

FORMULATION AND EVALUATION OF HERBAL HAIR CONDITIONER

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ABSTRACT

Nowadays, shampoos and other conditioner products are popular among consumers. Hair conditioners are skin care products that are used to condition, clean, and rinse the hair after applying them to the ends of the hair. It is applied to the hair to make it lustrous and silky. makes hair more lustrous. Aloe vera, onion juice, glycerin, curry leaves, and other herbal extracts are use.d in formulations for hair tonics and conditioners that help stop hair loss and maintain hair conditioning. The human body's protective covering for the scalp, hair, is an essential component. Hair conditioners are skin care products that are used to condition, clean, and rinse the hair after applying them to the ends of the hair. It is applied to the hair to make it lustrous and silky. Aloe Vera is a succulent plant with active ingredients and minerals that help strengthen hair. Onion can be an effective home remedy for your hair problems. You may not like the strong, pungent smell of onion, but eating and applying onion topically can be magical. Curry leaves also help fight hair thinning or hair loss.

Keywords: Herbal conditioner, Fenugreek, Eclipta Prostrate, Hair care.

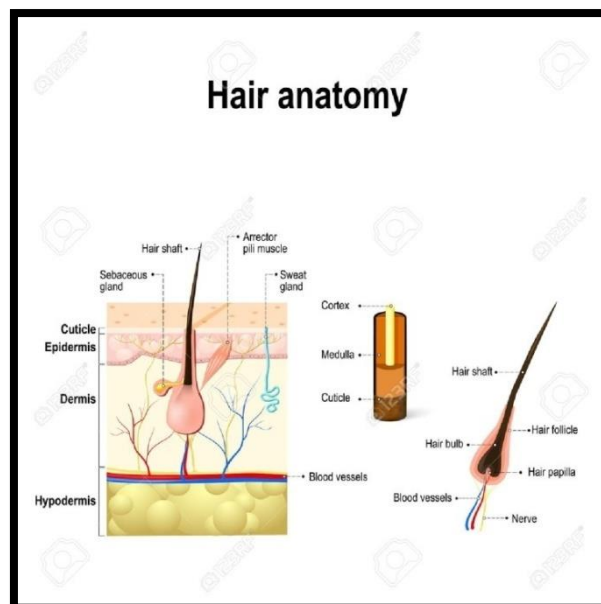
INTRODUCTION:

Over the past ten years, demand for herbal products has increased. Currently, 20–30% of the populace uses it. Natural materials including flowers, stems, bark, seeds, leaves, and medicinal plants are used to make herbal items. After shampooing, hair is treated with the use of hair conditioners. brings back the natural beauty of the hair, leaving it smooth, lustrous, and manageable. The product may be used on any type of hair. It smooths the cuticle of the hair follicle and replenishes moisture. Strong antioxidant hair conditioners help lessen UV damage to your hair, including changes in hair colour and protein damage. Chemicals and sulphates are found in plant-based conditioners. The compositions of modern conditioners go beyond simple hair cleaning. Conditioners have several qualities, including conditioning and hair shine, in addition to their ability to clean. It is anticipated that it won't irritate mucous membranes or skin.

Most likely, shampoos are utilised as cosmetics. It is a hair care product that is used on a regular basis to clean the scalp and hair. Shampoos, which are a viscous mixture of detergents with the right additions, preservatives, and active chemicals, are probably used as beautifying products. It is often massaged into wet hair before being applied and cleaned out with water. Shampoo is used to wash away debris that has accumulated on hair without significantly removing sebum. There are several synthetic shampoos on the market today, both medicated and unmedicated; however, herbal shampoo has gained popularity since it is natural, safer, and has higher customer demand without any negative side effects. We have natural herbal shampoos as an alternative to synthetic shampoo. However, creating cosmetic products with entirely natural ingredients is exceedingly challenging. Many medicinal herbs with possible benefits on hair have been utilised for centuries all over the world and are now included in shampoo formulas.

HOW TO USE CONDITIONER:**Hair Anatomy:**

A hair shaft and a hair root are both present in each hair. The shaft is the visible portion of the hair that protrudes from the skin. The hair root is in the skin and extends into the deeper layers. It is enclosed by a hair follicle (a sheath of skin and connective tissue) and is linked to a sebaceous gland.

**Advantages of herbal conditioner:**

- 1) Provides lustre and softness to hair.
- 2) Reduce the number of split ends..
- 3) Enhance manageability.

- 4) Avoid hair breakage..
- 5) Guards against chemical and mechanical damage to the hair.

Disadvantages of other conditioner available in market:

- 1) Hair harming and usually poisonous.
- 2) This causes eye discomfort..
- 3) Sodium Lauryl Sulphate and Ammonium Lauryl Sulphate are the major ingredients in other conditioners.
- 4) They promote split ends and frizz by drying out the hair shaft.

BENEFITS OF HAIR CONDITIONER**MATERIALS AND METHODS:-****Materials :-**

Aloe vera, Onion Juice, Glycerin, Curry leaves, Coconut Oil, Almond Oil, Lemon, etc . are use in this formulation.

- 1) **Aloe Vera** :- Many active chemicals and minerals in aloe vera can help strengthen your hair. It contains fatty acids and amino acids, as well as vitamins A, B12, C, and E. These contribute to healthy hair follicles.



- 2) **Onion Juice** :- Onion juice contains Sulphur, which helps to prevent hair breakage and thinning. Sulphur is required for hair follicle renewal. Onion juice is high in antioxidants, which may help prevent premature greying of hair. Onion feeds your hair and prevents it from falling out.



- 3) **Curry leaves** :- Curry leaves include Vitamin C, Vitamin B, proteins, and antioxidants, all of which aid in cellular regeneration and support healthy blood vessel circulation in the scalp. These substances encourage hair growth and skin rejuvenation while also improving scalp health.



- 4) **Glycerin**: Glycerin is a humectant, which means it can draw moisture from the air, keeping hair moisturised and healthy. Because it is so powerful, it is a frequent component in both skin and hair care products. It's also colourless and odourless, so it won't change the fragrance or appearance of a product.



- 5) **Coconut Oil** :- Coconut oil offers several hair advantages. It is used to treat dandruff, restore lustre to dry and damaged hair, control frizz, and prevent hair from style damage. It is suitable for most hair types. Coconut oil is high in fatty acids, which can benefit hair health.



- 6) **Almond Oil** :- Your hair will feel smoother to the touch as a result. Almond oil provides your hair a gentler texture over time. When you integrate almond oil into your hair care routine, you may find that your hair is easier to comb through and style.



- 7) **Lemon** :- Lemons contain limonene, which helps renew dry, frizzy, and harsh hair. Lemon juice contains antioxidants and other nutrients that help to keep your hair silky and healthy. Lemon juice is high in folic acid and vitamin C.



Methods :-

Formulation of herbal hair conditioner :-

In this formulation we have use two phase :-

- 1) Aqueous Phase,
- 2) Oil Phase

1) **Aqueous Phase:-**

Sr No.	Ingredients	Quantity
1	Aloe vera gel	1.5 gm
2	Glycerine	3.5 gm
3	Gum	0.3 gm
4	Onion Juice	18 gm
5	Curry leaves	5 gm
6	Methyl Paraben	Qs

2) **Oil Phase:-**

Sr No.	Ingredients	Quantity
1	Tween 80	3 ml
2	Coconut oil	3 ml
3	Almond oil	3 ml
4	Castor oil	3 ml
5	Rose oil	Qs
6	Vitamin E	Qs

First all the ingredients and weight as per the given quantity. Make the two phases of Aqueous and Oil Phase. Then mix the Aqueous Phase in Oil Phase. Add Aqueous Phase in Oil Phase drop wise, with continuous stirring.

Evaluation Parameter:

The following organoleptic characteristics and physicochemical criteria were used to evaluate the formulation of herbal hair conditioner.

- pH test:** Soak the pH strips in the herbal conditioner solution for 10 minutes and watch the colour change. Compare the colour of the pH strip to the colour chart to determine the pH.
 - pH of hair strands: 3 to 5
 - pH of hair conditioner: 3 to 7.5
- Dirt dispersion test:** Two drops of conditioner were added to a large test tube holding 10 ml of distilled water, followed by one drop of Indian ink, and the test tube was sealed and shook ten times. The level of ink in the foam was classified as none, light, medium, or heavy.
- Cleansing action:** 5g of wool yarn was put into the grease and then into 200ml of water with 1g of conditioner in the flask. The temperature of the water is regulated at 35°C. For 4 minutes, the flask was shaken 50 times each minute. The solution was withdrawn, followed by the sample, which was dried and weighed. The quantity of fat eliminated was calculated.
- Skin sensitization test:-** This test is done on the skin of human volunteers to determine whether it causes skin irritation.
- Stability test:-** The stability and acceptability of formulations' organoleptic qualities (odour and colour) during a two-month storage period demonstrated that they are chemically and physically stable.
- Moisturizing time determination:-** 1 g, 20 cm³ balls were placed on the surface of 60 ml of various diluted conditioners and the total sinking time of the ball in the conditioner was measured.
- Viscosity:** For viscosity testing, a Brookfield rotating spindle viscometer was employed. The measurement body (spindle) is dipped in oil and spun at a constant speed to determine viscosity.

Conclusion:-

According to the findings of the preceding investigations, hair conditioner has great conditioning capabilities. Conditioners are used to smooth hair, increase lustre and sheen, and heal damaged, mechanically damaged, and worn hair after washing. To preserve the acidic mantle of the scalp, the pH of the shampoo was adjusted to 5.5. To eliminate the risk provided by chemical preservatives, the physicochemical method was adopted for formulation preservation.

The major goal of this study was to create a stable and functionally successful shampoo without the use of any synthetic compounds that are commonly included in such formulations. The onus is on the formulators to influence customer views of a good conditioner.

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