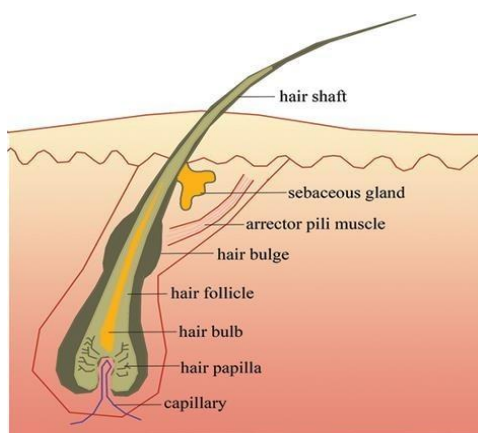
Defined as products formulated with a base of permissible cosmetic ingredients enriched with herbal elements, herbal cosmetics promise specific benefits for skin and hair care. The late 20th century saw the rise of "*cosmeceuticals*," a term coined to describe over-the-counter products that claim therapeutic benefits due to plant-based active ingredients, such as alpha-hydroxy acids and antioxidants. These components not only improve skin elasticity and reduce aging signs but also protect against environmental damage. The condition of our skin and hair is influenced by various factors, including lifestyle, climate, and health practices. Harsh weather conditions can



exacerbate skin issues, leading to dehydration, blemishes, and infections. In this context, the knowledge preserved in traditional systems like Ayurveda plays a crucial role, utilizing a rich array of herbs to create effective and safe cosmetics that nourish and protect the skin.

As consumers become increasingly aware of the potential harms of chemical-based cosmetics, the demand for herbal and natural products has surged. Herbal cosmetics, characterized by their phytochemical content, are believed to provide essential nutrients and promote skin health without the adverse effects often associated with synthetic alternatives. This growing trend aligns with the regulatory frameworks established by the Drugs and Cosmetics Act, which mandates that cosmetic products must not penetrate beyond the skin's surface nor claim therapeutic properties.

Hair Structure and Function



Components of Hair:

- **Follicle:** The living part located beneath the skin.
- **Hair Shaft:** The non-living part that extends above the skin surface.

Parts of the Follicle:

- **Upper Part:** Comprises the infundibulum and isthmus.
- **Lower Part:** Includes the hair bulb and suprabulbar region.

The upper follicle remains constant, while the lower part undergoes continuous regeneration.

Layers of Hair Shaft:

- **Cuticle:** Made of overlapping, flat cells. It protects inner layers and aids in removing debris from the scalp. A healthy cuticle is smooth, providing luster and moisture balance.
- **Cortex:** The thickest layer, made of tightly packed keratin filaments. It accounts for approximately 75% of hair weight and contains melanin, influencing hair color and texture (straight, wavy, curly).
- **Medulla:** The innermost layer, found in coarser hair types. Composed of softer structural proteins and amino acids.

Glands Associated with Hair:

- **Sebaceous Glands:** Produce oils that keep hair moisturized.
- **Apocrine Glands:** Open into hair follicles in certain areas.
- **Arrector Pili Muscle:** Located near the follicle, this muscle causes hair to stand on end in response to cold or stress, aiding in thermoregulation.

Functions of Hair:

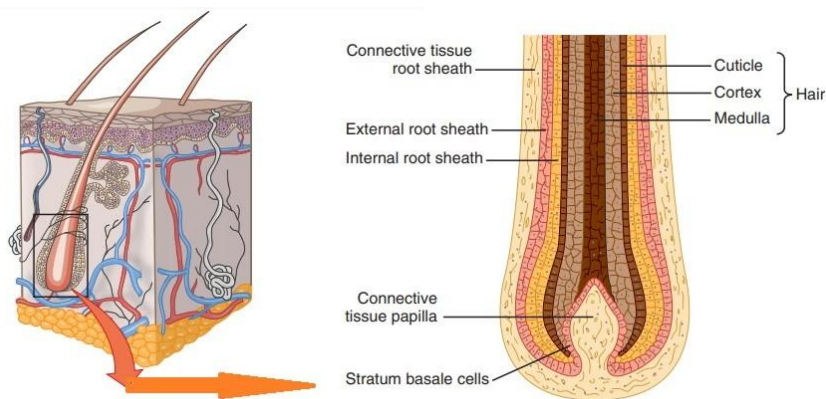
- Provides protection against environmental factors, including temperature changes and UV radiation.
- Serves important social and aesthetic roles in human life.



Hair Health:

Maintaining healthy hair requires proper care of both the follicle and the shaft. External factors can significantly affect hair texture and overall health. Understanding the structure and function of hair is essential for effective hair care and treatment. Addresses common issues like hair loss, dryness, and damage effectively.

This structured format presents the information clearly and concisely, emphasizing the key points about hair anatomy and function.



Anatomy Of Hair

Problems Related to Hair:

• Dandruff • Dry hair • Split ends • Oily hair • Frizzy hair • Limp hair • Hair loss • Heat damage • Colour damage • Grey hair

Hair Loss: Hair loss affects both men and women and can be caused by various factors such as stress, hormonal changes (including menopause), medical conditions, and certain hair products. Common causes include male pattern baldness, predominantly affecting men, and hormonal fluctuations in women.

Dry Hair: Over-washing hair can lead to dryness by stripping it of its natural oils. Many people wash their hair excessively, resulting in a lack of moisture.

Split Ends: Split ends occur due to over-brushing, frequent perming, excessive heat styling, and insufficient conditioning.

Oily Hair: Excess sebum production from the scalp can lead to oily or greasy hair, often caused by overactive sebaceous glands.

Frizzy Hair: Frizz is typically caused by a lack of moisture in the hair and can also be hereditary.

Dull Hair: Damage from chemicals or heat styling, along with environmental pollutants, can cause hair to appear dull.

Heat-Damaged Hair: Frequent use of styling tools like curling irons and flat irons can lead to heat damage.

Color-Damaged Hair: Chemical hair coloring can make hair porous, leading to breakage and fragility.

Gray Hair: While some embrace gray hair as a sign of maturity, others may find it more brittle and unmanageable.

Scalp Issues: • **Dandruff:** Characterized by the flaking of dead skin cells from the scalp. • **Seborrheic Dermatitis:** This condition involves itchy, flaky, and irritated skin on the scalp. • **Ringworm (Tinea Capitis):** A fungal infection of the scalp caused by *Trichophyton rubrum*. • **Scalp Psoriasis:** Marked by raised reddish patches, this condition can extend to other areas of the head. • **Folliculitis:** Inflammation of hair follicles on the scalp. • **Head Lice:** A contagious infestation caused by the parasite *Pediculus humanus capitis*, which lives on the scalp.

Hair Loss Causes and Symptoms

Hair loss can stem from various factors, including:

• Pregnancy • Sudden weight loss • High fever • Acute illness • Emotional stress • Genetic predisposition • Hormonal changes and medical conditions • Certain medications • Radiation therapy



Herbal Hair Care Cosmetics Includes

1. Herbal hair oil
2. Herbal hair shampoo
3. Herbal hair conditioners
4. Herbal hair dyes

1. Herbal Hair Oil:

Hair oil are hair care products. Hair care merchandise are defined as the formulations which might be used for the reason of cleaning, editing the hair texture, providing nourishment to the hair and retaining the healthful appearance of hair. Hair oil are hair care components implemented to the hair for the treatment of hair disorder which include baldness, greying of hair, hair fall, dry hair and also allows in providing nourishment to hair. Herbal cosmetics are excessive in demand because of increasing hobby of mankind closer to them additionally natural cosmetics are more effective with negligible facet consequences and components are without problems to be had. Natural hair oil is a critical part of natural cosmetics. Herbal hair oil is greater desired and used in lots of aliments of hair. They now not most effective sell hair boom however additionally offer vital moisture to the scalp rendering in stunning hair. Herbal oil which incorporate herbal pills are referred to as hair tonic. Natural hair oil gives some of vital nutrient which can be important to keep the normal function of sebaceous gland and promote natural boom of hair. Those are one of the maximum properly identified product for the treatment of hair. Using hair oil is growing every day in step with the development in preferred of dwelling of human beings to present herbal flavours and colourings to hair oil the herbal essences and perfumes are introduced.

Different types of herbal hair oil available in market:

1. Amla hair oil
2. Coconut hair oil
3. Bhringraj hair oil
4. Jasmine hair oil
5. Brahmi hair oil
6. Onion hair oil

List of ingredients and Importance in the Formulation of Herbal Hair Oil:

Different ingredients used in the formulation of herbal hair oil are presented in Table. As following:

Sr. No.	Ingredient	Importance/role
1.	Alovera Pulp	Boosting scalp health
2.	Tulsi	Antibacterial
3.	Hibiscus	Control premature Graying
4.	Shikakai	Anti-dandruff
5.	Fenugreek	Hair growth
6.	Coconut oil	Moisturise dry hair
7.	Almond oil	Treat hair loss and strengthens the hairs
8.	Jasmine Oil	Conditioning agent
9.	Vitamin E	Preservative

2. Herbal Hair Shampoo:

Herbal cosmetics are crafted from a blend of bioactive ingredients derived from plants, offering dual benefits: they not only serve as cosmetic products for skincare and haircare but also enhance biological functions through their phytochemical properties. These natural compounds contribute to healthier skin and hair, making herbal formulations a popular choice. In developing herbal cosmetics, plants can be utilized in various forms, including:

- **Total Extracts:** These include the full range of plant compounds.
- **Isolated Active Components:** Extracts such as aloe vera gel or various teas.



- **Selective Extracts:** Includes specific plant parts like wheat germ or ginkgo biloba.
- **Individual Natural Molecules:** Compounds such as vitamins and coenzyme Q10.

The term "herbal extracts" refers to these derived substances, a practice rooted in ancient traditions documented in texts such as the Vedas and Unani scriptures. In recent years, there has been a notable shift towards herbalism, as people increasingly seek natural alternatives to conventional chemical medicines, which may come with side effects. This trend is particularly prominent in India, where numerous indigenous herbs are harnessed for their beneficial properties in the cosmetic industry and beauty salons. Many herbal products are still used in their raw forms, dried or powdered using traditional methods like mortar and pestle. However, this approach can lead to formulations containing a high proportion of inactive ingredients, which may dilute the effectiveness of the product. To ensure efficacy, it is essential to concentrate the active compounds derived from herbal extracts.

Common Ingredients and Benefits in Herbal Shampoos

When it comes to herbal shampoos, the focus is on harnessing the natural properties of various plants to promote hair health:

- **Neem:** Known for its antibacterial and antifungal properties.
- **Hibiscus:** Helps condition and strengthen hair.
- **Aloe Vera:** Celebrated for its moisturizing and soothing qualities.

Herbal shampoos often incorporate essential oils from plants like rosemary and tea tree, which can stimulate hair growth and maintain scalp health. The formulation of herbal shampoos emphasizes gentle cleansing without harsh chemicals, making them suitable for various hair types and conditions. By utilizing the natural properties of these ingredients, herbal shampoos not only cleanse the hair but also nourish the scalp, promote shine, and reduce issues like dandruff or hair loss. Furthermore, as consumers become more aware of the environmental impact of their choices, the demand for sustainably sourced, herbal-based hair care products continue to grow.

Ideal Properties of Herbal Shampoo:

1. It should fully remove dust or soil, inordinate sebum or other substances, and loose corneal cells from the hair.
2. It should produce a good quantum of froth to meet the cerebral conditions of the stoner.
3. It should be fluently removed on irrigating with water.
4. It should be made the hair non-dry, soft, and lustrous with good manageability and minimal fly down.
5. It should conduct an affable scent to the hair.
6. It shouldn't beget any side goods vexation to the skin or eye.
7. It shouldn't make the hand rough and chapped.

List of Herbal Ingredients:

Sr. No.	Drugs name	Parts	Medicinal use
1.	Neem powder	Leaves	Antibacterial agent
2.	Hibiscus	Flower	Conditioning agent
3.	Aloe vera- powder	Leaves	Moisturizing agent
4.	Shikakai powder	Pods	Detergent
5.	Amla powder	Fruit	Anti-dandruff agent
6.	Soap Nut	Nut	Foaming agent

Preparation of extract

About 100 g of each powdered plant material, Neem, Hibiscus flower, Aloe vera, Shikakai, Liquorice, Amla, and Cleaner nut were homogenized. The powdered material was uprooted with distilled water by boiling it for 4 h. The excerpt of each plant material was separated and faded.

3. Herbal Hair Conditioner:

Hair conditioners are essential for enhancing the manageability and appearance of hair, reducing static, and adding shine. These products cater to various hair needs based on individual conditions and preferences. Recently, herbal



hair conditioners have gained popularity due to their natural ingredients, which offer numerous benefits for hair health.

1. **Aloe Vera (*Aloe barbadensis miller*):** Aloe Vera is highly valued for its high collagen content, often used to soothe sun-exposed skin. It contains vitamins that help repair sun-damaged hair, and its cooling properties alleviate scalp irritation, making it a staple in many hair care formulations.
2. **Flax Seed (*Linum usitatissimum*):** Rich in antioxidants, flaxseed oil promotes hair growth and strengthens hair from the roots, helps prevent split ends, and reduces premature greying. Additionally, flaxseed is effective in combating dandruff and hair thinning.
3. **Beetroot (*Beta vulgaris*):** Beetroot prevents premature balding and hair loss while offering a natural smoothing effect. It is beneficial for alleviating itchy scalp conditions and fighting dandruff, with its natural pigments imparting a subtle tint to the hair.
4. **Hibiscus (*Hibiscus rosa-sinensis*):** Known for its potential to stimulate hair growth, hibiscus effectively controls dandruff and rejuvenates and conditions hair. It nourishes the scalp, resulting in healthier hair strands, and is often included in hair care formulations for its moisturizing and strengthening effects.
5. **Amla (*Phyllanthus emblica*):** Rich in Vitamin C and tannins, amla enhances calcium absorption, benefiting bones, teeth, nails, and hair. It maintains natural hair color and prevents premature greying. Its antibacterial and antioxidant properties promote healthy, lustrous hair.
6. **Almond Oil:** Known for its nourishing and hydrating properties, almond oil softens and strengthens hair, offers sun protection, and controls frizzy hair by deeply hydrating the strands. It also adds a beautiful shine, improving the overall health and appearance of the hair.
7. **Glycerine:** Glycerine acts as a natural humectant, drawing moisture from the air to keep hair hydrated. It deeply moisturizes, reduces split ends, promotes growth, alleviates scalp itching, and repairs damage.

4. Herbal Hair Dyes:

Hair coloring or dyeing, practices of changing the hair color. The main reason for this is cosmetics to recover white and slate hair, to change the regarded as farther fashionable or desirable, The set herbal color contains all the probity of natural ingredients. The perfect blend of herbals also acts as a hair growth enhancer and hair nourisher.

Advantage

1. Natural appearance of the use of real human hair fiber.
2. May be styled as natural hair.
3. Able to color and perm.
4. Moves like natural hair.
5. Less susceptible to heat damage.

Disadvantages

1. More expensive.
2. Need more maintenance and care.
3. Requires styling.
4. May be heavier in weight than synthetic wigs, which may lead to itching.
5. More susceptible to sunlight fading and environmental damage.

Methods of hair dye preparation

1. **Weighing:** Next, a worker weighs out the component for the batch. For some constituents, only a small amount of is necessary in the batch. But if a veritably large batch is being made, and several constituents are demanded in large quantities.
2. **Mixing:** A formula in which no pre-mixing is needed, after checking and importing, the constituents are simply mixed. The constituents are fully mixed with each other.
3. **Filling:** The finished batch of hair color products formed place in the stuffing area. also, the measured amount of hair color on the importing balance.
4. **Packaging:** From the filling area, the plastic bag is taken to the packaging line. The packaging complete and the labelling of the product write the with full information. Then the product are them taken to the warehouse to await distribution.

Role of ingredients used in the formulation:

1. **Shikakai:** It consists of Lupeal, Spinasterol, Lactone, Hexacosanol, Spinasteron, Calyctomine, Racemase-Oleanolic acid, Lupenone, Betulin, Betulinic acid, Betulonin acid. The excerpt attained from its capsules is used as a hair cleaner and for the control of dandruff. Shikakai or acacia concinna, has a rich quantum of vitamin C,



which is salutary for hair. Shikakai naturally lowers the pH value and retains the natural oil of the hair and keeps them shiny and healthy. It's also effective in strengthening and conditioning hair, Amala, Retha, and Shikakai respects each other, thus, they're mixed together to have healthy and lustrous hair.

2. **Coffee:** In hair colorants, herbs can be used in the form of powder, aqueous extract or their seed oil to impact shades of various color varying from reddish brown to blackish brown. The herbal drugs like coffee powder obtained from its seed are used as hair colorant.
3. **Custard apple pulp powder:** It also helps to deal with unseasonable greying of hair in both manly and womanish. Custard apple is a good Herbal source of copper and gives hair the deep melanin color . To have thick, long, candescent and lustrous hair, one can apply the fruit paste on the hair loss when applied on the scalp. The quantum of iron in custard apple enhances blood rotation, in the scalp stimulating the follicle to hair growth promotion.

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