

# **Formulation and Evaluation of Herbal Hair Oil**

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**Abstract:** *Hair is one of the vital parts of the body derived from ectoderm of the skin, is protective appendages on the body and considered accessory structure of the integument along with sebaceous glands, sweat glands and nails*

**Keywords:** Hair

## **I. INTRODUCTION**

Hair is one of the vital parts of the body derived from ectoderm of the skin, is protective appendages on the body and considered accessory structure of the integument along with sebaceous glands, sweat glands and nails.

[1] The medical term for hair loss is alopecia. Alopecia can be temporary or permanent. The most common form of hair loss occurs gradually and is referred to as “androgenetic alopecia” meaning that a combination of hormones (androgens are male hormones) and heredity (genetics) is needed to develop the condition.

[2] Herbal formulations always have attracted considerable attention because of their World Journal of Pharmaceutical Impact Factor 5.990 Volume 4, Issue 10, 1801-1808. Research Article ISSN 2277– 7105 Article Received on 10 Aug 2015, Revised on 30 Aug 2015, Accepted on 21 Sep 2015 \*Correspondence for Author Nanda Badhe NDMVP College of Pharmacy, Gangapur Road, Nashik-2 Maharashtra State, India. 422002 Vol 4, Issue 10, 2015. 1802 Badhe et al. World Journal of Pharmaceutical Research good activity and comparatively lesser or nil side effects with synthetic drugs.

Herbal cosmetics referred as products are formulated using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetic benefits only, shall be called as “Herbal Cosmetics” or “Natural Cosmetics”.

[3] Nowadays, people are interested in hair preparations and conditioner materials, such as shampoos, Hair tonic and conditioner formulations containing herbal extracts, for prevention of hair loss.

Herbal hair oil is a natural formulation made from a blend of medicinal herbs and carrier oils that nourish the scalp, strengthen hair roots, and promote healthy hair growth. Unlike chemical- based hair products, herbal hair oils are enriched with the goodness of traditional ingredients like amla, bhringraj, neem, hibiscus, brahmi, and coconut or sesame oil, known for their therapeutic benefits. These oils are widely used for preventing hair fall, reducing dandruff, enhancing hair texture, and maintaining overall scalp health. Herbal hair oil is gaining popularity due to its minimal side effects, eco-friendly nature, and roots in Ayurvedic and folk medicine systems In recent years, the demand for natural and organic personal care products has surged, leading to a renewed interest in traditional remedies like herbal hair oil. Herbal hair oil is a natural formulation that combines the therapeutic properties of various medicinal herbs with nourishing base oils. These ingredients work synergistically to promote hair health, improve scalp condition, and address common issues such as hair fall, dandruff, premature graying, and split ends.

Common herbal ingredients include amla (Indian gooseberry) for strengthening hair roots, bhringraj for promoting growth and preventing hair loss, brahmi for calming the mind and nourishing the scalp, neem for its anti-fungal and antibacterial properties, and hibiscus for enhancing hair shine and volume. These are typically infused in carrier oils such as coconut, sesame, or castor oil, which deeply penetrate the scalp and carry the herbal nutrients to the hair follicles.

Herbal hair oil is not only beneficial for hair health but also aligns with the growing consumer preference for sustainable, chemical-free, and eco-friendly beauty solutions. It is safe for all hair types, generally free from harmful chemicals and synthetic fragrances, and can be used regularly as part of a holistic hair care regimen.



Whether applied as a pre-wash treatment, overnight therapy, or scalp massage oil, herbal hair oil offers a time-tested solution rooted in Ayurveda and traditional medicine. It is widely embraced for its ability to restore natural shine, prevent damage, and support the overall health of hair and scalp. Herbal hair oil is a natural, plant-based formulation designed to maintain and enhance the health of hair and scalp through the use of time-honored botanical ingredients. This oil represents a fusion of ancient wisdom and modern wellness trends, offering a chemical-free alternative to synthetic hair care products.

## **II. LITERATURE REVIEW**

1. Usha Kiran Reddy et al. – Herbs Used in Formulating Poly-Herbal Hair Oil: A Review  
o Abstract: This review discusses various herbs used in poly-herbal hair oil formulations, their pharmacological properties, and their effectiveness in promoting hair growth and preventing hair fall.
2. R.R. Shah & S.A. Mohite – Preparation and Evaluation of Poly-Herbal Hair Oil: An Effective Cosmetic  
o Abstract: The study explores the preparation of poly-herbal hair oil and evaluates its cosmetic benefits, including its antimicrobial and hair-strengthening properties.
3. X. Fatima Grace et al. – Preparation and Evaluation of Poly-Herbal Hair Oil  
o Abstract: The paper describes the formulation and characterization of herbal hair oil using natural ingredients, examining its potential in improving scalp health and reducing dandruff.
4. Shrikant M. Madhekar et al. – Formulation and Evaluation of Poly-Herbal Anti-Dandruff Hair Oil  
o Abstract: Focuses on the development of an anti-dandruff herbal hair oil incorporating medicinal plant extracts known for their antifungal and anti-inflammatory properties.
5. Swarnlata Saraf & Manjusha Jharaniya – Herbal Hair Cosmetics: Advancement and Recent Findings  
o Abstract: Reviews current advancements in herbal hair cosmetics, emphasizing formulations that integrate natural ingredients to enhance hair health.
6. Ramya Kuber et al. – Preparation and Evaluation of Poly-Herbal Oil  
o Abstract: Discusses the preparation of poly-herbal hair oil and its evaluation based on antimicrobial, hair growth-stimulating, and conditioning effects.
7. Rahathunnisa Begum & Afzalunnisa Begum – Preparation and Evaluation of Herbal Oil  
o Abstract: Provides insights into the formulation of herbal hair oil with an emphasis on natural preservatives and bioactive compounds for enhanced hair nourishment.
8. Omkar V. Narule et al. – Formulation and Evaluation of Poly-Herbal Oil  
o Abstract: Analyzes the role of herbal extracts in hair oil formulations, focusing on their therapeutic properties for scalp health and hair repair.
9. Adhirajan N. et al. – In Vivo and In Vitro Evaluation of Hair Growth Potential of Herbal Extracts  
o Abstract: Examines the efficacy of specific herbal extracts in stimulating hair growth through in vivo and in vitro studies.
10. Harshali Wadekar et al. – Preparation and Evaluation of Herbal Hair Oil  
o Abstract: Discusses the formulation of herbal hair oil using traditional ingredients and evaluates its effectiveness against common hair problems.
11. Amitkumar K. Jhadav et al. – Formulation and Evaluation of Poly-Herbal Hair Oil  
o Abstract: Provides a detailed study on the preparation of poly-herbal hair oil and its bioactive compounds responsible for hair nourishment.
12. K.D. Mali et al. – Formulation and Evaluation of Ayurvedic Herbal Oil  
o Abstract: Explores Ayurvedic principles in herbal hair oil formulation, assessing its ability to improve hair texture and scalp health.
13. S.L. Deore et al. – Pharmacognosy and Phytochemistry: A Comprehensive Approach  
o Abstract: Covers the pharmacognostic aspects of herbal ingredients used in hair oil formulations and their phytochemical composition.



### **III. AIM & OBJECTIVES**

Aim: To prepare and formulation of 30ml herbal hair tonic

#### **Objectives:**

1. Hair tonic can prevent hair fall
2. Hair tonic fight dandruff and promote hair growth
3. Hair tonic impart shining and smoothness to hair
4. Identify side effect of hair tonic
5. Treating multiple hair concerns like dry hair dull hair and unmanageable hair
6. To use the treatment of different hair disease
7. Able to suggest good colour of hair

### **IV. PLAN OF WORK**

1. Research & Literature Review
2. Selection of Ingredients
3. Formulation Development
4. Preparation of Herbal Hair Oil
5. Quality Control & Evaluation.
6. Antibacterial & Antifungal Testing
7. Packaging & Labeling
8. Documentation & Conclusion

#### **BENEFITS:**

We live in a polluted world which is not hair friendly. That is when herbal hair oil comes into practice. Herbal oil is a blend of bhringraj, jatamansi, amla, hibiscus, rosemary, almond and other herbs.

Their benefits are as follow:

1. It provides natural goodness to hair. Herbal oil contains vitamins and micronutrients which acts as a food for hair.
2. Hair oil helps in preventing hair loss and tames frizzy hair. Hair ends need special care and herbal oil pampers them throughout their nourishment.
3. Regular use of hair oil of hair oils cure problem of premature grey hair.
4. Keeps the scalp hydrated.
5. Improves hair growth.
6. Prevents dandruff

\* Types Of Herbal Hair Tonic Available In Market:

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



## STRUCTURE OF HAIR :



Fig. Hair Structure

### Hairs types:

Hair type is primarily based on hair's curl pattern. The amount of curl in the hair is determined by hair follicle. Hair type is determined by genetics. Andre Walker, known for decades as Oprah Winfrey's stylist, is credited with devising a system that classifies hair according to one of four curl patterns.

Type 1: - Straight

Type 2: - Wavy

Type 3: - Curly

Type 4: - Coily

## V. MATERIAL AND METHOD

### 1. Hibiscus: -

The leaves are alternate, ovate to lanceolate, frequently with too the do lobed margin. The flowers are large conspicuous, trumpet-shaped with five or more petals. This plant is extensively cultivated as an ornamental plant in tropical and subtropical region.[17] This plant is commonly found throughout the tropics and is found as a house plant throughout the world.[18] Role:

1. Stops hair loss
2. Prevent premature graying
3. Thicken hair and add volume
4. Treat dandruff



Fig. Hibiscus flower



## 2. Coconut Oil:

Coconut oil is derived from milk of the coconut palm fruit. Coconut oil is used as a meals oil, and is used in industrial applications for cosmetics and detergent production.

Role:

1. Masks hair
2. Moisturizes hair
3. Seal hair
4. Makes hair look shining



Fig. Coconut Oil

## 3. Bringraj:

*Eclipta alba* is an annual multibranched herbaceous plant. The height of plants is up to 3050cm. It is found in tropical and subtropical region of the world such as South America, Asia and Africa at an altitude up to 2000 m. In the region of India it is mainly found in state of Bihar, Assam, Uttar Pradesh and Manipur.[12]

Role

1. Prevents hair fall
2. Promotes hair growth
3. Makes hair lustrous
4. Repairs hair damage
5. Treats baldness.



Fig. Bringaraj

## 4. Amla:

*Phyllanthus emblica* is an important medicinal plant in Indian traditional system of medicine.[13] The tree is of 1-8 meter in height. The leaves are simple and alternate set alongside branchlets. The flowers are of greenish yellow colour. The fruit is nearly round in shape and having hard appearance.

Role

1. Condition your scalp.
2. Minimize greys
3. Reduce dandruff
4. Promote healthy hair growth.





Fig.Amla

### 5. Tulsi:

Tulsi is one of the most well recognized herb from the family Lamiaceae that is indigenous to the Indian subcontinent and has been used inside Ayurvedic medication over 3000 years. Holy Basil is an erect, many branched sub shrub 30-60 cm tall having hairy stem. Leaves are of green or purple colour. The plant of tulsi has many medicinal properties. Leaves of tulsi are a nerve tonic and also sharpen memory.[14]

Role

1. Coagent remedy for hair loss
2. Hair loss treatment



Fig.Tulsi

### 6. Shikakai:

Shikakai is a woody climber, shrub upto 5 metres tall. Leaves are bipinnate. Shikakai has a naturally mild pH that gently cleans the hair without stripping it of natural oil. The regions having dry hot weather like South India is best suited for these trees. The extract from the bark, leaves, of shikakai is used as hair cleansing agent[15]. Shikakai is traditionally used in shampoo preparations for the purpose of hair growth.[16]

Role:

1. Makes hair soft and shiny
2. Heals scalp and prevents the agony of the dry scalp
3. Boosts hair growth
4. Delaying greying of hair
5. Works as natural hair cleaner



Fig.Shikakai





### 7. Onion:

The onion is also known as the bulb onion or common onion, is a vegetable that is most widely cultivated species of genus *Allium*. The onion plant has been grown and selectively bred in cultivation for at the least 7000 years. Modern varieties grow to a height of 15-45 cm.

The leaves are yellowish to bluish green. They are hollow, cylindrical with one flattened side. Onion has been valued as a food and a medicine plant since ancient times.[21]

#### Role:

1. Treats dandruff
2. Inhibits hair thinning
3. Fights scalp infection



### 8. Aloe vera:

Aloe vera is a stemless or very short stemmed plant growing to 60-100 centimeters tall. Leaves are thick and fleshy, grey to green. Aloe vera is a species of Aloe that is particularly known for its medicinal properties.[22] Aloe species are distributed widely in the eastern European continents and are spread almost throughout the world.[23]

#### Role:

1. Strengthen and repair hair strands
2. Deep cleans oily hair
3. Calms an itchy scalp



### Formulation of herbal tonic

S. No.	Ingredients	Botanical name	Part used	Formulation (%)
1	Virgin coconut oil	<i>Cocos nucifera</i>	Kernel/milk	70.0
2	Amla	<i>Phyllanthus emblica</i>	Fruit pulp	5.0
3	Hibiscus	<i>Hibiscus rosa sinensis</i>	Leaf (2.5) & flower(2.5)	5.0
4	Aloe vera pulp	<i>Aloe vera</i>	Leaf pulp	4.0
5	shikakai	<i>Senegalia rugata</i>	Bees	3.0
6	Bhringraj	<i>Eclipta alba</i>	leaves	2.5
7	Krishna Tulsi	<i>Ocimum sanctum</i>	leaves	2.5
8	Small onion (Shallots)	<i>Allium cepa</i> var. <i>Aggregatum</i>	whole fruit	1.5



#### PROCEDURE FOR PREPARATION OF HAIR OIL:

Accurately weigh all the dried and fresh herbs and leaves powder. Mix coconut oil, arendal oil and castor oil uniformly. After that mixing add almond oil, mehendi powder, Amla extract and keep aside for overnight. Then add curry leaves, garlic, neem extract and boil until colour of curry leaves changes to dark brown colour. After the colour change whole preparation was filtered through muslin cloth. Finally small amount of color and flavoring agent was added to the oil and it was placed in amber colored bottle

#### Organoleptic properties of herbal hair tonic:

1. Colour – Dark green
2. Odour – Aromatic
3. Appearance – Less viscous
4. Texture – Smooth
5. Greasiness – Non greasy
6. Overall acceptability – Good

Sr. No.	Parameter	Inference
1	Moisture content	0.21
2	Acid value	1.60
3	Saponification value	256.08
4	Specific gravity	0.916
5	pH	6.6
6	Viscosity	0.966

#### LABEL –

Herbal tonic I.p.....30 ml  
 Herbal tonic 30 ml  
 Rx Mfg Date. Apr 2024  
 hibiscus .....15gm Exp Date. Oct 2026  
 aloe vera.....15gm Mfg Lic NO : 30/04/24  
 bringraj.....10gm Batch No. 2542  
 onion... 10gm  
 amla 15gm  
 shikakai... 5g  
 coconut  
 oil 30ml  
 tulsi... 5gm

#### SHAKE WELL BEFORE USE

Category- As protective FOR EXTERNAL USE ONLY

Helps to apply moisture and lock it in for long period of time

Hair's tonic tent to fall into two categories- moisturising oil & sealing oil Storage: Keep air tight bottle in the cool page

Mfg. By- Aditya diploma institute of pharmacy college, Beed.







Fig. Hair Tonic

## VI. RESULT

The present research work was conducted to develop a topical formulation herbal hair tonic. The antifungal & and antibacterial activity of tulsi oil and hair growth stimulating activity of jojoba oil are already established by various research groups (literature survey) on its application on hair. Therefore the formulation development was undertaken so as to provide these pharmacological activities on topical application. In this formulation all ingredients are oil in nature so there is no problem of phase separation homogeneous formulation with good consistency is formulated. Thus the formulation was satisfactory with respect to harmaceutical elegance. Therefore the results of antifungal & antimicrobial studies revealed that the overall activity of formulation was comparable and even better

## VII. CONCLUSION

As a preservative, the herbs Shikakai, Amla, Curry leaves, Fenugreek seeds, Hibiscus, Almond oil, Coconut oil and Neem oil are included in the formulation of the herbal hair oil that is being studied in this study. The goal of the current study is to identify the different components such as minerals and amino acids that are present in herbal extracts and may be responsible for the notable action in hair growth. In addition have any possible negative effects as compared to synthetic medication

## REFERENCES

- [1]. T.Usha Kiran Reddy, S. Rajesh, G.Sindhu, B.Aruna, Herbs Used in Formulating Poly-herbal Hair Oil- A Review, Indo American Journal Of Pharmaceutical Sciences ISSN:- 2349-7750
- [2]. R.R Shah, S.A. Mohite, Preparation and evaluation of polyherbal hair oil- an effective cosmetic, Asian Journal of Pharmaceutical Research, ISSN: 2231-5691
- [3]. X. Fatima Grace, S. Rahul Raj, S.Shanmughanathan, D. Chamundeeshwari, Preparation And Evaluation Of Polyherbal Hair Oil, ISSN: 2394-2789
- [4]. Mr. Shrikant M. Madhekar, Mrs. Surekha S. Tayade, Ms. Vaishali N. Tidke, Formulation And Evaluation Of Poly-herbal Anti-dandruff Hair Oil: A Hair Care Preparation, Journal Of Emerging Technologies and Innovative Research, ISSN: 23495162
- [5]. Swarnlata Saraf, Manjusha Jharaniya, Herbal Hair Cosmetics: Advancement and Recent Findings, World Journal Of Pharmaceutical Research, ISSN: 2277-71051 3 4 6 46.
- [6]. B. Ramya Kuber, Ch. Lavanya, Ch. Naga Haritha, S. Preethi, G. Rosa, Preparation and evaluation of poly herbal oil, Journal of Drug Delivery and Therapeutics, 2019; 9(1):68;73
- [7]. Rahathunnisa begum and Afzalunnisa begum, Preparation and Evaluation of Herbal Oil, International Journal of Research and Analytical Reviews, E ISSN: 2349-5318
- [8]. Omkar V. Narule, Manohar D. Kengar, Pranali P. Mulik, Soheli I. Nadaf, Bhagyashree A. Mote, D. dudhagaonkar, Formulation and Evaluation of Poly Herbal Oil. Research J.Topical
- [9]. S. L. Deore, S.S Khadabadi, B. A baviskar Pharmacognosy and phytochemistry, a comprehensive approach, Pharmamed Pres a unit of BSP books pvt. Ltd. printed on, 2014; 619.



- [10]. Adhirajan N, Ravi Kumar T, Shanmugasundaram. N. Babu M, In vivo and in vitro evaluation of hair growth potential of Hibiscus rosa-sinensis Linn J Ethnopharmacol, 2003; 88(2-3): 235-9.
- [11]. B. Ramya Kuber, Ch. Lavanya, Ch. Naga Haritha, S. Preethi, G. Rosa, Preparation and evaluation of poly herbal oil, Journal of Drug Delivery and Therapeutics, 2019, 9(1):68:73 [12]
- [12]. Rahathunnisa begum and Afzalunnisa begum, Preparation and Evaluation of Herbal Oil, International Journal of Research and Analytical Reviews, E ISSN: 2349-5318 [13]
- [13]. Omkar V. Narule, Manohar D. Kengar, Pranali P. Mulik, Sohel I. Nadaf, Bhagyashree A. Mote, D. dudhagaonkar, Formulation and Evaluation of Poly 8 Herbal Oil. Research J.Topical and Cosmetic Sci. 10(1).09-12. doi: 10.5958/2321-5844.2019.00003.7 [14]
- [14]. Harshali Wadekar, Rizwan Thara, Preparation and Evaluation of Herbal Hair Oil, International Journal of Science and Research, ISSN: 2319-7064
- [15]. Amitkumar K. Jhadav, Ulhas S. Surwase, Aditya V. Thengal, Formulation and Evaluation of Polyherbal Hair Oil, International Journal of Scienceand Research, ISSN: 2319-7064
- [16]. K.D Mali, R.M. Shroff, S.D. Chaudhari, S.S. Bacchav, Formulation and Evaluation of Ayurvedic Herbal Oil, Indo American Journal of Pharmaceutical Reseach, ISSN NO: 2231- 6876
- [17]. Journal of Pharmacoconosy Phytochemistry 2018; 7(3):3254-3256 and (181 Suene, 63), 134, R. 4 ukopsyay, or /02 Heal on al. A review. International Journal of Health
- [18]. smala Saut Mascarchan: 2 ral Hair Cosmetics: Advancement and Recent Findings, World oural

