



# “DEVELOPING AND ASSESSING HERBAL OIL FOR PROMOTING SCALP HEALTH” BRAHMI OIL

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**ABSTRACT :** Brahmi oil, derived from the *Bacopa monnieri* plant, is a traditional Ayurvedic remedy known for its numerous therapeutic properties. Rich in beneficial compounds such as Saponin, alkaloids, and flavonoids, Brahmi oil is renowned for its ability to promote hair growth, strengthen hair follicles, and improve scalp health. It has been used for centuries to alleviate scalp conditions like dandruff, itching, and inflammation. Additionally, Brahmi oil is valued for its calming and rejuvenating effects on the nervous system, making it a popular choice for promoting relaxation and mental clarity. With its wide range of benefits, Brahmi oil continues to be a staple in holistic hair care and wellness practices.” Brahmi is Herbs and herbal medications have been shown in studies to promote hair growth. Both men and women are highly worried about hair loss problems, which include issues like thinning, dandruff, and hair falling out. Unlike synthetic drugs that can cause side effects such as burning, itching, and localized irritation, herbal hair oils have garnered interest as a natural alternative. They could result in systemic adverse effects such as headaches and dizziness as well as dermatological reactions. Brahmi oil is Herbal formulations are known for their use since ancient times with minimal side effects and enhanced activity due to their origin. These oils are utilized to address hair issues such as thinning and dry or flaky scalp.

Beyond their moisturizing properties, they are also employed to stimulate hair growth, enhance scalp blood circulation, prevent dandruff, and add volume to the hair shaft.

The objective of the current study is to develop an herbal hair oil using the leaves of *Azadirachta indica*, leaves and flowers of *Hibiscus rosa-sinensis*, leaves of *Murraya koenigii*, leaves of *Bacopa monnieri*, fruits of *Phyllanthus Emblica*, and roots of *Withania Somnifera* in coconut oil.

**KEY WORDS:-** Herbal Preparations, Herbal Oil, Brahmi, Methi.

## INTRODUCTION

Brahmi (derived from the name of Lord Brahma and Goddess Sarasvati) is a perennial herb most well known for its memory enhancing property. Brahmi tea that is made by brewing Brahmi leaves helps to manage cold, chest congestion and bronchitis by clearing out the mucus from the air passages which help ease breathing. Brahmi oil is an Ayurvedic herbal oil derived from the Brahmi plant, scientifically known as *Bacopa monnieri*. It has been used for centuries in traditional Indian medicine for its numerous health benefits, particularly for promoting hair growth, improving memory and cognitive function, and relieving stress. The oil is typically made by infusing Brahmi leaves into a base oil, such as coconut or sesame oil, and is applied topically or massaged into the scalp and hair. It's praised for its nourishing properties and is a popular ingredient in natural hair care products and scalp treatments. Brahmi oil is great for treating a dry scalp and helps to prevent hair fall. The antioxidant components not only help in rejuvenating the scalp but also promote regeneration of healthy hair. Brahmi is also good for treating hair problems such as dandruff, itchy scalp and split ends. *Bacopa monnieri* (Linn.) Pennell. Syn. *Herpestis monnieri* L. The Scrophulariaceae family herb known as Brahmi in Hindi is either an annual or perennial plant that thrives in the marshy regions of India and can ascend to altitudes of up to 1,320 meters (Kritikar and Basu, 1987). It is glabrous and somewhat succulent.

Most ancient Indian physicians and Ayurvedic practitioners utilized herbs for treating dermatitis, anaemia, and diabetes. It is also employed as a safe cardiac tonic (Chopra et al., 1956; Asvikar et al., 1992). The entire plant has a strong reputation in Indian medicine for being a nervine tonic and a treatment for epilepsy and mania (Wealth of India 1998; Jain, 1991).

Ayurveda is the world's oldest medication system and is originated in India more than 3000 years ago. It is the purest and traditional health care system. Nootropic herbs and drugs are used to enhance memory, cognition, mood, and other factors associated with mental functioning [1]. Examples of herbs with nootropic activity include Ashwagandha (*Convolvulus arvensis* / *Withania somnifera*), Shankhpushpi, Ginkgo (*Ginkgo biloba*), *Centella asiatica* and Brahmi (*Bacopa monnieri*) are some of the famous nootropic herbs.



*Bacopa monnieri* (BM), also referred to as, *Herpestis monniera*, water hyssop, locally known as Brahmi or Jalanimba in India, has been used for centuries in the Ayurveda, a holistic system of medicine originating from India. It is classified as a *Medhyarasayana*, a drug used to improve memory and intellect (*medhya*) [1]. Traditionally, it was employed as a brain tonic to boost memory, learning, and concentration, as well as to alleviate anxiety or epileptic conditions in patients. Brahmi name is derived from the word 'Brahma-creator of the universe in the Hindu pantheon'. It is found in wetlands throughout the Indian subcontinent in damp and marshy or sandy areas near streams in tropical regions. The genus *Bacopa* contains over 100 species of aquatic herbs scattered throughout the warmer areas of the world. Apart from India, this plant is also found in Nepal, Sri Lanka, China, Taiwan, Vietnam, Florida, and other southern states of the USA. The whole plant is utilized for medicinal purposes.

## • Plant Description and Morphology

*Bacopa monnieri*, belonging to the Scrophulariaceae family, is a small, creeping herb with many branches, small oblong leaves, and light purple flowers. It grows naturally in wet soil, shallow water, and marshes in India and tropical regions. This herb can be found at elevations ranging from sea level to 4,400 feet and can be easily cultivated if sufficient water is available.

Flowers and fruit appear in summer and the entire plant is used medicinal.

## ❖ Cultivation & Collection:

Its growth thrives in subtropical climatic conditions.

High temperature and humid conditions promote its faster growth and proliferation.

It is found growing well upto an altitude of 1300 to 1400 metres from sea-level.

High temperature ranging from 30 to 40°C is favourable for growth.

50-100 cm rainfall which is well distributed.

It thrives in diverse soil conditions, yet it particularly favours wet soil with inadequate drainage.

## ❖ Cultivation details

Seeds can be used, but due to excessive loss of seeds, vegetative propagation (plant cuttings) is practised widely.

Ideally transplanted during summer (March - May) or at the onset of monsoon (June - July).

It's a perennial crop. Land is ploughed twice or thrice thoroughly and made weed free. About 4-5 tonnes decomposed manure/hectare is added, again ploughed, levelled and irrigated a day before planting. Transplanting material is obtained from the plant cutting raised in nursery bed. Mixture of FYM and sand is used for raising nursery bed. It is irrigated well to keep the soil moist. The seeds along with portion of sand are sown in the nursery bed and irrigated regularly. Within a period of 2 to 3 months, the seedlings are ready for transplanting.

The mother plants are cut into small pieces along with roots, which are ideal transplanting material. At the onset of monsoon or during summer, they are transplanted at a spacing of 40% cm in well prepared wet field followed by flood irrigation. About 100 kg plant cuttings are required for planting in an acre of land. This plant, being fond of moisture and marshy conditions, necessitates sufficient irrigation. First irrigation after planting is essential for establishment of plants, followed by the flood irrigations as per requirement of soil. Usually during monsoon, no additional irrigation is required. On an average irrigations are sufficient

Application of natural fertilizers like FYM or compost manure is sufficient for its growth. For good quality and yield, application of nitrogenous fertilizers is advisable. A basal dose of 60 kg phosphorus and 60 kg of potash/hectare should be applied along with 100 kg nitrogen/hectare split doses. During initial stages of plant growth, hand weeding is preferred at an interval of 10-15 days once the plants establish themselves and proliferate with dense mass, weeding is carried out when required. The crop can be maintained in perennial state with two harvests a year, first in month of June next after monsoon in month of October-November. Usually, after 120-150 days of planting crop is ready for harvesting. Cutting is done in such a way that the aerial part is removed and the portion is left in the soil for subsequent regeneration of crop.

The harvested material undergoes washing and cleaning to remove external matter. It is then spread in thin layer wound under shade at room temperature. The product is tossed twice a day for uniform drying rying process takes about 8-10 days. me total dry herb yield of plant in two harvesting seasons is approximately 100 quintal per

### ❖ Nutritional Value of Brahmi Oil

Brahmi oil is mostly used for exterior or topical use. However, Brahmi can be taken in the form of powder, tablet liquid extract. Most often, the herbs of Brahmi – bacopa or gotu kola, are taken along with ghee. This improves the efficacy for mind relaxation. Brahmi, whether in powdered form or consumed in liquid form, has more medicinal value than nutritional value.

### ❖ Mentioned below are the best health benefits of Brahmi Oil

For hair growth and strength

Brahmi oil can be an ideal remedy for slow hair growth. This oil can be used as a natural hair conditioner as well as it can be used for a relaxing hot oil massage.

No matter how this oil is applied to the hair, it is very beneficial in strengthening the hair roots, which help in reducing hair fall.

Massaging the scalp with this oil around twice a week will significantly improve blood circulation that would ultimately accelerate hair growth

### ❖ Common Brahmi Side Effects

- Dizziness.
- Headache.
- Nausea.
- Dry mouth.
- Stomach upset.
- Diarrhoea.
- Skin rashes.
- Drowsiness.

How to Take Brahmi: Dosage Recommendations

#### 1. Brahmi Powder

Certified Ayurvedic doctors typically suggest consuming 2-3 grams of Brahmi powder daily with meals. For adults, it's recommended to take 25-50 ml of Brahmi powder mixed in boiled water each day.

For infants and children, Brahmi can be given in small amounts, usually mixed with honey, ghee, and water, to help boost brain function and immunity.

## 2. Brahmi Capsules and Tablets

The recommended daily dose ranges from 1 to 2 capsules or tablets. It is advisable to take them with milk or water before or after meals. The dosage levels may vary depending on the concentration of Brahmi in each capsule or tablet.

## 3. Brahmi Liquid Extracts

- **Oil:** It is usually preferred to take ½-1 teaspoon of Brahmi oil and gently massage it onto the scalp and hair. Adults may repeat this procedure 1 to 3 times weekly.
- **Juice:** The recommended dosage of Brahmi Juice is 2-4 teaspoons per day. Some healthcare providers may advise adding an equal quantity of water to it and consuming it once a day before meals.

### ❖ Health Benefits of Brahmi

- Cognitive boost and treats cognitive diseases
- Respiratory benefits.
- Boost immunity.
- Treats epilepsy.
- Improves skin immunity.
- Reduces blood sugar.
- Ideal for patients of gout and arthritis.
- Treats insomnia and deals with mental disorders



Fig 1: Picture of Brahmi (*Bacopa monnieri*) plant

2. Kingdom – Plantae
3. Division – Anthophyta
4. Class – Dicotyledoneae
5. Order – Scrophulariales

6. Family– Scrophulariaceae

7. Genus– Bacopa

#### ❖ Advantage

1. **Promotes Hair Growth:** Brahmi oil is believed to stimulate hair follicles, promoting hair growth and thickness.
2. **Strengthens Hair:** It helps strengthen hair roots and prevent breakage, resulting in healthier, more resilient hair.
3. **Improves Scalp Health:** Brahmi oil has soothing properties that can help alleviate dry scalp conditions, reduce itching, and nourish the scalp.
4. **Hair Fall:** Regular application of Brahmi oil may help reduce hair fall by improving blood circulation to the scalp and providing essential nutrients to the hair follicles
5. **Relieves Stress:** Brahmi oil is often used in traditional Ayurvedic medicine for its calming effects on the mind and body, which can help reduce stress and promote relaxation
6. **Enhances Brain Function:** When applied to the scalp, Brahmi oil is believed to have cognitive benefits, improving concentration, memory, and overall brain function.

#### ❖ Disadvantages

1. Allergic Reactions: Some individuals may experience allergic reactions to Brahmi oil, leading to skin irritation, redness, or itching. It's crucial to perform a patch test before applying it extensively.
2. Greasy Texture: Brahmi oil has a greasy texture, which may not be suitable for everyone, especially those with oily or acne-prone skin. It can feel heavy and may clog pores if not properly washed off.
3. Strong Aroma: Brahmi oil has a distinct herbal scent, which some people may find unpleasant or overpowering. This could be a disadvantage for those sensitive to strong smells.
4. Staining: Brahmi oil can stain clothing and fabric, so it's important to be cautious when applying it and to allow sufficient time for absorption before coming into contact with textiles
5. Limited Scientific Evidence: While Brahmi oil is traditionally believed to have various health benefits, scientific research on its efficacy and safety is limited. Further research is required to comprehensively grasp both the potential risks and benefits associated with it.
6. Price: Depending on the brand and quality, Brahmi oil can be relatively expensive compared to other hair and skincare products, which may deter some individuals from using it regularly

## ❖ Benefits of Brahmi Oil

In a world tainted by pollution, hair struggles to thrive. That is when herbal hair oil comes into practice. Herbal oil is a blend of bhringraj, jatamansi, amla, hibiscus, rosemary, almond and other herbs.

### **Their benefits are as follow:**

- It provides natural goodness to hair.
- Herbal oil, rich in vitamins and micro nutrients, serves as nourishment for the hair.
- Hair oil helps in preventing hair loss and tames frizzy hair. Hair ends needs.
- Special care and herbal oil provide pampering for the hair throughout its nourishment.
- Regular use of hair oil of hair oils cure problem of premature grey hair.
- Keeps the scalp hydrated..
- Improves hair growth.
- Prevents dandruff.
- Offers shine glow.

- Stress relief
- Stress relief.

## ❖ **Application**

Brahmi oil can be effectively used to promote a healthy scalp in the following ways:

### **1. Nourishing Scalp Massage:**

Massaging Brahmi oil onto the scalp helps to improve blood circulation, which in turn nourishes hair follicles and encourages healthy hair growth. The massage action also helps to distribute the oil evenly across the scalp, ensuring maximum benefits.

### **2. Moisturizing and Hydrating:**

Brahmi oil is rich in nutrients and has moisturizing properties that help to hydrate the scalp. This can be particularly beneficial for individuals with dry or flaky scalp conditions, as it helps to alleviate dryness and itchiness.

### **3. Strengthening Hair Roots:**

Regular application of Brahmi oil can strengthen hair roots and prevent hair breakage. This is especially important for maintaining overall scalp health and preventing issues such as hair loss and thinning.

#### 4. Calming and Soothing:

Brahmi oil has a calming effect on the scalp and can help to soothe irritation and inflammation. This makes it suitable for individuals with sensitive or irritated scalp conditions, such as dandruff or scalp psoriasis

#### 5. Promoting Hair Growth:

By nourishing the scalp and strengthening hair follicles, Brahmi oil can help to promote healthy hair growth. It provides the essential nutrients needed for optimal hair health, resulting in stronger, thicker, and more lustrous hair

6. **Hair Care:** It is commonly used in Ayurvedic medicine to promote hair growth, strengthen hair roots, and improve overall hair health. Massaging Brahmi oil into the scalp can help nourish the hair follicles and prevent hair fall.

7. **Scalp Health:** Brahmi oil can help alleviate dry scalp conditions, dandruff, and itching due to its moisturizing and soothing properties. Regular use may also improve scalp circulation.

8. **Memory and Cognitive Function:** Some studies suggest that Brahmi oil may have neuroprotective effects and can improve cognitive function and memory. It is often used in Ayurvedic practice to enhance mental clarity and focus.

9. **Relaxation and Stress Relief:** The oil has calming properties and is often used in Ayurvedic massages to promote relaxation and relieve stress. Massaging Brahmi oil onto the scalp or body can help relax muscles and soothe the mind.

#### Material And Equipment

Brahmi oil is typically made by infusing the Brahmi herb (*Bacopa monnieri*) into a carrier oil, such as sesame oil or coconut oil. To make Brahmi oil at home, you'll need dried Brahmi leaves, methi, camphor and carrier oil. . Then, follow these steps:

- a. **Prepare the Brahmi:** If you're using fresh Brahmi leaves, wash them thoroughly and allow them to dry completely. measure out the desired amount.
- b. **Infusion:** Heat the carrier oil in a pan over low heat. Add the Brahmi leaves to the warm oil and let it simmer for about 15-20 minutes. Be careful not to overheat the oil, as it can destroy the beneficial properties of the Brahmi.
- c. **Strain:** After simmering, remove the pan from the heat and allow the oil to cool down. Once cooled, strain the oil using a fine mesh strainer or cheesecloth to remove any plant material.
- d. **Storage:** Transfer the strained Brahmi oil into a clean, dry glass bottle with a tight-fitting lid. Keep it in a cool, dark location, shielded from direct sunlight.

Brahmi oil is now ready to use. can apply it to scalp and hair as a nourishing treatment or use it for massaging the scalp to promote relaxation and stimulate hair growth.



## 1) Brahmi

**Synonym:-** Bacopa monnieri

**Biological Source:-**consists of the freshening to and the stems of the plant known as Bacopa moniera Linn. Herpests moniera), belonging to family Scrophulariaceae, and should contain not less than 2.5 percent of bacoside A on dried basis

**Family :-**Scrophulariaceae

**Geographical Source:-**It is a prostrate, succulent herb found throughout India, in wet, damp and marshy places, upto 1200 m elevation

### Macroscopic Characters

**Colour:** Green

**Taste:** Bitter

**Size (Leaves)** About 2 cm

**Shape:** The leaves are fleshy obovate, alternate, simple, entire, with broad apex, sessile and their lower surface is dotted. Flowers are solitary, stalked; corolla bluish white in colour and about 1 cm in size. One of the five sepals is disproportionately larger than the others, and flowers emerge in the leaf axils from April to June. Capsules are ovoid, seeds are minute and numerous.

**Chemical constituent:-** Brahmi is found to contain the alkaloid brahmine, herpes tine and mixture of 3 other alkaloid. It contain saponins, namely becoside Aand B. dditionally it also contain betulic acid, stigmasterol, monnieri and hersaponin. Bacosides Aand B on acid hydrolysis yield tritepenoid aglycone bacogenins A and B respectively.

**Fig:-Brahmi (Bacopa Monnieri)**



**Uses:-**

Brahmi oil is rich in nutrients that nourish the scalp, including antioxidants, vitamins, and essential . fatty acids. These nutrients help maintain scalp health and support the growth of strong, healthy hair.

Massaging Brahmi oil into the scalp can help stimulate blood circulation and promote the health of hair follicles.

Moisturizing properties that help hydrate the scalp and prevent dryness and flakiness.

Regular use of Brahmi oil can help strengthen the hair shaft, reduce breakage, and improve hair elasticity. This sentence could be reformulated as: “Additionally, it enhances hair shine, giving it a healthier and livelier appearance.”

**2) Coconut oil**

**Synonym:** copra oil, coconut fat ,animal oils.,apricot oil,argan oil.

**Coconut oil** originates from the dried solid part of the coconut’s endosperm, scientifically known as *Cocos nucifera* L.

**Family :-** Palmae.

**Description**

**Colour :-** It is a white, semisolid fat.

**Odour:-** Characteristic, and pleasan

**Taste :** Bland and characteristic

**Solubility :** Insoluble in water and alcohol. Soluble in chloroform ether and carbon chloride. It has lowest level of unsaturated fatty acids and hence to hydrogenation is very less.

**Extra Features:** Two types of Copra are made in India, milling type and edile Milling copra is used to extract oil while edible copra is used as dry .



**Fig. Coconut oil**

## Chemical Constituent

Copra contains 65-68% fat, 15-20% carbohydrates, 9.0% proteins, 4-9% crude fibres Carbohydrates contain glucose, fructose and raffinose.

Copra oil contains Trimyristine, trilaurin, tripalmetin, tristearin, and many other glycerides.

## Uses

dyeing cotton in ointment base in hair dressing in massage. In the preparation of vegetable the Sole ing cofacture of soap, edible fats, chocolate candies, in baking instead of lard, in candes

It does not elevate blood total cholesterol

It increases blood HDL cholesterol.

Coconut oil also moisturizing your hair's

### 1) Sesame oil:-

**Synonyms** :-Teel oil, Gingelly oil, Benne oil are synonyms of sesame oil.

**The biological source** of the fixed oil is the seeds of *Sesamum indicum*, obtained through expression. It belongs to the family Pedaliaceae.

#### Description

**Colour** : Pale yellowish liquid

**Odour** : Slight, characteristic

**Taste** : Bland

**Solubility**: It is slightly soluble in alcohol, miscible with chloroform, solvent ether, light petroleum (40-60 per cent) and carbon disulphide.



Fig:- sesame oil

**Chemical Constituent :-**Sesame seed is rich in oil, contains high amounts of (83-90%) unsaturated fatty acids, mainly linoleic acid (37-47%), oleic acid (35-43%), palmitic (9-11%) and stearic acid (5-10%) with trace amount of linolenic acid .

#### Uses:-

Sesame seeds are brain tonic and also improve complexion and applied to skin in the form of led meal.

Oil has strong healing properties.

Oil is nutritive, laxative and demulcent, it has got let properties.

It is used in the preparation of liniments, plasters, ointments and soaps, similar adve oil Pharmaceutically, it is used as a vehicle for intramuscular oily injections. After burning, asme oil yields high quality black ink.

## 2) Methi (Fenugreek Seeds):-

**Synonyms:** Methi, Methika, Chandrika

**Biological source:** Methi consists of dried ripe seeds of *Trigonella foenum-graecum*

**Family:** Leguminacear

**Chemical Constituent:-**Fenugreek has a protein content of 23 to 26%, a lipid content of 6 to 7%, and carbohydrate content of 58%, of which roughly 25% is dietary fibre.

**Geographical source:** The plant grows wild In Northern India and is cultivated as a crop throughout India. Southern and Eastern Europe, Pakistan, and France are also regions where it is cultivated. Morocco and Egypt.



**Fig:- Fenugreek Seeds**

#### Uses:-

Methi seeds infused in oil can promote hair growth, strengthen hair follicles, and prevent dandruff.

Methi oil can be used as a natural conditioner to make hair soft, smooth, and manageable.

The oil can be massaged into the scalp to alleviate dryness, itchiness, and flakiness

Methi seed oil stimulates hair growth by improving blood circulation to the scalp and providing

### 3) Camphor

**Synonyms:-** pacha camphor, patri camphor, nagi camphor, and desi Kapoor.

**Biological source:** natural bhimseni camphor is obtained by distilling the bark and wood of the camphor *Cinnamomum camphora*. The tree found in Taiwan, Japan and china.

**Botanical name-***Cinnamomum camphora* nees and eberm

**Family** – Lauraceae



**Fig:-Camphor**

#### **Uses:-**

Camphor has a warming effect and can help increase blood circulation in the scalp, which may promote hair growth by delivering more nutrients to the hair follicles.

The antimicrobial properties of camphor may help to combat dandruff-causing fungi and bacteria on the scalp, leading to a reduction in dandruff and an improvement in scalp health.

Camphor has a cooling sensation that can provide relief from itchiness and irritation on the scalp, making it beneficial for individuals with dry or irritated scalp conditions.

Regular use of camphor-infused hair oil may help strengthen the hair shafts and reduce breakage, leading to healthier and more resilient hair.

### **Methodology and Experimental Work**

#### **Formulation**

Creating Brahmi oil involves a blend of traditional knowledge and modern techniques. Here's a simplified methodology and experimental work outline:

**Ingredient Selection:** Choose high-quality Brahmi (*Bacopa monnieri*) leaves and a carrier oil like coconut, sesame, or almond oil.

**Brahmi Extract:** Wash and dry Brahmi leaves to remove impurities. Crush or grind the leaves to extract the juice or use dried leaves for infusion. If using dried leaves, soak them in water overnight to soften. Extract the essence by boiling the leaves in water or using a cold infusion method.

**Blending with Carrier Oil:** Once the Brahmi extract is prepared, strain it to remove any solid particles. Mix the Brahmi extract with the chosen carrier oil in a clean, dry container. Ensure a proper ratio, typically 1:4 Brahmi extract to carrier oil, for effective infusion.

**Heating and Infusion:** Heat the mixture gently using a double boiler or low flame. Allow the mixture to infuse for several hours, stirring occasionally. Avoid overheating to preserve the potency of the ingredients.

**Cooling and Straining:** Once infused, let the oil cool to room temperature. Strain the oil through a fine muslin cloth or a strainer to remove any remaining plant matter.

**Storage:** Transfer the strained Brahmi oil into clean, dark glass bottles to prevent light degradation. Store in a cool, dark place away from direct sunlight to maintain its efficacy.

### ❖ Experimental Work

Conduct experiments to optimize the extraction process, such as varying the extraction method (boiling, cold infusion) or adjusting the ratio of Brahmi extract to carrier oil.

Test the efficacy of the Brahmi oil through sensory evaluations, such as its aroma, color, and consistency, as well as its therapeutic effects on hair and scalp health.

Perform stability tests to assess the shelf life and storage conditions required to maintain the quality of the Brahmi oil over time.

Consider conducting comparative studies with commercially available Brahmi oils or other herbal hair oils to evaluate the uniqueness and effectiveness of your formulation.

By following these steps and conducting thorough experimental work, you can create high-quality Brahmi oil with potential benefits for hair and scalp health.

### ❖ Formulation Chart

Ingredients	Quantity
Brahmi leaves	30gm
Sesame oil	50ml
Coconut oil	50ml
Camphor	20gm
Fenugreek Seeds	25gm
Essential oil	A few drops (like lavender or rosemary for fragrance)

## RESULTS AND DISCUSSION

Brahmi hair oil is one of the most well recognized hair treatments. Brahmi hair oil not only moisturizes scalp but also reverses dry scalp and dry hair condition.

It provides numerous essential nutrients required to maintain normal function of sebaceous glands & promotes natural hair growth. The herbal hair oil was created using various herbs, each contributing to its formulation. Evaluations were conducted on several parameters including sensitivity tests, viscosity, pH, and acid value of the brahmi hair oil. The investigation revealed that the formulated herbal hair oil meets optimal standards, and further standardization and biological screening will confirm the efficacy of the formulation hair oil.

Sr.No	Evaluation Parameter	Inferences
1.	Physical Appearance	Yes
2.	State	Liquid
3.	Colour	Greenish Brown
4.	Order	Aromatic
5.	Determination of pH	4.5 to 5.5
6.	Acid value	0.5 to 3.0 mg KOH/g
7.	Saponification Valu	194.2
8.	Sedimentation	Yes

## Conclusion

Brahmi herb (*Bacopa monnieri*), is often used in traditional Ayurvedic medicine for its potential cognitive and hair health benefits. However, its effectiveness can vary depending on individual factors and the quality of the oil. Some users report improved hair growth and texture, reduced hair loss, and enhanced scalp health when using Brahmi oil regularly. It's important to note that while Brahmi oil may offer potential benefits, more research is needed to fully understand its effects and mechanisms of action. As with any herbal remedy, it's advisable to consult with a healthcare professional before incorporating Brahmi oil into your routine.

As a preservative, the herbs brahmi, Fenugreek seeds, sesame oil, Coconut oil and are included in the formulation of the herbal hair oil that is being studied in this study. It provides hairs with nutrients because it is absorbed into the scalp more quickly. It functions as a natural hair nourisher, reducing hair loss and promoting hair growth. Neem is added, which also functions as a preservative and antidandruff hair tonic.

The herbal ingredients were chosen for the formulation of brahmi oil. This research provides guideline on the use of healthy scalp on the preparation of herbal brahmi oil having minimal or no side effects. The formulated hair oil has medicinal importance in treating various other diseases and has been proven safe for human use.

## Reference

1. Plants used for hair growth promotion: A review Vaishali Rathi\*, Jagdish Chandra Rathi, S. Tamizharasi and Anupam Kumar Pathakb NRI College of Pharmacy, Bhopal, M.P., India aNandha College of Pharmacy, Erode, Tamil Nadu, India bDepartment of Pharmacy, Barkatullah University, Bhopal, M.P., India \*Author for correspondence:- roshan rti 2005@yahoo.co.in

2. Purwal Clinic, 9 Dhanvantari, Old Thana Road Ashta, Sehore. (M.P.) \*Rajiv Gandhi Institute of Pharmacy, Satna (M.P.)-485001 Millennium College of Pharmacy, Bhopal (M.P.)-462021, India. suryatony@yahoo.co.in, Development and Evaluation of Herbal Formulations for Hair Growth, SSN: 0973-4945, Vol. 5,
3. Preparation, evaluation and hair growth stimulating activity of herbal hair oil 1 Pooja S. Banerjee, Megha Sharma, 3\*Rajesh Kumar Nema 1 Smt Vidyawati College of Pharmacy, Jhansi, India 2 Shri Ram Institute of Technology, Pharmacy, Jabalpur, India 3 Rishiraj College of Pharmacy, Indore, india
4. Satish Patel, Vikas Sharma, Nagendra S. Chauhan, Mayank Thakur and Vinod K. Dixit Hair Growth: Focus on Herbal Therapeutic Agent 21-42 Current Drug Discovery Technologies, 2015, Vol. 12
5. Rashmi Saxena Pal\*,Yogendra Pal 1 Pharmacy Department, PSIT, Kanpur U.P. India Date Received: 8th June 2016; Date accepted: 17th June 2016; Date Published: 20th June 2016. A Research on the physicochemical aspects of commonly used Herbal Hair oil preparations VOL.4 ISSUE 6, 2016; 274 – 275
6. Formulation and Evaluation of Poly Herbal Hair Oil An Economical Cosmetic K.Sudheer Kumar\*, S.Gomathi\*, S.*Seetaram* Swamy\* Dept. of Pharmacognosy, Chilkur Balaji College of Pharmacy, Aziz nagar, Hyderabad, Telangana Dept. of Pharmaceutical Chemistry, J.K.K.*Natraja* College of Pharmacy, Komarapalayam, Tamilnadu e-mail: sudheer.y2k8@gmail.com
7. Pushpendra Kumar Jain<sup>1</sup>, Debajyoti Das<sup>2</sup>, Puneet Jain<sup>3</sup> Evaluating Hair Growth Activity of Herbal Hair Oil ISSN: 0974-4304 Vol.9, No.3, pp 321-327,
8. Herbal Hair Cosmetics - An Overview Ashwini V. Jadhav<sup>1\*</sup>, Dipak Morale<sup>2</sup>, Abhijeet Daunderkar<sup>2</sup>, Nikhil Bhujbal<sup>1</sup>, Dr. Sandip Kshirsagar<sup>3</sup> 1 Assistant Professor, Department of Pharmaceutics & 3Associate Professor, Department of Pharmaceutical Chemistry & Graduate Students, Kasturi Shikshan Sansthas College of Pharmacy, Shikrapur, Pune, Maharashtra, India
9. NS Yamani, Sudha, Jyotsna, K Pratyusha, J Pratyusha and Kartheeka Formulation and evaluation of polyherbal hair oil E-ISSN: 2278-4136 P-ISSN: 2349-8234 JPP 2018; 7(3): 3254-3256.
10. Boyapati Madhulatha\* and Kotresh Yaligar PREPARATION AND EVALUATION OF VARIOUS HERBAL HAIR OIL FORMULATIONS Volume 8, Issue 7, ISSN 2277– 7105.
11. K. Rashid, V. Baskar Ananda Raj, P. S Shiji Kumar, K.M Nishad HAIR CARE PROMISING HERBS ISSN NO: 2231-6876.
12. Ankit Agrawal\*, Sourabh D Jain, Hinal Prajapati, Arun Kumar Gupta FORMULATION AND EVALUATION OF HAIR OIL CONTAINING HERBAL INGREDIENTS Vol. 6, No. 1 ISSN 2394-5338.
13. Miss. Arati D. Powar\* and Dr. Sachin A. Nitave POLYHERBAL ANTIDANDRUFF HAIR OIL Volume 10, Issue 3, 440-457. ISSN 2277– 7105.
14. Mr. Bade Vikas Vinayak<sup>1</sup>, Miss. Kalyankar P. P.<sup>2</sup>, Dr. Hingane L. D.<sup>3</sup> Formulation and Evaluation of Polyherbal Hair Oil ISSN: 2321-9653; IC Value: 45.98; Volume 9 Issue XII
15. Dr. K. Sudheer Kumar\*, P. Anitha, SK. Shahin, G. Bhagya Lakshmi FORMULATION AND EVALUATION OF ORGANIC POLY-HERBAL HAIR OIL Vol. 8, Issue 9, 120-126 ISSN 2454-2229



16. Gayatri M. Penkar, Maithilee R. Salkar, Prachi S. Chavan, Maitrey S. Ambade, Sanchit A. Parab, Tejas S. Padte, Pallavi L. Salgoankar, Manasvi M. Sawant, Vijay A. Jagtap Indian Herbs in Hair Care Therapy ISSN 0975-2331 Vol. 15 |Issue-02|
17. Harsh Nandaniya, Pooja Khanpara and Dr. Shital Faldu Focus on herbal home remedies for hair regrowth and loss E-ISSN: 2278-4136 P-ISSN: 2349-8234
18. Prajakta Vilas Patil\*, Jagruti Sunil Patil, Kuldip Ravindra Patil, Dr. Gajanan Tulsiram Daphal, Dr. Swapnil Dilip Deo Evaluation And Preparation of Herbal Hair Oil Vol 1, Issue 11, 153-160
19. preparation Of Herbal Hair Oil Exploring The Therapeutic Benefits Of Herbs And Its Evaluation Dhiraj **Baishya** , Ananta **Choudhury** \*, Himangshu Deka1 , Nurjamal **Hoque 1** , Rosamund Jyrwa2 , Jahnabi Sarmah
20. Akram Ahmad(1)\*, Vikas Kumar(1) ,G.P.Mohanta(2) and Hasna Ali(2) Preparation and Evaluation Antioxidant Activity of 1Mixed Herbal Hair Oil Formulation

