



## EXPLORING THE POTENTIAL OF HERBAL HAIR SERUM: A COMPREHENSIVE REVIEW

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### ABSTRACT

Hair is an essential part of a person's identity; we use variety of cosmetic products to take care of it. The hair follicle is the most important part in the mammalian system. Hair follicles are responsible for appearance, differentiation, thermal protection and tone-defence. Herbal products have always been effective and have minimal or no adverse effects when compared to synthetic products. The purpose of this study is to demonstrate the effectiveness of multi-herbal hair serum in treating common hair problems such as baldness, hair loss, grey hair, dryness and most often dandruff. Activation of the hair root is necessary to promote hair growth and prevent hair loss. The hair serum is analysed for its organoleptic properties, acidity, saponification values, viscosity, pH, etc. All the parameters should be within specified limit.

### INTRODUCTION

Hair care is a vital component of personal taking care of oneself and people are always looking for efficient ways to deal with different problems with their hair. Herbal hair serums have become becoming more common as effective formulations that use the wealth of nature to offer complete care for the scalp and hair. Reviewing the ingredients, advantages, and scientific evidence surrounding herbal hair serums is the main objective of this review.



### Composition of Herbal Hair Serums

The components of herbal hair serums are usually a combination of oils, botanical extracts, and other natural substances that have been selected for their distinctive benefits for maintaining healthy hair. These serums often include the following herbal ingredients.

**Aloe vera:** Known for its moisturizing and calming qualities, aloe vera improves hair elasticity and strength while promoting scalp health and reducing inflammation.



**Amla (Indian gooseberry):** Abundant with antioxidants and vitamin C, amla aids in avoiding premature greying and boosts healthy hair and scalp.



**Coconut Oil:** Enriched with vitamins and fatty acids, coconut oil provides moisture, under certain circumstances, and prevents protein loss in hair shafts,

leaving hair feeling softer and smoother.



**Argan Oil:** When extracted from the argan trees, argan oil is highly valued for its potent antioxidant, vitamin, and fatty acid composition that strengthens and hydrates hair, minimizes frizzy hair, and adds shining nature.



**Lavender:** Recognized for its pleasant fragrance, lavender oil helps to relieve tension, calms the scalp, and may be used to treat dandruff and itching.



**Rosemary:** Due to its stimulating qualities, rosemary essential oil strengthens hair follicles, improves blood flow to the scalp, and can even assist with hair growth.



**Hibiscus:** Enriched in vitamins and amino acids, hibiscus improves hair excellence, promotes growth of hair, and prevents split ends at bay.



**Neem:** Known for its antimicrobial and antifungal attributes, neem assists in avoiding scalp infections and promotes healthy conditions on the scalp.



#### **Efficacy and Benefits**

Herbal hair serums have several advantages, such as

**Moisture and Hydration:** Deeply penetrating the hair shaft, herbal oils and extracts provide dry, brittle hair with both moisture and hydration.

**Scalp Health:** Plants high in antioxidants nourish and calm the scalp, lowering irritation, dandruff, and inflammation.

**Hair Elasticity and Strength:** Hair follicles are strengthened, breakage is decreased, and texture and resilience are enhanced by nutrient-dense components.

**Shine and Lustre:** Herbal oils provide dull, lifeless hair a natural sheen and lustre that revitalizes and illuminates.

**Hair Growth Stimulation:** Some botanical extracts have the ability to increase blood flow to the scalp, which in turn encourages the development and thickness of hair.

#### Safety Profile

**Skin Sensitivity:** Although herbal hair serums often consist of natural ingredients, some people may be allergic to specific plant extracts or essential oils, or their skin may become sensitive to them. To verify product compatibility, patch testing is advised, particularly for people with sensitive skin or known allergies.

**Essential Oil Dilution:** Essential oils are highly concentrated plant extracts that are frequently found in herbal hair serums. Essential oils can irritate skin when diluted improperly or used excessively, especially in those with sensitive skin. In order to reduce the possibility of negative reactions, it is imperative that you adhere to the manufacturer's recommendations for consumption and dilution ratios.

**Eye Contact:** When using herbal hair serums, caution should be used to prevent eye contact. Unintentional contact could irritate or hurt. If you get any in your eyes, wash them well with water and visit a doctor if the irritation doesn't go away.

**External use only:** They are not meant to be consumed. When essential oils or herbal compounds are consumed, negative outcomes like allergic responses or gastrointestinal distress might occur. Keep out of the reach of kids and animals to avoid unintentional consumption.

**Storage and Shelf Life:** To ensure the safety and integrity of the product, herbal hair serums must be stored properly. Store away from wetness and direct sunlight in a cool, dry location. Verify the product's expiration date and stop using it if it has passed its expiration date or begins to degrade.

#### Evaluation Tests

**1. Acidity Test:** To conduct an acidity test, you'll need pH test strips or a pH meter, distilled water, and a sample of hair serum.

**Procedure:** Dilute a little amount of hair serum with distilled water per the manufacturer's recommendations. Dip a pH test strip into the dilute solution or use a pH meter to determine the pH level. Compare the result to the ideal pH range for hair products, which is normally between 4.5 and 5.5 to maintain the hair and scalp's natural pH balance.

**2. Viscosity Test:** Viscometer or a simple viscosity cup, together with a sample of hair serum, are required.

**Procedure:** Pour a particular amount of hair serum into the viscosity cup or viscometer. Follow the

manufacturer's instructions for the specific viscosity measurement equipment. Determine how long it takes for the serum to flow through the cup or viscometer. The longer it takes, the greater the viscosity. Compare the results to standards or similar products.

**3. Saponification Value Test:** Required equipment includes a digital balance, glasses, sodium hydroxide (NaOH) solution, phenolphthalein indicator, and a hair serum sample.

**Procedure:** Weigh a particular amount of the hair serum sample and record the result. Transfer the sample to a glass flask and add an appropriate amount of NaOH solution. Heat the mixture and titrate with a standardized HCl solution containing phenolphthalein as an indicator.

Using the formula, calculate the saponification value and compare it to industry standards or similar items.

**4. pH Test:** Required equipment includes pH test strips or a pH meter, as well as a sample of hair serum.

**Procedure:** Apply a tiny amount of hair serum straight to a pH test strip or use a pH meter to determine the serum's pH. Ensure that the hair serum is uniformly distributed on the strip or that the pH meter probe is completely submerged. Record the pH reading and compare it to the recommended pH range for hair products.

#### Scientific Evidence

There is barely any research on herbal hair serums, despite the fact that herbal components have been used for ages in traditional medical care and beauty rituals. However, early research indicates that certain herbal oils and extracts may provide benefits for the health of hair, such as hydrating, protecting against free radical damage, as well as encouraging hair development. In order to verify these results and understand the herbal hair serums' methods of action, additional research is required.

#### CONCLUSION

Herbal hair serums utilize the power of plants to strengthen, nourish, and enhance hair and scalp, offering a natural and comprehensive approach to hair care. The gentle yet potent formulas of these serums make them a desirable substitute for artificial hair products. Although the scientific evidence for their effectiveness is still developing, decades of traditional use and personal experience highlight their potential to enhance beautiful, healthy hair. Herbal hair serums are anticipated to be an important supplier in hair care going forward, as consumers place greater value on sustainable and natural beauty products.

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