Available online on 15.04.2019 at http://jddtonline.info

Journal of Drug Delivery and Therapeutics

Open Access to Pharmaceutical and Medical Research

Open Access Research Article

Formulation and evaluation of polyherbal hair oil for alopecia

Kolhe Shilpa*, Indore Pranaya, Shewale Shweta, Pol Akshata, Hanmante Leena

Vishal Institute of Pharmaceutical Education and Research Ale, Junnar, Pune, India

ABSTRACT

The Herbal cosmetics are nowadays widely used because of fewer side effects with better safety and security .The present work was aimed to formulate polyherbal hair oil for general purpose using various Herbs. Herbal hair oil was prepared from the hair growth .The formulated hair oil contain different Herbal plant which are traditionally utilised for hair growth plants used are Shikhakai powder, Coconut Oil, Maka powder, castor oil, rice bran oil, Amla powder, Bramhi powder, hibiscus fiower, Neem leaves. The Formulated oil was evaluated and various parameters such as Viscosity, Saponification Value, pH, Acid Value where determine & reported in this article. The Formulation were also subjected to chemical test determination. To determine the presence of active constituent in the drug .Excellent result of hair growth were seen in formulation.

Keywords: Hair oil, Herb, Cosmetics, Formulation & Evaluation.

Article Info: Received 28 Feb 2019; Review Completed 05 April 2019; Accepted 09 April 2019; Available online 15 April 2019

Cite this article as:

Kolhe S, Indore P, Shewale S, Pol A, Hanmante L, Formulation and evaluation of polyherbal hair oil for alopecia, Journal of Drug Delivery and Therapeutics. 2019; 9(2-s):387-390 **http://dx.doi.org/10.22270/jddt.v9i2-s.2533**

***Address for Correspondence:**

Kolhe Shilpa, Vishal Institute of Pharmaceutical Education and Research Ale, Junnar, Pune, India

INTRODUCTION

Hair has a several useful function in the animal world. It forms a protective cushion around the head &other delicate parts of the body. Hair oil is formulated to give the hair good shine & gloss .This is achieve by applying a thin continuous film of an oily material on the hair surface without causing stickiness. They are mainly oils of low viscosity. Many herbs are used in hair oil are Amla, Almond, Lemon, Hibiscus, etc[1].Hair oil has more preferred as they promote hair growth, Improve elegance of hair & prevent Hair fall [2].

Herbal cosmetics have growing demand in the world market and are in an invaluable gift of nature. There are a wide range of herbal cosmetics products to satisfy beauty regime. Adding herb in the cosmetics is very safe for our skin[3-5].

Herbal hair oil is not only moisturizes scalp but also reverse dry scalp and hair condition. It provides numerous essential nutrients required to maintain normal functions of sebaceous gland and promote natural hair growth. Keeping this point in consideration the present work was undertaken.

Collection of Plant Materials

The polyherbal hair oil was prepared by collecting various plant materials like, f hibiscus fiowers, Neem leaves from herbal garden and Amla powder Bramhi powder, Maka powder, Shikhakai powder, castor oil, coconut oil, rice bran oil were procured from local market

1. Amla:

Biological source: Dried fruits of *phyllanthus Emblica*

Family: *Phyllanthaceae*

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

2. Coconut oil:

Biological source: Oil derived from dried fruits of *Cocusnucifera*.

Family: *Arecaceae*

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

Biological source: Garlic (scientific name *Allium sativum*) is a species in the onion genus, *Allium*. Its close relatives include the onion, shallot, leek, chive, and Chinese onion.

Family: *Amaryllidaceae*

3. Neem:

Biological source: Neem consists of fresh or dried leaves and seed oil of *Azadirachtaindica j. Juss*.

Family: *MELIACEAE*

Use: Antibacterial, Antiseptic.

4. Hibiscus:

Biological source: It is the flower of the plant *Hibiscus syriacus* or *Hibiscus rosa-sinensis*.

Family: *Malvaceae*

Use: To lower body temperature, pulp made from the leaves was applied to the skin to heal wounds, to treat liver diseases, heart diseases and also nerve diseases.

5. Maka flower:

Biological source: It is the flower of plant *Eclita alba*

Family: *Compositae (asteraceae)*

Use: The plant has medicinal property to make hair oil has very effective for hair growth and in preventing dandruff.

6. Shikhakai:

Biological source: It is the podes of plant *Acacia concinna*

Family: *Fabaceae*

Use: Traditionally used as shampoo, good cleanser, promote hair growth, to give shining to hair.

7. Bramhi:

Biological source: It is the leaves or flowers of plant *Bacopa monnieri*

Family: *Plantaginaceae*

Use: Promote healthy skin and hair,open and clarify the mind, support healthy blood cells.

8. Castor oil:

Biological Source: It is the vegetable oil obtain from the seeds *Ricinus communis*.

Family: *Euphorbiaceae*

Use: Used to manufacturing of soaps, lubricants, hydraulic and paints, dyes, coatings, inks and pharmaceuticals, perfumes.

9. Sesame oil:

Biological source: It is the oil obtain from the seed *Sesamum indicum*.

Family: *Pedaliaceae*

Use: Cosmetic carrier oil, low grade oil is used locally in soaps, paints, lubricants, and illuminants.

Formulation of Oil

Table 1: Formulation of Oil

Sr.no.	Ingredient	Quantity (gm)
1	Amla powder	10gm
2	Neem leaves	8gm
3	Coconut oil	qs to 100ml
4	Maka powder	10gm
5	Bramhi powder	5gm
6	Hibiscus flower	5gm
7	Shikhakai powder	5gm
8	Sesame oil	5ml
9	Castor oil	5ml

Procedure

1) All herbs are dried and powdered.
2) Coconut oil, castor oil, sesame oil mixed with each other.
3) All dried herb's powdered mixed with oil phase.
4) They were boil for half an hours and were filtrated through a muslin cloth was added towards the end and stored for further used.

Evaluation of herbal hair oil [6]

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

pH: pH of the herbal oil was detected using pH meter.

Viscosity: Viscosity was determined using Ostwald's viscometer.

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.

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: weighed0.56g KOH pellets and dissolve in 100 ml of distilled water and stirred continuously. The prepared 0.1 molar KOH solution was fill in the burette.

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,

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. Phenolphthlein was added as indicator and titrated against 0.5M HCl ('a' ml). Similarly blank was performed ('b' ml) without the sample.

Saponification Value: 28.05(b-a)/w

Where,

w= weight in grams of the solution.

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 specificgravity bottle with the sample and closed it with cap and again weigh it (b).Determine the weight of sample per millilitre by substrscting the weight (b-a).

RESULTS

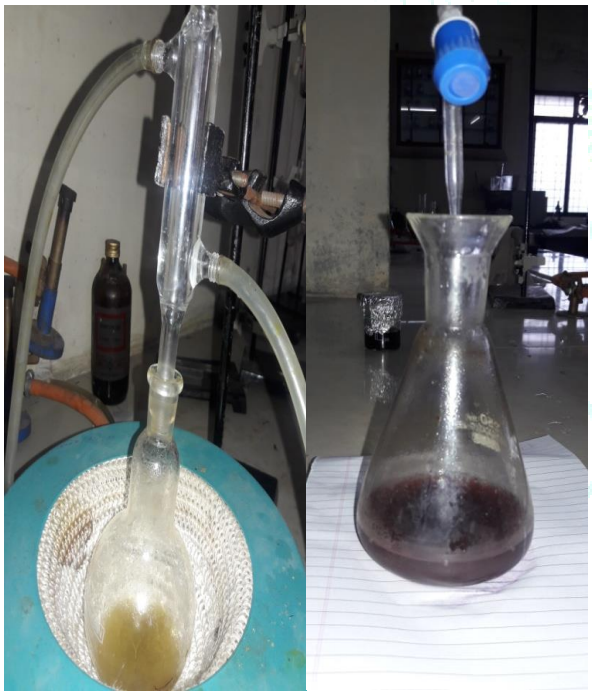
The prepared polyherbal hair oil using the above mentioned ingredients was evaluated for the following parameters and the results are tabulated (Table: 2)

The herbal hair oil was prepared from various herbs (Table: 1)and their importance in the formulation is presented in

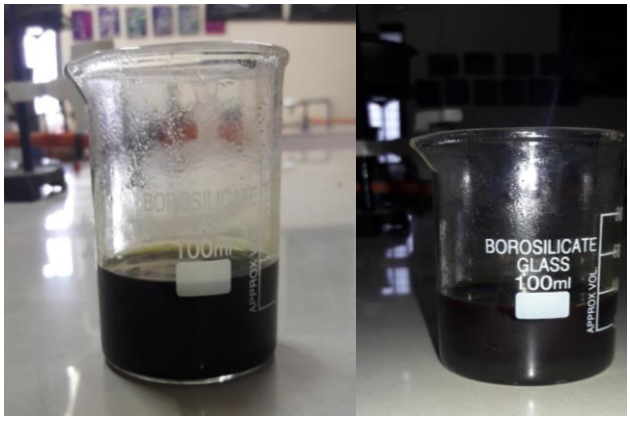
(Table:2).The various parameter like sensitivity test,viscosity,PH,Saponification valueand Acid valueof herbal hair oil was evaluated (Table:3).Hence from the present investigation and biological screening establishes the efficacy of formulated herbal hair oil.

Table 2: Evaluation parameters of Oil

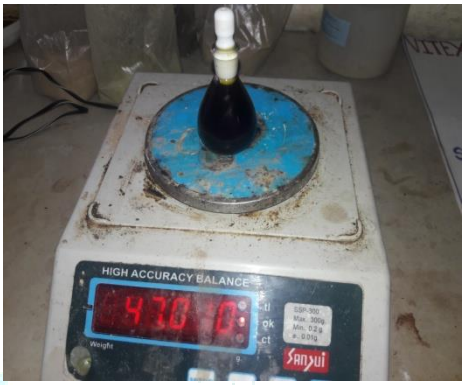
Sr.no.	Parameter	Observation
1	Colour	Brown
2	Odour	Characteristic
3	Specific gravity	1.096
4	Viscosity	0.93
5	pH	6.8
6	Acid value	4.5
7	Saponification value	115.05
8	Irritation test	No irritation
9	Sensitivity test	No irritation



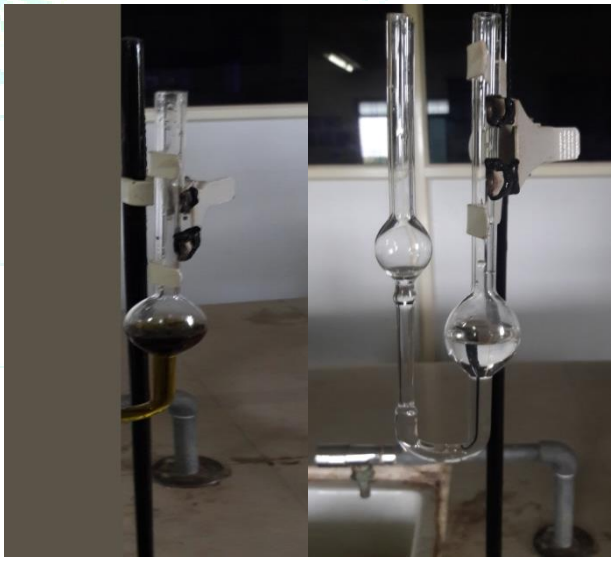
Saponification value-1 Saponification value-2



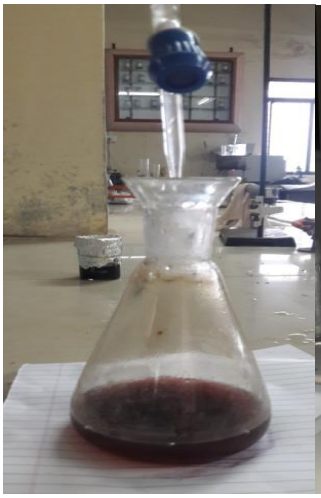
Formulated oil

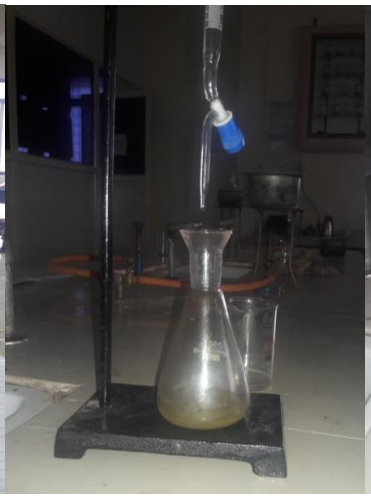


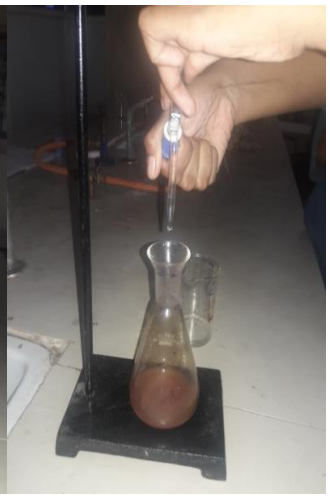
Specific gravity

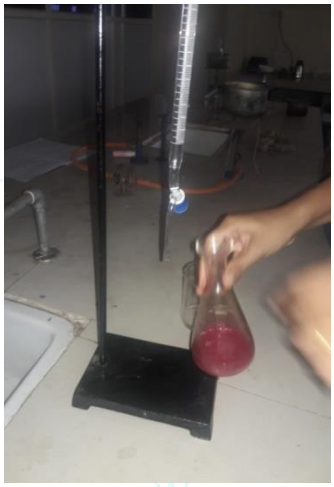


viscosity for oil Viscosity for water


Acid value-1


Acid value-2


Acid value-3


Acid value-4

REFERENCES

1. [Refrence :Khadbadi page no. 619]
2. [Refrence :Adhirajan N Ravikumar T. Evaluation of Hair growth potential of Hibiscus]
3. B.M. Mithal and R.N. Shah,Hand Book of Cosmetics,1st Edition, Vallabh prakashan, Delhi(2000)pp.141-142.
4. R.Shoba Rani Hiremath Textbook of Industrial Pharmacy, 1st Editon, Orient Longaman Pvt. Ltd.,Hydrabad (2007) pp. 99-102.
5. S.C.Bhatia, Perfumes,soaps Detergents and Cosmetics, 2nd Edition,CBS Publishers and Distributions, Delhi(2001)pp.639-641.
6. Indian Pharmacopoeia, Government of india , Ministry of Health and Family Welfare, Published by, The Controller of Publication, Edition, vol.2(1966).