

FUTURE PROSPECTIVE ON... HERBAL SHAMPOO

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ABSTRACT

The main object of this present study is to preparation and evaluation of a herbal Shampoo and determine physiochemical function that emphasises on safety, Efficacy and quality of the product. Herbal Shampoo is the natural haircare product Which is use to remove oil, dirt, dandruff and stimulate hair growth, Strenthness and darkness of the hair. It is also supply softness, silkiness, and Shines for the hair. The herbal active ingredients and their uses in hair activity, and used in the preparation of shampoo and they are shikakai, reetha, amla, neem, aloe-vera, onion, garlic, gaur gum. The evaluation parameters of shampoos are, physical appearance, PH determination, determination of percentage solid content, foam stability test, viscosity test, dirt dispersion test, skin irritation test. We focus on the novel approaches and future prospective of herbal shampoo. The benefits of herbal cosmetic which have the minor side effects, reduce allergic reaction, no chemicals added.

KEYWORDS: Herbal shampoo, Dandruff, Cosmetic, Herbs.

1. INTRODUCTION**Herbal shampoo**

Hairs are integral part of mortal beauty people are using herbs for cleansing, beautifying, nourishing the hairs. Herbs are less precious and have negligible side effect, this reason attracted community towards the herbal product. Herbal shampoo are the ornamental medications that with the use of traditional ayurvedic herbs are meant for cleansing the hair and scalp just like the regular shampoo. They're used for removal of oils, dandruff, dirt, environmental profanations etc. Herbal shampoo is a type of ornamental medication that uses herbs from plants as an alternative to the synthetic shampoo available in the request. The

herbal shampoo is important, as people currently prefer herbal products than chemical ones for they proved to enhance health.^[1]

Herbal products have lower side effects than the pharmaceutical product. shampoo are of various types, like powder shampoo, clear liquid shampoo, lotion shampoo, solid gel shampoo, a medicated shampoo, liquid herbal shampoo etc. The shampoo is a preparation using surfactant as a main component and additional ingredients are worked. The shampoo is a preparation using surfactant as a main component and additional ingredients are worked to increase working power of herbal shampoo. Herbal shampoo have so many types are powder, liquid, lotion, cream, jelly, aerosol and specialized herbal shampoo (Conditioning, antidandruff). Herbal shampoo contain all the natural ingredients with herb extract. It helps hair to improve their quality of moisture, growth, thickening, strength of hair roots.

The Herbal Shampooing is the most common form of hair treatment. Various shampoo formulations are associated with hair quality, hair care habit and specific problems such as treatment of oily hairs, dandruff. Shampoos are liquid, creamy or gel like preparations. Indian women use herbals similar as shikakai, gooseberry and reetha that are natural cleansing agents without dangerous effects. Herbal shampoo concerned in stability criteria, depending upon the nature of constituents, they may be simple or plain shampoo, antiseptic or antidandruff shampoo. They containing vitamin, amino acid, proteins hydrolytes.^[2]

Ideal characteristics of herbal shampoo

- ✓ Shampoo should be effectively remove the dust and sebum from hair and scalp.
- ✓ Shampoo should effectively wash hair.
- ✓ Shampoo should be easily removed by cleaning with water.
- ✓ Shampoo should leave hair non-dry, glossy and good governable.
- ✓ Shampoo should not make hand rough.
- ✓ Shampoo should not have any side effect and should not inflame skin and eye.
- ✓ Shampoo must develop dense and luxurious lather.
- ✓ It should be effective in a small amount.
- ✓ Ease of groom of wet hair.
- ✓ It should not make hand rough and chapped.^[3]

Advantages of herbal shampoo

- Herbal shampoo shows Cleansing properties.

- Herbal shampoo used to treating scalp conditions.
- Used in Treatment for hair loss.
- Treatment for greasing or oily hair.
- Herbal shampoo Repairs damaged hair.
- Shampoo keeps hair silky or smooth.
- Keep dirt, dust, oil and pollutants away.
- Herbal shampoo keeps hair silky and smooth.
- There is a minimum skin and eye irritation.

Disadvantages of herbal shampoo

- Natural products affect product uniformity, Quality control,
- Seasonal variation of plant constituents.
- Less stable so, preservatives should be added.
- Vary in consistency from batch to batch
- Herbal shampoo can sometimes have a difficult to hide taste or odour.

Application of herbal shampoo

- Herbal shampoos gently clean and purify hair and scalp.
- The needs of Scalp to maintain a balance of oil and pH levels in order to have thick healthy and strong hair.
- Natural herbs present in the shampoo removes excess oil from your scalp and help to maintain the perfect oil balance.
- Herbal shampoos helps in reducing hair fall & itchy scalp.
- Herbal shampoos Helps in detox the hair of dust particles & bacteria.
- Free from harmful chemicals and parabens.
- Increase the growth of hair.

Composition of herbal shampoo

- **Antidandruff agent-** Antidandruff agents are substances that reduce the formation of dandruff flakes. They can work by being antibacterial, antifungal, or anti-mitotic. eg. Neem, Reetha, Shikakai.
- **Conditioning agent-** A conditioning agent is a substance that improves the appearance, texture, and performance of hair and skin products. eg. AloeVera, mineral oil, fenugreek.^[4]

- **Surfactants-** Surfactants is a chemical compounds that decrease the surface tension or interfacial tension between two liquids, a liquid and a gas, or a liquid and a solid.eg. Shikakai.
- **Foam builders** – Foam builders are construction materials that use foam to insulate and create structure in buildings. These materials are used in a variety of ways, including as formwork for concrete, as a substrate for tile and stone.eg.Reetha, Shikakai.
- **Viscosity modifiers-** Viscosity modifiers are additives that help control the viscosity of lubricants. Eg.Guar gum.
- **Colours, Perfumes and Preservatives-** A preservative is prevents or inhibits microbial growth and extends the shelf life of various products, including pharmaceutical drugs, cosmetic products, biological products. eg. Neem, Almond oil.

Benefits of herbal shampoo

- Promote hair growth.
- Stimulates the formation of new and healthy roots.
- Cost friendly-not much expensive.
- Certain herbal extracts can stimulate blood circulation to the scalp, promoting healthy hair growth and potentially reducing hair fall.
- Provides essential vitamins and minerals to the hair follicles through plant-based ingredients, enhancing hair strength
- Helps remove dirt, oil, and impurities from the scalp without stripping away natural oils.
- Can enhance the natural luster and shine of hair.^[5]

2. Some ingredients which are required for preparation of herbal shampoo

1) Shikakai

Biological source- Dried pods of *Acacia concinna*.

Family –Mimosaceae

Uses - Foam base, cleansing agent and anti dandruff.^[6]



Fig. 01: Shikakai.

2) Reetha

Biological source-Dried fruits of *Sapindus mukorossi*

Family-Sapindaceae

Uses -Detergent, cleansing agent and antidandruff.^[7]



Fig. 02: Reetha.

3) Amla

Biological source- Dried ripe fruits of *Embelica officinalis*.

Family- Euphorbiaceae

Uses - Darkening of hairs and hair Growth promoter.^[8]



Fig. 03: Amla.

4) Neem

Biological source-Dried leaves of *Azadirachta indica*.

Family-Meliaceae

Uses -Prevent the dryness of hairs and Flaking of hairs.^[9]



Fig. 04: Neem leaves.

5) Aloe vera

Biological Source- Aloe, *Aloe barbadensis*, *Aloe perryi*, *Aloe Ferox* is the dried fruit juice obtained from the leaves of *Aloe spicata*.

Family- Liliaceae

Uses-Calming the scalp and itching deep cleansing of oily hair have strength.^[10]



Fig. 05: Aloe Vera.

6) Onion

Biological source- Dried bulb of *Allium cepa*

Family- Amaryllidaceae

Uses- Preventing hair loss and promoting hair growth.^[11]



Fig. 06: Onion.

7) Garlic

Biological Source- ripe bulb of *Allium sativum* linn

Family- Liliaceae

Uses- nourishes hair roots, adds shine and elasticity to hair strands.^[12]



Fig. 07: Garlic.

8) Guar gum

Biological source- Powder of endosperm of the seeds of *Cyamopsis tetragolobus*

Family- Leguminosae

Uses- Good emulsifier, also use in food and cosmetic industries.^[13]



Fig. 08: Endosperm seeds.

Evaluation parameter

- 1. Physical appearance /Visual assessment-** The formulated shampoos prepared were evaluated qualitatively their clarity, odour and colour.
- 2. PH Determination-** The pH of 10% v/v formulated herbal shampoo solution in distilled water was determined by using pH analyser at room temperature.^[14]
- 3. Determination of percentage solid content -** Weight a clean dry dish and recorded the initial weight of evaporating dish. 4 gram of shampoo formulation were placed in clean, dry and weighted evaporating dish. Weighted dish and shampoo and recorded initial weight of shampoo and dish. It was then weighted again to confirm the exact weight of shampoo. Put the evaporating dish with shampoo on the hot plate until the liquid portion has evaporated. The weight and percentage of the solid content of shampoo left after complete drying was calculated.^[15]
- 4. Foam stability test-** The foam stability was determined using cylinder shake method. About 10 ml of formulated shampoo (1%) solution was taken in a graduated cylinder of 50 ml capacity and shaken for 10 times vigorously. The stability of Foam was measured by recording the volume of foam shake test after 1 min and 4 min, respectively. The total foam volume was measured after 1 min of shaking.^[16]
- 5. Viscosity test-** The viscosity of the shampoo was determined by using Ostwald viscometer.
- 6. Dirt dispersion test-** To 10 ml of distilled water two drops of cleanser were included and taken in a wide-mouthed test tube. To the formulated shampoo, added one drop of Indian ink and shaken for 10 times after closing the test tube with a stopper. The volume of ink in the froth was measured and the result was graded in terms of none, slight, medium, or heavy.^[17]
- 7. Skin irritation test-** Applied the solution of prepared shampoo on skin and kept for 5 min and observed for redness of skin and irritation there, were no any red coloration and the irritation to the skin.

Future prospective of herbal shampoo

Herbal shampoos are gaining popularity due to awareness increasing of natural and sustainable beauty practices. Inventions in extraction methods, product stability, and customization for diverse hair types are driving their market growth. Future research may focus on advanced formulations that combine herbal efficiency with modern technology, make sure safety, performance, and economical.^[18]

1. Market Growth and Consumer trends

The worldwide herbal shampoo market is projected to develop expressively in the coming years, driven by increased responsiveness of natural and organic products. Consumers are becoming more informed about the adverse effects of synthetic chemicals in conventional shampoos, such as sulfates and parabens, which has led to a shift towards herbal alternatives. Market Projections: The herbal shampoo market is expected towards grow at a compound annual growth rate (CAGR) of over 6% from 2023 to 2030, with Asia-Pacific and North America leading this growth due to rising consumer awareness and disposable incomes.^[19]

2. Innovation and R&D in Herbal Shampoos

Research and Development are critical for the advancement of herbal shampoos. Emerging trends include

Modified formulations: Companies are leveraging machinery to develop Shampoos designer to specific hair types and concerns, such as dandruff, hair fall, or scalp sensitivity. Environmental packaging: Inventions in sustainable packaging are increasing the demand of herbal shampoos. Inclusion of Uncommon Ingredients: Ingredients like neem, aloe Vera, bhringraj, and tea tree oil are being combined with modern science to improve efficacy.^[20]

3. Health and Environmental Benefits

Herbal shampoos are often free from dangerous chemicals, making them safer for long-term use. Additionally, their biodegradable nature makes them an environmentally friendly choice. These factors are predictable to attract eco-conscious consumers and contribute to market growth.

4. Challenges and Limitations

Despite their advantages, herbal shampoos face several challenges: Higher Costs: The production of herbal shampoos often involves higher costs due to the obtaining of natural ingredients, which can limit approachability.

Shelf life: Herbal shampoos usually have a smaller shelf life compared to artificial products due to the absence of strong preservatives.

Consumer skepticism: Some consumers doubt the efficacy of herbal shampoos, especially when dealing with severe hair problems like dandruff or hair loss.^[21]

5. Government and Regulatory support

Governments and regulatory bodies are increasingly promoting the use of herbal and organic products. Initiatives to certify and stabilize herbal products can increase consumer trust and facilitate market growth.^[22]

6. Future outlook

The future of herbal shampoos is promising, with potential for further growth driven by novelty, consumer demand, and environmental awareness. By addressing challenges like cost and efficacy, manufacturers can tap into a broader market and establish herbal shampoos as a ordinary choice in hair care.^[23]

CONCLUSION

Nowadays, our new generation facing lot of problems like hair fall, itching in scalp, irritation, dandruff problems. Synthetic Shampoos tends to increase more problems such as eye, skin irritation, we probably putting ourselves at the risk of cancer and other disease. So as to compare commercial shampoo, herbal shampoo is always a better option because they have minimal side effects.

The main purpose behind this formulation was to develop a stable and effective shampoo by enclusing all types of additives which are added in this formulation. By using natural herbal extracts we can decrease the side effects of shampoo. Herbal shampoo is more safe than synthetic shampoo.

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REFERENCES

1. Nanda S., Nanda A., Khar R.K., Cosmetic Technology, Published by Birla Publications Pvt. Ltd., 354-378.
2. Sharma, P. P., Cosmetics- Formulation, Manufacturing and Quality control, 3rd edition, 703.
3. Jaya Preethi p., Padmini K., et. al, A review on herbal shampoo and its evaluation, Asian Journal of Pharmaceutical Analysis, 2013; 3(4).
4. Maria Fernanda Reis Gavazzoni Dias Hair Cosmetics: year, 2015; 7: 1.
5. Mrs.K.Sravanthi N.Kavitha, K.Sowmya, S. Naazneen, U.Vaishnavi, CH.AnilSt.Pauls college of pharmacy, Turkayamjal, Rangareddy District, Telangana, 5015A Review on Formulation and Evaluation of Herbal AntiDandruff Shampoo, 2021; 6: 3.
6. Vijayalakshmi, A., Sangeetha, S., & Ranjith, N. Formulation and Evaluation of herbal shampoo. Asian JPharm Clin Res, 2018; 11(4): 121-4.
7. NidaMulla S K Bais Kaveri S Navale Formulation and Evaluation of Fermented Rice Water Herbal Shampoo For Antihairfall Activity International Journal of Pharmaceutical Research and Applications, 2023; 8, 1: ISSN (online)2249- 7781 P No710-719
8. Chanun Punyoyai, SasithornSirilun, PanuwanChantawannakul and WantidaChaiyana. Development of Antidandruff Shampoo from the Fermented Product of Ocimum sanctum Linn, 2018; 2.
9. Kirtikar, K. R. and Basu, B. D., in Medicinal Plants (eds Blatter, E., Cains, J. F., Mhaskar, K. S.), Vivek Vihar, New Delhi, 1975; 536.
10. Pundkar, A. S., & SUJATA, P. Formulation and evaluation of herbal liquid shampoo. World Journal of Pharmaceutical Research, 2020; 9(5): 901-911.
11. Abu El Ezz, NMT, Khalil FAM, Shaapan RM. Therapeutic effect of onion (*Allium cepa*) and cinnamon (*Cinnamomum zeylanicum*) oils on cryptosporidiosis in experimentally infected mice. *Global Veterinaria*, 2011; 7(2): 179–183.
12. Auer W., Eiber A., Hertkorn E., Hoehfeld E., Koehrle U., Lorenz A., Mader F., Merx W., Otto G., Schmid-Otto B. Hypertension and hyperlipidaemia: garlic helps in mild cases. *Br J Clin Pract Suppl*, 1990; 69: 3–6.

13. Natural Plant Hydrocolloids. Roy L. Whistler. "Guar Gum, Locust Bean Gum and Others" {Advances in Chemistry Seriet. Am. Chem. Soc.}, 1954; 11.
14. Badi KA, Khan SA. Formulation, evaluation and comparison of the herbal shampoo with the commercial shampoo. Beni-Suef Univ J Basic Appl Sci, 2014; 3: 301-5.
15. Gaud RS, Gupta GD. Practical Physical Pharmacy. New Delhi: C.B.S. Publisher and Distributer, 2001; 1: 81-105.
16. Klein K. Evaluation of shampoo foam. Cosmet Toilet Mag, 2004; 119: 32-5.
17. Ali HS, Kadhim RB. Formulation and evaluation of herbal shampoo from Ziziphus spina leaves extract. Int J Res Appl Pharm, 2011; 2: 1802-6.
18. Disha S. Nipurte, 2Mahendra B. Datir and 3Apeksha S. Fulsundar, 'A Review On Formulation And Evaluation Of Herbal Shampoo', World Journal of Pharmaceutical Research, 2021; 11, 3, 26: 412-418.
19. Ritik Kumar Kushwaha and Shashikant Maury, 'A Review on Anti-Dandruff Activity of Herbal Shampoo', World Journal of Pharmaceutical Research, 2022; 11, 6, 26: 304-315.
20. Ishita Kumari, Ishita Sarkar, Ishika Sanyashi, Sayak Das and Rajat Das, 'Formulation and Evaluation of herbal shampoo using neem, amla and reetha extract', Journal of Pharmacognosy and Phytochemistry, JPP, 2022; 11(4): 179-184.
21. Market Research Future. Herbal Shampoo Market Growth And trend's, 2023.
22. Statista. Organic and Natural Cosmetics Market Overview, 2023.
23. Sharma, A., et al. "Efficacy of Herbal Ingredients in Hair Care: A Comprehensive Review," Journal of Herbal Science, 2023.