



# An Approach to Use Different Types of Herbs in Formulation and its Evaluation Parameters of Herbal Hair oil: A Review

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## Abstract –

Hair plays an important role in personality of humans. Beauty and cosmetic is an ancient as mankind and civilization. Herbal cosmetics is one of the most effective areas of cosmetic technology . the herbal formulations have comparatively lesser side effect than synthetic. Herbs are used as beautification purpose of body. Hair plays very important role in personality of human being and we use lots of cosmetic products for the care of hair. Various cosmetic products are used herbs to give young and charming look. Various herbal ingredient are used in hair formulation; they provide essential nutrients such as vitamins, anti-oxidant, etc. the study of aims reviewing the importance of herbal hair oil and their use in hair problem like – hairfall, hair dryness, dandruff, etc.

**KeyWords** – Herbal hair oil, herbal, cosmetics, dandruff, hair

## Introductions –

Hair is one of the main feature of humans. They have various important function like –protection against external factor i.e. heat , cold. Hair is important part of the body consider to accessory structure of integument along with sweat gland, nail, sebaceous gland [1]. The main problem associated with hair such as pigmentation problems ( Fading), dandruff, failing of hair (Shedding) [2]. Each hair grows in three cyclic phases i.e. Anagen( Growth) , Telogen (Rest), Catagen(Involution). Amla is rich source of vitamin C and contains Pectin rich in mineral matters like Phosphorus, Iron, Calcium[3]. The basic part of hair is bulb, root, shaft[4]. The common problems related to hair are – hairfall, dandruff, lice, split end, grey hair, etc[5]. A piece of hair is most complicated structure in the body.

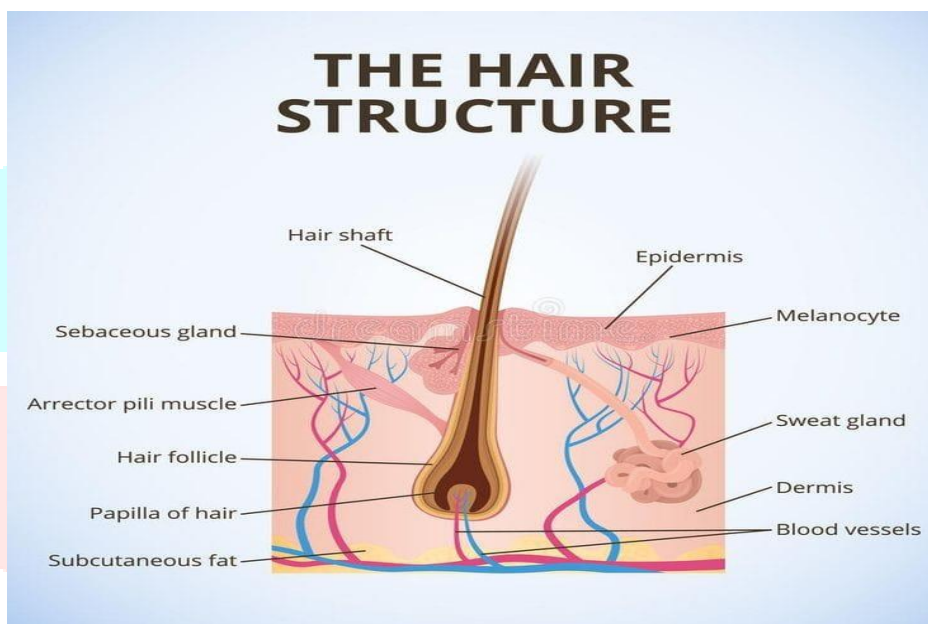
## 1) Hair Shaft –

Hair shaft is made up of 3 layers of keratin-

- A. Inner Layer – Medulla
- B. Middle Layer – Cortex
- C. Outer Layer - Cuticle

## 2) Hair Follicle -

Hair follicle is where hair begins to grow. It is stocking like Structure that starts in the epidermis. It extends to the dermis.



## Hair Types –

There are commonly 4 types of hair –

- Type 1 – Straight
- Type 2 – Wavy
- Type 3- Curly
- Type 4- Coily

## Hair Growth Cycle –

It consist of 3 stages - [6]

- A. Anagen Phase - It is the growth phase of hair. the anagen phase will last from between 2 to 6 years.
- B. Catagen Phase - It is the transitional stage. This phase last for 2 to 3 weeks.
- C. Telogen Phase - It is resting phase which lasts for about 2 to 3 months.

## Different Types Of Herbs or Herbal extract use to formulate Hair Oil –

- 1) Amla
- 2) Coconut
- 3) Bhringraj
- 4) Jasmin
- 5) Bramhni
- 6) Onion
- 7) Canthardine
- 8) Rosamary Herb



## Hair Oil –

The formulations which are used for the purpose of Cleansing, Modifying the hair texture, Providing nourishment to the Hair and maintaining the Healthy appearance of hair are known as Hair care product[7]. Herbal cosmetic are high in demand due to increasing interest of mankind towards them also herbal cosmetics are more effective with negligible side effects and ingredients are easily available[8]. Herbal Oil which contains a herbal drugs are called as hair tonic[9]. Hair Oil are Hair care formulation apply on hair for treatment of hair disorder like Greying of hair, Hair fall, Dry Hair and also help in providing nourishment to hair[10]. Herbal Hair Oil is an essential part of herbal cosmetics. Herbal Hair Oil is more preferred and used in aliments of hair[11]. They do not promote hair growth but they provide necessary moisture to scalp due to rendering beautiful hair[11]. This are one of the most well recognized product for the treatment of hair[12]. The use of hair oil is to give natural flavours and colours to hair oil by increasing every day in line with improvement in standard of living people by adding herbal essences and Perfumes.

**Plant Profile -****Amla -**

Botanical name - *Phyllanthus emblica*

Kingdom – Plantae

Order – Malpighiales

Family – Phyllanthaceae

Genus - *Phyllanthus*

Species – *P. emblicca*



*Phyllanthus emblica* is an important botanical plant in Indian traditional system of medicine[13]. The tree is small to medium in size, 1-8 m. in height. The fruit is nearly spherical, light greenish yellow, smooth and hard on appearance, with 6 vertical strips.

**Role –**

Condition your scalp.

Minimize greys.

Reduce dandruff

Promote healthy hair growth

**Chemical Constituents –**

*Emblica officinalis* is very high in vitamin C, Galic acid, Pectin, Polyphenol compounds, ellagic acid. Its ascorbic acid content ranges from 1000mg to 1700mg per 100gm[14].

**Uses –**

*Emblica* exhibits strong anti-oxidant activity. It is one of the most important plants in traditional ayurvedic medical system as well as in other traditional health systems for anti-ulcer, anti-cancer, anti-inflammatory, hepato protective action[15].

**Shikakai –**

Botanical name – *Senegalia Rugata*

Kingdom – Plantae

Order - Fabales

Family – Fabaceae

Genus – *Senegalia*

Species – *S. Rugata*



Shikakai is woody climber, Shrub upto 5 m. tall. L. pH that Gently cleans the hair without stripping it of natural Oil. The regions having hot dry weather as South India is best for this trees. The extract from the bark, Leaves of shikakai is used as hair cleansing agent[16].

**Coconut –**

Botanical name - *Coccus Nucifera*

Kingdom – Plantae

Family - Arecaceae

Genus – *Cocos*

Species – *Coccus Nucifera*



Coconut oil obtained from the milk of coconut palm fruit. *Coccus Nucifera* trees have smooth, columnar, light grey-brown trunk with diameter 30-40cm. Coconut oil is used as meals oil and is use in industrial application of cosmetics and detergent production. The interior of nut is hollow but partially filled with watery liquid called 'coconut milk'. The fruits are green at first, turns to brown as they are mature.

**Chemical constituents** – The chemical constituent of *coccus nucifera* have some biological effects like-antihelmentic, anti-inflammatory, anti-oxidant, anti-fungal, anti-microbial and anti-tumor activities.[17].

**Role –**

- Masks hair
- Moisture hair
- Seal hair
- Make hair look shiner

**Tulsi –**

Botanical Name – *Ocimum tenuiflorum*

Kingdom – Plantae

Order - Lamiales

Family- Lamiaceae

Genus – *Ocimum*

Species – *Ocimum Tenuiflorum*



Tulsi is one of the most recognized herb from family Lamiaceae. It has been used inside ayurvedic medication over 3000 years. Leaves are green or purple coloured. The plant tulsi have many medicinal properties. Leaves of tulsi are nerve tonis and also sharpen memory[18].

**Role –**

- \* Hair loss treatment
- \* Coagent remedy for hair loss
- \* Prevent bacterial and fungal infection

**Neem –**

Botanical Name – *Azadirachta indica*

Kingdom – Plantae

Family - Meliaceae

Genus - *Azadirachta*

Species – *Azadirachta indica*



Neem tree commonly found in India. Leaves, bark and gum are the non woody product of neem tree and have various uses[19]. They have anti bacterial, antifungal and other biological activites[20].

**Chemical constituent –**

Main chemical components are Nimbin, Nimbinene, Azadirachtin,

Azadirachyol, Desacetynimbinene, Nimbiol, Nimbolide, Quercetin, Beta- sitosterol, Nimbiol, Nimocin[21].

**Role –**

- Cure scalp problem
- Promote thicker, stronger hair growth
- Prevent premature graying
- Cooling and smoothening effect

**Hibiscus –**

Botanical name – Rosa- sinensis

Kingdom – Plantae

Order – malvales

Family - malvaceae

Gender – hibiscus



The leaves are alternate, ovate to lanceolate, frequently with lobed margin. the flowers are large conspicuous with 5 or more petals. This plant is extensively cultivated as ornamental plant[22]. Hibiscus is bushy, evergreen shrub and small tree growing 2.5- 5 m. the 5 petalled flower are 10 cm in diameter [23]. This plant is commonly found throughout the tropic and is found as house plant throughout the world[24].

**Role –**

- Stop hair loss
- Prevent premature graying
- Thicken hair and add volume

**Onion-**

Botanical name - Allium cepa

Kingdom – Plantae

Order – asparagales

Family – Amaryllidaceae

Genus – Allium

Speice -- Allium cepa



Onion has been valued as food and the medicine plant since ancient times. Onion is also known as bulb onion or common onion. It is the vegetable that mostly cultivated species of genus allium. The modern varieties of onion grow in height 15 to 45 cm. Leaves are yellowish to bluish green. They are hollow, cylindrical with one flattened side [25].

#### Role –

- Tears dandruff
- Inhibit hair thinning
- Fights scalp infection
- Slow down premature graying
- Nourishment of dry hair

#### Bhringraj –

Botanical name – *Eclipta prostrata*

Kingdom - Plantae

Order - Asterales

Family – Asteraceae

Genus – *Eclipta*

Species – *Eclipta prostrata*



*Eclipta alba* is a multibranched herbaceous plant. In the region of India it is found in state of Bihar, Assam, Uttar Pradesh, Manipur. The height of the plant is 30-50 cm. It is found in tropical and subtropical regions such as – South America, Assam, Africa, at an altitude up to 2000 m [26].

#### Role-

- Prevent hair fall
- Promote hair growth
- Makes hair damage
- Treat baldness



**Heena-**

Botanical name – *Lawsonia inermis*

Kingdom – Plantae

Order - Myrtales

Family – Lythraceae

Genus – *Lawsonia*

Species – *lawsonia inermis*



Henna is tall shrub and small tree standing 1.8-7.6m tall height. It is multy branched with spine- tipped branchets. It has been used as cosmetics and medicinal purpose from 9000 years[27]. The ovary of heena is four celled, 5mm long and erect. Henna fruits are small, brownish capsules 4-8mm in diameter and open irregularly in four splits.

**Chemical constituents –**

Photochemicals that are present in heena are – phenol, glucosides and anthroquinones, lawsone is active constituents henna leaves. Other – gallic acid, white resin, sugars, tannins, xanthones. Lawsone is main colouring constituent of henna and it is obtained by degradation of hennosides A, B and C[28].

**USES –**

\*Heena leaves used as prophylactic agent against skin diseases.

\*Heena leaves has antifungal property and heena paste can be applies on the nails or affected part continuously for 15 days to cure the fungal infection

\* heena is used in hair care products like – rinses , conditioners and applications.

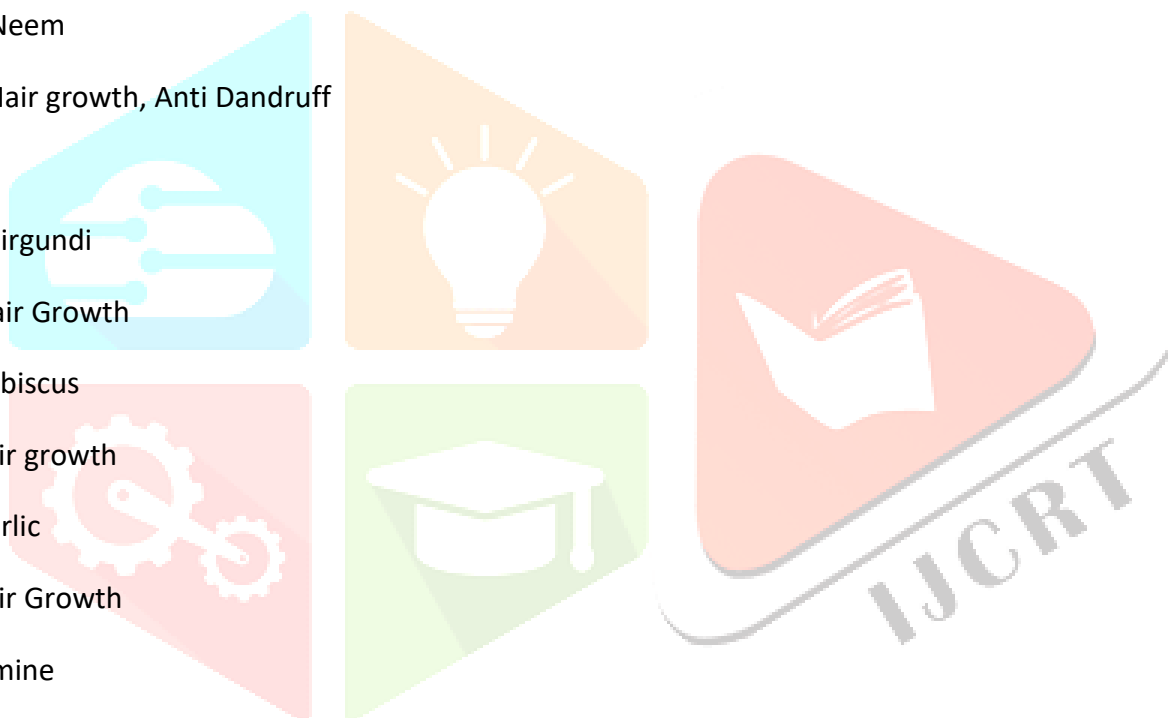
\* the paste of heena leaves can be applies for treating headache and burning sensation of the feet[29].

**Role –**

- Antifungal and antimicrobial properties
- Help in maintaining the scalp health
- Improve hair elasticity
- Repair hair damage.

**Ingredients used in herbal hair oil with importance –**

1. Onion  
Hair growth
2. Lemon  
Anti-Dandruff
3. Lemon grass  
Cure Hair loss
4. Mustard oil  
Blood circulation, scalp Hair growth
5. Neem  
Hair growth, Anti Dandruff
6. Nirgundi  
Hair Growth
7. Hibiscus  
Hair growth
8. Garlic  
Hair Growth
9. Jasmine  
Antiseptic
10. Olive oil  
Hair Growth, Anti  
-Dandruff, Anti-fungus
11. Camphor  
Hair growth
12. Grape seed oil  
Vit E, Hair Growth



## 13. Coconut oil

Moisturizes dry hair

## 14. Almond oil

Treat hair loss and strengthens the hairs

## 15. Tulsi

Anti bacterial

## 16. Hibiscus

Controls premature graying

## 17. Shikakai

Anti dandruff

## 18. Jasmine

Conditioning agent, provides good odour

## 19. Methi

Hair growth

## 20. Aloe Vera

Boosting scalp health

**various test for identification of herbal hair oil-**

The formulated herbal hair oil was subjected to physical and biological evaluation.

**Sensitivity test-**

The prepared herbal hair oil was applied on 1 cm skin of hand and exposed to sunlight for 4-5 min.

**Acid value –**

Preparation of 0.1 molar solution: Weighed 0.56 g KOH pellets and dissolved in 100 ml. of distilled water and stirred continuously. The prepared 0.1 molar KOH solution was filled in the burette. Preparation of sample: Measured 10 ml oil and dissolved in 25 ml. of ethanol and 25 ml. of ether mixture and shaken. Added mL of phenolphthale and titrated with 0.1 molar KOH solution.

### Saponification value -

Accurately weighed 1 ml. of oil into a 250 mL of conical flask and 10 mL of ethanol ether mixture (2 : 1) was added. To this flask 25 ml. of 0.5 N alcoholic KOH was kept the flask for 30 min. and the flask was cooled. The cooled solution was titrated against 0.5 N HCl using phenolphthalein indicator. Similarly the blank titration was performed without taking oil (sample). Amount of KOH in mg used was calculated.

### pH –

The pH of herbal hair oil was determined using pH meter.

Viscosity: The viscosity was determined using Ostwald's viscometer.

### Specific gravity –

Take the specific gravity bottle, rinsed it with distilled water, dry it in oven for 15 minutes, cool, closed it with cap and weigh it (a). Now fill the same specific gravity bottle with the sample and closed it with cap and again weigh it (b). Determine the weight of sample per milliliter by subtracting the weight (b-a).

### Conclusion –

The present review is to know about the various herbs used formulation of hair oil and evaluation parameters.

Overall, herbal oils that are formulated provide a lot of nutritious food. Hair values such as vitamins, minerals and essential oils. All these powdered drug gives permanent solution for hair damage. Finished products are within the limits. In conclusion, oils use to prevent hair damage and loss caused by pollution and dull hair and provide alternative sources from hazardous chemicals.

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