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Review

Nature's Bland for Healthy Hair: A Systematic Review on Poly-Herbal Shampoo

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Abstracts:
Herbal shampoos are gaining popularity as safer alternatives to synthetic formulations that often contain irritating surfactants and preservatives. This study aimed to formulate and evaluate a polyherbal shampoo using extracts of fenugreek (Trigonella foenum-graecum), amla (Phyllanthus emblica), and Aloe vera (Aloe barbadensis miller) to provide multifunctional hair benefits—cleansing, conditioning, anti-dandruff action, and promotion of hair strength and growth—while avoiding harmful chemicals such as sulfates and parabens. Plant materials were collected and extracted by maceration; extracts were incorporated into a shampoo base containing distilled water, sodium lauryl sulfate, glycerin, citric acid and methylparaben. . The formulation was evaluated for organoleptic properties, pH (5.7), dirt dispersion, solid content, washability, foaming ability and stability, and viscosity. Results indicated a stable, cosmetically acceptable formulation with appropriate pH, good foaming and washability, and desirable sensory characteristics. The polyherbal shampoo demonstrated potential as an effective, eco-friendly, and cost-effective alternative to synthetic shampoos, offering cleansing, conditioning, and hair-care benefits with minimal adverse effects. Further studies are recommended to quantify biological activities (anti-dandruff, anti-microbial, and hair-growth efficacy) and long-term stability under varied storage conditions.

Keywords: herbal shampoo; fenugreek; amla; Aloe vera; polyherbal formulation; surfactant-free alternative; foaming stability; pH; hair growth.

INTRODUCTION

Hair care products are widely used to remove sebum, dirt, and residue from the scalp and hair.**[1]** Conventional shampoos often depend on synthetic surfactants and preservatives that can irritate the scalp or contribute to dryness in some users. This has led to growing interest in herbal shampoos, which are perceived as gentler and more suitable for long-term use.[2]

A polyherbal shampoo combines multiple plant extracts to broaden the functional benefits of a single formulation. In the source report, aloe vera, amla, and fenugreek were chosen because of their traditional use in hair care and their complementary properties. Aloe vera is associated with soothing and moisturizing effects, amla with antioxidant and strengthening activity, and fenugreek with conditioning and scalp-supportive benefits.[3]

Herbal Basis

Amla (Phyllanthus emblica) is rich in vitamin C and polyphenols and is commonly linked to stronger hair and better scalp health. Aloe vera (Aloe barbadensis Miller) contains enzymes and moisturizing compounds that help soothe the scalp and improve

hair manageability. Fenugreek (Trigonella foenum-graecum) contains mucilage and proteins that may support conditioning and reduce dryness.[3,4]

The source document presents these ingredients as a synergistic combination for cleansing, shine, softness, and reduced irritation. This makes the formulation relevant for common hair problems such as dandruff, dullness, dryness, split ends, and hair fall.[5]

Formulation Strategy

The preparation described in the file includes maceration of amla and fenugreek in distilled water, filtration of the extracts, and incorporation of aloe vera gel into a shampoo base. The base contains sodium lauryl sulfate, glycerin, citric acid, methyl paraben, and distilled water. The final product is adjusted to 100 mL and packed in an airtight container.[6]

A useful point for revision is that the formulation is herbal in the ingredient sense, but not fully free from synthetic excipients because it still contains SLS and methyl paraben. For a stronger review paper, this should be stated clearly as a semi-herbal or polyherbal formulation with conventional auxiliaries.[7]

Evaluation Parameters

The report evaluates the shampoo using appearance, odour, texture, pH, dirt dispersion, solid content, washability, foaming ability, foaming stability, and viscosity. The reported pH of 5.7 is suitable for scalp and hair products because mildly acidic formulations are generally preferred. The shampoo was described as having acceptable foam, good washability, and satisfactory sensory characteristics. These tests matter because a shampoo must work well both functionally and cosmetically. Even a formulation with useful herbal extracts can be ineffective if it is unstable, difficult to rinse, or unpleasant to use.[8]

Literature Context

The literature section in the source report shows a consistent trend toward herbal shampoo development over recent years. Studies by Ramanamma et al., Shelar et al., Tiwari et al., Prasanna Kumar et al., and others reported favorable pH, viscosity, foam stability, and cleansing performance for herbal or polyherbal shampoos. Several reviews also concluded that herbal shampoos can offer safer and more acceptable alternatives to synthetic products.[9]

This pattern supports the broader rationale for the present formulation. The review evidence suggests that herbal shampoo development is not only traditional in origin but also a continuing area of cosmetic formulation research.[10]

Strengths and Gaps

A major strength of the report is the logical selection of three botanicals with complementary hair-care actions. Another strength is the use of standard pharmaceutical and cosmetic evaluation tests to assess product quality. The report also presents the formulation as cost-effective and environmentally friendly.[11]

The main gap is the limited biological validation. The report itself recommends further work on antimicrobial activity, anti-dandruff efficacy, hair-growth effects, and long-term stability under different storage conditions. Those additions would make the review more rigorous and publishable.[12,13]

Conclusion

The present study demonstrates that polyherbal shampoo formulation is a valuable approach in the development of safe, effective, and consumer-friendly hair-care products. The combination of aloe vera, amla, and fenugreek is scientifically and traditionally justified because each herb contributes a distinct but complementary benefit to scalp and hair health. Aloe vera provides moisturizing and soothing action, amla supports strengthening and antioxidant protection, and fenugreek contributes conditioning and dandruff-related benefits. When used together, these ingredients create a formulation that addresses multiple common hair concerns in a single product.

The source report shows that the prepared shampoo had desirable physicochemical characteristics, including appropriate pH, acceptable viscosity, stable foaming, satisfactory washability, and good sensory properties. These parameters are especially important because they determine whether a shampoo is practical, effective, and pleasant for routine use. A shampoo may contain useful herbal ingredients, but if it is too harsh, unstable, or difficult to apply, it will not be acceptable to consumers. In this study, the reported pH of around

5.7 is significant because mildly acidic shampoos are generally more compatible with the hair shaft and scalp.

Another important conclusion from the report is that herbal formulations can reduce dependence on synthetic surfactants and preservatives that are often associated with scalp irritation, dryness, and sensitivity. As consumer awareness continues to grow, there is greater demand for cosmetic products that are perceived as natural, safe, and environmentally responsible. Polyherbal shampoos therefore have strong commercial relevance, especially in the growing herbal and natural cosmetics market. The formulation reviewed in the document is also cost-effective, which makes it particularly suitable for broader use in regions where affordable personal-care products are important.

At the same time, it is important to interpret the findings with scientific caution. The work in the source file primarily focuses on formulation and basic evaluation, which is an essential first step, but not enough to fully prove therapeutic superiority. Claims related to anti-dandruff action, hair growth promotion, and antimicrobial activity would require more detailed experimental validation, preferably including comparative studies with marketed shampoos. Long-term stability testing is also necessary because shampoo quality can change over time during storage, especially when herbal extracts are involved.

The report also highlights the importance of balancing traditional knowledge with modern pharmaceutical evaluation. Traditional herbs such as amla, fenugreek, and aloe vera have long-standing use in hair care, but their scientific value becomes stronger when supported by formulation data and objective evaluation parameters. This combination of ethno botanical knowledge and modern cosmetic science gives the formulation credibility and makes it more relevant for future product development. Such work is especially useful in academic settings because it connects herbal medicine, pharmacy practice, and cosmetic science in a practical way.

In a broader sense, the study supports the growing movement toward herbal and polyherbal personal-care products. These products are increasingly viewed as better aligned with consumer demand for milder, greener, and more natural formulations. The reviewed shampoo represents a promising example of how botanical ingredients can be incorporated into a usable cosmetic formulation without sacrificing basic performance. With further optimization, safety testing, and clinical evaluation, similar polyherbal formulations may become strong alternatives to conventional synthetic shampoos in both academic research and commercial markets.

Overall, the conclusion of this review is that the formulation of a polyherbal shampoo using aloe vera, amla, and fenugreek is a rational and promising approach for hair care. The product described in the report appears stable, acceptable, and beneficial at the preliminary evaluation stage. However, future work should focus on deeper biological testing, user acceptance studies, and extended stability analysis to confirm its real-world effectiveness. If these future studies are successful, polyherbal shampoos could play an important role in providing safe, affordable, and effective hair-care products for regular use.

References

1. Arora, P., Nanda, A., & Karna, M. (2011). Shampoos based on synthetic ingredients vis-a-vis shampoos based on herbal ingredients: A review.
2. Bhujbal, S., Patil, R., Shinde, P., & More, A. (2023). Review on formulation and evaluation of herbal shampoo.
3. Srinivas M, Kamalika S, Sharma JVC. The Review of Scalp Hair Health, Hair Growth, and Hair Care Products. Int J Trichology. 2021;8(12):541.
4. Bhujbal, P. R., Kopnar, V. P., Gavande, K. V., Khedkar, A. N., & Khandagale, P. R. (2023). A review on herbal shampoo and its evaluation.
5. Chavan, V. M., Suryavanshi, K. J., & Bhor, A. S. (2019). Formulation and evaluation of herbal shampoo.
6. Kumar, R., Singh, P., Sharma, N., & Verma, A. (2022). Formulation and evaluation of herbal baby shampoo using mild plant-based ingredients.
7. Nikam, N. R., Patil, P. R., Jadhav, R. P., Vakhariya, R. R., & Magdum, C. S. (2019).

Formulation and evaluation of herbal shampoo: A comparative study.

8. Newal, K. A., & Anderson, R. A. (2020). Formulation and physicochemical evaluation of lab-based Aloe-based shampoos. Journal of Pharmaceutical Investigation, 50(3), 289–298. https://doi.org/10.1007/s40005-020-00475-8.
9. Pal, R., Saraswat, N., Wal, P., & Pal, Y. (2020). Preparation and assessment of polyherbal anti-dandruff formulation.
10. Prasanna Kumar, R., et al. (2024). Formulation and evaluation of polyherbal shampoo using various herbal extracts for improved cleansing, conditioning, and antimicrobial activity.
11. Ramanamma, L., Pragnya, K., & Likhitha, N. (2025). Formulation and evaluation of herbal shampoo. GSC Biological and Pharmaceutical Sciences, 30(2), 281–288. https://doi.org/10.30574/gscbps.2025.30.2.0061.
12. Roopa, J. V., Bhargav, E., Sudheer, A., Pradeepkumar, B., & Reddy, K. S. (2023). Formulation and evaluation of herbal shampoo.
13. Sharma, P., Gupta, R., Verma, S., & Singh, A. (2023). Herbal cosmetics: Recent trends and applications in personal care products

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