

A Review on Herbal Hair Serum: Natural Solutions for Shine, Growth, and Scalp Health

Shivanshu Dubey¹, Tarun Raj Sahu¹, Kundan Krishnan Pal¹, Mausam Kumar²,
Rishu Kumar², Harish Sharma³, Gyanesh Kumar Sahu^{2*}

¹Rungta Institute of Pharmaceutical Sciences

²Rungta Institute of Pharmaceutical Sciences and Research

³School of Pharmacy, Anjaneya University, Raipur

Corresponding Author:

Dr Gyanesh Kumar Sahu

Professor & Dean

Rungta Institute of Pharmaceutical Sciences & Research, Bhilai

Email- drgyaneshkumarsahu@gmail.com

ABSTRACT

A compact, leave-in hair treatment, hair serum is intended to enhance the overall health, texture, and look of hair. Hair serums are designed to treat a variety of hair issues, such as frizz management, shine improvements damage repair, and heat protection. They are made with a combination of enriching oils, silicones, and active substances including vitamins, proteins, and antioxidants. In order to give the hair, shaft a smooth finish, control flyaway, and seal in moisture, the serum works. Serums work well for a variety of hair types, but they are especially helpful for dry, impaired, or hair that is frizzy. In addition to other advantages like better texture and fewer split ends, regular usage can make hair easier to manage, glossier, and healthier-looking.

Keywords: Texture, Frizz, Anti-oxidant, Glossier

1. INTRODUCTION

The demand for cosmetics has increased as a result of the cost growth in living standards throughout the world. The desire to remain youthful and appealing has led to a rise in the significance of cosmetics. For various hair objectives, there are several kinds of hair serums. A hair serum, a cutaneous derivative, is essential for improving the body's overall appearance. Depending on the product's recipe, it may straighten, add shine, or lessen frizz. Nevertheless, problems including hair loss, peeling, lice in the head, split ends, and premature hair greying are commonplace. A follicle, an end, and an apex make up a hair strand. One of the essential components that contributes to the overall beauty of the body is hair, an epidermal byproduct. Among the common hair issues that people encounter include hair loss, dandruff, lice, split ends, and gray hair.

A hair has three parts: the root, the shaft, and the tip. Melanin, the pigment responsible for hair colour, ceases functioning in aging people, causing their hair to become white. Sanitary articles are one of the many cosmetics that are available now to address these issues. People who have hair loss turn to a variety of treatments due to extreme

stress and worry, including traditional, folkloric, spiritual healing, minoxidil, and finasteride. In order to prolong hair development and prevent hair loss, hair root stimulation is essential.

Human hair has a stylistic purpose that affects how we look. It has social, sexual, and mental significance today. A person's boldness may be negatively impacted by changes to their hair pattern, such as becoming bald, having more hair, or changing the variety. Serums for locks are a common and multipurpose hair care solution that provide a number of advantages, from mending damage and enhancing general hair health to adding shine and reducing frizz. Usually made with silicones, nourishing oils, and active substances like vitamins or antioxidants, they are leave-in treatments that are lightweight. Here is a thorough explanation of the main characteristics, advantages, and things to think about when employing hair serum.



Fig 1 Hair Serum

1.1 Types of Hair Serum

- **For Frizz Control:**

To prevent frizz and flyaway, these serums are intended to seal out moisture and smooth the cuticle. For those with wavy, curly, or coarse hair, they are perfect.

- **For Heat Protection:**

Certain serums are made expressly to shield hair from the harm that blow drying, straightening, and curling may do. In order to establish a barrier around your hair and the heat of styling products, they frequently contain silicone-based substances.

- **For nourishment and Repair:**

Packed with fibres (like keratin) or nourishing oils (like olive or argan oil), these serums aid in strengthening and repairing hair. They work particularly well on dry, damaged, or chemically repaired hair.

- **For Thickness and Volume:**

Certain serums are intended to increase hair volume, giving the appearance of thicker, fuller hair. They frequently include mild chemicals that give hair body without making it seem heavy.

- **For Colour-Treated Hair:**

Ingredients that help preserve and prevent the fading of hair colour are added to serums made specifically for colour-treated hair. They frequently include antioxidants or UV filters to shield hair from the elements.

➤ **ADVANTAGES**

1. Holistic serums are made to preserve your hair from environmental or heat-induced damage while hydrating it to bring out its natural luster.
2. Serums are known to nourish and lock in moisture, improving the smoothness of hair and fostering its health by avoiding brittleness.
3. Damaged hair, such as split ends, destruction, and dryness, can be repaired with the use of hair serums enhanced with moisturizing oils, vitamins, and proteins. They improve texture and strength by momentarily filling in the cuticle's holes.
4. Particularly in humid conditions, serums work well to manage the tiny, obstinate hair strands that may protrude. Those with thick or curly hair that likes to frizz up can especially benefit from this.

➤ **DISADVANTAGES**

1. **Buildup:** Using too much hair serum can result in product accumulation on the hair's surface and scalp strands, which can make them appear greasy, heavy, or lifeless. Additionally, this accumulation may draw contaminants and grime, creating an unclean scalp environment.
2. **Weighing Down Hair:** Certain hair serums contain substances that can make thin or fine hair appear lifeless and flat.
3. **Silicone Content:** Several hair serums have silicone-based compounds, which may temporarily smooth hair while also forming a barrier that keeps moisture from getting to the hair shaft. Dryness and even long-term harm may result from this, particularly if the coating of silicone is not thoroughly cleaned off.
4. **Cost:** High-end hair care products can be pricey, particularly if they include specialty formulas or high-end components. Over time, this expense may mount up, especially for individuals who use the thing often.

2. **Key Ingredients**

• **Argan Oil:**

Packed with antioxidants and vital fatty acids, argan oil moisturizes and nourishes hair while minimizing frizz and enhancing luster.



Fig 2 Argan Oil

• **Silicones (Dimethicone, Cyclopentasiloxane):**

These substances coat the hair to add shine, prevent frizz, and create a smooth surface.

• **Vitamin E:**

This antioxidant helps shield hair from environmental harm while also strengthening and nourishing it.



Fig 3 Vitamin E

- **Keratin:**

A protein that fills in the spaces in the shaft of the hair to help strengthen and restore damaged hair.



Fig 4 Keratin Powder

- **Jojoba Oil:**

Known for its hydrating qualities, jojoba oil helps treat and moisturize hair without leaving it feeling oily.



Fig 5 Jojoba Oil

- **Coconut oil:**

It is perfect for finished, rougher or weakened hair since it deeply hydrates and nourishes.



Fig 6 Coconut Oil

3. EVALUATION

a) Physical Appearance:

The texture, color, and scent of the created cosmetic serum were assessed in order to gauge its physical appearance.

b) PH:

A digital pH meter will be used to determine the pH test. A digital pH dipper will be inserted deeply into the serum formulation sample, while the value of the pH will be recorded. Since the skin has an alkaline pH level of about 4-6, the formulation's pH should be acidic as well.

c) Homogeneity Test:

The hair serum was applied to a dry, clean object glass, and the glass was covered and sealed. The appearance was examined in the presence of certain coarse particles and homogeneity. Visual inspection was used to check the herbal hair serum for homogeneity and for any lumps, circulates, or clusters.

d) Viscosity:

Utilizing 4.5 ml of the colostrum and a spindle type model S6, the Brookfield viscometer is used to measure the formulation's viscosity at 100 rpm. Approximately five minutes before to the measurement, the spinning instrument will be submerged in the serum in a large mouth container.

e) Spread ability Test:

A parallel plate method, commonly used to evaluate and quantify the spread ability of semisolid preparations, was utilized to determine spread ability.

4. MARKET FORMULATION

S.no	Marketed Product	Therapeutic Uses	Company Name
01	Advanced Hair Growth Serum	Prevents Hair Thinning, Promotes Hair Regrowth	Nourish Mantra
02	Argan Oil Hair Serum	Nourishes, Fights Frizz & Dryness	Pilgrim
03	7 Days Hair Growth Serum	Anti-frizz, Anti-hair Fall, Styling	7 Days Natural
04	Nimbarka Hair Serum	soft, frizz-free, nourished & glossy hair	Nimbarka
05	Hair Growth Serum	Improves Scalp Health, Hair Fall control Promotes Hair	KERACITY

06	Beardo Hair Serum	Helps nourish and moisturize	Beardo
07	Bioly Hair Serum Advance	Hair Shine, Silky, Glossy, Softer hair	Bioly Hair
08	Rosemary Pro Hair Growth Serum	Improving hair texture and giving denser hair	WOW

5. FUTURE PROSPECTIVE

Due to consumer preference for customized hair care products and technological advancements, the future of the hair serum is bright. Hair serums will probably grow more customized, inventive, and multipurpose as the fashion and household care sector develops further.

6. CONCLUSION

All of the parameters indicated that they were within acceptable bounds, and because each of the added ingredients has numerous benefits, the hair serum in question will aid in preserving healthy hair growth, transforming gray hair into black, providing vital nutrients to maintain the sebaceous glands' healthy function, and promoting the rate of expansion of natural hair. Herbal cosmetics usage has evolved significantly within the personal hygiene and healthcare systems. Consequently, there is a great deal of glamour in the herbal cosmeceuticals personally or personal medicine sector, which is focusing and taking additional care in the creation of cosmetics based on herbs. A vital component in numerous hair care regimens, hair serums provide a range of advantages based on the type of hair you have and requirements. They can add shine, reduce frizz, improve texture, and shield hair from heat styling. To prevent buildup, it's crucial to select a serum that is appropriate for your tresses type and to refrain from using it excessively. There are certain formulae that can produce desired outcomes for those with particular issues, like as frizz, destruction, or color-treated hair. A hair serum may be an invaluable tool for healthier, glossier, and easier-to-manage hair when applied properly.

7. REFERENCES

- Patni P., Varghese D., Balekar N. and Jain D.K. Formulation and evaluation of herbal hair oil For alopecia management. *Planta Indica*. 2(3): 27-30, 2006.
- Adirajan N., Ravikumar tential of Hibiscus rosa-Sinensis Linn. *J Ethanpharm*. 88: 235-239, 2003.
- Purwal, L., Gupta, S. B. N. and Pande, M.S. Development and Evaluation of Herbal Formulations T., SShanmugasunda Ram N. and Babu M. In vivo and in vitro evaluation of hair for hair growth, *E- Journal of Chemistry*, Vol-5, NO-1, 34-38,2008.
- Gloor M, Fitchtler C. The basic of protein chemistry, *J. Cosmetology*, 3, p.193-194,1973.
- Orasan MS, Roman II, Coneac A, Muresan A, Orasan RI. Hair loss And regeneration performed on animal models. *Clujul Med*. 2016;89 (3):327.
- Mella JM, Perret MC, Manzotti M, Catalano HN, Guyatt G. Efficacy And safety of finasteride therapy for androgenetic alopecia: A systematic review. *Arch Dermatol*. 2010;146(10):1141–1150. Doi:10.1001/archdermatol.2010.256.
- Complementary A. Or Integrative Health: What's in a Name? NCCIH. National Center for Complementary and Integrative Health NCCIH; 2016.
- Friedman ES, Friedman PM, Cohen DE, Washenik K. Allergic contact Dermatitis to topical minoxidil solution: etiology and treatment. *J Am Acad Dermatol*. 2002;46(2):309–312. Doi:10.1067/mjd.2002.119104
- Rathi V., Rathi J.C., Tamizharasi S. and Pathak A.K. Plants used for hair growth promotion: A review. *Phcog Rev*. 2(3): 165-167,2008.

10. Robbins CR (2013) Chemical and Physical Behavior of Human Hair. 4th edn, New York, USA. 5. Flores A, Schell J, Krall AS, Jelinek D, Miranda M, et al. (2017) Lactate dehydrogenase activity drives hair follicle stem cell activation. *Nature Cell Biology* 19(9): 1017-1026.
11. Dr.Aijaz A Sheikh, Dr.Subhash V Deshmane, Dr.kailash R Biyani, Dr.Md.Rageeb Md. Usman ; “A Textbook of Cosmetic Science” Pg No. 35-38
12. Myagmar K, Lkhagvasuren E, Semchin M. Hair Growth Promoting Effect of *Urtica dioica* L. *CAJMS* 2018;4:187-193.
13. Pekmezci E, Dundar C, Turkoglu M. Proprietary Herbal Extract Downregulates the Gene Expression of IL1 α in HaCaT Cells: Possible Implications Against Nonscarring Alopecia. *Med Arch.* 2018;72(2).
14. Wijaya WH, Mun'im A, Djajadisastra J. Effectiveness test of fenugreek seed (*trigonella foenum-graecum* L.) Extract hair tonic in hair growth activity. *Int J Curr Res* 2013; 5(11): 3453-60.
15. Majdalawieh AF, Fayyad MW, Nasrallah GK. Anti-cancer properties and mechanisms of action of Thymoquinone, the major active ingredient of *Nigella sativa*. *Crit Rev Food Sci Nutr* 2017; 57(18): 3911-28.
16. Halligudi N. Pharmacological properties of Flax seed: A Review. *Hygeia J D Med* 2012; 4(2): 70-7. Manjula D, Josephine JLJ, Kumari P, Banu S. Formulation and evaluation of flaxseed hair gel: A natural hair Tamer. *Int J Res Pharm Chem* 2018; 8(3): 487-91.
17. Saleem U, Sabir S, Ahmad B. Protective role of *Nigella sativa* in chemotherapy induced alopecia. *Bangladesh J Pharmacol* 2017; 12: 455-62.