

Formulation and Evaluation of Hair Mask for Hair Growth

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Submitted: 05-05-2023

Accepted: 15-05-2023

ABSTRACT:

The hair follicle is the most important organ in the mammalian system, determining appearance, gender differentiation, providing severe temperature protection, and playing a role in self-defense. Due to many lifestyle-related changes such as fatigue, anxiety, junk food consumption, and the usage of various hairstyling colouring procedures, the younger generations have begun to experience severe hair loss difficulties. Alopecia is the loss of hair that is not transitory in most situations. Due to their anxiety and stress, many people suffering from hair loss seek a variety of remedies, ranging from mythology to conventional and therapeutic healing to the use of monoxide and finasteride. Hair root activation is necessary to improve hair development and prevent hair loss.

Keywords :Herbal ,Hair,mask Drugs, Chemicals

I. INTRODUCTION:

Hair development is controlled by a complex and dynamic mechanism that is still unknown. Hair shaft synthesis, elongation, and eventually loss are all part of this cyclical mechanism. Human hair consists of follicles in the antigen, cartage, and telogen stages. In the antigen phase, the hair follicle actively collects cytochrome and grows the hair shaft quickly. The telogen hair follicle is unable to generate newborn hair shafts after it grows into the antigen hair follicle . Alopecia Arcata (AA) is a recurring immune-mediated cetaceous condition characterised by hair loss that is not scarring. It has a prevalence of 1.7 percent to 2.1 percent in the general population, with a higher prevalence in young patients (21-40 years) and no significant difference in incidence. Hair is a vital element of the body and serves as a health indicator.

Hair masks can help to keep our hair moisturised. They are especially good for hair that is dry or damaged. Hair masks can help to improve the condition of our scalp and strengthen our hair.

Hairs...These hair masks can be prepared at home, have no drawbacks, and are really useful. This mask is something we can manufacture from whatever we have on hand, This product is critical for those whose hair is extremely thin or whose hair is damaged. If our hair is damaged, if that's the case, our personality will be enhanced. There are many different types of masks on the market, but they all contain the same ingredients. Chemicals. Chemicals are also harmful to our hair. As a result, we have created a chemical-free product. This mask is fantastic.

HAIR:

Hair is a simple structure that is made up of protein filament that grows from follicles found in the dermis. Hair is one of the defining characteristics of mammals. The human body, apart from areas of glabrous skin, is covered in follicles which produce thick terminal and fine vellus hair. Most common interest in hair is focused on hair growth, hair types, and hair care, but hair is also an important biomaterial primarily composed of protein, notably alpha keratin.

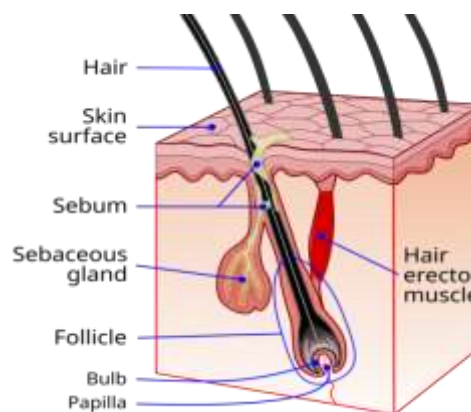


Fig.1: Hair

HAIR GROWTH CYCLE:

The three stages of hair growth are the anagen, catagen, and telogen phases. Each strand of hair on the human body is at its own stage of development. Once the cycle is complete, it restarts and a new strand of hair begins to form. The growth rate of hair varies from individual to individual depending on their age, genetic predisposition and a number of environmental factors. It is commonly stated that hair grows about 1 cm per month on average; however reality is more complex, since not all hair grows at once. Scalp hair was reported to grow between 0.6 cm and 3.36 cm per month.

Phase of hair growth cycle:

Three step of hair growth cycle.

- Anagen
- Catagen
- Telogen

Anagen:

An abnormal loss of hair during the first phase (anagen) of the hair's growth cycle. Anagen is the hair growing phase. It usually lasts 2 to 6 years. Hair growth rate is about 3 mm per week. Or average 1 cm per month.

Catagen:

The second phase of your hair growth cycle is Catagen. This period is short, lasting only 2-3 weeks on average. In this transitional phase, hair stops growing and detaches itself from the blood supply and is then named a club hair .

Telogen:

Finally, hair enters it's third and final stage called the Telogen phase. This phase begins with a resting period, where club hairs rest in the root while new hair begins to grow beneath it. This phase lasts for around 3 months.



Fig .2: Hair growth cycle

USE OF HERBAL PLANT:

All the natural materials used in the present study i.e., Amla, Bhringraj, Neem , Aloe Vera, Hibiscus, Tulsi, coconut oil
Ginger, were purchased from local market, in the form of dried powder. The details of the plant material used for the formulation of hair mask are mentioned.

Amla:

Biological source.

Dried fruits of phyllanthus Emblica

Family: Phyllanthaceae

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



Fig .3:Amla

Bhringraj:

Biological source:Eclipta prostrate



Fig.4:Bhringraj

Hibiscus:

Biological source: Hibiscus rosa- sinensis.

Family: Malvaceae

Use:

Make your hair look healthy and lustrous.
Thicken hair and ass valume.



Fig .5:Hibiscus

Neem :

Biological name : Azadirachta

Family: Meliaceae

Use: Increases of Immunity



Fig.6: Neem

Ginger:

Biological source: Zingiber

Family: Zingiberaceac

Use:

Antiemetic
Flavouring agent



Fig.7:Ginger

Biological source: Oil derived from dried fruits of Cocosnucifera.

Family: Arecaceae.

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



Fig.8:Coconut

Tulsi:

Biological source: Ocimum

Family: Lamiaceae

Use: Reduce fever and pain



Fig.9:Tulsi

Aloe vera:

Biological source: Barbadosis

Family: Asphodelaceae

Use:

Stimulate hair growth
Strength
Anti fungal and antidandruff.



Fig.10:Aloe vera

Coconut oil :

FORMULATION OF HAIR MASK:

Table 1:

S.N	Ingredients	Quantity F1	F2	F3
1	Amla	9gm	11gm	10gm
2	Bhringraj	8gm	13gm	10gm
3	Hibiscus	13gm	10gm	10gm
4	Neem	12gm	14gm	15gm
5	Ginger	8gm	11gm	10gm
6	Tulsi	8gm	9gm	10gm
7	Coconut oil	10gm	11gm	13gm
8	Aloe Vera	9gm	11gm	14gm

II. METHOD AND PREPARATION:

Preparation of the Herbal Powder:

All the herbal ingredients are in dry form and grinded to make fine powder.

Weighing: All the required herbal powders for hair mask preparation were accurately weighed individually by using digital balance.

Mixing: All these fine ingredients were mixed thoroughly by mixer to form a homogenous fine powder.

Sieving: This fine powder was passed through sieve no. 80, to get the sufficient quantity of fine powder.

Collection and storage:

The powder mixture was collected and store in suitable plastic container and used for doing evaluation parameters.

We have took four batches of antifungal activity. n which the best result showing antifungal activity was shown by batch C. The batch C was showing best zone of inhibition

Composition of the Constituents (quantity):

The largest dose of Amla and Hibiscus was taken since they have established hair nutrition properties, and because the scalp becomes dry during dandruff treatment, it is critical to nourish it. Bhringraj, Tulsi, and coconut oil were each given 25 gram because they enhance blood circulation, revitalise hair follicles, and promote hair growth. Coconut oil and Tulsi have antibacterial and antifungal properties.

Because neem and ginger contain pungent active components in concentrated levels, they should only be used in small doses.



Fig.11:Hair mask

EVALUATION OF HAIR MASK:

Organoleptic Evaluation:

The examination of the formulation is performed under this evaluation, and it involves macroscopic aspects of the drug or product, such as colour, scent, and taste, by using sensory organs such as the eyes or nose. Table 2 explains how macroscopic elements like as texture and appearance are incorporated.

Table 2:

S.N	Organoleptic features	Observations
1	Colour	Greenish Brown
2	Odour	Characteristics
3	Texture	Fine
4	Appearance	Coarse powder

Physicochemical Research:

The formulations' physicochemical investigations were carried out as shown in Table 3 to examine physical and chemical characteristics such as pH, ash value, and loss on drying (Moisture content).

Rheological evaluation

The physical properties of the powdered formulation are examined in rheological examination, as indicated in table 5. The flow ability of powders in this bulk density tapped density angle of repose hausners ratio Carr's index are assessed using powder rheology.

S.N	Parameters	Observations
1	Tapped density	0.5
2	Bulk density	0.41
3	Angle of Repose	39.41
4	Hausner's Ratio	1.21
5	Carr's Index	18

Patch Test:

In this procedure, a small amount of moistened formulation is applied to the hand's surface, and the effects of the formulation on irritancy and itching have been noticed.

Stability test:

The powdered formulation was kept at different temperatures (35oC and 40oC) and

humidity levels for a period of time. The change in physical attributes was detected under various situations.

III. RESULT AND DISCUSSION:

The herbal hair mask mixture has been created to include the benefits of natural herbs as well as potent phyto-constituents. It acts as an anti-dandruff agent and moderately nourishes hair. It effectively removes excess oil from the scalp, which is one of the primary causes of dandruff.

IV. CONCLUSION:

A herbal hair mask is a light and gentle treatment for dandruff in the hair. The non-toxic nature of herbal-based cosmetics is well-known. It nourishes both the skin and the hair on the scalp. It removes excess oil from the scalp, which helps to treat dandruff. The usage of this pack on a regular basis results in hair that is free of problems, healthy, and rich. Dandruff is caused by an oily scalp and poor hygiene. The beneficial features of the herbal hair pack were revealed in this study, and more research is needed to discover the additional benefits that this hair pack can provide. Natural therapies are widely utilised today all over the world since they are safer and have fewer side effects.

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