

PREPARATION AND EVALUATION OF POLYHERBAL HAIR OIL

*X. Fatima Grace, S. Rahul Raj, S. Shanmughanathan, D. Chamundeeshwari

*Corresponding Author:

X. Fatima Grace, Lecturer, Department of Pharmaceutics, Faculty of Pharmacy
Sri Ramachandra University, Porur, Chennai-600 116
E-mail: santagracek@gmail.com

Abstract: Mankind use various products to enhance beauty and elegance to look young and charming. Cosmetics thus play a vital role in human life. Now a days, herbal cosmetic are widely used because of the belief that they have fewer side effects and better safety. Hair is one of the primary parts of the body which acts as a protective appendage. The objective of the present work is to develop a hair oil for general purpose (daily use) using various herbs. The formulated oil was evaluated for its organoleptic properties, acid value, saponification value, refractive index, pH etc. All the parameters were found to be good and within the standards.

Keywords: hair, oil, herbs, cosmetics, formulation, evaluation.

Introduction

Hair is an epidermal derivative which is one of the vital parts increasing the overall elegance of the body. Hair fall, dandruff, lice, spilt ends, grey hair are few problems involved with hair faced by human¹. To overcome these, human takes many measures by applying many cosmetics for each. Hair oil is one among them used to solve almost all of these problems².

Herbal cosmetics are in high demand due to the increasing interest of mankind towards them because they are more effective with nil or less side effects, easily available ingredients etc. Hair care cosmetics are now added with herbs and they are well recognised compared with synthetic ones³.

Herbal hair oil is more preferred and is used in many ailments of hair⁴. They promote hair growth, improve elegance of hair and prevent hair fall⁵. Hair oil not only promotes hair growth they also provide necessary moisture to the scalp rendering in beautiful hair⁶.

The present work was aimed to prepare and evaluate a polyherbal hair oil containing herbs like curry leaves, bringaraj, amla, ficus, henna, hibiscus, vetiver, fenugreek in coconut oil. All these herbs have well known traditional potential in the treatment of hair care.

Materials and Methods

Collection of Plant Materials

The polyherbal hair oil was prepared^[7-13] by collecting various plant materials like ficus root, curry leaves, bringaraj leaves, henna leaves, hibiscus leaves from herbal garden and vetiver roots, methi seeds and amla fruits were procured from local market [Table : 1].

Curry Leaves:



Biological source: Dried leaves of *Murraya koenigii*

Family: Rutaceae

Use: Prevents hairfall and premature greying of hair.

Banyan:

Biological source: Dried roots of *Ficus benghalensis*

Family: Moraceae

Use: strengthens hair, prevents hair loss

Eclipta: White

Biological source: Aerial parts of *Eclipta prostrata/Eclipta alba*

Family: Asteraceae

Use: Helps in boosting blood circulation to hair follicles

Eclipta: Yellow

Biological source: Aerial parts of *Widelia calendulaceae*

Family: Asteraceae

Use: prevents greying of hair and hair loss.

Amla:

Biological source: Dried fruits of *Phyllanthus emblica*

Family: Phyllanthaceae

Use: hair conditioner, treats scalp ailments, promotes hair growth.

Henna:

Biological source: Dried leaves of *Lawsonia inermis*

Family: Lythraceae

Use: hair colorant, helps in hair growth.

Hibiscus:

Biological source: Dried leaves of *Hibiscus rosasinensis*

Family: Malvaceae

Use: nourishes and thickens hair.

Vetiver:

Biological source: Dried roots of *Vetiveria zizanioides*

Family: Graminae/Poaceae

Use: flavouring agent, nervine tonic.

Fenugreek:

Biological source: Dried seeds of *Trigonella foenum-graecum*

Family: Leguminosae

Use: moisturises hair and replenishes hair growth.

Coconut oil:

Biological source: Oil derived from dried fruits of *Cocos nucifera*.

Family: Arecaceae

Use: moisturiser, vehicle, stimulates hair growth by unclogging pores.

Table: 1:
Formulation of Herbal Hair Oil

S.No	Ingredients	Quantity %
1.	<i>Murraya koenigii</i>	10
2.	<i>Phyllanthus emblica</i>	10
3.	<i>Hibiscus rosasinensis</i>	10
4.	<i>Lawsonia inermis</i>	10
5.	<i>Eclipta alba</i>	5
6.	<i>Widelia calendulaceae</i>	5
7.	<i>Trigonella foenum-graecum</i>	5
8.	<i>Ficus benghalensis</i>	3
9.	<i>Vetiver zizanioides</i>	2
10.	Coconut oil	40

All the herbs except vetiver were dried, powdered and mixed with coconut oil. They were boiled for half an hour and were filtered through muslin cloth. Vetiver was added towards the end and stored for further use.

Evaluation of Herbal Hair Oil

The formulated herbal oil was evaluated for parameters like pH, acid value, saponification value, refractive index, viscosity and organoleptic parameters^{14,15}.

Acid value:

10ml of oil was added with 25ml of ethanol and 25ml of ether. Phenolphthalein was added as indicator and titrated with 0.1M potassium hydroxide solution,

$$\text{Acid value} = 5.61n/w$$

Where,

n= Number of ml of 0.1M KOH

w= Weight of oil

Saponification value:

2g of oil was accurately weighed and transferred into a 250ml iodine flask. 25ml of 0.5M alcoholic potassium hydroxide was added and boiled under reflux on a water bath for 30mins. Phenolphthalein was added as indicator and titrated against 0.5M HCl ('a' ml). Similarly blank was performed ('b' ml) without the sample.

$$\text{Saponification Value: } 28.05(b-a)/w$$

Where,

w= weight in grams of the solution.

pH:

pH of the herbal oil was detected using pH meter.

Viscosity:

Viscosity was determined using Ostwald's viscometer.

Specific gravity:

Specific gravity of the prepared oil was determined using pycnometer or specific gravity bottle.

Refractive index:

It was determined using refractometer.

Organoleptic property:

Colour, odour, skin irritation was determined manually. Oil was applied on hand and exposed to sunlight for 5mins to check for any irritation over skin.

Results

The prepared polyherbal hair oil using the above mentioned ingredients was evaluated for the following parameters and the results are tabulated [Table: 2]

Table 2:
Evaluation of Herbal Hair oil

S.No	Parameters	Observation
1.	Colour	Greenish brown
2.	Odour	Characteristic
3.	Specific gravity	0.9731
4.	Viscosity	0.9123 Poise
5.	pH	6.4
6.	Acid value	2.1
7.	Saponification value	253
8.	Irritation test	No irritation
9.	Refractive index	1.512

Conclusion

All the parameters showed that they are within the limits and since all the ingredients added have many advantages, this oil will help in maintaining good growth of hair, turning grey hair to black, protects from dandruff and results in lustrous looking hair.

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