

## THERAPEUTIC POTENTIAL OF A POLYHERBAL HAIR SHAMPOO FORMULATION INCORPORATING SHIKAKAI, REETA, HIBISCUS, ALOE VERA AND NEEM EXTRACT

Anany Shree Saini\*<sup>1</sup>, Sacchindanand Yadav<sup>2</sup>

<sup>1</sup>UG Student, Hari College of Pharmacy, Malhipur Road, Saharanpur, U.P.

<sup>2</sup>Assistant Professor, Department of Pharmacology, Hari College of Pharmacy, Saharanpur, U. P.

Article Received: 20 March 2026 | Article Revised: 11 April 2026 | Article Accepted: 1 May 2026

**\*Corresponding Author: Anany shree Saini**

UG Student, Hari College of Pharmacy, Malhipur Road, Saharanpur, U.P.

DOI: <https://doi.org/10.5281/zenodo.20205729>

**How to cite this Article:** Anany Shree Saini, Sacchindanand Yadav (2026) THERAPEUTIC POTENTIAL OF A POLYHERBAL HAIR SHAMPOO FORMULATION INCORPORATING SHIKAKAI, REETA, HIBISCUS, ALOE VERA AND NEEM EXTRACT. World Journal of Pharmaceutical Science and Research, 5(5), 687-694.



Copyright © 2026 Anany Shree Saini | World Journal of Pharmaceutical Science and Research.

This work is licensed under creative Commons Attribution-NonCommercial 4.0 International license (CC BY-NC 4.0).

### ABSTRACT

The essential component of human attractiveness is hair. Since ancient times, people have used herbs to clean, adorn, and manage their hair. Synthetic substances have risen in popularity throughout time, but people are now more conscious of their negative effects on skin, eyes, and hair. Shampoos and hair cleansers are used for more than just cleaning; they also give hair a glossy finish and keep it manageable and greasy. There are many different kinds of shampoos, including lotion shampoo, clear liquid shampoo, powder shampoo, solid gel shampoo, medicinal shampoo. Each type caters to specific needs, whether it's for moisturizing, volumizing, or addressing scalp conditions. As consumers become more conscious of the ingredients in their hair care products, the demand for natural and organic options continues to rise, leading to an expansion of the market.

**KEYWORDS:** Herbal shampoo, Amla, Reetha, Shikakai, Cosmetic formulation, Evaluation.

### INTRODUCTION

The essential component of human attractiveness hair. Since ancient times, people have used herbs to clean, adorn, and manage their hair. Shampoos and hair cleansers are used for more than just cleaning; they also provide hair a glossy finish and keep it manageable and oily. These natural alternatives often contain ingredients like aloe vera, chamomile, and essential oils, which not only nourish the hair but also promote overall scalp health. As consumers seek to embrace more holistic approaches to beauty, the demand for herbal formulations continues to grow, reflecting a broader shift towards sustainability and wellness in personal care routines. This trend highlights the importance of choosing products that align with one's values, encouraging brands to innovate and offer eco-friendly options. Furthermore, many

consumers are increasingly interested in understanding the origins of their hair care ingredients, seeking transparency and ethical sourcing in the products they use. The primary function of shampoo is aimed at the cleansing of the hair necessitated by accumulated sebum, dust, scalp debris, etc. Various shampoo formulations are associated with hair quality, hair care habits, and specific problems such as treatment of oily hair, dandruff, and androgenic alopecia. Shampoos are liquid, creamy, or gel-like preparations. The consistency of the preparation depends on the inclusion of traditional soaps saturated with glycerides and natural or synthetic fatty alcohols or the thickening agents (e.g., gum, resin, and PEG). Indian women use herbals such as shikkakai and Retha that are natural cleansing agents without harmful effects. A shampoo is a preparation of a surfactant in a suitable form—liquid, solid, or powder—which, when used under the specific conditions, will remove surface grease, dirt, and impurities from the hair and scalp.

Additionally, some shampoos may contain conditioning agents to help maintain moisture and enhance the overall health and appearance of the hair, offering a more comprehensive approach to hair care. These conditioning agents can provide added benefits, such as reducing frizz and improving manageability, which contribute to healthier-looking hair.

By incorporating both cleansing and conditioning properties, shampoos can effectively address various hair care needs and skin debris from the hair shaft without adversely affecting the user. These formulations are designed to enhance the health and appearance of hair while providing a pleasant cleansing experience. Moreover, the choice of ingredients can significantly influence the effectiveness and gentleness of the shampoo, making it essential for consumers to select products that align with their hair type and specific needs. By understanding the unique qualities of different shampoos, individuals can better tailor their hair care routines to achieve optimal results. This not only promotes healthier hair but also boosts confidence, as well-groomed hair often contributes to an overall sense of well-being. Well-groomed hair can enhance personal style and improve the way one feels in social situations. Therefore, investing time in selecting the right shampoo is a crucial step in any effective hair care regimen. Ultimately, the right shampoo can significantly impact not just the health of your hair but also your self-esteem and social interactions. Taking the time to choose a suitable product ensures that you feel your best in any setting. Choosing the right shampoo is not merely a routine decision; it plays a vital role in enhancing personal style and fostering positive social interactions. The importance of effective hair care cannot be overstated, as it directly influences hair health and, consequently, self-esteem. When individuals feel confident in their appearance, they are more likely to engage positively with others and navigate social settings with ease. Therefore, selecting a shampoo that aligns with one's unique hair needs not only ensures optimal hair health but also cultivates an overall feeling of assurance and well-being in any circumstance. Ultimately, this seemingly simple choice has profound implications for how we present ourselves to the world and how we feel about our place within it.

### **Essential Traits of the Perfect Herbal Powdered Shampoo**

➤ Cleansing Ability ➤ Moisturizing Properties ➤ Free from harmful chemicals ➤ Non-Allergic ➤ Non toxic Type of shampoo ➤ Powder Shampoo ➤ Liquid Shampoo Citation ➤ Lotion Shampoo ➤ Cream Shampoo ➤ Jelly Shampoo ➤ Specialized Shampoo ➤ Conditioning Shampoo ➤ Anti-dandruff Shampoo ➤ Baby Shampoo ➤ Two Layer Shampoo ➤ Aerosol Shampoo

## COMPOSITION OF SHAMPOO

➤ Surfactant ➤ Antidandruff agents ➤ Conditioning agents ➤ Pearlescent agents ➤ Sequestrates ➤ Thickening agents ➤ Colors, perfumes and preservatives

## PLANT PROFILE

### AMLA

Amla is a medium-sized deciduous plant. It can grow up to eight to eighteen meters in height. It has a twisted stem and outstretched branches. The fruit has six vertical stripes or furrows and is nearly spherical, smooth, pale greenish-yellow, and hard to the touch. The fruit is not only known for its unique appearance but also for its numerous health benefits. Rich in vitamin C and antioxidants, amla is often used in traditional medicine to boost immunity and improve overall well-being.



### SHIKAKAI

Originating from the *Acacia concinna* plant, shikakai is a traditional Ayurvedic herb that is wellknown for its mild yet potent hair care qualities. Often referred to as "fruit for hair," it is high in antioxidants and vitamins A, C, and D, which support healthy hair growth, inhibit dandruff, and nourish the scalp. As a natural cleanser, shikakai leaves hair feeling silky and lustrous while protecting its natural oils. All hair types can benefit from its mild nature, which also improves hair strength and general health.



### REETHA

Reetha (*Sapindus mukorossi*) is a beautiful medium-sized deciduous tree that may grow up to 20 meters tall. It has pinnate leaves and gray, smooth bark. The tree produces big drupes and five to ten pairs of leaves. The fruit of the reetha tree contains saponin, a natural detergent, which makes it an eco-friendly alternative to chemical soaps and shampoos.



### **HIBISCUS**

The alternating, oval to lanceolate leaves frequently have a dentate (toothed or lobed) edge. The trumpet-shaped, huge, noticeable blooms have five or more petals and range in color from white to pink, red, blue, orange, peach, yellow, or purple. Their width is between 4 and 18 cm.



### **BHRINGRAJ**

Bhringraj also known as "false daisy," is a medicinal herb widely used in Ayurveda. Its scientific name is *Eclipta alba* or *Eclipta prostrata*. This plant is part of the sunflower family and thrives in moist environments like India, Thailand, and Brazil.



### **CURRY LEAVE**

Curry leaf tree, also known as *Murraya koenigii* (L.) is a tiny, pungent perennial plant that is frequently found as undergrowth in woods. Originally grown in India for its fragrant leaves and decorative qualities, it is typically used to provide a natural taste to sauces and curries



## NEEM

In Indian culture and traditional medicine, neem, often known as the "village pharmacy," is a highly prized tree because of its many applications and many health advantages.



## BENEFITS OF HERBAL POWDER SHAMPOO

- Promotes hair growth
- Suitable for all hair types
- Strengthen Scalps
- Provide nutrients

## Method of Preparation

The herbal shampoo was prepared using a simple extraction and mixing method.

1. The herbal powders of shikakai, amla, neem, and hibiscus were weighed accurately.
2. Each herb was soaked in distilled water and boiled for 30 minutes to obtain the extract.
3. The extracts were filtered using muslin cloth to remove solid particles.
4. Reetha extract was added slowly to provide foaming properties.
5. Glycerin was added as a moisturizing agent.
6. The mixture was stirred continuously until a uniform shampoo base was obtained.
7. The final formulation was stored in a clean container.

S. No.	Common Name	Biological Name	Uses in Herbal Shampoo Formulation
1	Neem	<i>Azadirachta indica</i>	Antibacterial and antifungal; helps treat dandruff, scalp infections, and itching.
2	Tulsi (Holy Basil)	<i>Ocimum tenuiflorum</i> / <i>Ocimum sanctum</i>	Promotes scalp health, reduces dandruff, and improves blood circulation to hair follicles.

3	Amla (Indian Gooseberry)	<i>Phyllanthus emblica</i>	Rich in vitamin C; strengthens hair roots, promotes hair growth, and prevents premature greying.
4	Reetha (Soapnut)	<i>Sapindus mukorossi</i>	Natural cleansing agent; produces mild foam and removes dirt and excess oil from hair.
5	Curry Leaves	<i>Murraya koenigii</i>	Nourishes hair follicles, prevents hair fall, and helps maintain natural hair color.
6	Hibiscus	<i>Hibiscus rosa-sinensis</i>	Conditions hair, promotes hair growth, and helps reduce hair fall.
7	Bhringraj	<i>Eclipta prostrata</i> (or <i>Eclipta alba</i> )	Known as “King of Hair”; promotes hair growth, prevents hair loss, and helps control dandruff.

## CONCLUSION

- The present work involved the formulation of herbal shampoo powder utilizing different kinds of plant herbs, including Amla, Shikakai, Reetha, Bhringraj, Tulasi, Neem, Hibiscus, and Curry leaves.
- Every plant material was gathered fresh from the college's medicinal garden. The gathered materials were then air dried, milled, and sieved.
- Additionally, the powders were combined to create herbal shampoo powder in accordance with the formulation table.
- The study found that using various plants to manufacture a herbal shampoo powder had positive hair effects. In other words, the hair smoothed out and covered the gray hair.

## REFERENCES

1. C. K. Kokate, A. P. Purohit, S. B. Gokhale. *Pharmacognosy*. 54th ed. Pune: Nirali Prakashan, 2019.
2. P. P. Sharma. *Cosmetics: Formulation, Manufacturing and Quality Control*. 5th ed. Delhi: Vandana Publications, 2018.
3. André O. Barel, Marc Paye, Howard I. Maibach. *Handbook of Cosmetic Science and Technology*. 3rd ed. Boca Raton: CRC Press, 2009.
4. J. B. Wilkinson, R. J. Moore. *Harry's Cosmeticology*. 7th ed. New York: Chemical Publishing Company, 1982.
5. P. K. Mukherjee. *Quality Control of Herbal Drugs*. New Delhi: Business Horizons Pharmaceutical Publishers, 2007.
6. Trease and Evans. *Trease and Evans Pharmacognosy*. 16th ed. London: Saunders Elsevier, 2009.
7. R. P. Rastogi, B. N. Mehrotra. *Compendium of Indian Medicinal Plants*. New Delhi: CSIR Publications, 2004.
8. A. S. Mainkar, C. I. Jolly. Evaluation of commercial herbal shampoos. *International Journal of Cosmetic Science*, 2001; 23(1): 59–62.
9. S. S. Shinde, P. R. Patil, A. M. Bairagi. Formulation and evaluation of herbal shampoo. *Asian Journal of Pharmaceutical Research*, 2013; 3(4): 152–156.
10. K. B. Sutar, R. R. Mane, P. A. Mohite. Development and evaluation of polyherbal shampoo. *International Journal of Pharmaceutical Sciences Review and Research*, 2015; 32(1): 38–41.
11. S. M. Kamat, P. B. Kudale. Formulation and evaluation of herbal shampoo using natural surfactants. *Journal of Pharmaceutical Research*, 2014; 8(3): 332–336.
12. A. Sharma, S. Kumar. Herbal cosmetics: Current trends and future perspectives. *International Journal of Pharmaceutical Sciences and Research*, 2011; 2(6): 1408–1412.
13. D. N. Kadam, S. B. Shinde. Herbal cosmetics: A review. *World Journal of Pharmaceutical Research*, 2014; 3(6): 421–432.

14. S. Chanda, G. A. Nair. Formulation and evaluation of herbal shampoo containing natural extracts. *Research Journal of Pharmacognosy and Phytochemistry*, 2013; 5(3): 154–158.
15. A. D. Dayan. Natural ingredients in cosmetic formulations. *International Journal of Cosmetic Science*, 2000; 22(3): 173–182.
16. World Health Organization. *WHO Guidelines on Good Agricultural and Collection Practices (GACP) for Medicinal Plants*. Geneva: WHO Press, 2003.
17. World Health Organization. *WHO Guidelines for the Assessment of Herbal Medicines*. Geneva: WHO Press, 1991.
18. Indian Pharmacopoeia Commission. *Indian Pharmacopoeia*. Ghaziabad: IPC, 2018.
19. Ministry of AYUSH. *Ayurvedic Pharmacopoeia of India*. New Delhi: Government of India, 2016.
20. Central Council for Research in Ayurvedic Sciences. *Medicinal Plants of India*. New Delhi: CCRAS, 2010.
21. Subrahmanyam CVS “Text book of physical pharmaceutics” Vallabh prakashan Second edition, 2000; 221-224.
22. Lachman L, Lieberman H.A. and Kanig J.L. “The Theory and Practice of Industrial Pharmacy”, Varghese publishing house, Bombay, third edition, 1991; 67.
23. “The Pharmacopoeia of India “, New Delhi, 1996; 947.
24. Ali Heyam Saad, Rasool bazigha Kadhim. Formulation and development of herbal shampoo from Ziziphus spina leaves extract. *International Journal of Research in Ayurveda & Pharmacy*, 2011; 2(6): 1802-1806.
25. Sachin Dubey, Neelesh Nema, Nayak S. Preparation and evaluation of herbal shampoo powder. *Ancient Science of Life*, 2004; 26(1): 38-44.
26. Sutar Manisha, Deshmukh Swati, Chavan Manisha, Singh Sonia. Preparation and evaluation of polyherbal shampoo powder. *International Journal of Pharmacy and Biological sciences*, 2013; 392: 151-159.
27. Gholamreza Dehghan Noudeh, Fariba Sharififar, Payam Khazaeli, Ehsan Mohajeri, Javad Jahanbakhsh. Formulation of herbal conditioner shampoo by using extract of fenugreek seeds and evaluation of its physicochemical parameters. *African Journal of Pharmacy and Pharmacology*, 2011; 5(22): 2420
28. Mohamed Halith S, Abirami A, Jaya prakash S, Chitra Karthikeyini, Kulathuran K, Mohamed Firthouse PU. Effect of *Ocimum sanctum* and *Azadiracta indica* on the formulation of antidandruff herbal shampoo powder.
29. Swati Deshmukh, Bindu Rani Kaushal, Shweta Ghode. Formulations and evaluation of herbal shampoo and comparative studies with herbal marketed shampoo. *International Journal of Pharma and Bio Sciences*, 2012; 3(3): 638-645.
30. Naresh Gorantla, Sai Prasad K, Thimma Reddy VT, Raga Deepika J, Hajarabi T, Hindustan Abdul Ahad. Formulation and evaluation of herbal shampoo containing chamomile, rose and orange peel. *Pharma Research Library: International Journal of Medicine and Pharmaceutical Research*, 2013; 1(2): 192-197.
31. Ashok Kumar, Rakesh Roshan Mali. Evaluation of prepared shampoo formulations and to compare formulated shampoo with marketed shampoos. *International Journal of Pharmaceutical sciences Review and Research*, 2010; 3(1): 120-127.
32. Kokate C.K., Purohit A.P. and Gokhale S.B. “Pharmacognosy”, Nirali Prakashan, Pune, Sixteenth edition, 2001; 242-253.
33. Mehta R.M, “Dispensing Pharmacy”, Vallabh Delhi, 1st edition, 2000; 108.
34. Harrison JL, Davis KD. Cold-evoked pain varies with skin type and cooling rate: a psychophysical study in humans *Pain*, 1999; 83: 123–135.
35. Maderson PF. Mammalian skin evolution: a reevaluation. *Exp Dermatol.*, 2003; 12: 233 236.

36. Randall VA, Botchkareva NV. The biology of hair growth. In: Ahluwalia GS, ed. *Cosmetic Application of Laser and Light-Based System*. Norwich, NY: William Andrew Inc., 2009: 3–35.
37. Randall VA. Is alopecia areata an autoimmune disease? *Lancet.*, 2001; 358: 1922–1924.
38. Maffei C, Fossati A, Rinaldi F, et al. Personality disorders and psychopathologic symptoms in patients with androgenetic alopecia. *Arch Dermatol.*, 1994; 130: 868–872.
39. Wolfram LJ. Human hair: a unique physicochemical composite. *J Am Acad Dermatol.*, 2003; 48: S106– S114.
40. Paus R. Principles of hair cycle control. *J Dermatol.*, 1998; 25: 793–802.