

Study on Formulation and Evaluation of Herbal Hair Oil

Jahir Ismail Sayyad¹, Manisha S. Gaykwad², Ramesh S. Kalkotwar³, Gulshan Rathi⁴

VSS Institute of Pharmacy, Badnapur, Jalna, Aurgabad (M.S), India¹

Ass. Professor, VSS Institute of Pharmacy, Badnapur, Jalna, Aurgabad (M.S), India²

Principal, VSS Institute of Pharmacy, Badnapur, Jalna, Aurgabad (M.S), India³

Vice- principal, VSS Institute of Pharmacy, Badnapur, Jalna, Aurgabad (M.S), India⁴

Abstract: Herbal hair oil or the healthy life o hairs. Herbal hair oil are hair care component implemented to the hair or thehair disorder. The herbal hair oil is a critical part of a natural cosmetic. Herbs are used for beautification purpose of body, preparation of cosmetic, flavouring and colouring agent. The study aims reviewing the importance of herbal oil and their use in common hair problem. Hair loss is a relatively common occurrence that causes concern in people of all ages. In most cases, Hair loss is permanent but it can lead to alopecia. Hair root activation is necessary to improve hair development and prevent hair loss. Mankind uses various products to reinforce beauty and elegance to see young and charming. To ameliorate hair growth and assist hair loss, hair root activation is required. Herbals are still generally employed by average citizens thanks smaller side goods and lesser protection and safety profile. This study was intended to use different sauces to formulate herbal hair Oil for general purposes (hair operation) the formulated oil was evaluated for its organoleptic properties, viscosity, pH etc. All the parameters were found to be good and within the standards.

Keywords: herbs, herbal hair oil, scalp health

I. INTRODUCTION

The aim of study involves preparation of hair oil using plant materials. The hair loss causes due to stress, pollution, hormonal changes and other medical conditions. Hair loss is a distressing conditions for and increasing number of man and women. Therefore it is great importance, to develop new therapies for the treatment of hair loss. The traditional system of medicine in India a claims a number of herbal drugs for the hair growth promotion. In our study, we have round that the herbal ingredient used are of great use for the controlling the hair loss. Hair is one of the vital parts of the body considered to be protective appendage on the body. The hair oil are applied by the topically to scalp and hair. Hair is simple structure made from root and shaft. Root enclosed in hair follicle submerged into skin, hair shaft is port of hair present above the skin. Hair is made up of tough protein called as keratin. Keratin is large molecule made up of smaller unit called amino acid. The science of Ayurveda had utilized many herbs and floras to make cosmetics for beautification and protection from external affects the herbal cosmetics does not cause large side effects on Human Body. The various plant material like fresh flowers and leaves of Alma, Almond oil, bhringraj extract, neem oil Ashwaghandha, flaxseed oil, coconut oil, castor oil etc. prevent hair loss.

HAIR FOLLICLE

The average human has about 100000 hair follicle on the scalp alone, Hair follicle is a tunnel shaped structure in the epidermis of the skin. Hair starts growing at the bottom of a hair follicle. The root of the hair is made up of protein cells and nourished by blood vessel. A more cells are created, the hair grows out of the skin and reaches the surface. Sebaceous glands near the hair follicle produce oil, which nourishes the hair and skin.

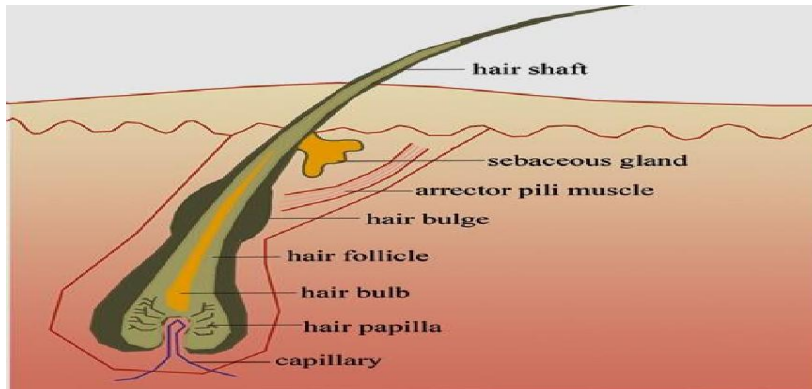


Fig. 01. Structure of hair

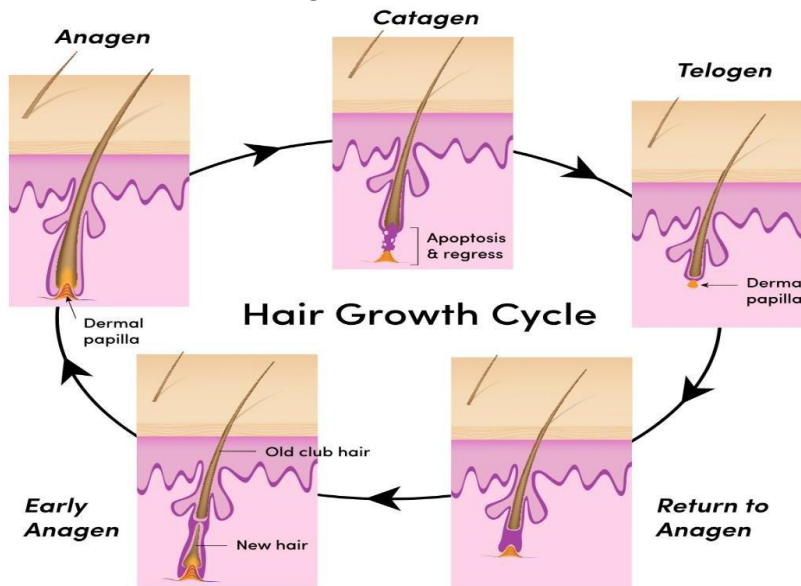


Fig. 02. Hair growth cycle.

Hair growth cycle consist of Following stages:-

Anagen phase: Growth phase of hair, when the cells in the root of hair most rapidly dividing so more new hair is formed about 6 inches in year and faster in summer than winter.

This phase of hair cycle last an average of 3 to 5 year.

Catagen phase: Following catagen phase, hair cycle enters in this phase,

Approximately 3% of all hair are in this stage the last of catagen stage is approx. 10 days

Talogen phase: This is natural hair growth cycle, approximately 10 to 15% of hair in halogen phase at any given moment, approx. 3 month to 100 days last of halogen phase

Exogen Phase: The final stage of hair growth cycle, when individual hair strands are released from their follicles and fall out.

Now the whole process can begin again!

II. HAIR PROBLEMS

Hair is an important part of human body. The problem associated with it includes hair loss,

Lack of hair volume, conditioning, immature greying, dandruff, thinning of hair, dullness etc. Hairs can in shape, length, diameter, texture and colour.

Dandruff:

Dandruff is little white pieces of dead skin in Someone's hair, or fallen someone's hair. It's apparently caused by a fungus called malassezia restrict and globes, formerly Called pittosporum may be a yeast causing Infection of skin and scalp. It's caused by not brushing hair, allergy, not showering enough Etc.

Scalp. As skin cells die, a small amount of flaking is normal; about 5, 00,000 cells/cm² get released normally after detergent treatment. Some people, however, experience an unusually large amount of flaking up to 8, 00,000 cells/cm²; either chronically or as a result of certain triggers, which can also be accompanied by redness, and itching.

Many reports suggest a clear link between the two clinical entities – the mildest form of the clinical presentation of seborrhoea dermatitis as dandruff, where the inflammation is minimal and remain subclinical. Conceptually, dandruff represents nothing more than physiologic scaling. Hence, it is believed that physiological scaling process requires more of cosmetic management.

The response to treatment is commonly swift, but transient. On the contrary, seborrhoea dermatitis is obviously more inflammatory in nature extending outside the limit of the scalp surface. According to one study, dandruff has been shown to possibly be the result of three factors:

Hair loss:

Although historically as a haul among men, Hair loss is additionally common among Women. Female hair loss is typically caused by stress, medication, changing hormones and even menopause. Many hair styling product can contribute to hair loss.

In hair on the pillow, or when brushing, or Diffuse hair loss can affect both sexes at any age. Any in the shower drain. It is usually recognized thing that interrupts the normal hair cycle can trigger more readily by women than me. How diffuse hair loss. Triggers include a wide variety of physiever, diffuse hair loss can affect both sexes at logic or emotional stresses, nutritional deficiencies, any age. And endocrine imbalances.

Split ends:

Over brushing hair, excessive perming, too much heat and lack of a good conditioner Cause split ends. Exposure to extreme Weather conditions, and hair care techniques Such as blow drying, straightening, and Curling may cause split ends.

Excessive application of hair products such as perms and hair colouring may strip protective layering off the outside of the hair's shaft and weaken the hair, making the hair prone to split ends.

Mechanical stresses include pulling a comb forcefully through tangled hair and repeated combing. Split ends can be a symptom of copper transport disorders such as Meks disease and occipital horn syndrome. Over-brushing hair, excessive perming, too much heat, and lack of a good conditioner causes split ends.

Dry Hair:

Dry hair develops when the hair does not get or retain enough moisture. This reduces its sheen and can make it appear frizzy and dull, dry hair can affect men and women of any age but it is likely to develop as an individual ages. In healthy hair natural oils in the outer layer help protect the inner layers.

Shampooing too often cause dry hairs. Although squeaky clean hair may be a good Thing, many overdo it by washing once, sometimes twice or per day which strip away All of the hair's natural oils.

They also reflect light, making the hair appear shiny. Sheen and lustre are two important signs of healthy hair. In case of dry hair, the outer layer breaks down, causing it to appear dull and unhealthy. A variety of factors can lead to dry hair, including environmental conditions, hair care habits, and physical health of the individual. Some of the environmental conditions that can cause dry hair include: living in a dry, hot climate; spending a lot of time in the sun or wind; and frequently swimming in chlorinated or salty water. Haircare practices that often contribute to dry hair include.

Dull hair:

There are many causes of dull looking hair Chemical or heat styling damage and Environmental soils. Dullness develops when the hair does not receive or retain enough moisture. The symptoms of dull hair include dryness , fizziness , and a rough texture. Several reasons can contribute to dull hair, such as using the wrong hair care products, deficiency of nutrients in diet, the excessive use of harsh chemicals, heat-styling damage, and environmental soils. It can weaken hair and make it look dull and lifeless. By removing the residue from products and the environment clarifying treatments can help unclog the hair follicles and ensure that the hair is getting the nutrients and natural oils it needs to shine and thrive. There are many causes of dull-looking hair chemical or heat-styling damage, and environmental soils.

Oily/greasy hair:

Oily hair is caused scalp produces an Excessive amount of natural oil called Sebum. Sebum is produced bysebaceous Glands, which leading to excessive amounts of oil.

Heat damage: Heat damaged hair occurs when you blow Dry, flat iron, or curl yourhair at thehighest Temperature settings over an extended period of time.

Heat damage can make straight hair appear dry and brittle. It can also exaggerate the appearance of split ends and make it harder for the hair to lie flat. To get the hair back to its glossiest, focus must be on restoring its natural proteins. On a basic level, heat damage is caused by styling tools such as straighteners, curling tongs and hairdryers. The treatment options for heat damage will vary according to how damaged the hair is andthe hair type. Use your curling iron or flat iron too much and your hair will become damaged.

HAIROIL:

Hair oil is an oil based cosmetic product intended to improve the condition of hair. Various types of oils may be included in hair oil product. These often purport to aid with hair growth, dryness or damage.

Herbal hair oil isan essential part ofherbal cosmetics. Herbal hair oil is more preferred and use used in many aliments of hair.

They not only promote hair growth but also provide necessary moisture to the scalp rendering in beautiful hair.

Herbal oil that contain herbal drugs known as hair tonic.

The use of hair oil is increasing every day in line with the improvement in standard of living of people to give natural flavour and colour to the hair oil the herbal essences and perfumes are added.

III. IMPORTANCE & BENEFITS

The importance of the HERBAL HAIR OIL we live in polluted world which is not safe for hair that is when herbal hair oil comes into practice oil is blend of Herbs.

Provide natural goodness to hair.

Preventing hair loss.

Keep scalp hydrated.

Improve hair growth.

Prevent dandruff.

Stress relief

AIM & OBJECTIVE: The aim of this study is to prepare and evaluate a herbal hair oil using fresh components from various plants. Along with it we have well-define objective is to formulate and evaluate the efficiency of herbal hair oil made form fresh components. Along with it to assess the potential of the herbal hair oil in promoting.

IV. MATERIAL AND METHOD:

Herbal Drug Profile:

Table no. 01. Herbal crude drugs used.

Sr. No.	Herbal Drugs	Biological Source	Family	Uses
01	Bhringraj	Eclipta prostrate	Asteraceae	1) Prevent hair fall. 2) Promote hair growth.
02	Neem	Dried leaves of A. Indica	Meliaceae	1) Antidandruff. 2) Leaves antiseptic.
03	Amla	Dried fruits of Phyllanthus emblica	Phyllanthaceae	1) Hair conditioner 2) Treats crown affections 3) Promotes hair growth.
04	Henna	Dried leaves of Lawsonia inermis	Lythraceae	1) hair colorant 2) helps in hair growth
05	Coconut oil	Cocos nucifera L.	Aceraceae	1) Promotes hair growth. 2) Moistures the hair follicles
06	Ashwaghandha	Withania somnifera is commonly known as "Indian Winter cherry" or "Indian Ginseng"	Solanaceae	1) Helps strengthen your hair and scalp barrier 2) Reducing hair breakage
07	Castor Oil	Seed oil of Ricinus communis L.	Euphorbiaceae	1) Lubricate the hair shaft Increases flexibility 2) Treats dandruff
08	Almond Oil	Dried kernels of almond tree	Rosaceae	1) Strengthen the hair 2) Protect the hair from sunlight
09	Tulasi	fresh and dried leaves of Ocimum sanctum	Lamiaceae	1) Condition to Scalp 2) Prevent Hair Loss
10	Rose Oil	Rose Oil is Extract From the Flowers of Rosa Damascene	Rosaceae	1) Promote new growth and help existing hair to remain healthy. 2) avoiding breakage or falling out
11	Hibiscus	Hibiscus Rosa sinensis	Malvaceae	1) Stimulate Hair Growth 2) Prevent Breakage of Hair.
12	Curry Leaves	Murrayakoenigii (L.) Spreng	Rosaceae	1) Use in Dandruff 2) Add shine in Hair



(a)



(b)



(c)



Fig.no.03. (a) Bhringraj, (b) Neem, (c) Amla, (d) Henna, (e)Coconut oil, (f) Ashwagandha, (g) Castor Oil, (h)Almond Oil, (i) Tulasi, (j)Rose Oil, (k)Hibiscus, (l)Curry Leaves

Formulation table:

Table 02 Formulation Table

SR.NO.	INGREDIENTS	QUANTITY
1	AMLA	5gm
2	ALMONDOIL	2%
3	ROSEOIL	2%
4	MEHANDI POWDER	2.5gm
5	NEEM	2.5gm
6	ASHWAGANDHA	2.5gm
7	BHRINGRAJ	2.5gm
8	TULASI	2.5gm
9	CASTOROIL	2%
10	COCONUT OIL	2%

11	CURRYLEAVES	2.5gm
12	HIBISCUSFLOWER &LEAVES	2-5

V. PROCEDURE

- Directly weigh all the dried and fresh sauces and leaves greasepaint. Mix coconut oil painting, and castor oil painting slightly.
- After that mixing add almond oil painting, mehndi greasepaint, Amla excerpt and keep away for overnight.
- Add Bhringraj, ashwaghandha grease paint, Tulasi Leaves, Neemexcerpt, Hibiscus, Curry leaves and boil until colour of ashwaghandha changes to dark brown colour.
- After the colour change whole medication was filtered through muslin cloth& Add rose Oil.
- Eventually small quantum of colour and spicing agent was added to the oil painting and it was placed in amber colored bottle.

VI. EVALUATION TEST

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

Acid value: 1 ml of oil painting was added with 2.5 ml of ethanol and 2.5 ml of ether. Phenolphthalein was added as index and titrated with 0.1 M potassium hydroxide result, Acid value = $5.2 \frac{n}{w}$ Where, n = Number of ml of 0.1 M KOH w = Weight of oil painting.



Fig. 04. Acid Value Determination.

Saponification value:-0.2 Get oil painting was directly counted and transferred into a 25ml of iodine beaker. 2.5 ml of 0.5 M alcoholic potassium hydroxide was added and boiled under reflux on a water bath for 30 mins. Phenolphthalein was added as index and titrated against 0.5 M HCl ('a' ml). Also blank was performed ('b' ml) without the sample. Saponification Value $28.05 \frac{(b-a)}{w}$ Where, w = weight in grams of the solution.



Fig. 05. Saponification Value

Refractive Index:

It was determined using refract meter.

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.



Fig. 06. Refractive Index

VII. RESULT

Table 03. Evaluation test results.

Sr.no	Parameters	Observation	Test pass or fail
1	Colour	Dark brown	-
2	Sensitivity	No irritation	-
3	Acid value	5.2	Pass
4	Saponification Value	28.05	Pass
5	Irritation test	No Irritation	Pass

VIII. CONCLUSION

Overall, the herbal hair oil showed improvement in the hair growth as compare to marketed preparation.

The prepared hair oil shows good and satisfactory results for hair initiation and hair growth activity.

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