



“ RESEARCH ON HERBAL HAIR SERUM ”

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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. Hair plays an important role within the personality of human and for his or her care we use plenty of cosmetic products. Herbal formulations always have activity and relatively lesser or no side effects with synthetic. This study aimed toward reviewing the importance of polyherbal toilet article for the treatment of common hair problems like baldness, alopecia, hair fall, gray hair, dryness, and most typical dandruff. Cosmetics are being employed on an oversized scale for its various utilities in day-to-day life. Mankind uses various products to reinforce beauty and elegance to seem young and charming. To ameliorate hair growth and to assist hair loss, hair root activation is required.

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 . In ageing person, melanin, which is that the pigment accountable for colour of hair, stops working and hair turns white⁽¹⁾

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 . Many cosmetics are available nowadays to unravel these problems and hair grease is one of them . Person are born with approximately 100, 000 terminal hair follicles on the scalp that are predetermined to grow long and thick hair.⁽²⁾

he cost increase in worldwide living standard has created a rise in demand for cosmetic products. The importance of cosmetics has increased as many people want to stay young and attractive. Cosmeceuticals refers to the combination of the cosmetics industry with the pharmaceutical industry. Cosmetics companies produce cosmetics and pharmaceutical ones produce medicines. Cosmeceuticals are skincare products that combine cosmetics and medicines.⁽³⁾

Serum is one of the cosmetic products with very high concentration of active ingredient in their formula for providing intensive nutrition to the deeper skin layer and non-greasy finish product which suitable for skin.⁽⁴⁾

Herbal toilet article is more preferred and is employed within the repairmen of the many ailments of hair .They promote hair growth, improve elegance of hair and forestall hair fall⁽⁵⁾

Toiletries not only promotes hair growth but they also provide necessary moisture to the scalp rendering in beautiful hair . Hair tonics maintain the lipid levels .Many cosmetics are available nowadays to unravel these problems and hair grease

is one of them. persons are born with approximately 100,000 terminal hair follicles on the scalp that are predetermined to grow long and thick hair.⁽⁶⁾

Ninety percent of the hair on the healthy scalp is growing, some are undergoing involution (less than 1%), and remaining are resting (5% to 10%).^(7,8,9) Post Finasteride depression has also been reported.⁽¹⁰⁾ Minoxidil, on the opposite hand, is related to facial hypertrichosis and phone dermatitis.⁽⁷⁾

It's a cyclical medium involving hair shaft conflation, extension, and eventually shedding. Human hair generally comprises follicles of anagen, catagen, and telogen phases. Imperfect antioxidants defense or inflated expression of reactive oxygen species has been reported to dispose to oxidative stress, which is believed to play a significant part in numerous inflammation skin diseases. Citrus sinensis has remarkably positive results on hair. Diurnal use can make the hair smoother and brilliant with these peels. They are filled with antioxidants and help to treat the detriment caused by adulterants as well.⁽⁸⁾

The richest factory source of the omega-3 adipose acid is flaxseed, i.e., "α-linolenic acid" (ALA). Flaxseed oil paintings is low in impregnated adipose acids, high in monosaturated adipose acids, and rich in polyunsaturated adipose acids. Nigella sativa (NS) is an periodic flowering factory native to the Mediterranean countries, Pakistan, and India, generally known as black cumin. The crucial pharmacologically active factors of NS are thymoquinone (TQ), dithymoquinone (DTQ), thymohydroquinone (THQ), and thymol (THY) Fenugreek seed excerpt contains a salutary supplement that also contains micronutrients similar as B- vitamins, antioxidants, and trace rudiments that are also present in the hair. Fenugreek (Trigonella foenum-graceum L.) is a leguminous condiment. Fenugreek is native to Southern Europe, Western Asia, and the Mediterranean region. Castor oil painting, also known as Ricinus communis, is a vegetable oil painting that's rich in nutrients and comes from castor sap⁽⁹⁾

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Advantage

1. Hair serum can effectively smoothen, soften and make your hair silky.
2. It protects the hair from environmental aggressors.
3. both pre styling treatment and finishing product.
4. It can be used before or after using heat styling.
5. Controls frizz.
6. If your hair is weak and damaged, it may look frizzy or dry.
7. Boosts smoothness.
8. The anti-frizz effect of hair serum also helps improve the smoothness of hair serum.
9. Hair serum is also reduces the tangles and promote the shine.
10. To enhances the straightness and curls.
11. It protects against the damage.

Disadvantages

1. After several days of continued use, this build-up weights down your hair, making it appear flat and dull.
2. Accumulation on your scalp can cause dryness, flaking, and skin irritation.

Side Effects of Using Hair Serum:-

1. Regular use and over application can make the hair unhealthy and ultimately dry.
2. Applying the serum on the scalp can lead to inflammation.
3. Silicones present in the hair serum can be harmful for the hair in the long hair.
4. Scalp application should be avoided as it might make it oily or can lead to inflammation.

Benefits of Using Hair Serum:

It is important to know hair serum benefits before you finalize the product. A hair serum predominantly has the following benefits.

- 1) **Multi Purpose** A hair serum solves a lot of hair issues and not just one problem. There is a reason it is called a one stop solution for all your hair woes. Hair serum transforms a bad hair day into a good hair day. With just a few drops, your hair will feel and look different.
- 2) **Protects Hair** Hair serum forms a layer on hair strands. It thus acts as an excellent protect against heat, sun damage, dirt, dust and pollution. It prevents your hair from getting damaged. This is why it is advised to use a heat protecting serum before using hot styling tools.
- 3) **Gives Shine to the Hair** The layer formed by hair serum acts as a reflector of light thus making your hair look shiny and lustrous. Hair serums consist of amino acids which protect colored and chemically treated hair.
- 4) **Prevents Hair fall From Breakage** When our hair becomes a tangled mess, we tend to lose a lot of hair strands because of the wear and tear that goes into detangling. Hair serum acts as a lubricant for such hair and makes detangling easy. And the result is less hair fall.
- 5) **Best for Dry Hair** The most to benefit from hair serums are those who have dry and frizzy hair. Hair serums lock in the moisture and makes hair smooth and shiny.
- 6) **Nourishes Hair and Makes them Manageable** Hair serums fill the follicular cracks and revive brittle and damaged hair. Hair serum makes hair more manageable which further makes it easy to style them. Time, energy, patience. Everything is saved.

MATERIALS AND METHODS

The crude drug required in our project was procured from nearby Ayurvedic Medical shop. The following ingredients were used for the preparation of the herbal hair serum formulation

1. ALOE VERA



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 aloe plant as a serum.

2. Vitamine E :-



Vitamin E-rich oil can help replace that protective layer and bring back shine. Oil in general also helps seal out moisture, reduce breakage, and protect

3. ROSE WATER :-



Rose water is a mild astringent which may help to reduce oiliness and dandruff. It has antiinflammatory properties, which may make it beneficial for certain scalp conditions, like psoriasis and eczema. Many women with curly hair swear by rose water's ability to calm down frizz and add shine.

4. 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.

5. Alomond 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.

6. Coconut oil:-



Possible benefits of coconut oil include increasing good cholesterol, controlling blood sugar, reducing stress, and more. However, more research into the effects of regular coconut oil use is necessary.

7. Methyl paraben :-



It is a stable, non-volatile compound used as an antimicrobial preservative in foods, drugs and cosmetics for over 50 years. Methyl paraben is readily and completely absorbed through the skin and from the gastrointestinal tract.

Formulation table :-

Ingredients	F1	F2	Role of ingredients
Aloe vera	10 ml	10ml	Replenishing the scalp's dead skin
Black pepper	2ml	4ml	hair growth promoter
Rose water	10ml	10ml	Anti dandruff, conditioner
Vitamin E	5ml	2ml	For hair growth
Coconut oil	10ml	10ml	Moisturizer
Almond oil	10ml	10ml	For Nourishment
Methyl paraben	2mg	2mg	Presevative
Distilled water	1ml	2ml	Vehicle

.Evaluation of Herbal Hair Serum:-

The following parameters are used to evaluate the prepared herbal hair serum:

1. Physical Appearance:

Physical appearance was evaluated by observation on the texture, color and smell of the formulated cosmetic serum.

2. pH:

The pH test will be determined by using Digital pH meter. Dipper of digital pH will be deep into the sample of serum formulation and the pH value will be recorded. The pH of the formulation should having acidic pH as the skin is having an acidic pH of around 4–6.

3. Homogeneity Test:

A clean and dry object glass was smeared with the hair serum, and a cover glass was sealed. The appearance under the light of some coarse particle/homogeneity was investigated. Herbal hair serum was tested by visual examination for homogeneity and tested for some lumps, flocculates, or aggregates.

4. Viscosity:

Viscosity of the formulation is determined by Brookfield Viscometer at 100rpm, using spindle type model S6 4.5 ml of the serum. The serum will placed in a big mouth container with the spindle dipped in it for about 5 minutes before the measurement.

5. Spreadability Test:

Spreadability was measured by a parallel plate process typically used to assess and measure the spreadability of semisolid preparations. One gram hair serum was pressed between two horizontal plates of dimension 20× 20 cm, the upper of which weighed 125 g. The spread diameter was measured after 1 min. Spreadability was calculated using the following formula: $S = M \times L / T$ Where, S= Spreadability, M= Weight in the pan (tied to the upper slide), L= Length moved by the glass slide, and T = Time (in sec) taken to separate the slides completely .

6. Stability Test:

The herbal hair serum was kept for three months at two separate temperatures of $4 \pm 2^\circ\text{C}$ and $30 \pm 2^\circ\text{C}$, with 65% RH. Compared with the original pH and viscosity, the pH and viscosity of the herbal hair serum were determined after three months. between distinct data sets through dynamic visualizations.

Result :-

1. Physical Appearance:- The physical appearance, color, odour and texture of the prepared herbal hair serum are visually tested. Table 2 reflects the outcomes.
2. Homogeneity :- By visual examination of the looks and presence of any lumps, flocculates, or summations, the produced herbal hairserum was checked for unity. The unity of set serum has been shown to be fine.
3. pH Determination:- The pH of the entire herbal hair serum was 7.3, which was sufficient for the hair, suggesting that the herbal hair serum was suitable for the hair.
4. Stability Studies:- The herbal hair serum was stable during the exploration time, as these serums showed no physical insecurity, and there was no conspicuous difference within the pH ahead and after the study.
5. Skin irritation test :- after we apply on skin no any variety of redness occur .
6. Sensitivity test :- apply on skin and observed after 10 min no an

CONCLUSION :-

This research provides guideline on the employment of herbal ingredients on the preparation of Herbal toilet article having minimal or no side effects. All the parameters showed that they're within the boundaries and since all the ingredients added have many advantages, this oil will help in maintaining good growth of hair, turning grey hair to black, protects from dandruff and leads to lustrous looking hair. Results have shown that herbal hair serum provides various

essential nutrients needed to preserve the proper function of the sebaceous glands and support the growth of natural hair. In the personal hygiene and health care system, the use of herbal cosmetics has changed by several folds. Therefore, the herbal cosmeceutical individual care or personal health care industry, which is actually concentrating and paying extra care on the production of herbal- based cosmetics, has a considerable clamor.

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