

DEVELOPMENT AND CHARACTERIZATION OF HERBAL ANTI-DANDRUFF HAIR OIL

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ABSTRACT

Pharmacognosy is the branch of pharmacy that deals with herbs. These medicinal plants are utilized for preparing and manufacturing scores of medicines. At the side of this, herbs are used for decoration of body, preparation of cosmetics, flavouring and colouring agent. The main intend of present learning involves preparation and evaluation of herbal hair oil by using fresh parts of a variety of plants. Herbal cosmetics have burgeoning demand and in the world market and are an inestimable gift of nature. There are wide spans of herbal cosmetic products to satisfy beauty regime. The presence of number of phytochemicals and botanicals in the herbal products have dual stuff, one that they are used as cosmetics for body care and another that

phytochemicals amend the biological functions of human body naturally results in healthy skin and hairs. Herbal hair oil not only moisturizes scalp but also converse dry scalp and dry hair conditions. It bestows numerous essential nutrients required to maintain normal functions of the sebaceous gland and promote natural hair growth.

KEYWORDS: Hair, Stability studies, herbal cosmetics.

INTRODUCTION




The conception of beauty and cosmetics is as ancient as mankind and civilization. So, they use different beauty products that have herbs to look ravishing and young. Indian herbs and its intendment are popular worldwide. As the name suggests, the herbal extracts means the extracts of herbs. It is an ancient methodology because its origin was discovered from the holy Vedas and in Unani scriptures. As the cognizance said that the chemical medicines are not always work as magic bullets and they may have side effects. The in vogue trend moves toward the herbalism and use of natural products. Indian herbs are the prosperous source to






be used in cosmetic industries. Hair oils those embraces herbal drugs are called as hair tonics. These are contrived by herbal extracts in an oil base. Hair oils are the hair care formulations applied for cure of hair disorders such as baldness, greying of hairs, hair falling, and dryness of hairs. A plethora of herbs have been employed for hair treatments. A few of these herbs are Alovera pulp, Tulsi, Hibiscus Guava Leaves, Coconut oil, Almond oil, Methi. Herbal formulations always have tempted considerable attention because of their good bustle and comparatively lesser or nil side effects with synthetic drugs.^[1]

Role of herbal in Herbal hair oil

- **Coconut Oil:** - Use as a moisturizer.
- **Almond Oil:** - Treat Hair loss and strengthens the hair.
- **Tulsi:** - Use as an anti-bacterial.
- **Hibiscus:** - controls premature geaying.
- **Guava Leaves:** - Use as an anti-dandruff.
- **Jasmine:** - Conditioning agent provides good odour.
- **Methi:** - Use s a hair growth.
- **Aloevera:** - Boosting Scalp health.^[2]

Table 1: Representing different herbs with figures used in the preparation of hair oil.^[3,12]

S.no.	Figures	Herbs
1.		Aloe Vera pulp: - Aloe Vera pulp subsumes proteolytic enzymes which repairs dead skin cells on the scalp. It also feat as a great conditioner and leaves your hair all smooth and shiny. It bolsters hair growth, prevents itching on the scalp, reduces dandruff and conditions your hair.
2.		Tulsi: - Tulsi is a cogent remedy for hair loss. It is prepensed as an essential ingredient in herbal hair loss treatment. The herb works by strengthening the hair roots, thereby curbing hair fall, prevent bacterial and fungal infections.
3.		Hibiscus: - Hibiscus flowers are used to clout premature graying of hairs, prevent hair loss and spilt ends.

4.		Guava leaves: - Guava leaves are amazing for promoting hair growth both when consumed internally as a tea and applied externally in the form of hair rinse, hair serum, and hair pack and hair oil. It treats almost all the hair problems that results in hair loss including dandruff, scalp inflammation and scalp infection.
5.		Methi: - Methi curb hair fall and strengthens your hair from root to tip.
6.		Coconut oil: - Coconut oil nourishes the scalp and proffer shine to the hairs.
7.		Almond oil: - Almond oil rich in vitamin E used in the treatment of hair loss and strengthen the hairs.
8.		Jasmine: - Jasmine flowers serves as antimicrobial agent, conditioning agent and also gives good odour to the oil.

Method of preparation

- Precisely all the dried and fresh herbs such as Tulsi, Hibiscus, Shikaki, Alovera pulp and Methi were weighed and grinded in the mixture.
- After that mixed in it 60% of Almond oil.
- Boiled the Solution for 15 min.
- After boiled filtered the solution with murlin cloth.
- After filtrate add 25% coconut oil and makeup the volume 100ml.
- Finally small amount of flavoring agent was added.
- And placed in amber colored bottle.^[3,4]

Table 2: Formulation.^[4,10]

Ingredient	Formulation				
	F1	F2	F3	F4	F5
AloeVera pulp	1gm	1 gm	1gm	1gm	1gm
Tulsi	0.5gm	0.5gm	0.5gm	0.5gm	0.5gm
Hibiscus	0.25 gm	0.25gm	0.25gm	0.25gm	0.25gm
Guava Leaves	0.1 gm	0.2gm	0.3gm	0.4gm	0.5gm
Coconut oil	6.25 gm	6.25gm	6.25gm	6.25gm	6.25gm
Almond Oil	15 gm	15gm	15gm	15gm	15gm
Methi	1.25 gm	1.25gm	1.25gm	1.25gm	1.25gm
Jasmine	0.25 gm	0.25gm	0.25gm	0.25gm	0.25gm

Evaluation of Herbal Hair Oil Preparation

The prepared herbal hair oil was subjected to phytochemical screening, general characterization, 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.^[5]

- **Acid value**

- **Preparation of 0.1 molar solutions**

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.^[6]

- **Preparation of sample**

10 mL oil was measured and dissolved in 50 ml of 1:1 ethanol and ether mixture and shaken vigorously. 1 ml of phenolphthalein solution was then added and titrated with 0.1 molar KOH solutions.^[14]

- **Saponification value**

To accurately weighed 1 ml of oil in a 250 ml of conical flask, 10 ml of ethanol: ether mixture (2: 1) was added. To this, 25 ml of 0.5 N alcoholic KOH was added and was kept undisturbed for 30 min. and the flask was cooled. This solution was titrated against 0.5 N HCl using phenolphthalein indicators. Similarly, the blank titration was performed without taking oil (sample).^[7,11]

Amount of KOH in mg used was calculated using formula.

$$\text{Saponification Value} = 56.1(\text{B-S}) \text{ N/W}$$

Where,

B= Volume in mL of standard Hydrochloric acid required for the blank.

S= Volume in mL of standard Hydrochloric acid required for the sample.

N= Normality of standard Hydrochloric acid.

W= Weight of the oil taken in gms for the test.^[13]

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

Viscosity: The viscosity was determined using Ostwald's viscometer.

Specific gravity: Specific gravity bottle was rinsed with distilled water, dried in hot air oven for 15 minutes, cooled, capped, weighed and was noted as (a). Now the same specific gravity bottle was filled with the sample, capped and again weighed (b). Weight of the sample per milliliter was determined by subtracting the weights (b-a).^[8,9]

Table 3: Evaluation of herbal hair oil.

Evaluation parameter	Inference
Sensitivity test	Non sensitive
Irritation test	Non irritant
pH	6.4
Grittiness	Smooth
Specific gravity	0.94
Saponification value	197.04
Acid value	4.7
Color	Yellowish brown
Odour	Aromatic

CONCLUSION

Overall, the formulated herbal oil provides many nourishing value to hair such as vitamins, minerals, and essential oils. The finished product is within the limits. In conclusion, oil is beneficial to prevent hair from damage and loss caused by pollution and dull hair. And provide an alternative source from hazardous chemicals. Herbal oil provides numerous essential nutrients required to maintain normal function of sebaceous glands and promotes natural hair growth. The utilization of herbal cosmetics enhanced many folds in personal hygiene and healthcare system. Hence, there is a tremendous clamor for the herbal cosmeceutical individual care or personal health care industry, which is presently focusing and paying extra diligence on the development of herbal-based cosmetics.

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