



## DEVELOPMENT AND ASSESSMENT OF A HERBAL HAIR MASK FOR SCALP AND HAIR HEALTH

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Article Received on 13/05/2025

Article Revised on 03/06/2025

Article Accepted on 23/06/2025

### ABSTRACT

Herbal hair mask which can give multipurpose effect, like softness of hair, reduce hair loss and itching, reduce dandruff, diseases like Alopecia, Hirsutism, Hair shaft disorder etc. and also adding glow to the face. For the preparation of herbal hair mask, we use a method of drying by which all ingredients. All ingredients are grind properly, seaving and prepare in powder form. Herbal hair mask were evaluated for different parameters like appearance, PH, stability test, spread ability & irritancy test, homogeneity. From evaluation study it was concluded that it is a very good attempt to formulate the herbal hair mask. All the ingredients used to Formulate Herbal hair mask are safe and their use can greatly reduce dryness and itchiness. It was also concluded that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standards cosmeceutical's formulation for using herbal hair mask has many benefits beyond just hair health. It can help to reduce dandruff, dryness, maintain scalp health, improve hair health, strengthening hair follicles, provide shine and promote overall well-being.

**KEYWORD:** Hair Mask, Anti-Dandruff, Herbal Hair Ingredients.

### INTRODUCTION

A hair mask also known as deep conditioning treatment, is a type of hair conditioner to hydrate and improve overall hair health.

Hair masks contain natural ingredients which boost hair growth and keep your scalp dandruff free. A Hair mask can help repair damage from heat styling the local environment, and color treatment.

These hair masks are also made at home It has no disadvantages, and it is very beneficial. There are so many variables which can impact hair in everyday life. Air Pollution, humidity, not enough care and stress are some of the main reasons of hair fall Hair masks can help to keep our hair smooth. They are especially good for hair that is dry or damaged. Hair masks can help to improve the condition of our scalp and strengthen our hair.

Dandruff causes hair loss and embarrassment in public places on the skin in various areas because of dandruff a high level of sebum occurs. Its symptoms are redness, flakes, and itching of the scalp.

### Introduction of Herbal Ingredients used in Hair Mask

#### Amla

Amla is known as a source of vitamin C. It is packed with many health benefits. Powdered amla is used as a gooseberry. Amla is a rich essential ingredient in hair tonic to promote hair growth and improve hair pigmentation. It strengthens and nourishes the roots, improves the colour and radiance. Applying amla oil to the roots of hair improves hair growth and color. A very popular application is to reduce baldness and hair loss. This quality is due to the tannin content in the form of antioxidants.





**Figure: Amla.**

#### Property of Amla

- Improves Immunity. Amla benefits include antibacterial & astringent properties which help improve the body's immunity system
- Hair Care
- Reduces Stress
- Eye Care
- Respiratory Health
- Treats Anemia
- Blood Purifiers
- Diuretic.

#### Ginger

Ginger is an excellent hair conditioner rich in minerals and essential oils that makes your hair easy to comb, soft and shiny. Helps relieve itching, dryness and flaky scalp. It has natural anti-inflammatory and antiseptic properties that help keep the scalp healthy and clean

#### Property of ginger

- Fights Germs, Certain chemical compounds in fresh ginger help your body ward off germs
- Keeps Your Mouth Healthy
- Calms Nausea
- Soothes Sore Muscles
- Eases Arthritis Symptoms
- Curbs Cancer Growth
- Lowers Blood Sugar
- Eases Period Pains.



**Figure: Ginger.**

#### Hibiscus

Hibiscus or "Gudar" is the most beneficial ingredient in hair. It is used for hair growth, it regrowth and hair loss. Hibiscus contains amino acids, vitamins A and C, alpha

hydroxy acids, and other nutrients that are very beneficial to hair and scalp.

Keeps your scalp healthy and minimizes the risk of dandruff.



**Figure: Hibiscus Flower.**

#### Property of hibiscus

- Immunity. The immune system is a complex system of cells, tissues and organs that protects the body against infection and disease
- Healthy, Glowing Skin
- Reduces Tiredness & Fatigue
- Source of Plant Protein
- Boosts Energy Levels
- Cognitive Health
- Healthy Bones
- Healthy Teeth

#### Bhringraj

Bhringraj is a herb that promote hair growth.

A popular Ayurvedic ingredient used for hair growth.

It helps increase blood flow to the scalp by stimulating and inducing hair growth, which is probably lost due to dandruff.

It improves blood circulation and is capable of revitalizing the hair follicles and facilitating hair growth.



**Figure: Bhringraj.**

#### Property of Bhringraj

It also helps to prevent constipation due to its Rechana (laxative) property.

Bhringraj is helpful in maintaining your overall health due to its Rasayana (rejuvenation) property

**Methi Fenugreek****Figure: Methi.**

Its seeds and leaves are common ingredients in dishes from the Indian subcontinent, and have been used as a culinary ingredient since ancient times.

**Property of methi (Fenugreek)**

- Blood sugar regulation
- Hypocholesterolemic effect
- Antibacterial and antifungal effect
- Anticancer effect

**Giloy**

Giloy, also known as Amrita or Guduchi in Hindi, is an herb that helps improve digestion and boost immunity. It has heart-shaped leaves that resemble betel leaves. All parts of the plant are used in Ayurvedic medicine. However, the stem is thought to have the most beneficial compounds.

**Figure: Giloy.****Property of Giloy**

- Giloy is a source of many important plant compounds, namely terpenoids, alkaloids, lignans, and steroids.
- Lab studies suggest these compounds have antimicrobial, anti-inflammatory, antioxidant, and antidiabetic.

**Jatamansi**

The roots and the rhizomes of *N. jatamansi*, as mentioned in Ayurveda, have been used in various herbal formulations including dietary supplements.

This important traditional drug is also used to treat epilepsy, hysteria, syncope, convulsions, and mental weakness.

**Figure: jatamansi.****Property of Jatamansi**

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**Curry Leaves**

Curry leaves are a rich source of vitamin A, vitamin B, vitamin C, vitamin B2, calcium, and iron, apart from a heavy distinctive odor and pungent taste. It helps in the adding curry leaves to your meals.

**Figure: Curry leaves.****Property of curry leaves**

- Packed with a multitude of nutrients like carbohydrate, fiber, calcium, phosphorous, iron,
- magnesium, zinc, multivitamins and flavonoids, curry leaves are an arcade of health benefits.
- It is extensively used in the treatment of anemia, diabetes, indigestion, obesity, kidney problems, hair and skin problems.



## MATERIALS AND METHODS

### List of Ingredient and Excipient Use for Preparation of Herbal Hair Mask

Table: Ingredients and its Role.

Sr.No.	Ingredient	Role Of Ingredients
1.	Amla	Reduce hair loss
2.	Ginger	Increase shine
3.	Hibiscus	Provide protein
4.	Bhring raj	Increase blood flow in scalp
5.	Giloy	Work as antioxidant
6.	Jatamansi	Provide smoothness
7.	Curry leave	Provide vitamins
8.	methi	Reduce hair fall
9.	Stearic acid	Maintain hydration
10.	Stearyl alcohol	Thickeners
11.	Kaoline	Control penetration
12.	Propylene glycol	Moisturizer
13.	Tween-20	Emulsifying agent
14.	Methyl paraben	Preservative

### Ingredients and Excipients Use For The Preparation of Herbal Hair Mask

The plants for study were selected, procured from market shade dried, power s Coarsely and extract with hydro-alcoholic solution and used for the formulation

#### Raw Material

##### Active pharmaceutical ingredient (API)

- Amla purchase from local market
- Dry ginger purchase from local market
- Methi seeds purchase form local market
- Dry hibiscus flower purchase from local market
- Dry Giloy purchase from local market
- Dry Jatamansi purchase from local market
- Dry curry leaves purchase from local market
- Dry Bhringraj purchase from local market

#### Excipients

- Stearic acid purchase from S.D fine chem. Pvt Ltd.
- Stearyl alcohol purchase from S.D from chem. Pvt Ltd.
- Kaoline purchase from S.D fine chem. Pvt Ltd
- Propylene glycol purchase from S.D fine chem. Pvt Ltd
- Tween-20 purchase from S.D fine chem. Pvt Ltd
- Methyl paraben from S.D fine chem. Pvt Ltd.

#### Material And Their Composition

Table: Material and their composition.

Sr.No.	Ingredients	Compositions
1.	Amla	3gm
2.	Ginger	3gm
3.	hibiscus	3gm
4.	Bhring raj	3gm
5.	Giloy	3gm
6.	Jatamansi	3gm
7.	Curry leaves	3gm
8.	Methi	3gm
9.	Stearic acid	3gm
10.	Stearyl	3gm

	alcohol	
11.	Kaoline	3gm
12.	Propylene glycol	3gm
13.	Tween -20	3gm
14.	Methyl paraben	3gm

#### Equipments

Table: Equipment and uses.

Sr. No.	Equipment	Role / Use
1.	Weighing balance	For weighing
2.	Grinder	For Grinding
3.	Tray dryer	For drying
4.	Water bath	For boiling
5.	PH meter	For PH Test

#### Process of Formulation

##### Step -1:- Size Reduction of Ingredients

Took all dry ingredients in particular beakers like- amla, methi, ginger, giloy, jatamansi, bhringraj, hibiscus, Curry leaves.

##### Step -2 Made Powder Form and Sieving All Ingredients

All ingredients are from in powder form and put in particular bowls All dry powder are weighed and collected in single beaker.

##### Step -3 Formation of Oil Phase

Took sufficient amount of chemicals like - kaoline, tween -20, stearic acid, stearyl alcohol, propylene glycol. Took (250 ml) beaker and put instearic acid, stearyl alcohol, Karoline, propylene glycol tween-20 stirring 40 times. After stirring beaker transfer on water bath after some time to check the oil phase and ready for mixing.

##### Step -4 Prepare Water Phase

Took all herbal ingredients in (250) ml beaker and

added distilled water in a sufficient amount.

#### Step -5 Mixing

Took a 1000 (ml) mortar and pestle. Firstly, put oil phase and stirred properly and add drop wise water phase in oil phase. After continues stirring Ready mixture (hair mask).

#### Step-6 Packaging of Hair Mask

Herbal hair mask transferred in plastic container and stick their label.

### RESULT AND DISCUSSION

The present research was the formulation and evaluation of herbal hair mask. The evaluation parameters were coming under results, like the physical evaluation of herbal hair mask, PH of the cream, Spreadability, Washability, non-irritancy test.

#### Physical Evaluation

The Composition of Herbal hair mask formulated in the laboratory was found to be compared with various parameters such as appearance, color, odor and consistency, pH, spreadability, washability, irritancy, homogeneity. Thus, the developed formulation can be used as an effective cosmetic formulation for using it to reduce mind stress, relaxing the body muscles and make skin healthy. It can help to alleviate stress, enhance the immune system, reduce inflammation, improve circulation, moisturize and nourish the skin, provide pain relief, and promote overall well-being.

#### Effect Hair Mask in All Type of Hair

Table: List Of Effects Of Hair Mask.

Sr.No.	Type of Hair Effect of Hair Mask
1.	Dry hairs effective
2.	Normal hair effect
3.	Oily scalp effective
4.	Dandruff effective

#### Evaluation Parameters

##### Effect of Herbal hair mask in Individual Evaluation.

Table: Effect of herbal hair mask in Individual Evaluation.

SR. NO.	Parameters.	Result
1.	State	semisolid
2.	color	Brown
3.	odor	sweet
4.	Texture	smooth
5.	consistency	good
6.	PH	6.40
7.	Homogeneity	Good
8.	Spread ability	10.21(gm.cm/sec
9.	Washability	Easily washable

### CONCLUSION

Herbal hair masks can be a great addition to your hair care routine, offering nourishment, hydration, and other benefits depending on the ingredients used. Regular use

may lead to stronger, healthier hair, but individual results may vary. Always patch test before use, and consult with a dermatologist if you have any concerns about potential allergies or reactions. An ingredients in herbal hair masks cannot be overstated. Each ingredient brings unique properties that contribute to the overall effectiveness of the mask. Whether it's moisturizing, strengthening, or promoting hair growth, the carefully selected combination of herbs and natural extracts plays a crucial role in achieving desired results. Understanding the benefits of each ingredient empowers individuals to tailor their hair care routine to meet their specific needs and preferences, ultimately leading to healthier, more beautiful hair. Oil-based phases are rich in nutrients and fatty acids that can nourish and condition the hair, leaving it soft, smooth, and manageable.

### REFERENCES

- Gupta, A., & Malviya, R. (2018). Phytochemical Composition and Biological Activities of Persea americana mill. Fruit. Food Chemistry, 238: 146-159.
- Rele, A. S., & Mohile, R. B. (2003). Effect of mineral oil, sunflower oil, and coconut oil prevention of hair damage. Journal of Cosmetic Science, 54(2): 175-192.
- Al-Snafi, A. E. (2015). The chemical constituents and pharmacological effects of Trigonella foenum-graecum- A review. IOSR Journal of Pharmacy, 5(1): 42-6 <https://www.britannica.com/plant/fenugreek>
- Ankita Bhujbal, Amol Jadhav, Pratiksha Bhakre, Mohini Mane (2022), A Review Article On Dry Polyherbal Powder Shampoo, 9: c553-548.
- Poornima Mishra and Shashikant Maurya, The review of herbal hair mask for the prevention of dandruff. World journal of pharmaceutical research, 11(6): 343-351.
- Nitesh Shambharkar, Bharat Rathi, Renu Rathi, Dongre N.K. Abhinav Raut, Eclipta alba: Hair growth Promoting drug in Ayurveda, 16(12): ISSN: 1001-1749.
- Lopamudra Sethi, and Preetha Bhadra, A review paper on Tulsi plant (Ocimum sanctum L.), 10(60): ISSN: 0976-0997.
- Dr Vikram Sudh and Dr Omprakash Sharma, Medicinal use of bhringraj (Eclipta alba hassk.) A review article.
- Sandhya Maurya and Shashikant Maurya. A review on activity of herbal hair mask on hair fall, world journal of pharmaceutical, research 11(6).
- Mohammad A. Alzohairy, Therapeutic role of Azadirachta indica (Neem) and their active constituents in disease prevention and treatment, PMID: PMC4791507, PMID: 27034694.
- Ashwaq Najemaldeen Abbas, Ginger extract red Esfandiari A. and Kelley P. The effect of polyphenolic compounds on hair loss among rodents. Journal of national medical Association, 2005 June; 97(6): 816-8.
- Kokate C.K., Purohit A.P. and Gokhale S.B. "Pharmacognosy". Nirali Prakashan, Pune, Sixteenth

edition, 2001; 242-253.

13. Wallis T.E. "Text book of pharmacognosy" CBS Publishers & Distributors. 5th editions, 8289.
14. Nikita Saraswat, Rashmi S Pal, Preparation and Assessment of Poly-Herbal Anti- Dandruff Formulation, The open Dermatology Journal, 2020; 14: 22-27.
15. YadavAman, Mishra Kumar Dinesh, Paliwal Pritesh, Farooqui Nadeem, Formulation and evaluation of anti-aging cream, 2021.