



# FORMULATION AND EVALUATION OF HERBAL HAIR SERUM FROM HIBISCUS FLOWERS

Vaishnavi Sunil Misal<sup>1</sup>, Dr. Sunil Jaybhaye<sup>2</sup>, Prof. Saurabh.M. Bondre<sup>3</sup>

<sup>1</sup>Student of Bachelor of Pharmacy

<sup>2</sup>Principal

<sup>3</sup>Assistant Professor

Pharmaceutical Sciences Dept, Institute of Pharmacy, Badnapur

## ABSTRACT

The need for cosmetics is very high in this fast environment. The pharmaceutical industry is the use of cosmetics Growing daily. We use cosmetics every day. Cosmetics should be used on teeth, nails, hair and skincare. Keep in mind Toothpaste, hair oils and hair colour are all considered cosmetics that are used daily by each. Because using artificial Or can cause adverse effects of chemical products, individuals grow organic, natural and Herbal formulation with non-negligible or no side effects. Herbal remedies are usually known for not "side effects". People face various problems, including premature graying of hair, split ends, dandruff, hair thin and excessive sebum. Production. So people are looking for strategies to improve hair growth, prevention and maintenance. Coconut oil may have many benefits for our hair and the scalp, this can help moisturizing and sealing the hair. It can help to dry, flake and prevent Dandruff. Vegetable oil conditions prevent the case Headache in the head, encourage hair growth, prevent the scalp Protect the hair from inflammation and heat loss. Curry leaves moisturizes and hair condition. Both men and women are worried about hair loss and are about the primary issues of the Dandruff, hair out and hair disappearing. Addressing the hair was the primary target of this hair serum formulation Such hairstyles issue fails, bran and other related problems. The current inspection is focused on the preparation and evaluation of the herbal case growth serum made with a combination Natural foods including coconut oil, olive oil, peppermint oil, vitamin E, hibiscus flowers and leaves, and neem powder and amla powder The purpose of the serum is to improve the health of the scalp, strengthen hair romance and promote hair growth. Hibiscus flowers and leaves Bioactive chemicals are used to remove chemicals, which are then poured into neem leaves and amla powder. Neem leaves are rich in antidandruff and promote hair growth. Coconut oil absorbs quickly in hair, provides. To disturb the fridge and moisture to heal. The effectiveness of serum is evaluated in the study using variables with hair Growth rates, thickness, strength, scalp health and general health of hair. The roots of Ficus Bengalenis are excellent for promoting hair development and reducing hair loss. The phytosterols, protein, flavonoids, phenolic content, and glycoside found in these roots are beneficial to hair. Pointed to the results that encourage the primary conclusions Terms of strengthening hair growth and increasing hair quality.

**KEYWORDS:** Hibiscus Flower And Leaves, Coconut Oil, Neem Leaves, Hair Growth, Herbs, Amla Powder, Vitamin E, Dandruff, Banyan Aerial Root.

## INTRODUCTION

Hair health and consciousness are the essential ingredients Physical appearance and overall well-being, affects themselves respect and confidence. However, the spread of hair loss And other problems related to hair are a significant concern Around the world. While offering numerous professional products The solution of these problems, many people find natural Options that use botanical and necessary power Oil.(1) The cosmetic word obtained from the Greek word "Cosmikos" is to "beautifully". According to the medicine and Cosmetic Act 9.40 and Rule 1944 Cosmetics are any article for rubbing, pouring, sprinkling, spraying On, introduce or otherwise cleaning, decorating on the human body or on any part of the human body, Changing the encouragement, attraction or appearance. The word cosmetics is caused by its use in rome. The materials used to enhance the appearance or increase beauty are called cosmetic. Cosmetics are

used Promoted scene.(2) Now-a-day, the whole world has turned back to the use of herbal products And taking a more natural lifestyle. Herbal cosmetics have been operationalized There are numerous crowds in specific care systems and there is a great demand for it Herbal cosmetics.(3) To increase the efficiency of herbal serum, Vitamin E, olive oil and peppermint oil have been included For their relevant benefits. Vitamin E, a strong antioxidant, Helps to nourish the scalp and improve blood circulation, To facilitate nutrient distribution in hair follicles. Olive oil, valuable For its moisturizing and emollient properties, strengthens the hair Prevents the loss of strand and moisture. Peppermint oil with him The soothing aroma and antibiotic properties, promotes the scalp Health and relaxation, possibly reduces stress-related hair Damage. The composition of the serum of herbal hair growth Shows the fusion of traditional knowledge with modern Scientific insight.(4)

The hair plays an important role in the human body. As the case is considered one of those essential parts Complement a person's aesthetic, it is important Take proper care of the hair. Can be defined as a case-“Consequently the improved epithelial composition was formed Keratinization of germs cells”, the hair Extends from the follicles present on skin.(5)

### Herbal Hair Serum

Herbal Hair serum is one of the decorative products that have more attention to activation The elements of their formulas and Greasy finish product that is not suitable for the skin. (6)Hair serum is a liquid drug Water with slightly thick thickness. (7)Hair serums wear natural glows To shield the hair from environmental or heat- the damage related to its rich moisturizing Features. The serum of the hair blocks the moisture and makes the hair healthy. Hair serum Anti-ringlets parcel also prop to increase its smoothness.(8)

### OBJECTIVE

1. Herbal hair serum can effectively smoothen, soften, and make hair silky.

2. Serums protect hair excellently, guarding against heat damage, sun damage, dirt, dust, and pollution.
3. They give shine to the hair, prevent hair fall from breakage, are best for dry hair, nourish hair, and make them manageable.
5. To carried out preparation oh herbal hair serum
6. To improve hair condition and texture
7. To carry out evaluation oh herbal hair serum

### Hair Structure

Shaft of hair: a visible part of the hair that grows Above the skin surface.

It contains three layers: Cutecical, Cortex and Medula. Cutel, the outer layer of the outer layer Is made of covered scale protecting the inner layers And contribute to the strength and elasticity of the hair. Cortex, Medium layers, most hair proteins and Determines its color, strength and flexibility. Medula, The most interior layer present in some hair type but may be Absent or less renowned in others (9)

Hair follicle : Hair follicle is the design Which hair grows. It lives inside the skin and it has Several layers, including external root shey, internal origin Myan and hair bulb. There are responsible cells in the hair bulb For hair growth and pigment. (10)

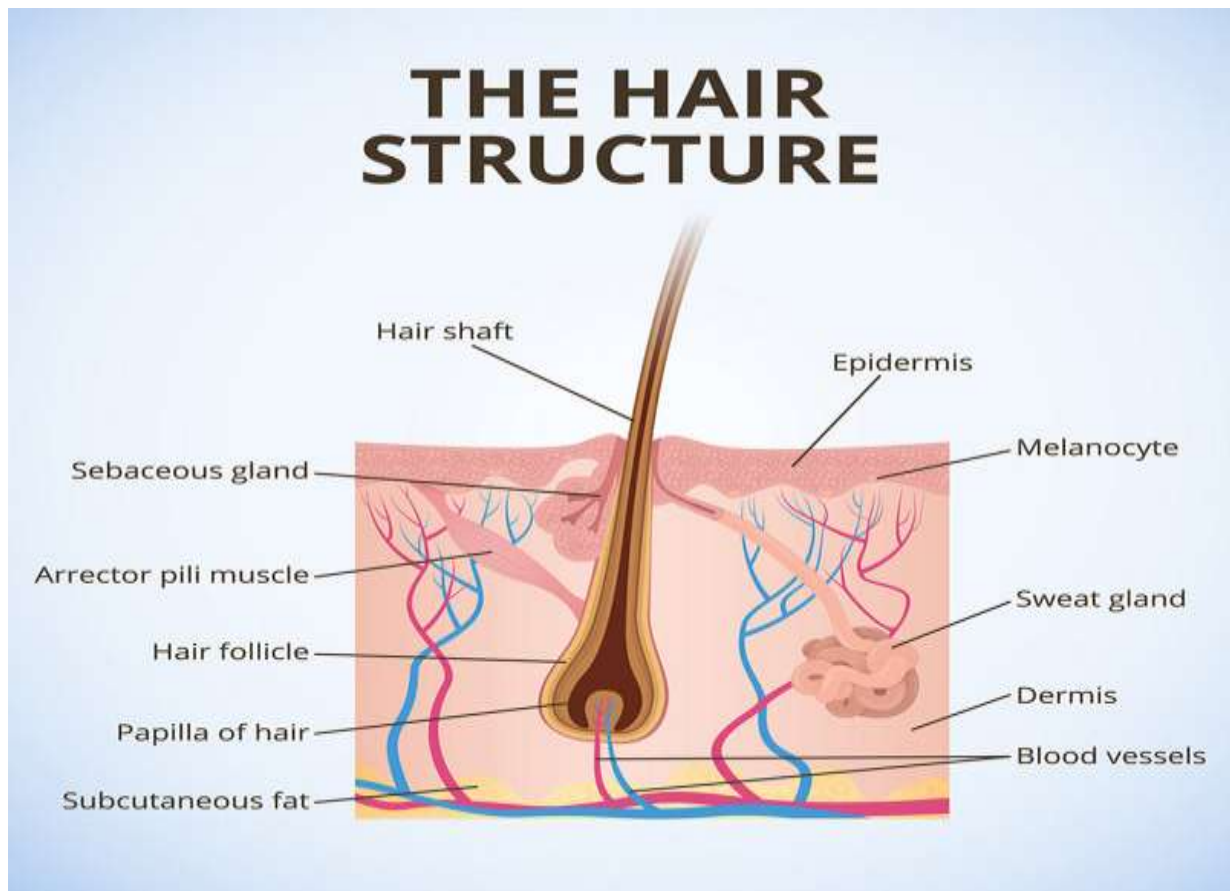


Fig :1

### 1) Hair Growth Cycle

**Anagen Phase:** Active growth phase of hair. The cycle, during which the hair cells are divided into segments, resulting in the effect of hair growth. This phase can survive anywhere from two to seven years, depending on genetic and environmental factors.

**Catagen Phase:** a transitional phase characterized by the end of hair growth and in advance of the hair fall. This phase lasts a few weeks.

**Telogen phase:** a resting phase of the hair cycle, during which the hair follicles are inactive. Old hair is shed, and new hair starts to grow in their place. This phase usually lasts two to four months. (11)



Fig:2

### 2) Hair Types

**Straight:** Hair that grows in a straight, smooth pattern.  
**Wavy:** Hair that exhibits gentle waves or curls.  
**Curly:** Hair that forms tight curls or coils.  
**Kinky:** Hair with tightly coiled curls that may appear dense and voluminous.

### 3) Hair Disorders

Various factors, including genetics, hormonal imbalances, medical conditions, and environmental stressors, can contribute

to hair disorders such as alopecia (hair loss), dandruff, and trichotillomania (compulsive hair pulling) (12)

### Drug Information

#### 1) Hibiscus Flower and Leaves

Hibiscus flowers are renowned for their stunning beauty and vibrant colors. These large, trumpet-shaped blooms come in a variety of shades, including bright red, pink, orange, yellow, and white. Their petals are delicate and often have a slightly wrinkled texture, adding to their charm.



Fig :3

2) **Vitamin E**

Vitamin E is a fatty nutrient that is famous for its antioxidant properties, significant to protect cells from damage caused by free radicals. It exists in eight different forms, with alpha-tocopherol being the most active in the

human body. As a powerful antioxidant, vitamin E helps neutralize oxidative stress, which can lead to a variety of health problems, including premature aging and chronic illnesses.



Fig :4

3) **Amla**

Amla powder is derived from the fruit of the Indian Amla tree, also known as the Indian Gooseberry (Phyllanthus emblica), from the Ebinur tree family. The tree is of medium size, reaching up to 18 meters in height

in a crisp trunk and a spreading branch. The amla fruit is spherical, light green or yellowish, with a smooth, translucent skin and a characteristic fibrous texture.



Fig:5

4) **Neem**

This helps to clean the scalp, clean the hair follicles, treat the hair, to conduct the hair, to strengthen the hair follicles and brighten

the hair. In addition, regular use of bitter neem hair pack will promote the hair follicles, keep the scalp healthy, and the hair will grow stronger.



Fig:6

5) **Banyan Aerial root**

It effectively nourishes the scalp, stimulates hair growth, and prevents dry, flaky conditions while delaying premature graying.



Fig:7

6) **Coconut oil**

There may be many benefits for your hair and scalp. It can be used as a mask of the case and a leave-in treatment Help the hair moisturization and sealing. Can



Fig:8

help prevent this Dry, pale palate and head of the head as well as the split end And the hair break. Coconut oil as well as other oils Hair shiny and leave the appearance smooth.

7) **Olive oil**

Olive Oil is the main in the Mediterranean recipes and Nominated worldwide for its health and recipes worldwide All -roundness. Extra Virgin Olive Oil, made From the first cold pressure of olive, maintains a high level of antioxidants and nutrients, it gives rewards for its rich Taste and health-fascinating properties.



Fig: 9

8) **Peppermint Oil**

A large amount of peppermint oil is used in aromatherapy Enthusiastic aroma, which helps to reduce stress Promotes energy, and mental clarity. In addition, it is one Common factors in personal care products, such as that For shampoo and lotion, for its antibiotics and soothing The effect on the scalp and the skin.



Fig:10

# Formula of Hair Serum Formulation

No.	Ingredients	Quantity
1.	Hibiscus leaves and flowers	30g
2.	Neem	10g
3.	Banyan aerial roots	3g
4.	Amla	10g
5.	Vitamin E	5ml
6.	Coconut oil	20ml
7.	Olive Oil	30ml
8.	Peppermint oil	2ml



## Method of Preparation

### Procedure

1. The Hibiscus and neem leaf extracts:  
Steep hibiscus flowers and leaves, and neem leaves in coconut oil and olive oil for a few hours or overnight.
2. Mix the extracts with other ingredients:  
Combine the hibiscus and neem leaf extracts with amla powder, vitamin E oil, and banyan aerial root extract (if using).
3. Add peppermint oil: Add peppermint oil to the mixture and blend well.
4. Stir and blend: Stir and blend the mixture thoroughly to ensure all ingredients are well combined.
5. Filter the mixture: Filter the mixture to remove any sediment or particles.
6. Store the serum: Store the hair serum in a clean, airtight container

### Tips

1. Use high-quality ingredients: Choose fresh and organic ingredients for best results.
2. Adjust proportions: Adjust the proportions of ingredients based on your hair type and needs.
3. Perform a patch test: Perform a patch test before using the serum to ensure you don't have any allergic reactions.

### Transfer to the storage container

Prepare the prepared hair growth in the serum clean, Airtight container for storage.  
Choose a dark colored glass bottle to protect Serum from light exposure, which can reduce its efficiency.  
Keep in a cool, dry place  
Put serum in a cool, dry place that is directly away from Sunlight.Helps to maintain proper storage strength and The stability of the herbal ingredients.

### Use instructions

Apply a small amount of hair growth serum The roots of the scalp and hair.Massage the serum gently in the palate using Circular movements to encourage absorption.  
Continue for at least 30 minutes or serum Overnight for maximum benefits.Rinse as warm water and shampoo Usually. Use serum regularly as part of your hair care Rinner for excellent results.

## Evaluation of Herbal Hair Serum

### Physical appearance

The physical characteristics of the finished product, Color and texture herbal serum patterns were checked (13)

### Test for homogeneity

dry, non -stained glass slide covered with Herbal serum and put a glass lid on it. Was the scene Examination in Pradeep. The mixture was in addition Combined, a visual inspection for a uniform or floccules.(14)

### PH.

Buffer solution was used to calibrate digital pH Meter. Between pH4 and pH 7. Then the electrode sink into serum and keep an eye on things until reading

### Viscosity

It is created how smooth it is There were formulations. Brookfield Viscometers is used. Approximately 100 ml, adhesive after using a hair serum Was fixed to be 50 and 100 rpm with different spindles Number, such as 63 and 64.(15)

### Stability

The herbal hair was made of the serum was stored tightly Seal jar at room temperature for a week. After a week, PH and viscosity were calculated and compared to the initial Reading. There was no clear change in the before or PH After study, or there was no physical instability in it Formulation during the entire research period. The mixture remained steady at temperature.(16)

## RESULT

### -Physical Parameters

The herbal hair serum formulation exhibits excellent physical parameters, including a smooth and non-greasy texture suitable for daily use, a natural color that appeals to users, and confirmed stability that ensures the product's effectiveness over time.

### -Performance Parameters

The formulation demonstrates impressive performance, with significant improvements in hair growth rate and density, enhanced moisturizing and nourishing properties that improve hair hydration and softness, reduced scalp irritation and dandruff, and improved hair shine and manageability.

### -Safety Parameters

The product's safety parameters are reassuring, with no significant skin irritation or allergic reactions observed in skin irritation testing, and no potential toxicity or adverse effects detected in toxicity testing.

### -Efficacy Evaluation

The efficacy evaluation of the herbal hair serum formulation yields positive results, with clinical trials demonstrating the product's efficacy and safety, and user feedback confirming satisfaction with the product's performance, citing improved hair health and appearance.

### -Homogeneity

The appearance and presence of any lid, Was visible in the serum or the folliculate or Inspected to evaluate unity. It was noticed The manufactured serum had high integration.

### -PH

Found that the prepared herbal serum is one PH of 7.50, which is perfect for creating.

### -Stability

There was no clear change in the before or PH After study, or there was no physical instability in it Formulation during the entire research period. The mixture remained steady at temperature

## CONCLUSION

The herbal hair serum formulation, combining hibiscus, amla, neem banyan aerial root, vitamin E, olive oil, coconut oil, and peppermint oil, demonstrates promising results. This unique blend provides a safe, effective, and high-quality product that promotes healthy hair growth, improves scalp health, and



enhances hair appearance. With its natural ingredients, smooth texture, and impressive performance parameters, this formulation offers a valuable solution for individuals seeking a natural and effective hair care product that nourishes, protects, and beautifies their hair. Overall, this herbal hair serum formulation has the potential to become a trusted and preferred choice for those looking for a holistic approach to hair care.

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