

Formulation and Evaluation of Herbal Hair Straightening Serum

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ABSTRACT

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. Herbal hair straightening serums typically contain natural ingredients like plant extracts, oils. Herbal hair serums can have various effects depending on their ingredients such as nourishing the scalp, promoting hair growth, reducing frizz, adding shine, and protecting hair from environmental damage. Additionally, herbal ingredients often have soothing and moisture' Flaxseeds comprise omega-3 fatty acids, which give energetic proteins and nutrients to hair follicles, boost circulation in the scalp, and inhibit hair follicle tenderness that inhibits hair fall.


Keywords: Hair straightening, flaxseed, omega-3 fatty acid

considered to be one of the essential parts that complement the beauty of a person. Hair serum is the styling product that coats the surface of the hair known as hair serum. It is basically a hair care product in liquid form, its consistency thicker than water. There are different types of hair serums for different hair goals. Depending on the products formula, a hair serum might reduce frizz, add shine, or straighten the hair. Herbal products are likely to become an important alternative to standard medical therapies. With increasing safety, efficacy of herbal medicine so it can be easily available for marketing in all over the world. To utilize botanical extracts, essential oils, and other natural ingredients known for their straightening and smoothing properties, catering to consumers seeking natural and eco-friendly options. Flaxseed consist of omega 3 fatty acid provides vitamins, proteins and nutrients to hair and scalp. Omega-3 fatty acid inhibit hair follicle inflammation and help in reducing hair loss. Flaxseed is a consistent source of vitamin B. It contains fiber which is the most significant for the hair health. Fiber is made from some protein it significantly known as keratin which helps in provide straightening effect. Aloe vera has long been used for treating hair loss. It also soothes the scalp and conditions hair.

I. INTRODUCTION

Human hair is considered as one of the symbols of beauty in humans and the scalp is an important element for hair growth. It is the skin composed of soft tissue layers that covers the cranium and area of the head where hair grows. Hair plays vital role in human body. As hairs are

II. MATERIALS AND METHODS

Sr. no	Name	Ingredients	Use
1	Flaxseed		Hair straightening, smoothing

2	Aloe vera		Conditioning, smoother, anti-hair fall
3	Rice powder		Hair growth, scalp cleanser
4	Jjoba oil		Anti-oxidant, preservative

METHODS

For preparation of hair straightening serum first we have prepared the following:

1. PREPARATION OF FLAXSEED EXTRACT-

Take require amount of flaxseed then soak it for about 20- 24 hours. Then boil the flaxseed mixture and add require amount of rice powder while boiling it. Let it cool down. Use tincture press to extract gel from it.

2. PREPARATION OF ALOE-VERA GEL-

To prepare Aloe vera gel first peel of aloe vera gel then blend it in blender with coconut oil.

3. PREPARATION OF SERUM: -

1. Take 300ml of prepared flaxseed extract.
2. Let extract cool down.
3. Then take 15 g aloe vera gel and add jjoba oil in it.
4. Mix it well.
5. Then in this mixture add flax seed extract.
6. Stir it well to prepare formulation.

Sr. no.	Ingredients	F 1	F 2	F 3
1	Flaxseed extract	100 ml	100 ml	300 ml
2	Aloe vera gel	5 gm	5 gm	15 gm
3	Rice powder	1 gm	1 gm	3 gm
4	Vitamin e capsule	4 ml	-	-
5	Sodium benzoate	-	2 gm	-
6	Jjoba oil	-	-	2 ml

EVALUATION OF HAIR STRAIGHTENING SERUM

There are number of quality control tests are

performed to evaluate herbal hair straightening serum are as follows-

1. Physical Appearance:

The physical appearance, color, and feel of the prepared herbal hair serum are visually tested.

2. Homogeneity:

All the developed serums were tested for homogeneity by visual inspection for appearance and presence of any lumps, flocculates or aggregates. The homogeneity was found to be good for all formulations.

3. pH determination:

The pH of all the herbal gel formulations ranged between 6 to 7, that suited the hair, indicating the compatibility of the herbal gel formulations with the hair.

4. Stability Test:

The herbal hair serum was kept for three months at various climatic condition. Compared with the original pH and viscosity, the pH and viscosity of

the herbal hair serum were determined after three months.

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 any rashes or itching occur.

7. Microbial contamination:

In this test, via spreading a thin loopful of the serum on a nutrient and Sabouraud agars and incubating for 48 hours at 37°C. In order to examine the degree of contamination, one gram of material was used to be dispersed in 4 ml of sterile Ringer solution containing 0.25% Tween 80. In the same dispersion vehicle, sufficient dilutions were made, and 0.5 ml was mounted on the appropriate solid medium using the viable surface procedures.

III. RESULT AND DISCUSSION

Sr. no.	Tests	F 1	F 2	F 3
1	Color	Milky white	Milky white	Slightly brown
2	Oduor	Fermented	Sweet	Distinct
3	Homogeneity	Present	Present	Present
4	Ph	6 to 7	6 to 7	6 to 7
5	Stability	Partially Present	Absent	Present
6	Skin irritation	No	No	No
7	Sensitivity	no	no	No

1. The physical appearance, color and feel of the developed herbal hair serum were visually tested. There was no presence of any foreign particles. The color observed was pale brownish, milky white which was smooth and clean on application.

2. Homogeneity:

By visual examination of serum, appearance and presence of any lumps, flocculates or aggregates were checked for homogeneity. The homogeneity of prepared serum observed to be good.

3. pH determination:

The pH of all the herbal gel formulations

ranged between 6 to 7 that suited the hair, indicating the compatibility of the herbal gel formulations with the hair.

4. stability test:

The stability studies were conducted for all the formulations for a period of 3 months. No appreciable changes were found for the tested parameters.

5. Skin irritation –

There is no irritation occur after applying serum on skin

6. Sensitivity –

There is no rashes or inflammation occur after applying serum on skin.

7. Microbial contamination-

At the end of seven days, the microbial contamination of the herbal hair serum after 24 hours was observed to be 1.89 CFU for fungi

IV. CONCLUSION

The development of the herbal hair straightening serum represents a promising innovation in the field of natural hair care. Its efficacy, safety, and compatibility make it a desirable option for consumers seeking a healthier alternative to traditional hair straightening methods. It can be inferred that prepared herbal hair serum has a beneficial effect on the mechanism of hair growth and increased consistency. This provides effective and long-lasting straightening results while minimizing damage to the hair. It's important to note that herbal serums may not provide the same level of straightening as chemical treatments. This serum often moisturizes and protects hair from heat damage, providing a smoother, sleeker appearance. It is important to protect hair from damage for healthier hair.

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