

“Formulation and Evaluation of Herbal Hair Mask”

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Abstract:

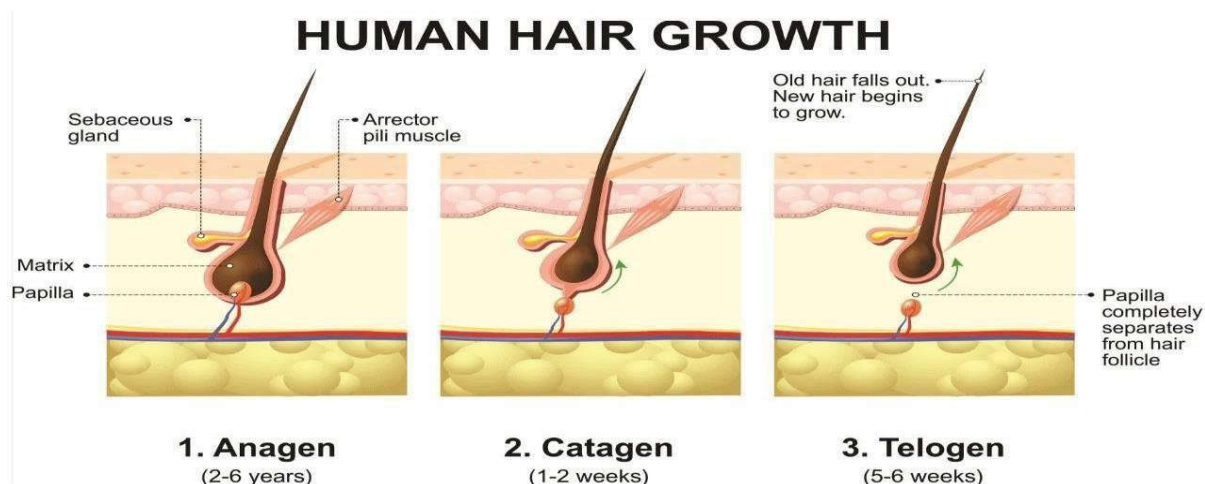
Hair masks offer an effective solution to common hair concerns such as dandruff, frizz, brittleness, and premature graying. With the wide variety of hair masks available in the market, choosing the right one can be challenging especially when considering compatibility with different hair types and minimizing potential side effects. Herbal anti-dandruff hair masks are particularly effective in alleviating symptoms like itchiness, greasiness, and flakiness, restoring scalp health and hydration. The herbal hair mask formulated using neem, hibiscus, fenugreek, curry leaves, and banana was found to be effective in improving overall hair health. The mask had good physical stability, was easy to apply and wash off, and provided noticeable improvements in hair texture, strength, and scalp condition. It presents a natural, safe, and affordable alternative to commercial chemical-based hair treatments. Natural mask has gained significant use worldwide because of their safety and minimal side effect compound over the chemical based product. Thus, it can be conducted based on the result that cost effective self-applicable hair mask can be formulated.

Keywords: Hair mask, Dandruff, Frizziness, Brittleness

Introduction:

HAIRMASK

Hair masks offer an effective solution to common hair concerns such as dandruff, frizz, brittleness, and premature graying. With the wide variety of hair masks available in the market, choosing the right one can be challenging especially when considering compatibility with different hair types and minimizing potential side effects. Hair mask ingredients are carefully selected based on their known benefits for scalp and hair health. The primary purpose of a hair mask is to cleanse the scalp of dirt and dandruff, strengthen the hair shaft, and naturally enhance hair color. Our formulation is completely free of chemicals and relies solely on natural ingredients that nourish without causing damage. Maintaining healthy hair requires the use of hair care products free from harmful chemicals. According to the principles of Ayurveda, the ancient Indian system of medicine, applying herbal hair masks can strengthen hair follicles, nourish the scalp, and promote thicker, more resilient hair. Herbal anti-dandruff hair masks are particularly effective in alleviating symptoms like itchiness, greasiness, and flakiness, restoring scalp health and hydration. A good hair mask not only conditions and moisturizes from root to tip but also supports long-term scalp and hair wellness.



Benefits Of Herbal Hair Mask :-

- Stimulates hair growth
- Cleansing remove clogging
- Prevent premature graying
- Repair damage
- Cooling effect
- Reduce hair fall

Hibiscus

Synonym:- Jaswant

Classification :-

Family: Malvaceae

Genus: Hibiscus

Species: Many species, including *H. sabdariffa* (Roselle) and *H. rosa-sinensis* (Chinese hibiscus)

Benefits:

Hibiscus has been used for hair care in many cultures for centuries and is thought to promote hair growth. Hibiscus has nutrients for the hair and scalp as well as antioxidants, vitamins, and minerals that can stop hair loss.

**Fenugreek Seeds :**

Synonyms: Methi (in Hindi)

Classification:

Family: Fabaceae (Legume family)

Genus: Trigonella

Species: *T. foenum-graecum*

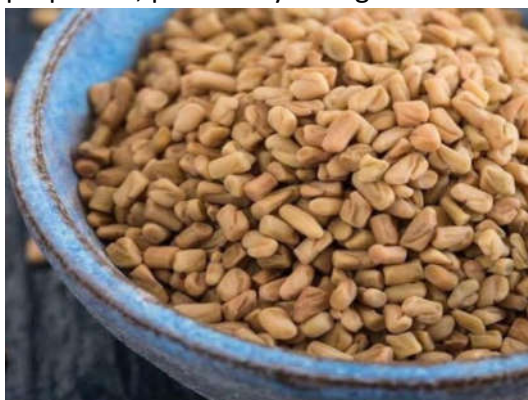
Fenugreek is rich in:

Fiber

Vitamins (A, B, C)

Minerals (iron, calcium, potassium)

- i. Saponins: Fenugreek seeds contain saponins, including diosgenin. These compounds have been suggested to have anti-inflammatory and scalp- soothing properties, potentially aiding in the reduction of scalp irritatio



Curry Leaves

Curry leaves and various herbal ingredients are widely recognized for their potential to stimulate hair growth and function as natural conditioners. These remedies address common hair concerns such as hair loss, thinning, split ends, dandruff, excessive sebum production, and scalp issues.

Neem Leaves

Neem leaves (*Azadirachta indica*) have been extensively studied for their beneficial effects on hair health. Neem leaves exhibit potent antifungal properties effective against dandruff-causing fungi like *Malassezia furfur* and *Trichophyton rubrum*. Neem's antimicrobial properties help combat scalp infections, while its anti-inflammatory compounds, such as nimbidin, can alleviate scalp irritation and inflammation.

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Banana

Banana is the common name for herbaceous plants of the genus *Musa* and for the fruit they produce. It is one of the oldest cultivated plants. All parts of the banana plant have medicinal applications: the flowers in bronchitis and dysentery and on ulcers; cooked flowers are given to diabetics; the astringent plant sap in cases of hysteria, epilepsy, leprosy, fevers, hemorrhages, acute dysentery and diarrhea, and it is



applied on hemorrhoids, insect and other stings and bites; young leaves are placed as poultices on burns and other skin afflictions; the astringent ashes of the unripe peel and of the leaves are taken in dysentery and diarrhea and used for treating malignant ulcers; the roots are administered in digestive disorders,. dysentery and other ailments; banana seed mucilage is given in cases of diarrhea in India.

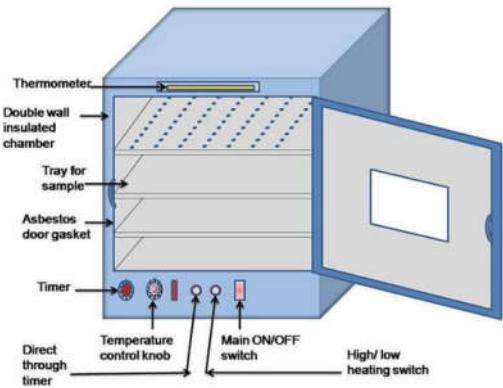
Material And Methodology:

PREPARATION OF HERBAL HAIR MASK :-

SR NO.	CONSTITUENT NAME	BIOLOGICAL SOURCE	USES	QUANTITY (gm)
1.	Banana powder	Genus Musa (Musaceae)	Prevent and control dandruff and softening hairs	12gm
2.	Hibiscus powder	Hibiscus rosa (sinensis)	Hydrate the hair and scalp	6gm
3.	Fenugreek seeds powder	Trigonella	Reduce scalp irritation and itching	10gm
4.	Curry leaves powder	murrayakoenigii	Anti hair loss property	10gm
5.	Neem leaves powder	Azadirachta (indica meliaceae)	Cleans the scalp	12gm

Equipment's :-

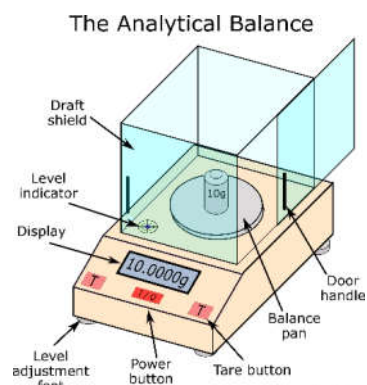
- Hot Air Oven



○ **Sieve Shaker**



○ **Weighing Balance**



Formulation Of Herbal Hair Mask :-

☐ **Selection of Raw Herbs**

- Choose fresh, healthy, pesticide-free:

- **Hibiscus flowers and leaves**
- **Neem leaves**
- **Curry leaves**
- **Fenugreek seeds**

Banana (use unripe banana pulp)

☐ **Washing**

- Thoroughly wash all herbs (except fenugreek seeds) under clean running water to remove dirt, dust, and impurities.

☐ **Drying**

- Shade dry:
 - Hibiscus, neem, curry leaves, and banana slices until crisp.
- Dry **fenugreek seeds** separately in sunlight or in a dehydrator.
- Ensure no moisture remains to prevent mold during storage.

☐ **Grinding**

- Once fully dried, grind each ingredient into a fine powder using a clean, dry grinder or pulverizer. Sieve the powder for a finer consistency.

☐ **Mixing**

- In a clean, dry bowl, mix the powders in desired proportions.
 - **Banana powder**
 - **Hibiscus powder**
 - **Neem powder**
 - **Curry leaf powder**
 - **Fenugreek powder**

☐ **Packaging**

- Store the blended herbal powder in an airtight, moisture-proof container.
- Keep in a cool, dry place away from direct sunlight.

Result & Discussion

1.Organoleptic Evaluation:

The physical characteristics of prepared formulation are mentioned in Table.

Table 1: Organoleptic Evaluation

Sr.no	Parameters	Result
1	Color	Greenish
2	Odour	Characteristic
3	Appearance	Powder

2. Physio-chemical Evaluation:

The physical and chemical features of the herbal hair mask were evaluated to determine the pH, its Washability and its solubility for the purpose of stability, compatibility. Table 3 reflects the above findings.

Table 2: Physio-Chemical Evaluation

SR NO.	Parameter	Result
1	PH	6.7
2	Washability	Easily wash
3	Solubility	Soluble

3. Rheological Evaluation:

The physical properties of the powdered formulation are examined in rheological examination, as indicated in table 3. The flowability of powder by bulk density, tapped density, angle of repose are assessed using powder rheology.

Table 3: Rheological Evaluation

Sr no.	Parameter	Result
1	Bulk density	0.5
2	Tapped density	0.34
3	Angle of repose	34.66

4. Patch Test

The effects of the formulation on irritancy and itching have been noticed.

Table 4: Patch Test

Sr no.	Parameter	Result
1	Swelling	Negative
2	Redness	Negative
3	Irritation	Negative

5. Stability Test:

The powdered formulation was kept at different temperatures (35oC and 40oC) and humidity levels for a period of time. The change in physical attributes was detected under various situations.

Table 5: Stability Test

Sr no.	Parameter	Result
1	Change in colour	No change
2	Change in odour	No change
3	Change in pH	No change
4	Change in texture	No change

Evaluation parameter of herbal hair mask

Prepare formulation of hair mask were subjected to following evaluation parameters:

Organoleptic properties :-

The examination of formulation was performed under the evaluation it involves macroscopic aspects of the drug or product such as colour, odor, texture, by using sensory organ such as eye and nose.

Physiochemical properties :-

➤ pH

The pH of 10% hair mask solution in distilled water was determined at room temperature 25°C. The pH was measured by using digital pH meter.

➤ Washability-

Formulation was applied on the skin and ease and extend of washing with water were checked manually.

➤ Nature of hair after washes

Nature of hair after washes can be done by collecting the response of volunteers.

➤ **Irritancy**

Mark the area, on the left-hand dorsal surface. Then the masked were applied to the area and the time noted. After interval up to 3hr, it is checked for irritancy effect.

➤ **Patch test**

In this procedure, a small amount of moistened formulation is applied to the hand surface and the effect of the formulation on irritancy and itching have been notice.

CONCLUSION:

The herbal hair mask formulated using neem, hibiscus, fenugreek, curry leaves, and banana was found to be effective in improving overall hair health. The mask had good physical stability, was easy to apply and wash off, and provided noticeable improvements in hair texture, strength, and scalp condition. It presents a natural, safe, and affordable alternative to commercial chemical-based hair treatments.

Regular use of this mask results in well condition and freeze free hair. Natural mask has gained significant use worldwide because of their safety and minimal side effect compound to chemical based product .

Thus, it can be conducted based on the result that cost effective self-applicable hair mask can be formulated.

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