



Formulation and evaluation of Herbal hair oil

Sudha Balaji Modhekar, Shivaji H. Solunke, Kanchan Bharat Mundhe ,

Sakshi Ajay Tribhuvan, Janabai Arunrao Pawar

B Pharm final year Assistant professor B Pharm final year

Rajesh Bhaiya Tope collage of Pharmacy chh. Sambhajinagar

Abstract:

Herbal formulation generally have a fewer side effects compared to synthetic one. The traditional herbal remedies have long been utilized for hair and Scalp care. Rich in heritage especially in Ayurveda and folk medicine, these remedies explore the synergistic effect and individual benefits of nine potent natural ingredients such as Betel leaves (Pipes betel). Neem (Azadirachta indica), onion (Allium cepa), curry leaves (Murraya koenigii), fenugreek seed (Trigonella foenum-graecum), clove (Syzygium aromaticum), Hibiscus (Hibiscus rosa-sinensis) Amla (Phyllanthus emblica), coconut oil. Each component exhibits unique therapeutic properties such as antimicrobial, anti-inflammatory, antioxidant and growth – promoting effects. The review highlights current scientific findings that support the efficacy of these ingredients in improving scalp health, preventing hair loss, stimulate hair growth and maintaining overall hair vitality.

- **Keywords:** antidandruff, antioxidant, anti-inflammatory, growth promoting, hair oil.
- **Introduction:**

Hair play an important role in human life. The Indian traditional practices have long used to prepare herbal hair oil promote hair growth. Indian women are renowned for their long, shiny and healthy hair reflecting the significance of hair care in their self care rituals. Charaka samhita (the defective book on Ayurvedic medicine) Describe the importance of oiling the hair and scalp to maintain the good hair health and prevent hair loss. Daily oiling with appropriate herb infused oil contains to common practice today. Herbal oil are used to treat various hair problems such as dandruff, hair fall, split end, promote hair growth. These oils help cool the scalp and encourage luxurious hair growth in both men and women. Various types of oils like coconut oil, almond oil, castor oil, onion oil are applied to the scalp in often in combination with suitable herbal ingredients. Among them Coconut oil is considered the most effective base as it penetrate hair strands better than other oils and is more economical. When mixed with other herbal ingredient, it provides excellent results for hair growth. Hair also serves as natural barrier against the sun and harmful UV rays. Hair care products essentially formulation that help modify hair texture herbal cosmetics are widely preferred due to their minimum adverse effects and easily availability in ingredients.

Herbal oil:

Herbal oil also called as oil extract they are obtained from herbs and plant source they give a various therapeutic benefits. It is well know that synergistically a combination of nutrients, bioactive components, antioxidant and bio stimulants proves to more effective.

- **Benefits of hair oil :**

- ❖ Keeps scalp moist
- ❖ Improve hair growth
- ❖ Prevent dandruff
- ❖ Longer and stronger hair
- ❖ preservation of hair colour
- ❖ Maintaining the hair growth

- **Ideal characteristic of hair oil:**

- ❖ Nourishing
- ❖ Moisturizing
- ❖ antioxidant properties
- ❖ Protect from damage
- ❖ Texture
- ❖ Density
- ❖ Elasticity
- ❖ Formation
- ❖ Porosity

- **Main role of ingredients:**

- 1) **Coconut oil**

- ❖ Family : Aceraceae
- ❖ Botanical name : cocoa nucifera L
- ❖ Part used : Kernal oil
- ❖ Geographical location : Southern India
- ❖ Active constituent : fatty acid , caprin acid , lauric acid.



Fig 1 : coconut oil

Coconut oil is rich in fatty acids it can help in moisturize and nourish hair leaving in soft and shiny . It can help to protect hair from damage caused by heat styling ,sun exposure , environmental stressors. It help reduce protein loss from hair and making a great ingredients form hair care.

Role

1. Mask hair
2. moisturizer hair
3. Seal hair
4. Makes hair look shinier

2) Betel leaves:

- ❖ Botanical name:
- ❖ Kingdom : plantae
- ❖ Order: piperales
- ❖ Family : piperaceae
- ❖ Genus: piper



Fig 2 : Betel leaves

Betel leaves are rich in vitamin c which help to promote the hair growth and reduce in hair loss. They also contain other essential nutrients that help hair grow ,thick and long. Betel leaves are conditions hair and make in thick and long .

Role :

- 1) Promote the hair growth
- 2) Reduce the dandruff and itchinness
- 3) Improve the scalp health
- 4) Enhance hair texture
- 5) Darken hair

3) Amla :

- ❖ Botanical name: Phyllanthus embica
- ❖ Kingdom : planteae
- ❖ Order : Malpighiales
- ❖ Family : Phyllanthaceae
- ❖ Genus: Phyllanthus



Fig 3 : Amla

Amla is used in hair oil because it have numerous benefits in hair and scalp health. Amla are rich in vitamin c , they are essential in the production of collagen, protein they help to strengthen hair follicle.

Role:

1. Condensation scalp
2. Minimize greys
3. Reduce dandruff
4. Promote healthy hair growth
5. Strengthens the hair root

4) Clove :

- ❖ Botanical name: syzygium aromaticum
- ❖ Kingdom : plantae
- ❖ Order: myrtales
- ❖ Family : Myrtaceae
- ❖ Genus: syzygium



Fig 4 : clove

Clove contain high levels of antioxidants and nutrients that can add to the growth and strength of your hair . They are used in protecting the scalp and dandruff. They are actually a major cause of the weak and thin hair. Cloves also contain anti inflammatory agent which further help in hair thickening.

Role :

- i.Contain important nutrients
- ii.High in antioxidant
- iii.Help to protect against cancer
- iv.Kill bacteria

5) Fenugreek seeds :

- ❖ Botanical name: Trigonella foenum graecum
- ❖ Kingdom : plantae
- ❖ Order: Fabales
- ❖ Family : Fabaceae
- ❖ Genus: Trigonella



Fig 5 : Fenugreek seeds

Fenugreek oil deeply penetrate the scalp and hair are helping to moisturize and stimulate hair growth, reduce hair breakage and improve the overall softness and strength of the hair. Fenugreek are anti fungal anti inflammatory anti bacterial and anti pesticide properties that promote the hair health.

Role :

1. Increasing hair growth
2. Promoting hair growth
3. Controls scalp inflammation
4. Fights dandruff
5. It's make hair shine and soft texture.

6) Curry Leaves :

- ❖ Botanical name : *Phyllanthus embica*
- ❖ Kingdom : Plantae
- ❖ Order ' Malpighiales
- ❖ Family : Phyllanthaceae



Fig 6 : Curry leaves

Curry leaves are believed to promote hair growth by improving blood circulation to the scalp and strengthening hair follicles . It have antifungal and antibacterial properties that can help reduce dandruff and other scalp infection.

Role :

1. Condition your scalp .
2. Minimize greys .
3. Reduce dandruff
4. Promote healthy hair growth.
5. Strengthens the hair roots

7)Onion :

- ❖ Botanical name
- ❖ Kingdom : Allium
- ❖ Order : Plantae
- ❖ Family : Asparagales

❖ Genus : Allium



Fig 7 : Onion

Onions have antifungal and antibacterial properties that can help reduce dandruff and other scalp infection . They are rich in sulfur which can help improve hair shine and reduce frizz .

Role :

1. Inhibits hair thinning
2. Fight scalp infection
3. Treat dandruff
4. Sooth frizz.

8) Hibiscus flower:

- ❖ Botanical name : Rosa sinensis
- ❖ Kingdom : Plantae
- ❖ Order : Malvaceae
- ❖ Family : Malvaceae
- ❖ Genus : Hibiscus

Fig 8 : Hibiscus flower



Hibiscus flower are rich in vitamin and nourish hair leaving it soft and shiny . It's prevent premature greying of hair due to their antioxidant properties . Massaging hibiscus flower infused oil into the scalp can help stimulate hair growth and reduce dandruff.

Role :

1. It can help improve hair texture by reducing frizz and adding shine
2. It can prevent premature graying of hair due to their antioxidant properties.
3. Reduce Dandruff and other scalp infection.
4. It can help condition and nourish hair .

9) Neem :

- ❖ Botanical name : Azadirachta indica
- ❖ Kingdom: Plantae
- ❖ Order: Sapindales
- ❖ Family: meliaceae

❖ Genus : Azadirachta

Fig 9 : Neem



Neem has been used in Ayurvedic medicine for countries to treat various health issues including hair and scalp problem .it is natural and effective ingredients that help to various hair and scalp issues without harsh chemicals.

Role :

1. It can antifungal and antibacterial properties
2. It's help to reduce itchiness.
3. It's promote a healthy scalp.
4. Neem insecticidal properties can help treat lice and other parasite can infest the scalp.

❖ **Procedure :**

Sr no	Ingredients	Quantity
1	Coconut oil	160 ml
2	Betel leaves	6 ml
3	Amla	6 ml
4	Hibiscus flower	5ml
5	Onion	4 ml
6	Neem	5ml
7	Curry leaves	5 ml
8	Fenugreek seeds	5ml
9	Clove	4 ml

❖ **Method of preparation:**

- 1) **Mix and weigh:** Properly weigh the herbs and oils to intended use. Next, combine the herbs And oils in a container.
- 2) **Boil:** Boil the mixture on low heat, stirring constantly to avoid the herbs sticking. To the bottom of the container.
- 3) **Filter:** Filter the mixture using a cotton cloth.
- 4) **Add other ingredients:** Based on your desired scent and other characteristics, you can add other ingredients such as coconut oil.
- 5) **Store:** Put the last oil in an enclosed container.

❖ **Evolution test for herbal oil :**

- 1 . **pH:** pH of herbal oil was found with pH meter.
- 2 **Viscosity:** Viscosity was measured with Ostwald's viscometer.
- 3 **Specific gravity:** Specific gravity of the ready oil was found using Pycnometer or specific gravity bottle
- .4 **Refractive index:** it was found using refractometer.
- 5 **Organoleptic property:** colour, odour, skin irritation was found manually. Oil Was applied on hand and left in sunlight for 5 min to monitor any irritation Over skin

Conclusion:

Herbal hair oil formulation, grounded in traditional practices such as Ayurveda, present a natural and effective alternative to synthetic hair care products. The blend of ingredients like betel leaves, neem, curry leaves, clove, hibiscus flower, Fenugreek seeds and coconut oil offers numerous therapeutic advantage, including antimicrobial, anti inflammation, and hair growth enhancing properties. These natural oil not only address common hair concerns dandruff, dryness, hair loss but also promote overall scalp health and hair vitality. With minimal side effects and easily accessible components, herbal oil embody a sustainable and holistic approach to hair care that remains esteemed in both traditional and contemporary practice.

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