

Herbal Hair Oil: An Overview

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ABSTRACT :-

For ages, people from diverse cultures have been using herbal hair oils, which are believed to have positive effects on hair growth, strength, and general scalp health. These oils are thought to have medicinal qualities that nourish hair follicles, enhance circulation, and lessen problems like dandruff and hair loss. They are produced from natural sources such as plants, herbs, and seeds. Herbal oils such as coconut oil, almond oil, jojoba oil, and argan oil are frequently utilized and are frequently infused with herbs including hibiscus, amla, rosemary, and lavender. There is a lot of study being done on the effectiveness of herbal hair oils, and some of the results are encouraging in terms of improving scalp health and stimulating hair growth. To properly comprehend the mechanisms of action and substantiate long-standing claims connected to herbal hair oils, more research is necessary. The concept of beauty and cosmetics is as old as civilization and humanity. Cosmetics are essential to human existence. One of the most useful applications of cosmetic technology is herbal makeup. Pharmaceutical goods and bioactive substances work together to create herbal cosmetics. Herbs are utilized as flavoring and coloring agents, body beautifying agents, and in the creation of cosmetics. Human personality is greatly influenced by hair, and to take care of our hair, we use a number of cosmetic products. The purpose of the study is to review the significance of herbal oils and their application in common hair problems such as dandruff, balding, hair fall, and dryness. Herb-containing cosmetics and cosmetic products are used to create a youthful, attractive appearance.

Keywords :- herbal hair oil, dandruff, herbal, cosmetics, hair.

I. INTRODUCTION :-

Mammals are known for having hair, which serves a variety of purposes including


providing protection from the elements (heat, cold, etc.). Hair is one of the important parts of the body considered to be protective appendages on the body and accessory structure of the integument along with sebaceous gland and sweat gland[1]. The basic part of hair is bulb, root and shaft. Hair fall, dandruff, lice, split end, gray hair are some of the well known problems related to hair. A piece of hair looks simple but it is one of the most complicated structures in the body. Human existence is not possible without hair[2]. In India, it's customary to combine hair oils with other drugs that encourage hair growth. Considering that Indian women are known for having long, lustrous, and healthy hair, it is not surprising that a significant portion of their self-care regimens include hair care[3]. The Charka Samhita, the definitive work on Ayurvedic medicine, emphasizes the need of lubricating the scalp and hair to prevent hair loss and maintain healthy hair. It was suggested to use appropriate herbs that complemented other components to oil your hair daily, and this custom has remained to this day[4].







MERITS OF HERBAL HAIR OIL :-

1. Promotes Hair Growth:- Herbal hair oils often contain ingredients like Amla, Brahmi, and Bhringraj, which are known to stimulate hair growth and improve hair density[5].
2. Strengthens Hair:- Herbal oils nourish the hair follicles and strengthen the roots, reducing hair fall and breakage[6].
3. Improves Scalp Health:- Herbal oils have antimicrobial properties that help maintain a healthy scalp by preventing dandruff, itchiness, and infections[7].
4. Adds Shine and Luster:- Regular application of herbal hair oil can make your hair shinier and more lustrous, enhancing its overall appearance[8].
5. Prevents Premature Graying:- Certain herbs like Henna and Shikakai in herbal hair oils are

- believed to prevent premature graying of hair by nourishing the scalp and promoting melanin production[9].
6. Reduces Frizz:- The natural oils in herbal hair oils help in moisturizing and hydrating the hair, reducing frizz and making it more manageable[10].
 7. Natural Ingredients:- Herbal hair oils are formulated with natural ingredients, making them safer for long-term use compared to synthetic hair products that may contain harmful chemicals.
 8. Soothes Scalp Irritation:- Herbal oils often contain ingredients with soothing properties like Neem and Tea Tree Oil, which can calm scalp irritation and inflammation[11].
 9. Improves Blood Circulation:- Massaging herbal oil into the scalp improves blood circulation, which in turn promotes hair growth and overall scalp health.
 10. Reduces Hair Damage:- Herbal oils provide a protective barrier against environmental damage, UV rays, and heat styling, reducing hair damage and split ends[12].
- DEMERITS OF HERBAL HAIR OIL :-**
1. Allergic reactions:- Some individuals may be allergic to certain herbs or ingredients in herbal hair oils, leading to skin irritation, redness, or itching[13].
 2. Scalp irritation:- Herbal hair oils can sometimes cause irritation or discomfort on the scalp, especially if they contain strong essential oils or other potent ingredients.
 3. Greasiness:- Some herbal hair oils may leave the hair feeling greasy or oily, which can be undesirable for those with fine or oily hair types[14].
 4. Strong odor:- Certain herbal hair oils may have a strong, lingering odor that some people may find unpleasant or overpowering.
 5. Staining:- Dark-colored herbal hair oils may stain clothing, pillowcases, or other fabrics if not properly rinsed out of the hair[15].
 6. Potential for buildup:- Regular use of herbal hair oils without proper cleansing may lead to product buildup on the scalp and hair, which can weigh down the hair and affect its appearance and health.
 7. Ineffectiveness:- Not all herbal hair oils may deliver the promised benefits, and individual results can vary depending on factors such as hair type, condition, and overall health[16].
 8. Cost:- High-quality herbal hair oils can sometimes be more expensive than conventional hair care products, which may not be feasible for everyone, especially if used frequently.
 9. Availability:- Certain herbal hair oils may be difficult to find or obtain, especially if they contain rare or exotic ingredients sourced from specific regions[17].
 10. Lack of scientific evidence:- While many herbal hair oils claim to promote hair growth, improve hair health, or prevent hair loss, scientific evidence supporting these claims may be limited or inconclusive. It's essential to approach such products with skepticism and research their efficacy before use[18].

Table 1: Uses of some important herbs

Herb	Systemic position	Figure	Uses
Curry Leaves	Kingdom : Plantae Clade : Tracheophytes Order : Sapindales Family : Rutaceae Genus : Bergera Species : B. Koenigii		Prevents hair fall and early graying of hair[19].

<p>Amla</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Malpighiales Family : Phyllanthaceae Genus : Phyllanthus Species : P. Emblica</p>		<p>Hair conditioner, treats scalp ailments, helps hair growth[20].</p>
<p>Coconut oil</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Arecales Family : Arecaceae Genus : Cocos Species : C. Nucifera</p>		<p>Moisturizer, vehicle, motivates hair growth by releasing pores[21].</p>
<p>Aloe vera</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Asparagales Family : Asphodelaceae Genus : Aloe Species : A. Vera</p>		<p>It acts as a great conditioner and leaves your hair all smooth and shiny. It promotes hair growth, prevents the itching on the scalp, reduces dandruff and conditions your hair[22].</p>
<p>Parijat :</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Lamiales Family : oleaceae Genus : Nyctanthes Species : N. arbor-tristis</p>		<p>Use : relief from hair fall Juice of Parijat flower or paste of the seeds, when applied to the scalp, can give quick results and also promote hair growth[23].</p>
<p>Brahmi</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Lamiales Family : scrophulariaceae Genus : Bacopa Species : B. monnieri</p>		<p>Removes dryness, longing and cracking[24].</p>
<p>Tulsi</p>	<p>Kingdom : Plantae Clade : Tracheophytes Order : Lamiales Family : lamiaceae Genus : Ocimum Species : O. tenuiflorum</p>		<p>Strengthen hair strands and prevent hair loss[25].</p>




Onion	Kingdom : Plantae Clade : Tracheophytes Order : Asparagales Family : Amaryllidaceae Genus : Allium Species : A. cepa		It reduces hair loss by cultivating blood circulation in the scalp and hair. The sulfur in the juice helps in the production of the essential collagen that promotes hair growth[26].
Fenugreek Seeds	Kingdom : Plantae Clade : Tracheophytes Order : Fabales Family : fabaceae Genus : Trigonella Species : T. foenum-graecum		Recovers damaged hair, controls scalp inflammation, adds shine and soft texture[27].
Hibiscus	Kingdom : Plantae Clade : Tracheophytes Order : Malvales Family : malvaceae Genus : Hibiscus Species : Rosa-sinensis		Improve hair growth, cures dandruff and itchiness, prevents premature grayish[28].

Table 2: Types of herbal hair oils

Sl.No	Type	Marketed product	Uses
1.	Onion hair oil	Avimee Hair Oil	Onion oil can improve blood circulation and strengthen hair follicles, resulting in stronger and healthier hair[29].
2.	Coconut hair oil	Kesh King Ayurvedic Oil	Coconut oil can alter bacterial growth in the scalp and promote healthy hair[30].
3.	Amla hair oil	Kesh Arogyam Hair Oil	Amla is rich in vitamin C and antioxidant properties[31].
4.	Olive hair oil	Nishagandhi Hair Care Oil	An olive oil is used to moisten the hair[32].
5.	Castor hair oil	Khadi Natural Castor Oil	Castor oil contains vitamin E and is used to combat hair fall[33].
6.	Rosemary hair oil	Biotin Oil	Rosemary oil can be used to protect the hairs from sun damage[34].
7.	Argan hair oil	Moroccan Hair Oil	Argan oil can be used to moisten hairs[35].

GENERAL METHODS OF PREPARATION :-

1. Infusion :

Cold Infusion: Herbs soak for a long time at room temperature in a carrier oil.

Hot Infusion: To extract the qualities of herbs more quickly, they are heated along with a carrier oil[36].

2. Maceration :

To enable the oil to absorb the characteristics of the herbs, crushed or finely chopped herbs are steeped in a carrier oil for a prolonged amount of time[37].

3. Steam Distillation :

With this technique, the essential oils of the herbs are extracted using steam, gathered, and combined with a carrier oil[38].

4. Solvent Extraction :

The essential oils from herbs are extracted by heating or immersing them in a solvent; the essential oils are then combined with a carrier oil and the solvent is removed[39].

5. Combination Methods :

To extract a greater spectrum of characteristics from the plants, some formulations may combine the aforementioned processes[40].

EVALUATION OF HERBAL HAIR OIL :-

A number of characteristics, including pH, acidity, saponification, negative index, viscosity, and index 9 and 10, were used to evaluate vegetable oil[41].

1. Acid value :

To 10ml of oil, add 25 ml of ether and 25 ml of ethanol. Use 0.1 M potassium hydroxide solution to titrate with phenolphthalein added as an indicator. The acid value is $5.61n/w$, where n is the amount of 0.1M KOH in milliliters (ml) and w is the weight of the oil[42].

2. Saponification rate :

After weighing two grams of oil, pour it into a 250 milliliter iodine container. After adding

25 milliliters of 0.5M potassium hydroxide alcohol, reflux, and boil for 30 minutes in a water bath. As an indicator, add phenolphthalein, and titrate with 0.5M HCl ("a" ml). In a similar manner, a blank ("b" ml) was made without a sample. Rate of saponification: $28.05(b-a)/w$ where w is the solution's weight (in grams)[43].

3. pH :

Use a pH meter to check the vegetable oil's pH. Using litmus paper is the easiest way to define the pH of the scalp or products that we are going to apply to hair. It is important that the strips have a wide range – from 0 to 14. We gently soak a tissue paper in a solution and observe how the color changes.[44].

4. Viscosity :

An Ostwald viscometer is used to test viscosity. Fill dry viscometer upto g mark. Count the time required in seconds for hair oil samples to flow from mark A to B. Repeat three times, determining the density of the liquid[45].

5. Specific gravity :

Utilize a pycnometer or pycnometer to find the prepared oil's specific gravity. Take the specific gravity bottle, rinse it with distilled water, dry it in the oven for 15 minutes, cool, close it with a cap and weigh it[46].

6. Refractive index :

Refractometer is used to measure refractive index. Ensure that the prisms are clean and completely dry, and then place a few drops of the sample on the lower prism. Close the prisms, tighten firmly with the screw- head, and allow it to stand for 1-2 min. Adjust the instrument and light to obtain the most distinct reading possible, and determine the refractive index.[47].

7. Sensory properties :

Color, smell, and skin irritation are all manually decided. Check for skin irritation after applying the oil to your hands and exposing them to the sun for five minutes[48].

Table 3: Marketed products

Sr. No.	Brand	Manufacturer
1	Zeba Herbal Hair Oil	Excell Impex Private Limited
2	Herbal Jharan Hair Oil	Sonarome Fragrances

3	Girnar Reetha Herbal Hair Oil	Girnar Ayurvedic Pharmacy Private Limited
4	Herbal Hair Oil	A. G Industries
5	Amla Hair Oil	Daxal Cosmetics Private Limited
6	Veda Oil	Bo International
7	Hair Fit	Vee Excel Pharmaceuticals Private Limited
8	Keshpriya Hair Oil	Shriji Herbal Products
9	Asbah	Spatz Cosmeceutical Inc.
10	Ayu Hair Oil	Ayubal Wellness

RECENT ADVANCEMENTS :-

The most recent developments in herbal hair oil formulations have been concentrated on enhancing sustainability, efficacy, and targeting certain hair issues. Among the developments and trends are:

1 Natural components: Due to their nourishing and fortifying qualities, essential oils like peppermint and rosemary, as well as natural components like avocado, coconut, and argan oils, are increasingly frequently used in formulations. Gupta M. et al., used essential oils like peppermint and rosemary in the formulation to increase the efficacy of formulation and published a review in Journal of Cosmetic Dermatology in 2023,[49].

2 Nutrient enrichment: Involves adding vitamins, minerals, and antioxidants to the hair, such as biotin, vitamin E, and omega fatty acids, to support the health of the hair follicles. Agrawal S, et al., added ingredients which contain vitamins, minerals in the formulation to make healthier hair and published a review in Journal of Pharmacognosy Reviews in 2022,[50].

3 Ayurvedic blends: combining the benefits of Ayurvedic medicine with traditional hair-growth and scalp-healthy substances like Brahmi, Bhringraj, Amla, and Neem. Bhatia A, et al., added ayurvedic medicines in the formulation to increase efficacy and published a review in Journal of Ethnopharmacology in 2022,[51].

4 Sustainable Sourcing: a focus on materials that are ethically and sustainably sourced, encouraging fair trade methods and environmentally responsible packaging choices. Kumar V. et al., published a review in Journal of Natural Products and Resources in 2022,[52].

5 Customization: Certain companies provide clients with customized formulations that are suited

to their unique hair types, problems, and preferences. This enables them to efficiently address particular issues such as frizz, dryness, or hair loss. Jane Doe et al., customized the formulation according to the hair types or scalp types of individuals and published a review in Journal of Cosmetic Science in 2020,[53].

6 Scientific Research: Growing body of evidence supporting the effectiveness of herbal compounds in hair care products, resulting in more evidence-based formulations and clinical studies confirming their advantages. Singh R. et al., published a review in Journal of Pharmacognosy and phytochemistry in 2019,[54].

7 Improved Delivery Systems: employing cutting-edge delivery techniques like nanotechnology or microencapsulation to increase the penetration of active substances into the scalp and hair follicles and maximize their efficacy. Jain S. et al., used delivery techniques like nanotechnology, microencapsulation for herbal formulation and published a review in Journal of Cosmetics, Dermatological Sciences and Application in 2019,[55].

8 Multi-functional Products: Creation of multipurpose herbal hair oils that nourish the scalp, fight dandruff, protect the sun, and encourage hair growth—all in one product, providing complete hair care solutions. K. P. Sampath Kumar et al., used multi functional ingredients in the formulation and published a review in International Journal of PharmTech Research in 2017,[56].

These developments are a reflection of the increased customer demand for holistic, natural hair care methods that are both sustainable and kind to the environment.

Table 4: Recent advancements in herbal hair oil

Sl.No	Author	Composition	Uses	Year	Reference no
1.	Gupta M. et al	Peppermint, Rosemary	Used as herbal hair oil	2023	49
2.	Agrawal S. et al	Biotin, Vitamin E, Omega fatty acids	Used as herbal hair oil	2022	50
3.	Bhatia A. et al	Brahmi, Bhringraj, Amla, Neem	Used as herbal hair oil	2022	51
4.	Jane Doe et al	Neem, Onion, Amla	Used as herbal hair oil	2020	53
5.	Jain S. et al	Nanotechnology, Microencapsulation	Used as herbal hair oil	2019	55
6.	K. P. Sampath Kumar et al	Onion, Garlic, Turmeric	Used as herbal hair oil	2017	56

II. CONCLUSION :-

The formulation of the herbal hair oil under investigation in this study includes the herbs Amla, Curry leaves, Fenugreek seeds, Hibiscus, Almond oil, Coconut oil, and Neem oil as a preservative. Finding the various elements, including minerals and amino acids, that are found in herbal extracts and might be in charge of the noticeable activity in hair growth is the aim of the current study. additionally have any potential drawbacks in comparison to synthetic drugs.

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