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#### **Research Article**

# Design & Development of Herbal Hair Oil by direct boiling method

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#### Abstract

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The concept of gorgeousness and cosmetics is as ancient as mankind and society. So, they use various beauty products that have herbs to look pleasant and youthful. Common people are widely used Herbal cosmetics because of concept of fewer side effects and with a enhanced safety and protection profile. The present work was aimed to formulate herbal oil for general purpose (application in hairs) using various herbs. The formulated herbal oil was evaluated and various parameters such as viscosity, saponification value, pH etc. were determined and are reported in this paper.

Herbal hair oils have always attracted considerable attention, when compared to synthetic drugs. Synthetic drugs may have side effects like local irritation, itching and burning sensation. They may cause dermatological reactions and systemic side effects like headache, dizziness etc. So, there is a need for development of herbal hair oil for potent hair growth and to prevent hair fall with no side effects.

#### **INTRODUCTION**

Cosmetics 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 sprays and gels, deodorants, baby products, bath oils, bubble baths, bath salts, butters and many other types of products are substances used to enhance the appearance or odor of the human body. As per manufacturers cosmetics divided into two types decorative cosmetics and care cosmetics (Gautam et al., 2012). In the last three-four decades the use of cosmetics has increased exponentially not only among females but the male population also indulges in their use. Hair dyes, hair oil, creams are as popular with males as with females. Most countries now have laws to control, manufacturing, label, sale etc. of cosmetics in such a way that use of cosmetics harmful to health is prevented.

Herbal cosmetics have growing demand in the world market and are an invaluable gift of nature. There are a wide range of herbal cosmetic products to satisfy beauty regime. Adding herbs in cosmetics is very safe for our skin(R. Shoba Rani Hiremath, 2007; B M Mithal : R. N. Shah, 2000). Herbal hair oils are the most well renowned hair treatments. Herbal hair oil as moisturizes scalp as reverses dry scalp and dry hair condition. It provides numerous essential nutrients required to take care of normal functions of sebaceous follicle and promote natural hair growth. Keeping now in consideration this work was undertaken. Traditionally hair oils are made up of vegetables oils like benniseed oil, purgative, copra oil etc. but now petroleum white oil are utilized in the formulation of hair oils to scale back cost and improve product quality.

## **EXPERIMENTAL WORK**

#### **Material and Methods**

**Collection of plant:** For the preparation of herbal hair oil various plant powder materials were collected viz., Neem, Amla, Brahmi, Bhringaraj, Hibiscus, Henna, shikakai from the Vasant Ayuravedic center, Vita was authenticated in the Department of Pharmacognosy.

Formulation of herbal hair oil (B M Mithal: R. N. Shah, 2000)

The herbal hair oil was prepared by direct boiling method. The various ingredients used in the formulation of herbal oil are presented in Table 1. Accurately weigh all the dried and fresh herbs powder such as., Neem, Amla, Brahmi, Bhringaraj, Hibiscus, Henna, shikakaiand kapur were grinded in the mixture and was mixed in 63% of cocunut 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 flavoring agent was added to the oil and it was placed in transparent bottle (Table 1).

**Evaluation of herbal hair oil** (Indian Pharmacopoeia, Government of India, Ministry of Health and Family Welfare, 1996)

The prepared oils were then subjected to physical and biological evaluation.

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Table 1: Ingredients used in formulation of herbal hair oil.		
Sr. No.	Ingredient	Quantity
1	Amala	5gm
2	Neem	5gm
3	Bhringaraj	3gm
4	Hibiscus	2gm
5	Heena	2gm
6	Bhramhi	1gm
7	Shikakai	2gm
8	Coconut oil	63ml
9	Kapor	1gm
10	Flavouring Agent	q. s

**Specific gravity:** Initially empty specific gravity bottle was weighed. Then the same specific gravity bottle was filled with water and again weighed. Later specific gravity bottle was replaced with hair tonic and weighed again. Weights are noted and thus specific gravity of hair tonic was calculated.

Weight of empty specific gravity bottle = w1gms.

Weight of specific gravity bottle with water = w2gms.

Weight of specific gravity bottle with hair tonic = w3gms.

Specific gravity bottle of water = 0.9961 g/cm3.

Specific gravity of hair tonic was calculated as  $\rho\text{=}$  w3-w1/w2-W1xp

**PH:** The PH was determined by using digital PH meter. 20ml of herbal hair tonic was taken in a beaker and the bulb of PH meter was dipped in hair tonic. The obtained PH values are noted down.

Viscosity: The viscosity was determined using Ostwald's viscometer

Acid value: One gram of substance was dissolved accurately in 5ml of mixture of equal volume of ethanol and ether previously

<b>Table 2:</b> Evaluation of herbal hair oil.		
Physical parameter	Value	
РН	7.8	
Specific gravity	0.99 g/cm3	
Acid value	1.6	
Saponification value	182.3	
Viscosity	0.92m²/s	
Sensitivity test	No irritation	
Grittiness test	Smooth	

neutralized with 0.1M KOH. If the sample was not dissolved properly then reflux condenser was connected and the sample was warmed slowly with frequent stirring until the sample was dissolved. Then 1ml of Phenolphthalein solution was added and titrated with 0.1M KOH until the solution remained as faintly pink after shaking for 30 minutes. Acid value was calculated from the following equation.

Acid value = 5.61 x n/w

n= No. of ml of 0.1M KOH

w= Weight of substance

**Saponification value**: 2ml of herbal hair oil was weighed and transferred into a 25ml of conical flask. To this 25ml alcoholic KOH solution was added. It was heated on a water bath for 30 minutes by frequently mixing the content of the flask phenolphthalein was added to cooled liquid and titrated against 0.5M HCL. Balnk solution was performed and Saponification values were calculated.

Saponification value = (b-a) x 28.05/weight of substance

b=blank value

a= assay value

Saponification values were determined and the formulations were subjected to biological evaluation.

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

#### **RESULT AND CONCLUSION**

Herbal hair oils are most important for healthy life of hair. It provides numerous essential nutrients required to sustain normal function of sebaceous glands and promotes natural hair growth. The various parameters like sensitivity test, viscosity, pH, grittiness test, Specific Gravity, saponification value and acid value of herbal hair oil was evaluated (Table 2).

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.

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