

Herbal Hair Serum: Design, Development & Evaluation

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Abstract

The hair follicle is known to be the most important organ in the mammalian system, determining appearance, gender difference, providing severe temperature protection, and playing a part in self-defense. Many lifestyle-related changes, such as fatigue, anxiety, junk food consumption, and the use of various hairstyling/coloring methods, have caused serious hair loss difficulties in the younger generations. The thinning of one's hair In most situations, it is not transient, but it causes alopecia. Due to excessive anxiety and tension, many people suffering from hair loss seek different remedies, ranging from mythology to conventional and therapeutic healing to the use of minoxidil and finasteride. Hair root activation is necessary to improve hair development and prevent hair loss.

Keywords: Hair stimulant; Hair loss; serum

Introduction

Hair is an epidermal derivative which is one in all the vital part increasing the general elegance of the body. dandruff, Hair fall, grey hair are few problems committed hair faced by people [1]. In ageing person, melanin, which is that the pigment accountable for colour of hair, stops working and hair turns white [2].

This condition may have a detrimental effect on the quality of life of patients in a manner close to that reported for other skin diseases such as dermatitis and psoriasis [3]. Many cosmetics are available nowadays to unravel these problems and hair grease is one of them [4]. Person are born with approximately 100, 000 terminal hair follicles on the scalp that are predetermined to grow long and thick hair.

Advantages [9, 10]

Herbal serums give your hair a natural shine while also moisturising it deeply to protect it from environmental or heat-related damage, Controlling and dryness.

- Protecting in opposition to damage.

- It protects the hair from environment.
- It can be used both before or after using heat styling.
- Boosts smoothness of the hairs.

Disadvantages [11]

- Regular uses of hair serum make the hair unhealthy.
- when Applying the serum on the scalp, can lead to inflammation.
- Scalp application should be avoided because it may cause oiliness or irritation.

Materials and Methods

The following ingredients were used for the preparation of the herbal hair serum formulation.



Figure 1: Rose petal extract.



Figure 2: Aloe vera.



Figure 3: Black paper.



Figure 4: Almond oil.

Aloevera Powder [12, 13, 14]

Formulas for serums often contain water. Since aloe is high in water and naturally abundant in vitamins and antioxidants, it may both rejuvenate and improve the texture of skin. Your skin can become luminous and youthful with regular usage of burn plant as a serum.

Rose Petals

Rose petals are excellent for the hair, particularly when combined with other healing elements like oil, rosemary oil, and honey. It strength and strengthens hair while providing the skin with intense nourishment and hydration.

Black Pepper

Water-soluble vitamins found in abundance in black pepper aid to cleanse your hair, eliminate dead skin, and keep dandruff at bay. The antioxidants aid in ensuring that the scalp receives the proper nutrition for moisturising and balanced sebum production.

Almond Oil

Your hair can be strengthened and softened by the nourishing oil. Almond oil aids in maintaining healthy, strong hair and nails since it is high in vitamin B-7, often known as biotin. With a natural SPF of 5, it can also help shield your hair from sun damage. You can treat your scalp with almond oil.

Formulation Table

Ingredients	Quantity taken	Role
Aloevera powder	5ml	Replenishing the scalp's dead skin
Black pepper	1ml	hair growth promoter
Rose petal extract	5ml	Anti dandruff, conditioner
Vitamin E	1%	For hair growth
Argan oil	2ml	Moisturizer
Almond oil	1ml	For Nourishment
Methyl paraben	0.42gm	Preseervative
Distilled oil	qs	Vehicle

Formulation

- All fresh herbs aloevera powder, rose petal extract, black paper were specifically counted & allocated in 100 ml of water.
- The count appertained to overwere boiled for 15 min.
- After 15 seconds of boiling, they were allowed to cool and filtered.
- Argon & vitamine E were added to filtrate.
- The set serum was maintained in a spray container.

Evaluation of Herbal Hair Serum [18, 19]

Physical Appearance: The set herbal hair serum is visually evaluated for appearance, colour, and texture.

Homogeneity Test: The hair serum was applied to a dry, clean object glass, and then a cover glass was bonded over it. Investigated was the appearance in the presence of some coarse particles or homogeneity. Herbal hair serum was visually inspected for homogeneity and the presence of lumps, flocculates, or aggregates.

pH Test Viscosity: Using the data from pH 4 and pH 7 buffers, the pH cadence was calibrated. Additionally, the electrode was submerged in the hair serum and permitted to sit for a number of twinkles till the pH returned to normal.

Skin Irritation Test: After applying the serum to the skin, it is checked for any redness or itching after two hours.

Sensitivity Test: The procedure involves putting the serum to the skin, exposing it to sunlight for 10 minutes, and checking for rashes or itching.

Spreadability: A similar plate procedure that is frequently used to evaluate and measure the spreadability of semisolid medicines was utilised to measure spreadability. One gramme of hair serum was compressed between two 20 x 20 cm vertical plates, the upper of which weighed 125 g. After one minute, the spread periphery was measured.

Spreadability was calculated using the following formula:

$$S = M \times L / T$$

Where,

S = Spreadability.

M = Weight in the visage (tied to the upper slide).

L = The glass slide changed the length.

T = Time (in sec) taken.

Stability: Three months were spent storing the herbal hair serum at two different temperatures of 4 2 °C and 30 2 °C, with 65 RH. After three months, the herbal hair serum's pH and density were measured and compared to their initial values.

Conclusion

Herbal hair serum contains numerous key elements required to maintain the appropriate function of the sebaceous glands and support natural hair development, according to the results. In the Personal hygiene and health care systems have altered dramatically, as has the use of herbal cosmetics. As a result, there is tremendous clamour in the herbal cosmeceutical individual care or personal health care industry, which is concentrating and giving special attention to the creation of herbal-based cosmetics. As it is currently, it will be a rapidly rising market with a massive scope in the next years. The use of bioactive substances in cosmetic formulations has a significant impact on body characteristics and provides nutrients that are vital for maintaining excellent and beautiful hair. It is reasonable to conclude that prepared herbal hair serum has a positive influence on the mechanism of hair development and greater consistency. Because they have less side effects and hypersensitivity reactions, medicinal plants have been utilised to cure hair disorders since antiquity. It is time to replace chemical-laden hair care products with natural alternatives. A number of herbal medications are recommended by India's traditional medical system for promoting hair growth. The best part is that herbal extracts will supply microprotein supplements and adequate nutrients to hair, resulting in safe and sound hair. Herbal cosmetics are becoming more popular in the personal care market.

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