

Formulation and Evaluation of Herbal Hair Conditioner

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ABSTRACT: Herbal hair conditioner that leaves hair shiny and strong while assisting in preventing breakage. This herbal conditioner for healthy hair is made with **Flax Seed, Orange Peel, Hibiscus, Curry Leaves, and Neem** as its main ingredients. It keeps hair silky and free of dirt. To put it simply, conditioner helps to smooth your hair strands and restore moisture after shampoo cleans and removes oils, leaving your hair looking lustrous, soft, and healthy. It's similar to washing your face and then putting on moisturizer. formulated, they are Herbal Hair Conditioner, Synthetic Hair Conditioner and Ayurvedic.

Hair Conditioner Use a wide tooth comb to easily detangle your hair by deeply conditioning it and preserving the moisture in your scalp and hair. Hair gets softer and hair Synthetic Hair Conditioner and Ayurvedic Hair Conditioner.

All the formulations of Hair Conditioners were then evaluated and analysed on the basis of various organoleptic properties and physicochemical parameters such as pH, Dirt Dispersion Test, Cleaning Action Stability Testing, viscosity, spreadability, and skin irritation.

Keywords: Herbal Hair Conditioner, Hair Shiny and Strong, Deeply Conditioning, Synthetic Hair Conditioner, Organoleptic properties, Physicochemical Parameter.

Based On characteristic There Are Four Types Of Hair And Hair Texture:

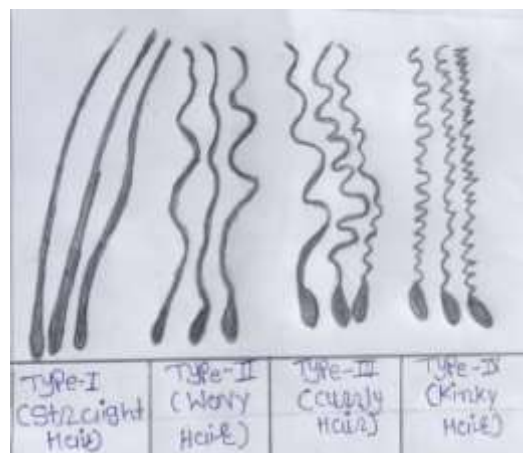
1. Straight hair
2. Wavy hair
3. Curly hair
4. Kinky hair

I. INTRODUCTION

1ANATOMY OF HAIR:

Hair loss is a concern because it can cause feelings of inadequacy and low self-esteem, even if it is not a major health concern. It's normal to lose between 70 and 100 hairs per day, but if the loss persists for more than a few weeks, there may

be a significant issue. When compared to the general population, individuals with alopecia typically experience greater rates of psychological problems such anxiety, depression, and social phobia. After shampooing, hair is condition-treated using a substance called hair conditioner. Conditioner helps to protect and mend your hair. How it functions is Replacing moisture; Calming the hair follicles' cuties Strong antioxidants included in hair conditioner help lessen UV damage to hair, including changes in hair colour and damage to proteins.



Herbal Conditioners are meant to stop most of the hair issues. Since natural conditioners are free from chemicals. They also contain unique composition of plant compounds, including flavonoids and saponins. These compounds are presumed to induce hair growth due to their anti-inflammatory and antifungal effects. which have one of the highest sources of carotene and antioxidants, they offer natural antimicrobial and antifungal properties, that helps quash dandruff and other scalp issue.

Leaves hair feeling soft. A conditioner that leaves your hair feeling like cotton has done its job. If you suddenly have hand in hair syndrome, you can add the conditioner to your hair care rotation.

II. INGREDIENTS

2.1 Ingredients used along with its properties:

Sr. No	Material	Properties
1	Flax seeds	Promote hair growth and improve scalp health. Anti- inflammatory Anti- microbial Anti- oxidant Anti- diabetic
2	Orange peel	Gives shiny and voluminous hair Anti- oxidant Anti- cancer Anti- bacterial Anti- inflammation
3	Curry leaves	Preventing hair loss and hair thinning Anti- fungal Anti- diarrhoeal
4	Neem leaves	Treat dandruff and prevent scalp irritation Preserving agent Anti-microbial Anti-oxidant
5	Hibiscus flowers	Circulating the blood to hair follicles Anti- microbial Anti- inflammatory
6	Rose water	Fragrance Re-hydrates the scalp Controls oily scalp Enables hair growth Moisturizes dry & frizzy hair Maintain pH level of hair

2.2 Preparation of plant extract

Sr. No	Ingredients	F1	F2	F3
1	Flax seeds	8.4 g	9g	10g
2	Orange peel	10g	10g	10g
3	Curry leaves	8.2g	8.4g	8g
4	Neem leaves	10g	10g	10g
5	Hibiscus leaves	8.2g	8.4g	8g

Preparation of extract

2.3 preparation of Formulation

Extract	F1	F2	F3
Flax seed, Curry leaves and Hibiscus extract	100ml reduced 25 ml	100ml reduced 25 ml	100ml reduced 25 ml
Orange peel	4ml	4ml	4ml
Neem leaves	4 ml	4 ml	34ml
Rose water	7 ml	7ml	7ml

III. METHOD USED IN FORMULATION

3.1 Extraction of Orange peel:

- Orange peel washed under running water and dried in sun light
- Crushed in a blender and grinded >10g of dry orange peel powder was taken
- Boiled in 100ml water and reduced to 1/4th hours
- Filtered through filter paper of container



3.2 Extraction of neem leaves:

- Collected the neem leaves
- Washed under the running water
- 10g neem leaves was taken
- Boiled in 100ml water and reduced to 1/4th hours
- Filtered through filter Paper of container

4.2. pH test

The pH meter was calibrated and then the electrode was dipped in Hair conditioner. The evaluated pH was found between 3-7.



3.3 Plant Extract Phase:

- We have taken 10 g of flaxseeds, 8 g curry leaves and 8 g hibiscus flowers in a beaker and added 100 ml water into it.
- Boiled it until 1/4th of the liquid remained in it.
- In this step, orange peel (4mL), neem extract (4 mL) was taken in another beaker and stirred continuously to get required solution.
- This process is fully from plant extract.

4.3. Cleansing Action

Washing with a conditioner to remove dirt and product buildup from the scalp without stripping away its natural oils.



3.4 Mixing of plant extract phase and other extract phase

>Plant extract phase was added drop by drop to rose water (6ml) and stirred continuously to get required consistency of the conditioner.

IV. EVALUATION PARAMETERS

- 4.1. Physical Appearance** Colour: Brown
 Odour: Pleasant (rose)
 Texture: Smooth

4.4. Viscosity

A Brookfield rotating spindle viscometer was used for viscosity testing. To measure viscosity, the measuring body was immersed in oil and rotated at given speed (speed:100 RPM, spindle: SP 64).



4.6. Dirt dispersion test

Two drops of conditioner were added to a large test tube containing 10ml of distilled water, one drop of Indian ink was added, the test tube was capped and shaken 10 times.



4.5. Spreadability

The spreadability was expressed in terms of time in second taken by two petri dishes to slip off from the conditioner, under certain load lesser the time taken for separation of two slides better the spreadability.



4.7. Skin irritation test

Mark the area on right hand dorsal surface. The conditioner was applied to that area and the time was noted for 24hr.



4.8. stability test

Store the herbal conditioner at 37 degrees Celsius for 6 weeks and observe for any change in colour and viscosity.

V. RESULT AND DISCUSSION

Sr.No.	Parameter	Observation
1	Colour	Brown
2	Odour	Pleasant (like rose)
3	Texture	Smooth
4	pH	5.8
5	Cleansing action	Easy cleansing
6	Spreadability	Easily spreadable
7	Skin irritation	No irritation
8	Stability	Did not show any change in colour and viscosity

VI. CONCLUSION

The prepared hair conditioner shows an excellent property of conditioning.

The herbal hair conditioner has no chemical ingredients which makes it safe to use for all types scalp.

Formulated hair conditioner has a cationic surfactant which gives good cleansing action.

Which provide strengthening, smoothening and protective effect which promote lustrous, shining and healthy hair.

The hair conditioner was evaluated for their pH, stability testing, viscosity test, cleaning action, Dirt dispersion test, Skin irritation test, and spreadability test and they were proven to be safe and effective for use. The conditioner was found not irritated on the skin 24 hr. The formulated

conditioner was found to be stable as there was no change colour and formulation.

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