

## Herbal hair oil formulation and evaluation

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### Abstract

Herbal cosmetic have burgeoning demand in the word market and an inestimable gift of nature. The aim of present study involves preparation of herbal Herbal hair oil using fresh leaves of various plants. Herbal formulations have attracted attention because of their good activity and comparatively lesser or nil side effect with synthetic drugs. Herbal hair oil not only moisturizes scalp but also converse dry scalp and dry hair conditions and it is concluded maintaining good growth of hairs, turning grey hairs to black, providing protection from dandruff and results into good looking hairs.

**Keywords:** hair, herbal formulations, hair oil

### 1. Introduction

Herbal cosmetics are prepared by the association of bioactive ingredients and pharmaceutical products. The word cosmetic is defined s that article which rubbed, poured, sprinkled, or applicable to any part of human body for the purpose of cleansing, beautifying the appearance is called as cosmetics. Cosmetic include skin care creams, lotions, powders, perfumes, lipsticks, fingernail, and toe nail polish, eye and facial makeup, permanent waves, colored contact lenses, hair colors, Hair spray and gels, deodorant, baby products, bath oils, bubble bath, bath salts, butters and many other types of products.

Hair is a protein filament that grows from follicles found in the dermis. Hair is one of the most important of our body that improves the overall appearances of a person. The hair falls, Dandruffs, split = ends, grey hair are the major problem associated with hair. To overcome these problems, we use lots of cosmetics. Among these, hair loss is a universal problem having affected both sexes of all races to different extends for as long as mankind has existed. The hair care industry has become aware of this and delivering active products directed towards meeting this consumer demands. Hair oils are the hair care formulations applied for treatment of hair disorder such as baldness, aggression, of hair, discoloring hair, hair falling, dryness of hair. Herbal hair oils are formulated with herbal extracts in an oil base.

There are two categories of hair care products. They are hair tonics and hair grooming aids. Hair oil those contains herbal drugs are called as hair tonics, these are formulated by herbal extracts in an oil base. Hair oils are the care formulations applied for treatment of hair disorders such as baldness, greying if hairs, and dryness of hair.

### 2. Experimental

#### 2.1 Material and methods Collection of plant part

For the preparation of herbal hair oil various plant materials were collected viz., Hibiscus, Neem, Amla, Brahmi, Fenugreek, curry leaves and Pudina from the Medicinal Plant Garden of Amrutvahini college of Pharmacy, Sangamner Maharashtra, India and was properly authenticated in the Department of Pharmacognosy.

#### 2.2 Formulation of herbal hair oil

The various ingredients used in the formulation of herbal oil are presented in Table 1. Accurately weigh all the dried and fresh herbs such as Amla, Brahmi, Hibiscus, Neem, Brahmi, Camphor, curry leaves and Pudina and were grinded in the mixture and was mixed in 63% of til oil. The above content was boiled for 15 min. and was filtered through muslin cloth. To the filtrate coconut oil was added to make up the volume (100 mL). Finally, small amount of color and flavoring agent was added to the oil and it was placed in amber colored bottle.

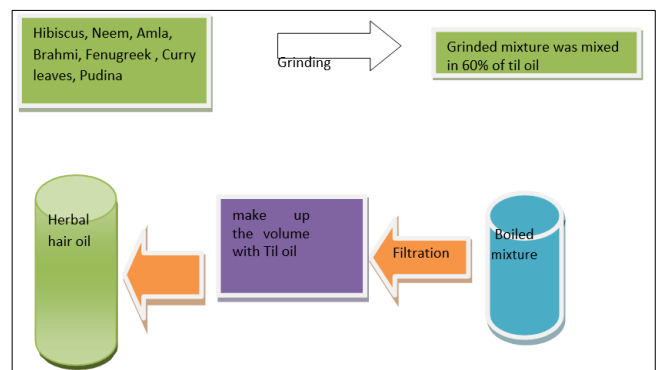


Fig 1: formulation process of Ayurvedic herbal oil

#### Preparation of Herbal Hair Formulation

The herbs used in the present study for making were dried, crushed and passed through 60 mesh stainless steel sieves and olives used as base. The hair oil was prepared utilizing three different methodologies.



Fig 2

First is the direct boiling method in which the drug were powdered, weighed and directly boiled in olive oil with continuous stinging and heating until the drug had completely extracted in the oil base. 1, 2, 3% of drug containing oils were prepared.



Fig 3

Secondly, Paste method was used where fresh fruit lip or the desired part of the plants where converted into paste with very little amount of water and kept overnight. After this the wetted drug was mixed in til oil base and boil with continues striiling at a constant temperature, until the water droplets in oil stopping and drug has completely extracted in the oil. The oil was then filtered through a muslin cloth. Three different concentration 4% 5% 6% were prepared containing 6 g of drug per 100ml of oil respectively.



Fig 4

Last method is cloth method, in which the dried was weighed ad tiled in a muslin cloth. This cloth was then hanged in olive oil based and boiled with continuous boiling, stirring and finally the oil was filtered. Four different concentration 7% 8% 9% 10% were prepared containing 7, 8, 9, 10 gm of drug per 100 ml of oil respectively.



Fig 5

Table 1: Ingredients used in formulation of herbal hair oil

| Sr. No | Ingredients     | Quantity (%) |
|--------|-----------------|--------------|
| 1      | Hibiscus        | 70           |
| 2      | Neem            | 2.5          |
| 3      | Curry leaves    | 27           |
| 4      | Amla            | 85           |
| 5      | Brahmi          | 7            |
| 6      | Fenugreek       | 3            |
| 7      | Pudina          | 1            |
| 8      | Camphor         | 1            |
| 9      | Coconut oil     | 37           |
| 10     | Til oil         | 63           |
| 11     | Coloring agent  | 5            |
| 12     | Flavoring agent | 2            |

**Evaluation of herbal hair oil**

The formulated herbal hair oil was subjected to physical and biological evaluation.

**Sensitivity test**

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

**Acid value**

Preparation of 0.1 molar solution: Weighed 0.56 g KOH pellets and dissolved in 100 mL of distilled water and stirred continuously. The prepared 0.1 molar KOH solution was filled in the burette. Preparation of sample: Measured 10 mL oil and dissolved in 25 mL of ethanol and 25 mL of ether mixture and shacked. Added 1 mL of phenolphthalein solution and titrated with 0.1 molar KOH solution.

**Saponification value**

Accurately weighed 1 mL of oil into a 250 mL of conical flask and 10 mL of ethanol: ether mixture (2 : 1) was added. To this flask 25 mL of 0.5 N alcoholic KOH was. Kept the flask for 30 min. and the flask was cooled. The cooled solution was titrated against 0.5 N HCl using phenolphthalein indicator. Similarly, the blank titration was performed without taking oil (sample). Amount of KOH in mg used was calculated.

**PH:** The pH of herbal hair oil was determined using pH meter.

**Viscosity:** The viscosity was determined using Ostwald’s viscometer.

**Specific gravity:** Take the specific gravity bottle, rinsed it with distilled water, dry it in oven for 15 minutes, cool, closed it with cap and weigh it (a). Now fill the same specific gravity bottle with the sample and closed it with cap and again weigh it (b). Determine the weight of sample per milliliter by subtracting the weight (b-a).

**Results and Conclusion**

Herbal hair oil is one of the most well recognized hair treatments. Herbal hair oil not only moisturizes scalp but also reverses dry scalp and dry hair condition. It provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth. The herbal hair oil was prepared from various herbs (Table 1) and their importance in the formulation is presented in Table 2. The various parameters like sensitivity test, viscosity, pH, irritation test, grittiness test, saponification value and acid value of herbal hair oil was evaluated (Table 3). Hence, from the present investigation it was found that the

formulated herbal hair oil has optimum standards and further standardization and biological screening establishes the efficacy of formulated herbal hair oil.

**Table 2:** Role of herbs in herbal hair oil

| Sr No | Ingredients  | Importance        |
|-------|--------------|-------------------|
| 1     | Hibiscus     | Antidandruff      |
| 2     | Neem         | Antimicrobial     |
| 3     | Curry leaves | Anti hairfall     |
| 4     | Amla         | Hair growth       |
| 5     | Brahmi       | Nervine tonic     |
| 6     | Fenugreek    | Polishing agent   |
| 7     | Pudina       | Flavoring agent   |
| 8     | Camphor      | Stimulating agent |
| 9     | Coconut oil  | Vehicle           |
| 10    | Til oil      | Vehicle           |

**Table 3:** Evaluation of herbal hair oil

| Sr. No | Parameters           | Inference     |
|--------|----------------------|---------------|
| 1      | Specific gravity     | 1.096         |
| 2      | Viscosity            | 0.93          |
| 3      | Acid value           | 4.5           |
| 4      | Saponification value | 115.05        |
| 5      | pH                   | 6.5           |
| 6      | Sensitivity test     | No irritation |
| 7      | Irritation test      | No irritation |
| 8      | Grittiness           | Smooth        |

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