

TO DEVELOP HERBAL HAIR OIL

Barket Ali Dar^{*1}, Kamalesh Mistry², Tanya Sharma³, Dhananjay Mistry⁴, Noorul Huda⁵, Tusar Ranjan Pati⁶

¹Research Scholar, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

²Associate Professor, Department of Pharmacy, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

³Assistant Professor, Department of Pharmacy, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

⁴Lecturer, Department of Pharmacy, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

⁵Assistant Professor, Department of Pharmacy, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

⁶Assistant professor, Dept. Of pharmaceutical Analysis, Nityananda college of pharmacy Balasore Odisha India - 756060

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***Corresponding Author: Barket Ali Dar**

Research Scholar, Faculty of Pharmaceutical Science, Mewar University, Gangrar, Chittorgarh 312901, Rajasthan, India.

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ABSTRACT

The application of herbal hair oils has garnered considerable attention due to the increasing awareness of the benefits of natural products in hair care. These oils are prepared using medicinal plants recognized for their therapeutic properties in stimulating hair growth, minimizing hair loss, and enhancing scalp health. This review examines both traditional and contemporary approaches to the development and assessment of herbal hair oil. Important herbal components, such as Amla, Bhringraj, Brahmi, Neem, and Hibiscus, are highlighted for their contributions in nourishing hair and managing common conditions like dandruff and hair thinning. The study further emphasizes different extraction techniques, including maceration, infusion, and decoction, along with physicochemical and biological evaluation methods to ensure product level and effectiveness. By integrating traditional knowledge and

scientific authentication, this review establishes a basis for the development of safe and effective herbal hair oil preparation.

BASIC KEYWORDS: Herbal Hair Oil, Natural Ingredients, Oil Infusion, Plant Extracts, Carrier Oil, Essential Oil

INTRODUCTION

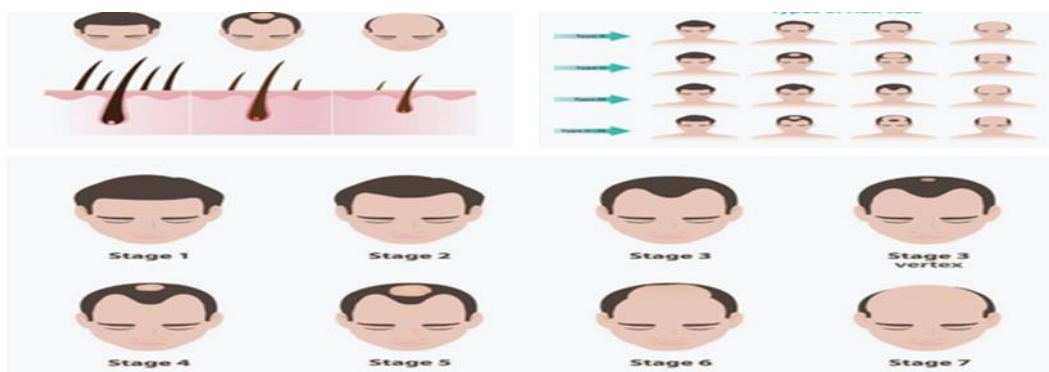
Hair is one of the essential parts of the human body, and it impacts a person's overall appearance. Hair care products are defined as preparations used for cleansing, altering hair texture, changing hair color, revitalising damaged hair, providing nourishment, and maintaining a healthy appearance. Hair care products are broadly classified into two categories: Hair tonics and hair grooming aids. Hair oil that contains herbal ingredients is known as a hair tonic. These are prepared using herbal extracts in an oil base. Hair oils are commonly used for the treatment of hair-related conditions such as baldness, hair damage, discoloration, hair loss, and dryness. These oils are generally non-sticky in nature, and the addition of fragrances enhances their scent and overall appeal. Proper application of hair oil adds shine to the hair, makes it softer, improves Manageability, and provides a cooling effect on the scalp. Herbal hair oil helps maintain the normal functioning of the skin oil gland, as it provides essential nutrients that support natural hair growth. Hair oils are hair care formulations used for the protection and care of hair loss and other hair-related conditions, including hair damage. They also encourage healthy and luxurious hair growth. Hair oil containing herbal ingredients is commonly used as a hair tonic. Hair tonics and hair grooming tools are the two primary categories of hair care products. These are essentially oil-based extracts of therapeutic herbs. Numerous plants have been used to cure hair. Amla, henna, neem, methi, lemon, tulsi, brahmi, shikakai, reetha, liquorice root, musk root, mahabhringraj, jantamasi, chitraka, marigold, hibiscus, nutmeg, parsley, rosemary, and thyme are a few of these plants. Minoxidil, a synthetic medication, is a strong vasodilator that seems safe for long-term use. It has been demonstrated that the improvement peaks after one year of using 2 and 3% topical minoxidil for five years, with a gradual drop in regrowth over the following years.

Advantages of this herbal hair oil

Diminishes Breakage and Hair Fall:

Hormonal imbalances, stress, poor scalp nourishment, and product damage can all lead to hair loss. This formulation's herbal constituents, especially the curry leaves (*Murraya koenigii*) and fenugreek seeds (*Trigonella foenum-graecum*), are rich in iron and protein, all of which are

essential for healthy hair roots. These ingredients strengthen hair shafts to prevent breakage, feed the scalp, and lessen hair loss. Because of its high magnesium and biotin content, almond oil fortifies hair strands and stops hair loss from weakening or breaking. Because of this, those with thinning or fragile hair will particularly benefit from the oil. [Ref. 2,11,10,13 and 14]



Handles Scalp Infections and Dandruff:-

Strong hair starts with a healthy scalp. Dandruff, itching, and scalp Infections are examples of conditions that can harm hair follicles and Prevent healthy hair development. Strong antifungal, antibacterial, and anti-inflammatory properties are provided by the addition of neem (*Azadirachta indica*) and hibiscus (*Hibiscus rosa-sinensis*). Traditional medicine has long utilised neem to treat lice, chronic dandruff, and fungal scalp diseases. The natural mucilage found in hibiscus, on the other hand, calms the scalp and creates a shield against outside irritants. These characteristics aid in maintaining scalp cleanliness, lowering inflammation, and fostering an environment that is conducive to unobstructed hair growth.

[Ref. 2,6,10 and 11]



Role of Herbal oil

1. Therapeutic (Healing) Uses

Reduce pain and inflammation (e.g., joint or muscle pain), Help with skin disorders like dryness, acne, or infections , Support wound healing and reduce scars ,Some oils help manage conditions like arthritis [Ref. 6, 11]

2. Massage & Relaxation

Used in body massage to improve blood circulation , Relax muscles and reduce stress , Common in therapies like Abhyanga (Ayurvedic massage) (Ref. 10, 11)

3. Mental Wellness

Aromatic herbal oils can calm the mind. , Help reduce anxiety and improve sleep quality , Used in aromatherapy practices (Ref. 11)

4. Hair Care

Nourish scalp and strengthen hair roots , Promote hair growth and reduce dandruff ,Prevent premature greying (in traditional use) [Ref. 1, 2, 13 and 14)

5. Skin Care

Moisturize and protect skin, Improve complexion and elasticity ,Used in treating minor skin issues naturally) [Ref. 6 and 11]

6. Preventive Health Care

Regular use can boost immunity (as per traditional belief) , Help detoxify the body and maintain balance [Ref. 1, 11, and 10]

7. Natural & Chemical-Free Alternative

Preferred over synthetic products Fewer side effects when used properly [Ref. 2, 7]

Traditional uses

Herbal oils have been used for centuries in traditional medicine systems—especially Ayurveda—for daily care, healing, and spiritual practices. Here are their key traditional uses:

1. Daily Body Care (Dinacharya)

Applied as part of daily routine to maintain overall health , Full-body oil massage (Abhyanga) improves circulation and keeps skin soft Helps balance body energies (Doshas) [Ref. 10 and 11]

2. Head & Scalp Massage

Oils applied to the head to cool the body and calm the mind ,Promote sound sleep and relieve stress ,Strengthen hair and prevent hair fall [Ref. 13, 14 and 6]

3. Infant Care

Babies are traditionally massaged with herbal oils ,Helps in bone development and muscle strength ,Improves sleep and growth [Ref. 10 and 11]

4. Pain & Joint Relief

Warm herbal oils used to massage affected areas, Relieves stiffness, swelling, and conditions like arthritis, Common in elderly care [Ref.2 and 10]

5. Seasonal Protection

Oils used according to seasons (e.g., warming oils in winter, cooling oils in summer), protects the body from environmental changes [Ref. 2, 3]

6. Nasal Application (Nasya)

A few drops of medicated oil are put into the nose, Helps with sinus issues and headaches and improves breathing [Ref. 2 and 3]

7. Oral Care (Oil Pulling)

Swishing oil in the mouth improves oral hygiene ,Helps strengthen gums and reduce bad breath [Ref. 11]

8. Spiritual & Ritual Use

Used in religious ceremonies and temple practices ,Applied on the body during meditation for grounding and calmness [Ref. 10, 11, 14]

9. Wound & Skin Treatment

Applied to cuts, burns, and infections ,Speeds healing and prevents dryness,

These traditional practices are deeply rooted in culture and lifestyle, especially in India , If you want, I can list specific herbal oils (like neem oil, sesame oil, and bhringraj oil) and their traditional applications. [Ref. 8 and 14]

Advantages over synthetic oils

Herbal oils offer several advantages over synthetic (chemical-based) oils, especially in traditional systems like Ayurveda. Here's a clear comparison highlighting why they're often preferred:

1. Natural Composition

Made from plant extracts, herbs, and natural base oils, Free from artificial chemicals, parabens, and synthetic fragrances, Closer to the body's natural biology (Ref. 2 and 11)

2. Fewer Side Effects

Generally safer when used properly, Lower risk of irritation compared to harsh synthetic chemicals, Suitable for long-term use in many cases [Ref. 2 and 6)

3. Therapeutic Benefits

Provide healing properties (anti-inflammatory, antifungal, antibacterial) ,Can help manage conditions like arthritis or skin problems ,Act as both cosmetic and medicinal agents [Ref. 13 and 14]

4. Better Absorption

Easily absorbed into the skin and scalp, Nourish deeper layers rather than just coating the surface (Ref. 2 and 11)

5. Holistic Wellness

Support both physical and mental health (e.g., relaxation, stress relief)

Used in massage and aromatherapy for overall balance [Ref. 3, 4]

6. Eco-Friendly

Biodegradable and environmentally safer, usually produced with fewer harmful industrial processes [Ref. 1 and 4]

7. Multi-Purpose Use

One herbal oil can serve multiple functions (hair, skin, massage, and healing), reduces the need for multiple synthetic products [Ref. 7, 1, 3, 4]

8. Traditional Trust & Proven Use

Used for centuries with documented benefits, Backed by long-standing cultural practices [Ref. 2 and 3]

FORMULATION

Approach:

Give fenugreek seeds a half-hour soak in water and Chop the aloe Vera coarsely now put everything together.

Combine this with a litter of pure coconut oil ,Cook until the colour becomes green, around 30 to 35 minutes, over low heat and allow it to cool.

After filtering, store in a glass bottle.

Preparation of Herbal Hair Oil

The herbal hair oil was prepared by the **oil infusion method**. Fenugreek seeds were first soaked in water for about 30 minutes, and aloe Vera was chopped into small pieces. These ingredients were then mixed with coconut oil and heated on a low flame for about 30–35 minutes until the color changed. The mixture was allowed to cool, then filtered to remove

solid residues, and finally stored in a clean, dry glass container for further use [Ref. 1, 7, , and 10].

Ethanol combination with ether:-

This flask was filled with 25 milliliters of 0.5 N alcoholic KOH. Kept the flask for thirty minutes. The flask was then left to cool. The cooled solution was titrated against 0.5 N HCl using phenolphthalein indicator. Similarly, oil (sample) was not used in the blank titration. Milligrams of KOH were used.[Ref. 11, 12]

Specific gravity:-

Use pure water to rinse the bottle, dry it in the oven for 15 minutes, allow it to cool, seal it with a cap, and weigh it (a). Now put the sample in the same specific gravity bottle, cover it with a cap, and weigh it once again (b). Subtract the weight to find the sample's weight per millilitre. [Ref. 11 and 14]

What is Formulation Development?

Formulation development is the process of selecting, combining, and optimizing ingredients to create a final product with specific characteristics such as the following:

Effectiveness (e.g., drug bioavailability, cleaning power) ,Stability (shelf life, resistance to degradation),Safety (non-toxic, non-irritant) ,Aesthetics (texture, colour, Odor) ,Delivery (how the product works—tablet, cream, spray, etc.) [Ref. 11,14 and 16]

Key Stages

Pre-formulation studies

Understand properties of active ingredients (solubility, pH stability, melting,point), Compatibility with excipients[Ref. 12]

Excipient selection

Choose inactive ingredients (binders, solvents, preservatives, and emulsifiers). [Ref. 11]

Formulation design:-

Develop prototype compositions (e.g., cream, tablet, suspension) ,Optimization and adjust ratios and processes for best performance. [Ref. 11 and 15]

Stability testing:-

Evaluate the product under different temperature, humidity, and light conditions.

Scale-up and transition from lab scale to manufacturing[Ref. 14]

Scope of Study:-

Research on Herbal Components: Learn about the advantages of natural herbs such as amla, bhringraj, neem, coconut, etc., for scalp health, dandruff prevention, and hair growth. [Ref. 23 and 16]

Development of Formulations: Discover how to mix oils and herbs in the proper amounts to produce a product that is both safe and effective.[Ref 7, 1 and 18]

Conventional and Scientific Knowledge: To guarantee superior outcomes, learn the fundamentals of Ayurveda in addition to contemporary cosmetic science. [Ref. 4 and 17]

Quality Control and Testing: Use short studies to verify safety, shelf life, and efficacy. [Ref. 22 and 15]

Analysis of the Market: To assess competition, research customer preferences and examine well-known companies like Khadi Natural. [Ref. 14]

RESULT & DISCUSSION

One of the most well-known hair treatments is herbal hair oil. Herbal hair oil not only hydrates the scalp but also cures dry hair and scalp conditions. It encourages natural hair growth and supplies several vital nutrients needed to keep sebaceous glands functioning normally. Several plants were used to make the herbal hair oil. Therefore, the current analysis revealed that the formed herbal hair oil has optimal standards, and additional standardization and biological screening determine the formulated herbal hair oil's effectiveness. [Ref. 7, 1, 18 and]

PH: between 5 and 7, which is an appropriate range for scalp application .Moderate viscosity makes application and spreading simple. [Ref. 23]

Stability: under typical storage circumstances, neither phase separation nor rancidity was noticed. When used consistently over several weeks (according to research or observation):

- . Decreased hair loss
- . Enhanced lustre and structure of the hair
- . Aided in dandruff control
- . Encouraged the development of hair in some situation [Ref. 22,and 15]

METHODOLOGY

Choice of Ingredients: Based on their established advantages for hair development and scalp health, appropriate herbs, including amla, neem leaves, hibiscus flowers, curry leaves, and a base oil (like coconut oil), were chosen.

Gathering and Getting Ready for Raw Materials: To get rid of dust and contaminants, fresh plant materials were gathered and properly cleaned. To retain the active ingredients, the materials were shade-dried. After drying, the ingredients were mashed into a paste or coarse powder. [Ref.1, 7, and 10]

How to Make Herbal Extract: The powdered herbs were either put straight into the base oil or combined with a tiny amount of water. The active ingredients were introduced into the oil by gradually heating the combination (oil infusion technique). [Ref.1, 7]

Oil Preparation (Process of Infusion): Any carrier oil, including coconut oil, was heated to a regulated temperature of between 60 and 70 degrees Celsius. The herbal powder or paste was gradually added while being constantly stirred. The mixture was heated until the moisture evaporated, and it became rather black. [Ref.22 and 21]

CONCLUSION

Using natural elements that are good for the health of the hair and scalp, the herbal hair oil was effectively created. The prepared oil exhibited favorable physical properties, including stability without separation, a suitable color, and a nice odour. Frequent use showed control over hair loss, a decrease in dandruff, and an increase in hair texture. This study shows that herbal hair oil has few negative effects and is suitable for long-term usage, making it a safe, efficient, and affordable substitute for chemical-based solutions. [Ref. 1, 7, 18 and 20]

FUTURE WORK

Additional beneficial herbs or essential oils can be added to the recipe to make it even better. Its efficacy can be scientifically validated by extensive clinical or laboratory testing. To ascertain long-term stability, shelf-life experiments might be carried out. With the right packaging and standardization, the product may be developed on a commercial scale. Performance may be assessed by comparisons with commercial hair oils. [Ref. 5 and 16]

REFERENCE

1. Narule, O. V., Kengar, M. D., Mulik, P. P., Nadaf, S. I., Mote, B. A., & Dudhagaonkar, T. D. (2019). Formulation and Evaluation of Poly Herbal Hair Oil. *Research Journal of Topical and Cosmetic Sciences*, 10(1), 9-12.
2. Pandey, A., & Maury, S. (2022). FORMATION OF HERBAL ANTI HAIR FALL HAIR OIL.

3. Kalita, H., Mohanty, J. P., & Pokhrel, G. (2022). Formulation and Evaluation of Natural Herbal Hair Dye Gel Using Lawsonia inermis (Henna Leaves) and Skin Irritation Studies in Albino Rats. *Journal of Pharmacy and Pharmacology*, 10, 18-24.
4. Mysore, V., & Arghya, A. (2022). Hair oils: Indigenous knowledge revisited. *International Journal of Trichology*, 14(3), 84.
5. Gyawali, R., & Paudel, P. N. (2022). Herbal Remedies in Cosmeceuticals Formulation: A Review on Nepalese Perspectives. *Annapurna Journal of Health Sciences*, 2(1), 59-65.
6. Shrivastava, M. A. D. H. U. R. I. (2012). Efficacy and safety evaluation of sesa oil vs coconut oil in different hair & scalp ailments: Prospective, open label, randomized comparative study. *Asian journal of pharmaceutical and clinical research*, 5(4), 62-64.
7. Gautam, S., Dwivedi, S. U. M. E. E. T., Dubey, K. U. S. H. A. G. R. A., & Joshi, H. E. M. A. N. T. (2012). Formulation and evaluation of herbal hair oil. *International Journal of Chemical Sciences*, 10(1), 349-353.
8. Mathews, A. M., Sujith, K., Christina, A. J. M., Muralidharan A. (2012). Basic research on the Herb Tephrosia purpurea (l) pers. the translational challenges—A review. *International Journal of Chemistry and Pharmaceutical Sciences*, 1(1), 466-471.
9. Parker, L. N., Lifrak, E. T., & Odell, W. D. (1982). Lack of a gonadal or adrenal androgenic mechanism for the hypertrichosis produced by diazoxide, phenytoin and minoxidil. *Biochemical Pharmacology*, 31(10), 1948-1950.
10. Takahashi, T., Kamiya, T., & Yokoo, Y. (1998). Proanthocyanidins from grape seeds promote proliferation of mouse hair follicle cells in vitro and convert hair cycle in vivo. *Acta dermato venereologica*, 78(6).
11. Mithal, B. M., & Saha, R. N. (2000). *A Handbook of Cosmetics*. Vallabh Prakashan.
12. Kokate, C. K., Purohit, A. P., & Gokhale, S. B. (2010). *Pharmacognosy (46th Ed.)*. Nirali Prakasha
13. Trease, G. E., & Evans, W. C. (2009). *Pharmacognosy (16th Ed.)*. Saunders Elsevier.
14. Barel, A. O., PAYE, M., & Maibach, H. I. (2009). *Handbook of Cosmetic Science and Technology*. CRC Press.
15. Deshmukh, S., & Wankhade, V. (2017). Evaluation of polyherbal hair oil. *International Journal of Pharmacy and Biological Sciences*, 7(2), 45–50.
16. Kumar, N., & Reddy, S. (2018). Herbal cosmetics for hair care: A review. *World Journal of Pharmaceutical Research*, 7(7), 180–195.
17. Sharma, P. V. (2005). *Dravyaguna Vijnana*. Chaukhamba Bharati Academy.

18. Banerjee, P. S., Sharma, M., & Nema, R. K. (2009). Preparation, evaluation and hair growth stimulating activity of herbal hair oil. *J Chem Pharm Res*, 1(1), 261-7.
19. Gubitosa, J., Rizzi, V., Fini, P., & Cosma, P. (2019). Hair care cosmetics: From traditional shampoo to solid clay and herbal shampoo, a review. *Cosmetics*, 6(1), 13.
20. Ali, A., Akhtar, N., & Khan, B. A. (2015). Assessment of hair growth activity of herbal oils. *Pakistan Journal of Pharmaceutical Sciences*, 28(2), 589–592.
21. Pavan, S., Prathibha, C., PN, I. D. K., & CD, I. D. S. Formulation and Evaluation of herbal hair oil.
22. Patel, S., Sharma, V., & Chauhan, N. S. (2015). Formulation and evaluation of herbal hair oil with anti-dandruff activity. *Journal of Pharmacognosy and Phytochemistry*, 4(3), 139–142.
23. Kumar, A., & Singh, A. (2012). Review on herbal cosmetics for hair growth. *International Journal of Drug Development and Research*, 4(3), 1–7.