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## Research Paper

# Research On the Preparation of Herbal Hair Oil

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### ABSTRACT

This research article emphasizes the importance of herbal hair oil for the healthy life of hair. Herbal hair oils are hair care components implemented into the hair for the treatment of hair disorders. Herbal hair oil is a critical part of natural cosmetics. This research article involves the preparation of herbal hair oil by a simple general method by natural sources like coconut, Neem, Amla, Onion, Aloe Vera, etc., and performing their evaluation parameters.


### INTRODUCTION

Beauty and cosmetic concepts are as ancient as mankind and civilization. Cosmetics play a vital role in human life. Herbal cosmetics is one of the most effective areas of cosmetic technology. Herbal cosmetics are developed by a coalition of bioactive ingredients and pharmaceutical products. Herbs are used for the beautification purposes of the body, and the preparation of cosmetics, flavoring, and coloring agents. Hair plays a vital role in the personality of humans and we use a lot of cosmetics products for the care of hair. The study aims to review the importance of herbal oil and its use in common hair problems such as baldness, hair fall, hair dryness, dandruff, etc. Various beauty and cosmetic products are used which contain herbs to give a young and charming

look. Various herbal ingredients are used in herbal hair formulation; they provide essential nutrients such as vitamins, antioxidants, etc. Herbal hair oil has been widely used for the nourishment of hair and for the protection of hair from hair fall and hair damage. Nowadays side effect is a major problem after using any beauty product due to which herbal products are preferred because of having less probability of any types of side effects.[1] Hair is one of the characteristic features of mammals and has various functions such as protection against external factors i.e. heat, cold, etc. Hair is one of the important parts of the body considered to be a protective appendage on the body and accessory structure of the integument along with the sebaceous gland and sweat gland. The basic parts of hair are the bulb, root, and shaft Hair fall,

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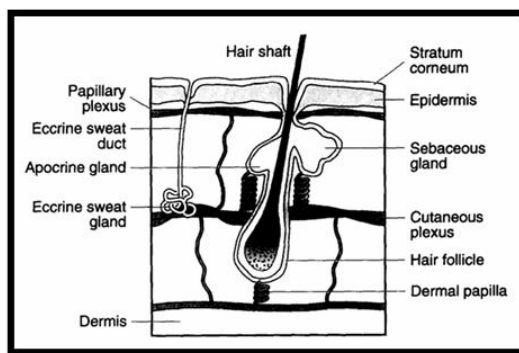
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dandruff, lice, split ends, grey hair are some of the well-known problems related to hair. A piece of hair looks simple but it is one of the most complicated structures in the body [1] Hair is composed of cylindrical structures or shafts made up of tightly compacted cells that grow from small sac-like organs called follicles (Fig. 1). In man, the diameter of individual hair shafts may range from 15 to 120  $\mu\text{m}$  depending upon the type of hair and the region of the body the follicle is located. Hair

contains a family of sulfur-rich proteins called keratin (from the Greek word, *keras*, meaning horn). In the hair shaft, keratin forms long fibers that become bound together very tightly through the replacement of SH groups with S-S bonds and through chemical crosslinking with other proteins. The result is a very tough, highly stable structure. [18]

➤ **Structure of the hair shaft**



**Fig no.1: Simplified diagram of a hair follicle, the associated apocrine, sebaceous and sweat glands, and the multi-layered vascular system in the surrounding tissues.[18]**

Each hair shaft consists of three distinct types of cells: an outer cuticle which surrounds a central cortex which, in turn, may contain a central medulla. The cuticle of human hair consists of a single layer of elongated, overlapping individual cells. Each cuticle cell is approximately 0.5 to 1.0  $\mu\text{m}$  thick and approximately 45  $\mu\text{m}$  long. The function of the cuticle is to anchor the hair shaft in the follicle and to protect the interior fibers. However, the cuticle can be damaged or destroyed by chemicals, heat, light, or mechanical injury. As a result, the cuticle becomes less intact towards the distal end of the shaft and may become frayed and fall apart. The cortex forms the bulk of the hair shaft and is composed of long keratinized cells which are formed into long fibers approximately 100  $\mu\text{m}$  long. These fibers are held together by a special chemical cement. Between the cells of the cortex are very small air spaces called fusi. In the living portion of the hair root, these small spaces are filled with fluid but as the hair grows and dries

out, air replaces the fluid. Pigment granules are also found in cortical cells and the type of pigment and alignment gives hair its color. Melanin (from the Greek word *melas* for black) is the principal pigment of hair, as well as the skin and eyes. Melanin is synthesized in specialized organelles called melanosomes located within the hair bulb in small bodies called melanocytes. Here, melanin is made from the amino acid tyrosine through the action of the enzyme tyrosinase. The color of human hair, from black to white, is produced by different amounts, distribution and types of pigments.[18]

➤ **Hair growth cycle:**

There are three phases of the hair growth cycle, mentioned below.

1. **Anagen (Growth phase)** – this is a short phase of 2-8 years and about 80% of hair is in this phase.
2. **Catagen (Involution)** – This is a very short phase 10-14 days and in this phase the activity

of hair growth increases and then hair moves to the next phase.

- 3. Telogen (Resting phase)** – in this stage hair is in the resting stage and this stage lasts for 90-100 days. Generally, 50-100 hairs are shed randomly every day. The telogen phase is a state at which the hairs move into a resting state. More than 100 hair per day causes a state of alopecia (hair loss), albeit it could be temporary [3]

➤ **Common Hair Disorders:**

In Ayurveda, hair diseases are described in three types Khalitya (loss of hairs), Palitya (Premature hair graying), and Indralupta (alopecia areata, totalis, universalis). They can be further manifested clinically as:

- 1. Congenital disorders of hair growth:** this type of hair disorder is genetic not environmental. It is also called hypertrichosis because it results in defects in the normal growth of hair follicles in the embryonic stage. It is one kind of alopecia.
- 2. Acquired disorders of hair growth:** this type of disorder is more complex in nature and is caused by biological factors of hair.
- 3. Dandruff:** Dandruff is a scaly particle which is cling to the root of the hair. It is caused by a

poor diet, infection, and slow rate of metabolism as well as by stress. Dandruff occurs at puberty and it is more common in men than women.

- 4. Split Ends:** it is commonly faced by women. When the hair is dry and brittle then results in split ends.
- 5. Frizzy Hair:** this is caused by a decrease in normal hair moisture level. High brushing condition leads to frizzy hair.
- 6. Flaky Scalp:** it is white flakes of dead skin that prevent the growth of hair and cause to hair loss. This problem is most common in women.
- 7. Dull, Gummy Hair:** it occurs due to the use of hard water for washing hair.
- 8. Hair Loss:** it is common in women and men also. This caused by stress, menopause, birth control, medication, changing hormones, and the plethora of hair styling products[40]. Alopecia is a common hair problem in cosmetics and also in Primary Health Care Practice, has been recognized for more than 2000 years. Approximately 0.2%-2% of the world population has been affected from alopecia

**Table no.1 : Herbal components of some marketed herbal hair formulations [2]**

Sr. No	Product name	Manufacture by	Content
1.	Chirayu	Herbal Chirayu	Amla, Bhringgraj, Brahmi
2.	Hairich	Capro	H. roseus, E. alba, Osantum
3.	Hairvit	Millennium	Brahmi, Bhringgraj, L.innerrmis
4.	Hibril	Vital Care	S indicum, Bhringgraj, Brahmi
5.	K-7 Taila	Ajmera	Amla, Jatamansi

➤ **Hair Oil**

Hair oil are hair care products. Hair care products are defined as formulations that are used for cleansing, modifying the hair texture, providing nourishment to the hair, and maintaining the healthy appearance of hair.[1]

Hair oil are hair care formulation applied to the hair for the treatment of hair disorders such as baldness, greying of hair, hair fall, and dry hair and also helps in providing nourishment to hair. Herbal cosmetics are high in demand due to the increasing interest of mankind in them also herbal cosmetics are more effective with negligible side effects and ingredients are easily available. Herbal hair oil is an essential part of herbal cosmetics. Herbal hair oil is preferred and used for many ailments of hair. They not only promote hair growth but also provide necessary moisture to the scalp rendering in beautiful hair. Herbal oil which contains herbal

drugs is known as hair tonic. Herbal hair oil provides several essential nutrients that are important to maintain the normal function of the sebaceous gland and promote the natural growth of hair. These are some of the most well-recognized products for the treatment of hair.[1]

The use of hair oil is increasing every day in line with the improvement in the standard of living of people To give natural flavors and colors to hair oil herbal essences and perfumes are added.

➤ **Different types of herbal hair oil are available in the market**

- i. **Amla hair oil**
- ii. **Coconut hair oil**
- iii. **Bhringraj hair oil**
- iv. **Jasmine hair oil**
- v. **Brahmi hair oil**
- vi. **Cantharidine hair oil**
- vii. **Onion hair oil**

**Table no. 2: Commonly used ingredients in the formulation of herbal hair oil [3]**

Sr. No.	Ingredients	Quantity	Importance
1.	Coconut oil	60%	moisturize dry hair
2.	Till oil	15%	promote hair growth
3.	Almond oil	4%	treat hair loss and strengthen the hair
4.	Hibiscus	2%	contain premature greying, ticking of hair
5.	jasmine	1%	conditioning agent and fragrance

➤ **Data and materials:**

**1. Neem:**

Neem is found indigenous to all plains of the Indian subcontinent.

It is a fast-growing tree that can reach a height of 15-20 meters. It is Evergreen, Shading many of its leaves during the winter months. Various parts, such as leaves, bark, gum, etc., are used on a large scale for medicinal preparations.





**Fig no. 2: Neem [20].**

➤ **Chemical constituents-**

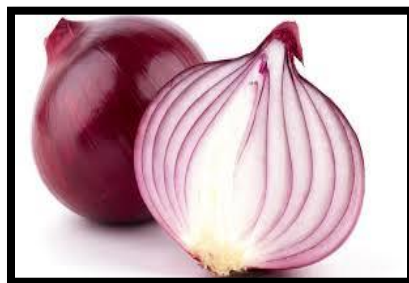
The oils from the curry leaves were found to contain mostly oxygenated monoterpenes. Using GC and GC-MS 33 constituents were found with linalool (32.83%), elemol (7.44%), geranyl acetate (6.18%), myrcene (6.12%), allo-ocimene (5.02),  $\alpha$ -terpinene (4.9%), and  $\epsilon$ -  $\beta$ -ocimene (3.68%) as the main compounds Curry leaves are rich in flavonoids, vitamins, terpenoids, and nicotinic acid, among other beneficial compounds [12]

**Table no.3: Biological Classification of Neem [23]**

<b>Kingdom:</b>	Plantae
<b>Clade:</b>	Tracheophytes
<b>Clade:</b>	Angiosperms
<b>Clade:</b>	Eudicots
<b>Clade:</b>	Rosids
<b>Order:</b>	Sapindales
<b>Family:</b>	Meliaceae
<b>Genus:</b>	<i>Azadirachta</i>
<b>Species:</b>	<i>A. indica</i>
<b>Binomial name</b>	<i>Azadirachta indica</i>

• **Role:**

- Helps to relieve itchy scalp



- Intensify hair growth.

- Prevents premature greying of hairs.

- Nourishes hairs.

- Controls dandruff [13]

**2. Onion:**

The **onion** has been grown selectively bred in cultivation for at least 7000 years. Modern varieties typically grow to height of 15-45cm. The leaves are yellowish to bluish green and grow alternately in a flattened, fan shaped swathe. Onion has been valued as a food and medicine plant since ancient time.

**Table no.4 : Biological Classification of Onion :**

Kingdom:	Plantae
Clade:	Tracheophytes
Clade:	Angiosperms
Clade:	Monocots
Order:	Asparagales
Family:	Amaryllidaceae
Subfamily:	Allioideae
Genus:	<i>Allium</i>
Subgenus:	<i>A. subg. Cepa</i>
Binomial Name	<i>Allium cepa</i>

**Fig no.3 : Onion [19]**

➤ **Role of onion in hair oil :**

- Treats dandruff
- Inhibits hair thinning
- Fights scalp infection
- Slows down premature greying
- Nourishes dry or brittle hair.[1]

**3. Aloe Vera**

**Aloe Vera** is a stem less or very short, stemmed plant growing to 60-100cms. The leaves are thick and fleshy, green to gray-green, with some varieties showing white flecks on their upper and lower stem surfaces. Aloe species are distributed widely in the eastern European continents and are spread almost throughout the world. [13]

• **Role:**

- Strengthens the hairs.
- Repairs hair strands.
- Relives itchy scalp.
- Nourishes hair.

**Table no.5 : Scientific Classification of Aloe vera**

Kingdom:	Plantae
Clade:	Tracheophytes
Clade:	Angiosperms
Clade:	Monocots
Order:	Asparagales
Family:	Asphodelaceae
Subfamily:	Asphodeloideae
Genus:	<i>Aloe</i>
Species:	<i>A. vera</i>
Binomial name	<i>Aloe vera</i>

➤ **Chemical constituents-**

Enzymes (i.e., amylase, catalase, and peroxidase) minerals (i.e., zinc, copper, selenium, and calcium) sugars (monosaccharides such as mannose-6 phosphate and polysaccharides & anthraquinones. Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids. Vitamins: It contains vitamins A (beta-carotene), C and E, which are antioxidants. It also contains vitamin B12, folic acid, and choline. The active constituents of aloe vera include polysaccharides with protective effects on skin, as they exhibit antioxidant and anti-inflammatory properties[12]

**4. Indian gooseberry /Amla**

**Amla** is also known as Indian gooseberry, Amalki or Emblica. It is dried as well as fresh fruit pericarp of plant *Emblica officinalis* L, Family Euphorbiaceae. Amla, popularly also known as “Queen of the Ayurvedic Rejuvenating Herb”, is rich in Vitamin C (ascorbic acid). Fruits also contain phyllembin, fat, tannin, calcium, phosphorus, iron along with this, it also has gallic acid, gallotannin and ellagic acid. Fatty acids in amla promote hair strength and lustre while tannins and calcium protect against photo and heat damage. Vitamin C in amla enhances collagen production, adding length and volume to hair.[17]



**Fig no.4 : Amla [18]**

**Table no.6 : Scientific classification of Indian gooseberry [24]**

Kingdom:	Plantae
Clade:	Tracheophytes

Clade:	Angiosperms
Clade:	Eudicots
Clade:	Rosids
Order:	Malpighiales
Family:	Phyllanthaceae
Genus:	<i>Phyllanthus</i>
Species:	<i>P. emblica</i>
Binomial name	<i>Phyllanthus emblica</i>

• **Chemical constituents-**

Officinalis, especially fruit, contain numerous phytoconstituents viz. higher amount of polyphenols like gallic acid, ellagic acid, different tannins, minerals, vitamins, amino acids, fixed oils, and flavonoids like rutin and quercetin. Main Active Compounds Emblicanin A and B, punigluconin and pedunculagin Gallic acid, chebulagic acid, geraniin, ellagic acid, and corilagin, Quercetin, rutin, Gallic acid, mucic acid, and beta-glucogallin Emblicanin A and B, punigluconin, pedunculagin, rutin, and gallic acid [12]

➤ **Uses of Amla in hair oil**

Amla is one of the trusted herbs that help maintain a healthy scalp by retaining moisture and balancing pH levels. The high concentration of

vitamin C in amla tackles dandruff and strengthens the hair follicles. In addition, amla contributes to a healthy scalp and encourages healthy hair growth

- Reduces hair fall and prevents hair loss Amla is rich in Vitamin C, which helps in strengthening the hair follicles, reducing hair fall.
- Helps in treating dandruff Amla has antifungal properties that can help in treating dandruff and promoting a healthy scalp.
- prevents premature greying of hair Amla is believed to prevent premature greying of hair due to its high content of antioxidants.
- Treats itchy or irritated scalp If you have itchy or irritated scalp then benefits of Amla for hair can help you relieve scalp conditions and improve scalp health and hair follicle health.
- Protects from external damage to hair Amla contains tannin and calcium, which help protect your hair from photodamage and heat damage. Therefore, amla benefits for hair will help you enjoy damage-free hair.[12]

➤ **Coconut**



Fig no.5: coconut [21].

➤ **Chemical constituents-**

Coconut oil is made up of about 90% saturated fats and 9% unsaturated fats. However, the saturated fats in it differ from saturated fats in animal fats. Over 50% of the fats in coconut oil are medium chain fatty acids, such as lauric acid (12:0). Coconut oil is the highest natural source of lauric

acid. Coconut oil comes from the nut (fruit) of the coconut palm. It contains medium-chain fatty acids, including capric acid, caprylic acid, and lauric acid. About 52% to 85% of coconut oil is made up of specific saturated fats, called medium chain fatty acids. Coconut oil is composed of the fatty acids, caprylic acid C -8:0 (8%), capric acid,

C-10:0, (7%), lauric acid C-12:0, (49%), myristic acid C-14:0(8%), palmitic acid C-16:0 (8%), stearic acid C-18:0 (2%), oleic acid C-18:1 (6%) and 2% of C-18:2 linoleic acid. [12]

**Table no.5: Scientific classification of coconut [25]**

Kingdom:	Plantae
Clade:	Tracheophytes
Clade:	Angiosperms
Clade:	Monocots
Clade:	Commelinids
Order:	Arecales
Family:	Areaceae
Subfamily:	Arecoideae
Tribe:	Cocoseae
Subtribe:	Attaleinae
Genus:	<i>Cocos</i>
Species:	<i>C. nucifera</i>
Binomial name	<i>Cocos nucifera</i>

### ➤ Preparation of Virgin Coconut oil

Process of preparation of virgin coconut oil [7]

- a) The process of extraction of coconut oil starts with grating the fresh coconut flesh and squeezing it through a muslin cloth to get coconut milk.
- b) Then, heat the milk over a medium flame for 2 to 3 hours in a brass vessel with continuous gentle stirring.
- c) Once it turns brown and thickens, please remove it from heat and let it settle.
- d) Finally, strain the mixture through a clean muslin cloth to separate the oil, and store it in a sealed container

### ➤ Method of herbal hair oil preparation

- I. The parts of plants like coconut, onion, amla and aloe vera were collected from the local market.
- I. Aloe Vera pulp (Leaves), and neem, are dried in sunlight, and converted into coarse powders.

- II. The extracts were prepared by decoction method & the prepared extracts were stored in well-closed containers.
- III. Precisely all the dried and fresh herbs, neem, Aloe Vera pulp & amla powder weighed and triturated in the mortar & pestle and mixed with Almond oil and onion oil
- IV. Add coconut oil in the steel container and heated separately at low gas flame... Then Added all ingredients in that in constantly stirring
- V. Heat this all Ingredients in coconut oil at lower gas flame.. Be carefully that it should not get dark colour
- VI. The above content was boiled for 15 min and cool them at room temperature.
- VII. filtered through a muslin cloth.
- VIII. To the filtrate, coconut oil was added to the makeup volume.
- IX. Finally, a small amount of flavoring agent (Jasmine oil) was added to the oil.
- X. Vit E was used as a preservative.
- XI. It was placed in a closed container.
- XII. Now. Perform evaluation test for Polyherbal hair oil
- XIII. After all process of optimization and evaluation transfer this oil in well suitable tight container.
- XIV. Add label to this Polyherbal hair oil product.

### ➤ Onion oil.

#### • Procedure

- i. Heat 250 ml virgin coconut oil in a pan.
- ii. After 5 minutes add onions.
- iii. Hens after 5 mins add neem leaves.
- iv. Heat for next 15 mins. Add castor oil/ almond oil/ olive oil for further improvisation.
- v. Castor oil is said to improve the length of the hair and split ends. Almond oil provides Vit. E and nourishment to the scalp. Olive oil for getting voluminous hair.



vi. Let it cool down and then filter the oil with the help of a sieve.[13]

➤ **Formula of hair oil :**

Sr. no.	Ingredient	Quantity (%)
1.	Coconut oil	73%
2.	Amla powder	4%
3.	Neem powder	2%
4.	Aloe vera powder	3%
5.	Onion oil	8%
6.	Almond oil & Olive oil	qs

➤ **Evaluation parameter for herbal Hair Oils [3]**

Prepared herbal hair oil became expected for product overall performance which incorporates physicochemical Parameters.

**1. Organoleptic properties:**

- I. **coloration:** Detected through bare eyes.
- II. **Sensitivity:** implemented to the skin and exposed to the sunlight for 5 minutes to check for any inflammation over pores and skin.
- III. **Grittiness:** Rubbed to the skin and determined.
- IV. **Sedimentation:** Hold the entire instruction aside overnight and check for sedimentation.

**2. pH determination:**

Take a pH paper dip into the formulated hair oil and check for the coloration trade.

3. **Acid cost:** 10 ml of oil turned into added with 25ml of ethanol and 25ml of ether. Phenolphthalein changed into Delivered as indicator and titrated with zero.1M Potassium hydroxide solution. N = wide variety of ml of 0.1M KOH qw= Wt. of oil.
4. **Specific gravity:** Specific gravity the prepared oil became decided the usage of unique gravity bottle.
5. **Balance study :** It is preferred with the aid of retaining the organized natural hair oil in a closed container at cooled and dry place.

➤ **Results :Physio-chemical parameters and its observations**

Physico-chemical parameters	Observation
Color	Lemon yellow
Texture	Oily liquid
Irritancy	Non-irritant
Solubility	Non-polar solvents
Odor	Pleasant
State	Liquid
PH	7-7.8
Viscosity	0.98
Spreadability	Easily spreads
Specific gravity	1.09
Stability study	Stable
Skin irritation	No irritation
Susceptibility test:	Susceptible to all types of skin nature
Grittiness	Smooth

**CONCLUSION:**

Currently, there is an increased demand for herbal preparations than synthetic ones as people believe that the products from nature have less or no side effects. Considering the same, current research work aimed at formulating and evaluating a polyherbal hair oil formulated using coconut oil and some herbs like Neem, Onion, Amla, and Aloe Vera, The formulation was assessed by various parameters and the results were within the acceptable limits and satisfactory, we conclude that prepared hair oil is suitable to use and beneficial to health of scalp and hair.

**REFERENCES**

1. Suman, K. G., Kumar, B., & Mukopadayay, S. (2022). Herbal hair oil: A review. International Journal of Health Sciences, 6(S2), 13449–13465.
2. Swarnlata Saraf<sup>1</sup> \*, Manjusha Jharaniya<sup>1</sup>, Anshita Gupta<sup>1</sup>, Vishal Jain,<sup>1</sup> Shailendra Saraf , HERBAL HAIR COSMETICS: ADVANCEMENTS AND RECENT FINDINGS, World Journal of Pharmaceutical ReseaRch, Vol 3, Issue 2, 2014. 3278-3294



3. Dhanashree V. Darade \* , Vaibhav P. Gote, Swati P. Deshmukh and Neha Y. Bansod , A review on formulation and evaluation of herbal hair oil , *GSC Biological and Pharmaceutical Sciences*, 2023, 25(03), 001–004
4. Ashwini S. Pundkar, Prachi M.Murkute, Snehal Wani, Mohini Tathe , A REVIEW: HERBAL THERAPY USED IN HAIR LOSSA REVIEW: HERBAL THERAPY USED IN HAIR LOSS , *Pharmaceutical Resonance* 2020 Vol. 3 – Issue ,44-50
5. M.R. Harkey , Anatomy and physiology of hair ,*Forensic Science International* 63 (1993) 9-18
6. Arun Kumar Yadav\*, Firoj Ahamad\*, Kiran Singh, Swapna Sahu , A Review Article on the Formulation and Evaluation of Herbal Hair Oil , *Research Journal of Pharmacognosy and Phytochemistry*. 16(2): April – June, 2024
7. Dhiraj Baishya1 , Ananta Choudhury1 \* , Himangshu Deka1 , Nurjamal Hoque1 , Rosamund Jyrwa2 , Jahnabi Sarmah3 , PREPARATION OF HERBAL HAIR OIL EXPLORING THE THERAPEUTIC BENEFITS OF HERBS AND ITS EVALUATION , *Journal of Applied Pharmaceutical Research* Volume 12 Issue 1, Year of Publication 2024, Page 116 – 126
8. Ursulandréa Sanches Abelan MSc1 | Ándressa Costa de Oliveira MSc2 | Érica Savassa Pinto Cacoci RPh3 | Tércio Elyan Azevedo Martins PhD2,4 | Virginia Mansanares Giacon PhD5 | Maria Valéria Robles Velasco PhD2 | Cibele Rosana Ribeiro de Castro Lima PhD6 , Potential use of essential oils in cosmetic and dermatological hair products: A review, *J Cosmet Dermatol*. 2021;00:1–12.  
wileyonlinelibrary.com/journal/jocd © 2021 Wiley Periodicals LLC, 1-12
9. Z. Shahi, M. Khajeh Mehrizi\* , M. Hadizadeh , A Review of the Natural Resources Used to Hair Color and Hair Care Products , Z. Shahi et al /*J. Pharm. Sci. & Res.* Vol. 9(7), 2017,1026-1030
10. V. Baskar Ananda Raj, P. S Shiji Kumar, K.M Nishad , HAIR CARE PROMISING HERBS: A REVIEW K. Rashid\* , *Indo American Journal of Pharmaceutical Research*, 2020, 1-12
11. Pavan S , Formulation and Evaluation of herbal hair oil , *International Journal of Pharmaceutical Research and Applications* Volume 6, Issue 5 Sep-Oct 2021, pp: 1285-1299
12. Swapnil Kale\*, Harshali Mohurle, Sakshi Mhaske, Nikita Gade, Mrunal Gadakh, Sneha Kanase , Optimization and Analysis of Herbal Infused Hair Oil Formulation for Enhance Hair Growth Activity , *Int. J. of Pharm. Sci.*, 2024, Vol 2, Issue 7, 1587-1608 |Research,1-22
13. Krushna Bapusaheb Jare\*, Gore Kailas Babasaheb and Prof. Abhijeet Raosaheb Shete , THE HERBAL DRUGS USED IN THE HERBAL HAIR OIL. *World Journal of Pharmaceutical Research*,229-238
14. Azra Kamal\* ,Physicochemical Investigation of Some Herbal Hair Oil, *Int. J. Pharm. Sci. Rev. Res.*, 30(2), January – February 2015; Article No. 15, Pages: 93-94
15. Melvin Sabu, Oleeviya Sojan, Prathibha C, Dr. Kavitha PN and Dr. Saraswathi CD , Formulation and evaluation of herbal hair oil , *National Journal of Pharmaceutical Sciences* 2021; 1(2): 94-97
16. Kashyap Rakesh, Dr. Shukla Karunakar, Dr. Mahajan SC, Mr. Sharma Alok , Formulation and evaluation of hair oil for hair loss disorders , *Journal of Medicinal Plants Studies* 2016; 4(3): 13-17



17. Areej Siddiqui\*, Shreya Sanjay Thopate, Rutuja Santosh Tekawade , HERBAL OIL: FORMULATION & EVALUATION , World Journal of Pharmaceutical Research , Vol 12, Issue 19, 2023.,690-700
18. <https://freshji.in/wp-content/uploads/2020/09/aml-1.jpg>
19. <https://chefsmandala.com/wp-content/uploads/2018/03/Onion-Red.jpg>
20. [https://www.dabur.com/Medical%20Plants/Neem\\_1917057650%20%283%29.jpg](https://www.dabur.com/Medical%20Plants/Neem_1917057650%20%283%29.jpg)
21. [https://www.fruits365.shop/cdn/shop/products/puja-coconut\\_grande.jpg?v=1672228187](https://www.fruits365.shop/cdn/shop/products/puja-coconut_grande.jpg?v=1672228187)
22. [https://en.wikipedia.org/wiki/File:Mixed\\_onions.jpg](https://en.wikipedia.org/wiki/File:Mixed_onions.jpg)
23. [https://upload.wikimedia.org/wikipedia/commons/thumb/5/5a/Status\\_iucn3.1\\_LC.svg/330px-Status\\_iucn3.1\\_LC.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/5/5a/Status_iucn3.1_LC.svg/330px-Status_iucn3.1_LC.svg.png)
24. <https://en.wikipedia.org/wiki/Phyllanthus>
25. [https://en.wikipedia.org/wiki/Taxonomy\\_\(biology\)](https://en.wikipedia.org/wiki/Taxonomy_(biology)).

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