



## **Formulation and Evaluation of Herbal Oil for the Treatment of Baldness**

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### **ABSTRACT**

Herbal preparations always have fewer or no side effects than synthetic products. The aim of this study involves the preparation of hair oil using herbs like Indian Gooseberry, Bhiringraj, Curry Leaves and Banana.

According to the above observations, the crude mixture was made into Chinese herbal hair oil using the boiling method. We use five different herbal formulas that have been proven to have hair protection properties, among many other activities such as preventing dandruff, improving blood circulation in the scalp and hair follicles, reducing hair pigmentation, preventing and reducing diseases, etc. Reduces white hair and stiffness.

Vegetable oils have different properties such as odor, gravity, stability, viscosity, acid value, pH etc. It is analyzed using many parameters such as. It was determined that the results obtained here met appropriate standards such as no sedimentation and no negative thoughts and were useful, and the results were determined and published in this study. , herbal medicine, planning, design, evaluation, effectiveness and discussion.

### **Aims and Objectives :-**

Purpose :- Formulation and evaluation of herbal oils for the treatment of alopecia. It prevents hair loss, nourishes the scalp and strengthens hair follicles. > Dandruff, hair loss, hair loss, gray hair etc. Investigating the importance of hair oil in the treatment of hair problems. > Prevents hair loss – Reduces excessive hair loss by strengthening hair follicles.

### **Introduction**

Hair comes from the ectoderm of the skin and forms beautiful structures together with the sebaceous glands.

Hair dies without nerves. Hair follicles have a unique ability to renew themselves. ] Hair growth occurs in cyclical phases that are divided into the following phases: anagen (growth), catagen (regression) and telogen (rest). Alopecia (hair loss) is a common hair problem. Causes of hair loss include dihydrotestosterone (a derivative of the male hormone testosterone), lack of blood, sebum, emotional state, stress and mental disorders, aging, diseases, hormonal imbalances, environmental pollution, poisons, damage and injuries, radiation. The most common type is male pattern baldness, also known as male pattern baldness and female pattern baldness. It is affected by genetic factors and hormones. Other types of hair loss include alopecia areata (an autoimmune disease), telogen effluvium (temporary hair loss due to stress or illness), and traction alopecia (caused by tight hair). Alopecia, or male pattern baldness, is usually caused by a combination of genetic factors and the hormone dihydrotestosterone (DHT). The main reasons behind this are: Genetics: Family history plays an important role in determining whether a person will experience male pattern baldness or not. It is obtained from the seeds of one or both parents. Over time, this can cause hair to grow more slowly and the follicles to become shorter until they stop producing hair. This is more common when people reach their 30s and 40s, but it can also happen earlier or later. Other factors can also cause bad hair or male pattern baldness or cause it to grow faster. Hereditary alopecia.



**Fig no. 1 Hair Fall in Men.**



**Fig no. 2. Hair Fall in Women**

#### Alopecia **A**reata

In Alopecia Areata, hair falls out from the scalp (alopecia Areata) or from all over the body (alopecia Areata). Once the hair goes into the telogen phase. Hair Loss Due to Chemotherapy

This type of hair loss occurs as a result of cancer treatment.

The aim of this study is to create a hair oil recipe using kojraj, plantain, amla, curry leaves to treat baldness, alopecia (alopecia) and promote the health of hair growth and development. 1) Natural ingredients: - Herbal hair oils generally contain natural ingredients such as herbs, plant extracts and essential oils that nourish the hair and do not contain harsh drugs. It contains vitamins, minerals and antioxidants that support healthy hair. These nutrients strengthen hair, reduce breakage and improve overall hair quality. The health of the scalp is important for hair growth. This makes them suitable for people with sensitive skin or allergies. or other allergies

**2) Inconsistent results:** - The results of herbs vary from person to person. Factors such as individual hair and scalp can affect results, making it difficult to guarantee the same results for everyone. Fragrance This may not be suitable for those who are sensitive to strong scents or those who like sweet scents. Additionally, the application process can be confusing and cumbersome for some people, especially those with lifestyle issues.

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#### PLANT PROFILE :

##### 1) Curry Leaves



Fig. No. 3 Curry Leaves

Scientific Name : *Murraya koenigii*

Family :-Lamiaceae

Chemical constituents :-

- a) Beta-carotene: Converts to vitamin A, supporting hair follicles and promoting hair growth.
- b) Amino acids: Contribute to the strength and structure of hair strands
- c) Iron: Helps prevent hair breakage and supports overall hair health
- d) Carbazole alkaloids: May have antioxidant and antimicrobial properties, promoting scalp health.
- e) Phosphorus: Supports hair growth and maintenance.

Uses :- They neutralize the free radicals and rich in anti oxidents.

##### 2) AMLA :-



Fig. No. 4 - Amla

Scientific name :- *Phyllanthus emblica*

Family :- Phyllanthaceae

Chemical constituents :-

Vitamin C: Boosts collagen production, promoting hair strength.

Minerals (iron, calcium): Support overall hair health and prevent hair loss.

Uses:- It helps in conditioning scalp, promote healthy hair growth.

### 3) BHRINGRAJ :-



Fig. No. 5 - Bhringraj

Scientific name :- *Eclipta prostrata*

Family :- Asteraceae

Chemical constituents :-

These includes alkaloids, flavonoids, polyacetylene, triterpenes, steroids, and fatty acids. These compounds contribute to the potential hair strengthening and growth – promoting properties of polyherbal hair oils containing bhringraj.

### 4) BANANA :-



Fig. No. 6 - Banana

Scientific name:- *Musa acuminata*

Family:- Musaceae

Chemical constituents:-

Vitamin B12- Help making RBCs,they carry oxygen to hair follicles.

Vitamin C- Help maintain the integrity of capillaries, which is essential for adequate blood Supply to hair.

Vitamin B6 - To support healthy hair growth because of its role in protein metabolism.

#### FORMULATION TABLE

Sr. No.	Ingredients	Qty
1.	Amla	5 gm
3.	Bhringraj	5 gm
4.	Banana oil	15 ml
5.	Curry leaves	5 gm
10.	Coconut oil	50 ml

#### EXPERIMENTAL WORK :-

Collection of all the ingredients such as Amla, curry leaves, Banana oil , Bhringraj and coconut oil .



Fig. No. 7 - Ingredients

- Accurately weigh all dried and fresh herbs in given quantity.
- All ingredients add in grinder crush into fine form and mix them
- Then transfer to cooking pot



Fig. No. 8 – Boiling for Ingredients

- Then directly boiled 20 minutes in the base oil and continuously stir until the colour change and the drug is completely extracted in the base oil.
- Let the oil cool
- Then it filtrate through a filter medium ( muslin cloth, filter paper)



Fig. No. 9 - Filtration

- In the filtrate coconut oil was added to make up the volume to 100 ml
- Finally, prepared polyherbal hair oil.
- These are it was placed in bottle



Fig. No. 10 – Final product

**EVALUATION PARAMETER :-**

The prepared polyherbal hair oil estimated performance of product which by the evaluation test :

**1) Organoleptic Property :-**

- Color :- Light Brown, Detected by naked eyes.
- Sensitivity :- Applied to the skin and exposed to the sunlight for 5 minutes to check for any irritation over skin.
- Sedimentation :- Keep the whole preparation aside for overnight and check for sedimentation.
- Grittiness :- Rubbed to the skin and observed.

**2) pH Determination :-**

Take a pH paper and dip into the formulated hair oil and check for the color change, or Detected by pH meter.



Fig. No. 11 – pH meter

## 3) Irritation test :-

The prepared herbal hair oil was applied on 1 cm skin of hand and exposed to sunlight for 4-5 min.

## 4) Acid Value :-

10 ml of oil was added with 25ml of ethanol and 25ml of ether. Phenolphthalein was added as indicator and titrated with 0.1M Potassium hydroxide solution.



Fig. No. 12 – Acid Value

## 5) Specific Gravity :-

Specific gravity of the prepared oil was determined using specific gravity bottle



Fig. No. 13 – Specific Gravity

**Expected Outcomes :-**

The formulation and Evaluation of herbal hair oil by using Amla, curry leaves, Banana, bhringraj, and Coconut oil was prepared. The various parameters like color, odour, irritation test, sensitivity test, viscosity, pH, specific gravity, saponification value and acid value of herbal hair oil was evaluated.

Parameters	Observation
Colour	Light Brown
Odour	Pleasant
Irritation	No irritation
pH test	5.3
Acid value	2.4
Specific gravity	0.889

**Conclusion:**

**Multi Herbal Hair Oil** is one of the **best hair care products**. The **herbal formula** provides an **optimal blend** of vitamins, antioxidants, essential oils and nutrients for hair growth. **This formula regulates hair growth, prevents hair loss, reduces dandruff and makes hair shiny.** Thus, the oil will help **maintain healthy hair, turn gray hair black, make hair strong and healthy, repair damaged hair, prevent dandruff and make hair look shiny.** Therefore, it was found that the herbal hair oil formulated from this study has the **best formula** and the **supplement formula** and biological analysis determine the **effectiveness of the drug.**

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