

## A Review Article on the Formulation and Evaluation of Herbal Hair Oil

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Submitted: 05-05-2023

Accepted: 15-05-2023

### ABSTRACT :

Herbal formulations always have attracted considerable attention because of their good activity and comparatively lesser or nil side effects with synthetic drugs. The objective of present study involves preparation of herbal hair oil using amla, hibiscus, brahmi, methi and its evaluation for increase in hair growth activity. The oil of different concentrations were characterized for proximate analysis including moisture content, total ash, acid insoluble ash, water soluble ash, water insoluble ash, sulphated ash. Excellent results of hair growth were seen in formulation prepared by boiling method of oils preparation technique. The aim of present study involves preparation of herbal hair oil using the herbal ingredients like., Amla, Hibiscus, Bhringraj, Jatamansi, Raw garlic, Muskmelon seeds, Moringa, Curry leaves, Guava leaves, Papaya leaves, Methi, Mimosa Pudica handspringing. Based on the above observations, mixture of crude drugs was prepared in the form of herbal hair oil by boiling method. We have used five formulas using different herbal drugs and all the formulation are showing anti-hairfall property with some of other beneficial activities like anti-dandruff activity, improves blood circulation to the scalp and roots, reduce hair pigmentation, anti-fungal activity, reducing the whitening of the hair.

**Keywords :** Hair oil , Herbs , Formulation preparation ,evaluation.

### I. INTRODUCTION

Hair plays an important role in human life<sup>1</sup>. In India, the traditional process is the production of hair oils combined with various hair growth stimulants. Indian women are known for their long, shiny and healthy hair, so hair care is important in their self-care ritual. CharkaSamhita (The Definitive Edition of Ayurvedic Medicine) explains the importance of oiling the hair and scalp

to maintain hair health and prevent hair loss. Doing. It was recommended to oil the hair daily with suitable herbs filled with other ingredients, and this practice continues to this day<sup>2</sup>. Formulated with hair oil to care for dandruff, hair loss, and split ends. Hair oil formulations mainly cool the scalp and aim for luxurious hair growth for both men and women.

Almond oil, castor oil and onion oil are mixed with suitable herbal medicines and applied to the scalp. Among these oils, coconut oil is the most valuable oil base because it penetrates hair strands better than others and is economical compared to other oils. Herbal cosmetics are widely used because they have few side effects and the ingredients, they use are easy to obtain<sup>3</sup>. Today, hair care cosmetics are more herbal than synthetic ones, and are well known. In recent years, hair oils are often used as part of hair care because they are effective in solving hair problems. Hair oils are formulated with both synthetic and natural ingredients<sup>4</sup>. Synthetic hair oils are hair care products made with chemicals or man-made substances. They are used to add shine and great conditioning, and also help reduce frizz.

In addition to moisturizing the scalp and stimulating hair growth, hair oil strengthens hair. It also provides vital minerals and nutrients to the scalp. This prevents external damage and strengthens the hair. The main purpose of oiling is to condition the scalp. Oil massage also promotes hair growth by stimulating hair follicles and improving blood circulation in the scalp. Herbal formulations consist only of natural sources derived from plants<sup>5</sup>. Natural hair oils, including traditional hair oils such as coconut, castor, and almond oils. can. Therefore, it plays an important role globally. Hair oiling is a method of pouring oil into the hair and massaging it into the scalp to increase moisture, shine, shine, and blood circulation.



Figure No. 1

The main parts of the hair are the bulb (the basal bulge that emerges from the dermis), the root (the hair below the surface of the skin), and the stem (the hair above the surface of the skin). Hair growth has cyclical stages and is classified as follows:

Growth (growth), regression (regression), telogen (rest). The growing season can be as short as 2 to 6 years. The regression period is 2-3 weeks. The resting phase lasts 2-3 months. Botanical hair oil not only moisturizes the scalp, but also reverses dry scalp and dry hair. It provides a number of essential nutrients needed to maintain the normal functioning of the sebaceous glands and promote normal hair growth<sup>7</sup>. The plant parts used are rich in flavonoids, polyphenols, saponins, tannins, vitamins, proteins and minerals, ricinolein acid and more. These ingredients help hair grow and provide many benefits to hair. Botanical hair oil strengthens hair and improves texture. In addition, the scalp is supplied with more moisture, which helps to get rid of dandruff. It soothes the hair and gives it a perfect shine. Applying oil to your hair increases blood flow to your scalp and helps repair damaged hair. Applying oil to your hair regularly also reduces swelling and dryness. It also helps protect hair follicles from surfactants by filling in the gaps between cuticle cells, which helps with scalp health. Massaging the scalp with oil can exfoliate and sometimes even help reduce hair loss. hair oil formulas have key qualities used to maintain the normal functioning of the sebaceous glands and naturally promote hair growth, providing a variety of essential nutrients. It improves not only the health system, but also personal hygiene<sup>8</sup>. In formulations, the use of bioactive ingredients has a

profound impact on how the body functions and also provides the nutrients necessary to maintain healthy, attractive hair. Since it is formulated from herbal ingredients, it has no or relatively few side effects. It provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth. Natural goodness of hair, Relaxing massage for healthy scalp<sup>9</sup>.

Fights against hairfall .

Control frizzy hair.

To promote hair growth.

To discuss the uses and benefits of different ingredients used in the formulation of hair oils.

To identify the good combination of herbs which will give maximum effect<sup>10</sup>.

## II. MATERIAL AND METHOD:

### Amla:

Amla is a fruit that has been used in Ayurvedic treatments for thousands of years. Known in Sanskrit as Amlaki, the literal meaning of Amla is 'sour,' but it is synonymous with *Emblica officinalis*, a fruit tree that grows throughout India. The Amla fruit is sour-tasting and likened to a gooseberry. Amla has a powerful effect on the body's regulatory systems, and is known to elevate energy, promote reproductive health, maintain healthy cholesterol levels and improve the respiratory system. It acts as a tonic not only for the physical body, but for the sense organs and the mind.



Fig No .2 –Amla

### Nirgundi :

Nirgundi is already in clinical use in traditional systems of medicine including Ayurveda, Unani and Siddha for the management.



**Fig. no.3.Nirgundi**

**Brahmi:**

Brahmi helps in treating temporary baldness by boosting hair growth in areas where hair has thinned out or reduced. It also helps reduce hair loss by treating dandruff and reduces inflammation. Its regular use provides a calm and soothing experience.



**Fig.No.5. Brahmi**

**TIL OIL:**

Til oil or sesame oil is a great alternative to expensive, medical hair health treatments often accompanied by harmful side effects. Sesame oil aids hair growth, eradicates dandruff and helps slow down premature growing of hair. However, make sure to consult a dermatologist before trying new treatment on your hair.



**Fig.No.6. Til oil**

**Coconut oil:**

Coconut oil is a natural way to help your hair grow longer, thicker, and faster. The vitamins and essential fatty acids naturally found in coconut oil nourish the scalp and help to remove sebum build-up from hair follicles.



**Fig NO.7. Coconut oil**

**Aloevera:**

Some people say aloe vera helps with hair growth, but there's no scientific proof. However, researchers believe that aloenin, a chemical compound in the plant, is a primary factor in promoting hair growth, as found in people with a hair-loss condition called alopecia.





Fig. No.8. Aloe vera

**Onion oil:**

Onion oil is a great choice for hair as it contains high levels of sulfur. It also helps moisturize the scalp and reduce dandruff, as well as fight fungus and bacteria. It can also help promote hair growth and reduce hair loss.



Fig No.9. Onion oil

**Almond oil:**

Family- Rosaceae. Scientific name- Prunus dulcis. Parts used- Dried kernels of almond tree.

Active constituents- Palmitic acid, linolic acid, oleic acid.

Uses- Strengthen the hair, protect the hair from sunlight, use as scalp treatment.



Fig .No.9. Almond oil:

**Procedure for Preparation of Hair Oil:**

Accurately weigh all the dried and fresh herbs and leaves powder. Mix coconut oil, neem and castor oil uniformly. After that mixing add almond oil, onion oil, Amla extract and keep aside for overnight. Then add curry leaves, garlic, neem extract and boil until colour of curry leaves changes to dark brown colour. After the colour change whole preparation was filtered through muslin cloth. Finally small amount of color and flavoring agent was added to the oil and it was placed in amber colored bottle.

Sr.no.	Ingredients	Quantity
1	Amla	5gm
2	Almond oil	10ml
3	Neem	3gm
4	Coconut oil	15ml
5	Til oil	10ml
6	Hibiscus	3gm
7	Onion oil	10ml
8	Nirgundi	4gm
9	Caster oil	20ml

**FORMULATIONS OF HERBAL HAIR OIL –**  
 The various ingredients used in herbal oil formulations are listed in Table 1. All dried and

fresh herbs such as Amla, Nirgundi, Bringaraj, Jatamansi, Neem, Gammabhari, Aprajita, Shankpusphi, Brahmi, Kapur, and Pudina are used

to make precise and mixed with 63% oil to form a mixture. I simmered for 15 minutes with the contents above. Strain through a muslin cloth. Coconut oil was added to the filtrate to adjust the

volume (100 mL). Finally, we added a small amount of coloring and flavoring to the oil and placed it in an amber jar.

**Table 1: Ingredients used in formulation of herbal hair oil:**

S.no	ingredients	Quantity(%)
1	Amla	85
2	Nirgundi	2
3	Almond oil	10
4	Coconut oil	3
5	Onion oil	2
6	Til oil	2.5
7	Brahmi	7

#### **Evaluation of herbal hair oil –**

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

#### **Specific Gravity:**

Take the specific gravity bottle, rinse it with distilled water. Dry it in oven for 15 min, cool, close it with cap and weigh it (a). Now, fill the same specific gravity bottle with the sample and close it with cap and again weigh it (b). Determine the weight of sample per milliliter by subtracting the weight (b-a).

#### **Viscosity -**

It is an index of resistance of a liquid to flow, the higher the viscosity of a liquid, the greater is the resistance to flow. The viscosity was determined by using Ostwald's viscometer<sup>11</sup>.

#### **pH -**

The pH of herbal hair oil was determined using pH meter.

#### **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 shaken. Added 1 mL of phenolphthalein solution and titrated with 0.1 molar KOH solution<sup>12-15</sup>.

#### **Saponification Value**

Accurately weigh 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 added. Keep the flask for 30 min, and the flask was cooled<sup>16-18</sup>. The cooled solution was titrated against 0.5 N HCl using phenolphthalein as indicator. Similarly, the blank titration was performed without taking oil (sample). The amount of KOH in mg used was calculated<sup>19-20</sup>.

### **III. CONCLUSION –**

Use of botanical hair oil in cosmetic body care and health care. Herbal oils are one of the most famous hair treatments. The use of different botanicals that have different effects when combined together, it will have a great effect on your hair. The herbal extracts and ingredients selected for the hair oil formulation are reported to have hair growth, relaxation, anti-dandruff, hair thickening, and hair loss control properties, and when used together, they can improve health. It has a synergistic effect that promotes lustrous hair growth. This formulation has been proven to be safe for human use. Values for the evaluation parameters in our formulations show similar results, so the standard values are for maintaining good hair growth that protects against graying, blackening, dandruff and leads to shiny hair. The formulated hair oil not only darkens gray hair, but also helps maintain good hair growth by protecting against dandruff, reducing stress, etc. Maintaining normal functioning of the sebaceous glands. It provides a range of essential nutrients needed for hair growth and promotes natural hair growth.

Sensory properties (color, odor, sensitivity, sedimentation), acid value, viscosity, specific gravity and stability tests. In conclusion, we can say that the herbal hair oil formula is of considerable quality.

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