

# A Review on Herbs Used In Hair Oil

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**Abstract:** Herbal cosmetic concept is one of the most effective areas of the cosmetic technology. Herbs are used for beautification purpose of body, preparation of cosmetics, flavoury and colouring agent. Hair plays a vital role in personality of human and we use a lots of cosmetic product for care of hair.

The aim of present study involves the preparation of herbal hair oil using heral ingredients such as Amla, aloe vera, hibiscus, coconut oil, heena and many more herbs this herbs nourish, promote the hair growth, boost hair growth, reduces hair fall.

Herbal hair oil has been widely used for nourishment of hair and for the protection of hair from hair fall and hair damage. Now a day's side effect is a major problem after using any beauty product due to which herbal products are preferred because of having less probability of any types of side effects.

**Keywords:** hydration, allivating dandruff, herbal cosmetics

## INTRODUCTION

Hair is a thin, flexible shaft of cornified cells that develops from a cylindrical invagination of the epidermis, the hair follicle. Hair is one of the vital parts of the body derived from ectoderm of the skin, is protective appendages the body and considered accessory structure of the integument along with sebaceous glands, sweat glands and nails. They are also know as epidermal derivatives as they originate from the epidermis during embryological development [2]

### 1. Hair follicle

Hair starts to develop and is retained in place in the hair follicle. It is a structure that begins in the epidermis and resembles a stocking. It reaches the dermis. An inner and outer sheath that lines the follicle ends immediately before the sebaceous gland opening, protecting and shaping the hair as it grows.



Fig. Hair Structure

### 2. Hair shaft

The hair shaft is the part of the hair that is made up of three layers of keratin.[7]

Hair has a several useful function in the animal world. It forms a protective cushion around the head & other delicate parts of the body. Hair oil are formulated to give the hair good shine & gloss. This is achive by applying a thin continuous film of an oily material on the hair surface without causing stickiness. They are mainly oils of low viscosity. Many herbs are used in hair oil are Amla, Almond, Lemon, Hibiscus, etc. Hair oil has more preferred as they promote hair growth, Improveelegnance of hair & prevent Hair fall.[3]

Hair oil is a cosmetic product that's used to improve the condition of hair.

Hair oils are formulated with both synthetic and natural ingredients Synthetic hair oils are those hair care products which are made by chemical or artificial substances. They are used to provide shine and excellent conditioning and they also helps to reduce frizz.[3]

Natural hair oils are the hair care products which are rich in Vitamins, Minerals, Fatty acids which are the vital. Hence, while we are applying the natural hair oils, we are allowing these vital nutrients to absorb well into the scalp and hair thus it helps for a healthy regeneration of the scalp and a strong and healthy hair growth.[1].

Herbal hair oil not only moisturize scalp but also reverses dry scalp & dry hair condition. It provides numerous essential nutrients required to maintain

normal function of Sebaceous gland & promote normal hair growth. The plant parts which used are highly enriched with flavonoid, polyphenols, saponins, tannin, vitamins, proteins and mineral, ricin oleic acid etc. And these constituents help in the hair growth and also give many benefits for hair.

Herbal hair oils help strengthen your hair and enhance its texture. It also supplies much more moisture to the scalp which helps to get rid of dandruff. It smoothens the hair and gives a perfect shine. Oiling the hair increases the blood circulation in the scalp and hence repairing from the damaged hair. It also protects the follicle from surfactants by filling the gap between cuticle cells and it helps in scalp health. Massaging of scalp with the will helps in exfoliation and sometimes that helps in reducing hair fall also.[1]

#### OBJECTIVES

1. To stop hair loss.
2. For the softening & smoothing hairs.
3. To control itching, fungal diseases.
4. To reduces fizziness & split ends.
5. To improve growth of hair follicles[1].

#### ADANTAGES OF HAIR OIL

1. Fights against hair fall
2. Control frizzy hair
3. To promote hair growth
4. Natural goodness of Hair.
5. It provides numerous essential nutrients required to maintain normal function of
6. Sebaceous glands and promotes natural hair growth.
7. To identify the good combination of herbs which will give maximum effect
8. Relaxing massage for healthy scalp
9. To study the formulation, preparation and evaluation of polyherbal hair oils.to nourishes the scalp[1]

#### Selection of Herbs

Amla:



Fig. 1

Synonym: Emblica, Indian goose berry.[3]

Biological Sources: Dried fruits of *Phyllanthus niruri*.

Geographical Source:

It is a small- or medium-sized tree found in all deciduous forests of India.

It is also found in Sri Lanka and Myanmar. The leaves are feathery with small oblong pinnately arranged leaflets. The tree is characteristic greenish-grey and with smooth bark.[3]

Introduction: *Phyllanthus emblica* is an important medicinal plant in Indian traditional system of medicine. The tree is of 1-8 meter in height. The leaves are simple and intently set alongside branchlets. The flowers are of greenish yellow colour. The fruit is nearly round in shape and having hard appearance.[4]

Chemical constituents: constituents It is highly nutritious and is an important dietary source of vitamin C, minerals, and amino acids. The fruit contains considerably higher concentration of most minerals and amino acids. The pulpy portion of fruit, dried and freed from the nuts contains: gallic acid .32%, tannin, sugar 36.10%; gum 13.75%; albumin 13.08%; crude cellulose 17.08%; mineral matter 4.12%; and moisture 3.83%. Tannins are the mixture of gallic acid, ellagic acid, and phyllembin.

Use: Hair conditioner treats scalp diseases and promotes hair growth. Amla is rich in vitamin C, phosphorus, iron, calcium and other minerals that nourish the hair and cause thick, black hair.[3]

Aloe vera:



Fig 2

Synonym: Aloe Barbadensis.

Biological Sources: Dried Leaves of the plant[1]

Organic source-Aloe vera dried leaves

Information:

Aloe vera is a stemless or very short stemmed plant growing to 60-100 centimeters tall. Leaves are thick and fleshy, grey to green. Aloevera is a species of Aloe that is particularly known for its medicinal

properties.[22] Aloe species are distributed widely in the eastern European continents and are spread almost throughout the world.[4]

Chemical constituents: Barbaloin (15-40%), Hydroxyaloin ( 3% ), Mucilage ( Glucose, Galactose, Mannose, Galacturonic acid), Aloe-emodin, Aloesone, Aloctin A and B26 Aloe vera L. or A. barbadensis gel is used traditionally for hair loss and for improvement in hair growth following alopecia. Inaoka et al. reported that aloenin is the major constituent responsible for promoting hair growth without irritating the skin[2]

Use:

conditioner and moisturizing effect to remove dandruff, promote hair growth and nourish hair.

The combination of aloe pulp and coconut oil is rich in vitamins and minerals.

Used as hair and scalp oils, these oils result in healthy, strong, dandruff-free hair .[1]

Neem:



Fig. 3

Synonym: margosa, nimtree or Indian lilac

Biological source –

Neem consists of the fresh or dried leaves and seed oil of *Azadirachta indica* J. Juss (*Melia Indica* or *M. azadirachta* Linn.[11]

Chemical constituents:

Neem tree has numerous medicinal properties by virtue of its chemical compounds. Seeds of the Neem tree contain the highest concentration of Azadirachtin. Apart from Azadirachtin, salannin, gedunin, azadirone, nimbin, nimbidine, nimbicidine, nimbinol, etc are other important liminoids of neem.[2]

Informaatin:

Neem tree are found commonly in India, Africa and America. Due to having medicinal properties, it has been

used in ayurvedic medicine from 4000 years. It is a fast growing tree and can reach a height upto 15-20 metres. The Sanskrit name of neem is Arista. US National Academy of Science recognized the importance of neem tree, published a report in 1992 entitled *Neem- a tree for solving global problems*. Leaves, bark, and gum are the non woody product of neem tree and have various uses. They have antifungal, antibacterial, insecticidal and other biological activities [4].

Uses –

Uses Topical application delivers these nutrients directly to your hair, potentially resulting in healthier locks. It's also worth noting that vitamin E and other antioxidants can help skin cells regenerate.

This may promote a healthier scalp, subsequently minimizing dandruff and resulting in healthier hair. Neem oil contains the active ingredient nimbidin. Some older research suggests Trusted Source that nimbidin can help suppress inflammation, which may make it useful in treating dermatitis, psoriasis, or other scalp irritation. Neem is also a known antifungal. In some cases, dandruff and irritation can result from yeast buildup on the scalp.Lice Researchers in one 2011 study Trusted Source found that neem seed extract successfully killed head lice larvae after 5 minutes of treatment and adult head lice after 10 minutes of treatment. This may be due to the oil's azadirachtin content. Azadirachtin can make it difficult for insects to grow and lay eggs by interfering with their hormones.[8]

Coconut Oil:



Fig. 4

Synonym: copra oil. n.coconut kernel oil.

Biological Source –

Oil is derived from dried fruits of *Cocos nucifera*.

Geographical Sources:

It is largely cultivated in African and southeast Asian countries. Coconut also known as copra is a dietary as well as industrial product throughout the world. Large quantity of oil is produced in India, Sri Lanka Malaysia, South Africa, China, Indonesia, and other countries.

Informaatin:

Coconut oil is derived from milk of the coconut palm

fruit. Coconut oil is used as a meals oil, and is used in industrial applications for cosmetics and detergent production.[4]

Chemical constituents:

Coconut oil is mainly made up of saturated fats, with the primary fatty acids being: Lauric acid: The most common fatty acid in coconut oil, making up 44.1–51% of the oil Myristic acid: Makes up 13.1–18.5% of the oil, Palmitic acid: Makes up 7.5–10.5% of the oil,

Stearic acid: Makes up 1.0–3.2% of the oil .

Coconut oil also contains smaller amounts of other fatty acids, including: caprylic acid, capric acid, oleic acid, linoleic acid, and linolenic acid. Nourishes of hair, moisturizing effect vehicle, stimulates hair growth by unclogging pores.

Uses: Used for moisturizing[1]

### 1 Hibiscus:



Fig. 5

Synonym: shoeblack plant, mahagua ,mahoe, cotton rose, roselle.

Biological Source:

Fresh flower of Hibiscusrosainensis[7 ]

Informaatin:

hibiscus, (genus Hibiscus), genus of numerous species of herbs, shrubs, and trees in the mallow family (Malvaceae) that are native to warm temperate and tropical regions. Several are cultivated as ornamentals for their showy flowers, and a number are useful as fibre plants.[9]

Chemical constituents:

Hibiscus species have been investigated and found to contain many classes of secondary metabolites, including flavonoids, antho- cyanins, terpenoids, steroids, polysaccharides, alkaloids, amino acids, lipids, sesquiterpene, quinones, and naphtha- lene groups.[ ]

Uses:

conditioner and moisturizing effect to remove dandruff, promote hair growth and nourish hair.

The combination of aloe pulp and coconut oil is rich in vitamins and minerals.

Used as hair and scalp oils, these oils result in healthy, strong, dandruff-free hair (hair dandruff prevention effect).[1]

Plant part used:

- All plants are used.

Heena:



Fig. 6

Synonym: Amber

Biological source: heena is dye obtained from henna leaves, lawsoniainermis

Family: lythraceae

Introduction: heena is tall shrub or small trees standing 1.8 to 7.6 tall height.it is a multiple branch with spine tipped branchlets. forever 9,000 it has been used for cosmetic and medicinal purpose the leaves of heena source of redish brown dye used for temporary body art and to dye fabric[4]

Chemical constituent:

heena contain Lawson ,which is also known as hennotanic acid .it is orange dye present in the henna plant .henna contains sugars, various phenolic, glycosides ,tannins like garlic acids ,resins and coumarins.[3]

Uses of henna:

Henna is sometimes applied directly to the affected area for dandruff, eczema, scabies, fungal infections, and wounds. In manufacturing, henna is used in cosmetics, hair dyes, and hair care products; and as a dye for nails, hands, and clothing. People also use henna on the skin as temporary “tattoos.”[3]

Fenugreek seed:



Fig. 7

Synonym: *Trigonella foenum-graecum*

Part used: Seeds[1]

Biological Source: Dried seeds of *Trigonella foenum*

Geographical Sources: Maharashtra[1]

Introduction: A clover-like herb native to the Mediterranean region, southern Europe, and western Asia.

Chemical constituent: Trimethylamine, trigonelline, quercetin[1]

Uses:

Its seeds, which smell and taste like maple syrup, have been used in cooking and as medicine. Fenugreek is used as an ingredient in spice blends and a flavoring agent in foods, beverages, and tobacco.

Fenugreek has benefits for lowering blood sugar levels, boosting testosterone, and increasing milk production in people who are breastfeeding.

Fenugreek seeds are sharp, bitter, pungent legumes that are used as a spice. To enhance their aroma and nutty flavour, dry roast them on a medium flame until their colour deepens. Roast them lightly for a mellow flavour and longer for a bitter taste that works better in pickles.[9]

Rose Petals:



Fig.8

Synonym: Corolla, Perianth[3]

Biological source:

A rose is a woody perennial flowering plant of the genus *Rosa*, in the family Rosaceae, or the flower it bears.[3]

Geographical sources:

Most rose species are native to Asia, with smaller numbers being native to North America and a few to Europe and northwest Africa[3].

Introduction:

They range in size and become gradually smaller

towards the center of the bloom. Rose petals are highly aromatic and may be described as similar to a basket of fruits, lemon, nasturtium or cloves. Just like its colors the flavors can also vary depending on the variety and can be sweet, spicy or tart.[4]

Chemical constituents –

anthocyanins (glycosides, such as cyanidins, pelargonidins, and peonidins), flavonols (including derivatives of kaempferol and quercetin), flavan-3-ols, and their derivatives, procyanidins and proanthocyanidins, a large group of ellagitannins and phenolic acids, such as gallic, ellagic, quinine, and essential oils.[3]

Uses

Rose petals have many uses, including:

Food and drink: Rose petals can be used in many foods and drinks, including:

Rose tea: A fragrant and slightly tart tea made from dried rose petals that can help with an upset stomach, diarrhea, sore throat, or cough. Rose tea is also caffeine-free and can help with weight loss.

Rose water: A versatile ingredient in Indian households that can soothe the skin and help with eye conditions. [7]

Rose petal jam: Also known as Gulkand, this is made by mixing rose petals with sugar and left in the sun to mature. It can be used as a tonic and mild laxative in Unani medicine.

Rose ice cream: Rose petals can add a flavor reminiscent of strawberries and tart green apples.

Medicinal: Rose petals have many medicinal uses, including:

Heart health: Boiling 15 rose petals in water and drinking them with honey or sugar can help with heart health.

Urinary tract infections: Rose tea can help prevent urinary tract infections.

Wounds: Applying a paste of rose petals to wounds can help them heal faster.[10]

Vitamin E Capsule:



Fig. 9

Vitamin e helps to repair damaged hair by nourishing the scalp , reducing hair breakage ,and improving hair's elasticity and shine.

Vitamin e can also help the radicals produced by uv radiation and pollution,which will protect your scalp and hair cells against the damaging effects of the sun[1]

Curry leaves:



Fig. 10

Synonym:Mitha neem

Biological Source: the species call commemorates the botanist johann konig the genus Murray commemorates Swedish doctor and botanist johann Andreas .Murray who died in 1791.hence the botanical call of the curry leaves is *Murraya koenigii* .[13]

Part used: leaf

Geographical Source: The curry leaf originated from Indian sub-continent including Andaman and Nicobar Islands, Sri Lanka and Bangladesh (Joseph and Peter, 1985), later expanded to different parts of the world by Indian .

Introduction: The curry leaf plant belongs to the citrus family and it produces small fragrant white flowers that become small, black, berry-like fruits. The fruit is edible, but the seed is poisonous and must be removed prior to use. Curry leaves are mostly used fresh – but they can be dried, powdered and stored too.[5]

Chemical constituents: The oils from the curry leaves were found to contain mostly oxygenated monoterpenes. Using GC and GC-MS 33 constituents were found with linalool (32.83%), elemol (7.44%), geranyl acetate (6.18%), myrcene (6.12%), allo-ocimene (5.02),  $\alpha$ -terpinene (4.9%), and (E)- $\beta$ -ocimene (3.68%) as the main compounds.

Uses:

Flavor enhancer: Curry leaves add a citrusy, slightly bitter taste to dishes like soups, curries, and chutneys.

Digestion: Curry leaves can help with digestion by stimulating digestive enzymes and reducing

indigestion.

Blood sugar: Curry leaves may help control blood glucose levels.

Heart health: Curry leaves contain compounds that may help reduce the risk of heart [6]

Tulsi:



Fig. 11

Synonym: Tulsi *Ocimum sanctum* (OS) is also known as Holy Basil or Tulsi, Biological source :

Tulsi consists of the fresh and dried leaves of *Ocimum* species like *Ocimum sanctum* L. and *Ocimum basilicum* L. etc[11]

Geographical source:

Tulsi is an aromatic shrub in the basil family Lamiaceae (tribe ocimeae) that is thought to have originated in north central India and now grows native throughout the eastern world tropics[5].

Introduction:

Tulsi is one of the most well recognized herb from the family Lamiaceae that is indigenous to the Indian subcontinent and has been used inside Ayurvedic medication over 3000 years. Holy Basil is an erect, many branched sub shrub 30-60 cm tall having hairy stem. Leaves are of green or purple colour. The plant of tulsi has many medicinal properties. Leaves of tulsi are a nerve tonic a nerve tonic and also sharpen memory[3].

Chemical constituents:

Tulsi (*Ocimum tenuiflorum*) is a plant with a complex chemical composition that includes many active compounds, including:

Volatile components

Camphor, cineole, estragol, eugenol, germacrene, caryophyllene, and bisabolene

Other chemical constituents

Linalool, methylchavicol, methylcinnamat, linolen, ocimene, pinene, anethol, thymol, citral, oleanolic acid, ursolic acid, rosmarinic acid, and carvacrol

**Role:**

1. Coagent remedy for hair loss
2. Hair loss treatment
3. Strengthening the hair roots
4. Prevent bacterial and fungal infection.

**Use :**

- 1 Strengthen hair roots: Tulsi can help prevent hair loss by strengthening hair roots.
  - 2 Improve blood circulation: Tulsi can improve blood circulation, which can promote hair growth.
  - 3 Stimulate the scalp: Tulsi's anti-inflammatory properties may stimulate the scalp.
- Protect hair from damage: Tulsi can protect hair from early graying and falling out.
- Treat hair lice: Tulsi seeds combined with castor oil can help treat hair lice[3].

**Almond oil:**



Fig. 12

**Synonyms:** Prunus amygdalus, Prunus dulcis, sweet almond. [3]

**Biological source:**

Almond oil is a fixed oil obtained by expression from the seeds of Prunus amygdalus (Rosaceae) var. dulcis (sweet almonds), or P. amygdalus var. amara (bitter almonds).[3]

**Geographical source:**

The oil is mainly produced from almonds grown in the countries bordering the Mediterranean (Italy, France, Syria, Spain, and North Africa) and Iran.

**Chemical constituent:**

**List of Material:**

Sr.No	Ingredient	Role	Quantity
1	Amla	Promate Hair Growth	6g
2	Aleo Vera	Conditioner	6g
3	Neem	Promote a health of scalp	6g
4	Coconut Oil	Stimualte hair growth	qs
5	Hibiscus	Quick hair growth	6g
6	Heena	Dandruff prevention	6g
7	Fenugreek seed	Antifungal activity	6g
8	Rose	Fragrant	50 ml

Almond oil is made up of a variety of chemical constituents, including fatty acids, tocopherol, and phytosterol:

**Fatty acids:** Almond oil contains a number of fatty acids, including oleic, linoleic, palmitic, stearic, and palmitoleic acids. Oleic acid is the main compound in almond oil, making up 56.64–64.03% of the oil. Other fatty acids in almond oil include:

**Linoleic acid,** which makes up 24.57–29.8% of the oil

**Palmitic acid,** which makes up 7.22–8.60% of the oil  
**Margaroleic acid,** which makes up 0.076–0.093% of the oil

**Margaric acid,** which makes up 0.06–0.07% of the oil

**Stearic acid,** which makes up 2.45–3.57% of the oil

**Tocopherol:** Almond oil contains tocopherol.

**Phytosterol:** Almond oil contains phytosterol.[6]

**Use:**

Almond oil has many uses, including:

**Skincare**

Almond oil can moisturize, hydrate, and soften skin. It can also help with skin conditions like eczema and psoriasis. Almond oil can also reduce the appearance of wrinkles, stretch marks, and scars.

**Hair care**

Almond oil can treat dandruff, soothe the scalp, and reduce frizz. It can also strengthen and repair damaged hair.

**Cooking**

Almond oil can help reduce the risk of cardiovascular disease and elevate "good" cholesterol levels. It can also help stabilize blood sugar levels and maintain a healthy weight.

**Ayurvedic massage**

Almond oil is a warm and neutral oil that's suitable for all skin types, but especially recommended for dry skin. It can be used in Ayurvedic massage, also known as Abhyanga, to soothe and soften skin.[3]

**MATERIAL AND METHOD OF PREPARATION:**

9	Vitamin e capsule	Protect hair scalp	2 capsule
10	Curry Leaves	Prevent hair fall	6g
11	Tulsi	Prevent graying of hair	6g
12	Almond Oil	Moisturizing	10 ml

Methods of Preparation:

- 1) Various ingredients such as coconut oil, curry leaves, amla fruit, fenugreek seeds, hibiscus flowers, hibiscus leaves, and nagarmotha roots are used in the formulation of herbal hair oil.
- 2) Firstly, coarsely grind the fenugreek seeds and gooseberry (amla).
- 3) Take a glass vessel and transfer the powder into it.
- 4) After that, add 100 ml of coconut oil into it. Also, add the curry leaves and hibiscus flowers.
- 5) Now, add the hibiscus leaves to the oil.
- 6) Switch on the stove and let it boil. In between, mix it well and allow it to boil on a low flame.
- 7) Boiling takes 10 to 15 minutes. Boil until it gets a brownish color.
- 8) Now, switch off the stove and allow it to cool down.
- 9) After that, filter it twice with the help of a clean cotton cloth.
- 10) To extract the oil completely, use a cotton cloth and transfer the mixture into it.[8]

Evaluation of Herbal Hair Oil:

1. Organoleptic Property

Color: Detected by naked eyes

Sensitivity: Applied to the skin and exposed to the sunlight for 5 minutes to check for any irritation over skin

Grittiness: Rubbed to the skin and observed

Sedimentation: Keep the whole preparation aside for overnight and check for sedimentation

2. pH Determination

Take a pH paper and dip into the formulated hair oil and check for the color change.

4. Acid Value

10 ml of oil was added with 25ml of ethanol and 25ml of ether. Phenolphthalein was added as indicator and titrated with 0.1M Potassium hydroxide solution

$n =$  Number of ml of 0.1M KOH

$w =$  Wt. of oil

5. Specific Gravity

Specific gravity of the prepared oil was determined using specific gravity bottle.

6. Stability Study

It is performed by keeping the prepared herbal hair

oil in a closed container at cooled and dry placed.[8]



Fig. specific gravity

CONCLUSION

Herbal oil is one of the most wellrecognized hair treatments. The use of different materials which is having different benefits with good combination will give the great effect for hair. The herbal extracts and constituents chosen for the formulation of hair oil were reported to have hair growth, relaxation, anti-dandruff, hair thickening, and hairfall control properties, which when used together elicited synergistic effect in promoting healthy and shiny hair growth. The formulation was proven to be safe for human use .[9]

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- International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.  
Manuscript submitted: 09 March 2022,  
Manuscript revised: 18 April 2022, Accepted for publication: 27 May 2022  
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Vol.9, No.3, pp 321-327, 20161Faculty of

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- [16] *A Complete Pharmacognostic Review On Amla* Shreya Talreja<sup>1\*</sup>, Sonam Kumari<sup>1</sup>, Prateek Srivastava<sup>1</sup> AND Swarnima Pandey<sup>2</sup><sup>1</sup>IPSR Unnao.<sup>2</sup>Asst Professor, Goel Institute of Pharmacy & Sciences, Lucknow.