

FORMULATION AND EVALUATION OF POLY-HERBAL ANTI-DANDRUFF HAIR OIL: A HAIR CARE PREPARATION

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Abstract : The aim of this study was to develop a poly-herbal hair oil that could be used to treat hair issues such as dry or flaky scalp and thinning hair, as well as stimulate hair growth, improve scalp blood circulation, prevent dandruff, and increase volume to the shaft. The formulated hair oil contains a variety of herbal plants that have traditionally been used to promote hair growth. Beauty and cosmetics are as old as humanity and culture. As a result, they use a variety of herbal-based beauty products to appear attractive and youthful. Because of the concept of less side effects and a higher protection and security profile, herbal cosmetics are now commonly used by the wider populace. The formulated herbal oil was evaluated for viscosity, saponification value, pH, and other factors

KEYWORDS: Cosmetics, Herbs, Herbal hair oil, formulation and evaluation..

INTRODUCTION

Cosmetics are substances that are applied to the body in order to enhance its appearance or odor. Cosmetics also include skin-care creams, ointments, powders, fragrances, lip glosses, fingernail and toe nail polish, eye and face makeup, permanent waves, coloured contact lenses, hair colours, hair sprays and gels, antiperspirants, baby items, bathing oils, bubble baths, bath salts, butters, and a number of other items. . Make-up is a category of cosmetics that refers to coloured products that are used to alter a person's appearance. Many manufacturers differentiate between cosmetics for decoration and cosmetics for treatment. Cosmetics use has increased exponentially in the in the previous three decades, not just among females but also among males. Hair dyes, hair oils, and creams are equally common among men and women. Most countries currently have legislation in place that regulate the production, labelling, and selling of cosmetics in order to discourage the use of toxic cosmetics. The concept of beauty and cosmetics can be traced back to the earliest of humanity and culture. As a result, they use a variety of beauty items containing herbs in order to appear charming and youthful. Herbs from India and their importance are well-known around the world. Herbal cosmetics are in high demand around the world and are a priceless natural gift. Herbal cosmetics are available in a variety of forms to satisfy your special concerns.[1]

Hair, also with sebaceous glands, sweat glands, and nails, is among the most essential parts of the body, acting as protective appendages and integument accessory structures. Hair loss is a dermatological condition, and there is never-ending search for natural products that promote hair growth. Each hair

develops in three stages: anagen (growth), catagen (involution), and telogen (regeneration) (rest). The anagen process will last from between 2 - 6 years. The growth activity of the hair increases during the catagen process, and the hair transitions to the next phase. The catagen phase lasts about 2-3 weeks. The telogen process occurs when the hairs enter a resting state. . This stage lasts about two to three months. Hair is estimated to shed 50 - 100 hairs per day, and a rise of more than 100 hairs per day is considered alopecia.[2] Hair, also with sebaceous glands, sweat glands, and nails, is among the most essential parts of the body, acting as protective appendages and integument accessory structures. Hair loss is a dermatological condition, and there is never-ending search for natural products that promote hair growth. Each hair develops in three stages: anagen (growth), catagen (involution), and telogen (regeneration) (rest). The anagen process will last from between 2 - 6 years. The growth activity of the hair increases during the catagen process, and the hair transitions to the next phase. The catagen phase lasts about 2-3 weeks. The telogen process occurs when the hairs enter a resting state. . This stage lasts about two to three months. Hair is estimated to shed 50 - 100 hairs per day, and a rise of more than 100 hairs per day is considered alopecia.[2]

Hair oils are hair care products that are used to prevent and treat baldness and other conditions. They also promote hair growth that is glamorous. As a hair tonic, hair oil containing herbal medicines is used. Hair tonics and hair grooming aids are the two major categories of hair care products. These are simply medicinal plant extracts in an oil base.[3]

Herbal hair oil is recommended and is used to treat a variety of hair problems. They stimulate hair growth, enhance hair charm, and prevent hair loss. Hair oil promotes hair growth while also moisturising the scalp, resulting in healthy hair. The goal of this study was to develop and evaluate a polyherbal hair oil with herbs such as curry leaves, amla, alovera, Neem, tulasi, bhringraj, and hibiscus in coconut oil. Many of these herbs have a long history of use in the treatment of hair problems.[4]

Drug and Excipient Profile

Sr. No	Name Of Drug	Biological Name	Uses
1	Olive Oil	(<i>Olea Europaea</i>)	Antifungal,Moisturizer, Antidandruff
2	Kalongi Oil	(<i>Nigella Sativa</i>)	Hair Massage Oil, Treating All Scalp Problems.
3	Tea Tree Oil	Melaleuca Alternifolia ,	Antifungal Antimicrobial,Hair Care
4	Mustard Oil	(Brassica Nigra)	Antimicrobial Hair Care
5	Amla	(<i>Embllica Officinalis</i>)	Treats Scalp Ailments. Promotes Hair Growth. Adds Shine And Thickness To Hair.
6	Alovera	(<i>Aloe Barbadensis</i> <i>Miller</i>)	Antimicrobial Agent. Hair Conditioner. Hair Conditioner.
7	Neem	(<i>Azadirachta Indica</i>)	Promote Healthy Hair Growth. Reduce Dandruff . Treat Head Lice
8	Tulasi	(<i>Ocimum Tenuiflorum</i>)	Strengthening The Hair Roots. Prevent Bacterial And Fungal Infections.
9	Coconut Oil	<i>Coconut Oil (Cocos</i> <i>Nucifera L.)</i>	Moisturizer. Vehicle. Stimulates Hair Growth By Unclogging Pores. Antidandruff

MATERIAL AND METHODS

Collection of Plant Parts Various plant materials were collected for the preparation of herbal hair oil. viz., Olive Oil ,Kalongi Oil, Tea Tree Oil ,Mustard Oil,Alovera, Tulasi, Neem, Amla and Coconut Oil from the Local Market ,Aurangabad, Maharastra, India and was properly authenticated.

Formulation of polyherbal Hair oil

The Paste process was used to produce the herbal hair oil. Fresh amla fruits, alovera pulp, and desired plant parts (Alovera, Tulasi, Neem, Amla and) were processed into a paste with small quantity of water and stored overnight. After that, the soaked drug was combined with a coconut oil base and other oils then heated at a constant temperature with constant stirring until the water droplets in the oil stopped knocking and the drug had been extracted. After that, the oil was filtered through a muslin cloth. It was kept in a bottle which was amber in colour.[3]

Formulation of Poly-herbal hair oil

Sr. No	Name Of Drug	Biological Name	Quantity (%)
1	Olive Oil	(<i>Olea Europaea</i>)	10
2	Kalongi Oil	(<i>Nigella Sativa</i>)	10
3	Tea Tree Oil	Melaleuca Alternifolia	10
4	Mustard Oil	(Brassica Nigra)	10
5	Amla	(<i>Emblica Officinalis</i>)	7
6	Alovera	(<i>Aloe Barbadensis Miller</i>)	5
7	Neem	(<i>Azadirachta Indica</i>)	7
8	Tulasi	(<i>Ocimum Tenuiflorum</i>)	5
9	Coconut Oil	<i>Coconut Oil (Cocos Nucifera L.)</i>	46
TOTAL			100

EVALUATION OF POLYHERBAL HAIR OIL

Physical and biological evaluations of the formulated polyherbal hair oil were performed.[5]

Organoleptic Property

Color, physical state, and odour were manually determined for various organoleptic properties.[6]

pH

A pH metre was used to examine the pH of polyherbal hair oil.[7]

Viscosity

It is a calculation of a liquid's resistance to flow; the higher the viscosity, the greater the resistance to flow. Ostwald's viscometer was used to evaluate the viscosity.[7]

Refractive index

Using a refractometer, it was determined.[8]

Specific gravity

The specific gravity bottle was rinsed with distilled water and dried for 15 minutes in a hot air oven, cooled, capped, measured, and labelled as (a). The sample was then filled into the specific gravity bottle, sealed, and weighed once more (b). The sample's weight per millilitre was estimated by calculating the weights from the sample's weight per millilitre (b-a).[9]

Acid value

- Preparation of 0.1 molar solution Weighing 0.56 g KOH pellets and dissolved it in 100 mL distilled water while being constantly stirred The prepared 0.1 molar KOH solution was poured into the burette.
- Preparation of sample 10 ml of oil were taken and dissolved in 50 ml of a 1:1 ethanol/ether mixture that was vigorously shaken. Then 1 mL phenolphthalein solution was added, and it was titrated with a 0.1 molar KOH solution.[9]

Saponification value

In a 250 mL conical flask, 1 mL of oil was correctly measured, and 10 mL of ethanol:ether mixture (2:1) was added. 25 mL of 0.5 N alcoholic KOH was mixed to this flask. The flask was held for 30 minutes and then cooled. Using phenolphthalein indicator, 0.5 N HCl was used to titrate the cooled solution.[7]

Sensitivity test

The prepared poly herbal oil was applied to 1 cm of hand skin and exposed in the sun for 4-5 min test.[5]

RESULT

The most common well-known hair remedies is Polyherbal hair oil. Herbal oil not only moisturises the scalp but also helps to heal dry scalp and hair and give antidandruff activity. It contains a variety of essential nutrients that support normal sebaceous gland function and promote natural hair growth. The following parameters were evaluated for the prepared poly-herbal hair oil using the abovementioned ingredients, and the results are listed below:

Sr. No	Parameters	Observations
1	Color	Brownish green
2	Physical State	Liquid with greasy in nature
3	Odour	pleasant
4	pH	7.2
5	Viscosity	0.92 Poise
6	Refractive index	1.412
7	Specific Gravity	0.9721
8	Acid Value	3.1
9	Saponification Value	107.25
10	Sensitivity test	Non Sensitive

pH, colour, odour, acid value, viscosity, specific gravity, saponification value, and sensitivity test were used to formulate and evaluate the product. The formulation's pH was reported to be 7.2. The formulation was observed to be brownish green in colour. The formulation's acid value was obtained to be 3.1. The formulation's saponification value was reported to be 107.25. A sensitivity test was carried out, but no sensitivity was observed. As a result of the current study, it was observed that the prepared poly-herbal Hair oil maintains the standard expectations, and biological screening confirms its effectiveness and protection.

CONCLUSION

Poly-herbal hair oil is one of the most well-known hair remedies. India is part of a growing range of medicinal herbs with a variety of preventive and curative properties. Antidandruff, hair thickening, and Herbal extracts have been shown to have anti-hairfall ,anti-dandruff properties. and constituents used in the formulation of poly-herbal hair oil, which When used together, they had a stimulating impact in promoting good, lustrous hair growth. It has been established that the formulation is safe for human use.

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