



Formulation, Evaluation and Uses of Herbal Shampoo

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ABSTRACT:

Shampoo is a cosmetic product designed to clean hair by removing dirt and oil from the hair and scalp. There are a variety of synthetic shampoos on the market with different functions. Herbal shampoos are used for cleaning and conditioning the hair, smoothing the hair surface, and are expected to ensure good hair health, freedom from dandruff, dirt, grease and lice, and above all, safety. The advantages of herbal cosmetics include non-toxicity, reduced allergic reactions and time-tested benefits of many ingredients.

Keywords: Herbal Shampoo, Cosmetic, Structure of hair, aloe Vera, dandruff.

INTRODUCTION

Shampoo is probably the best cosmetic product to clean our hair and scalp in our daily life. The shampoo is a cosmetic product designed to cleanse the hair and scalp like a shampoo, using traditional Ayurvedic herbs. Shampoo is important because nowadays people prefer herbal products to pharmaceutical products because they are proven to be more effective. Shampoos are environmentally friendly because they contain biodegradable materials instead of harsh chemicals. The shampoo is safe as it contains completely natural ingredients, is a non-allergenic product and is suitable for all skin types, including sensitive and allergic skin [Virginia.S.2007].

Structure of Hair:

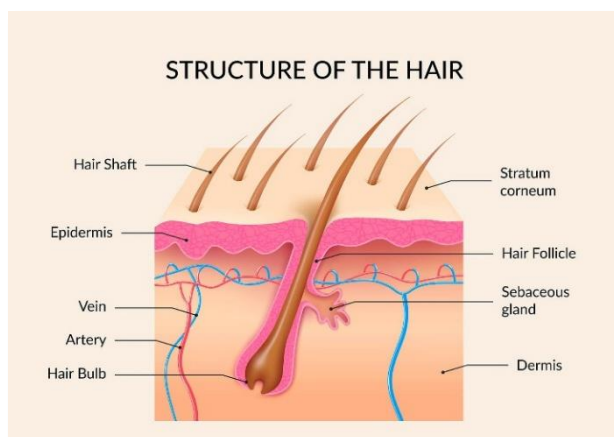


Fig. 1 Structure of hair

History:

Indian subcontinent: This is really impressive. “Even today, we keep getting requests from women to bring back the basic herbal scent!” - said Zyperian. In the Indian subcontinent, various medicinal plants and their extracts have been used as shampoos since ancient times. According to ancient Indian texts, the pulp contains saponin, a natural surfactant. Soap foam containing fruit extract known as penaka in Indian literature. Makes hair soft, shiny and easier to manage. Other products used to wash hair include shikakai (Acacia concinna), mallow, reetha (Sapindus mukorossi) and arappu (Albizia amara). Clairol launched Herbal Essence in 1971. The front label of the original Herbal Essence (now Herbal Essence) featured a caricature of a nature girl in a swimming pool. [Bam-2008]

Ideal properties of herbal shampoo:

1. Dust or dirt, excess sebum or other oily substances and loose bones on the hair should be carefully removed and completely cleaned.
2. More foam must be created to meet users' needs.
3. It should give a pleasant scent to the hair.
4. It should not cause side effects/allergies on the skin or eyes.
5. It is easily removed by rinsing with water.
6. It should keep the hair dry, soft, shiny, provide good combability and less flyaways.

Use of Ingredients:**1. Amla Extract:**

- ❖ Strengthen the scalp and hair.
- ❖ Amla reduce premature pigment loss from hair, or greying.
- ❖ Stimulate hair growth.
- ❖ Reduce hair loss.

**Fig. 2 Amla Extract****2. Soap Nut Extract:**

- ❖ They stop hair fall.
- ❖ Hair gets smoother and achieves a long-lasting shine.
- ❖ They prevent dandruff.

**Fig. 3 Soap Nut Extract****3. Shikakai Extract:**

- ❖ Manage hair fall.
- ❖ Use as a natural hair cleanser.
- ❖ Add more shining to the hair.

- ❖ Prevents Lice, Psoriasis, Eczema & Scabies.



Fig. 4 Shikakai Extract

4. Hibiscus:

- ❖ Stimulate Hair Growth & Lost hair volume & Luster over the years.
- ❖ Treat Dandruff & Itchy scalp. Conditions Hairs.
- ❖ Prevents premature greying.
- ❖ Promoting hair growth.



Fig. 5 Hibiscus

5. Bhringraj Extract:

- ❖ Makes Hair Lustrous.
- ❖ Treats baldness and help in growth of hairs.



Fig. 6 Bhringraj Extract

6. Aloe Vera:

- ❖ Strengthens.
- ❖ Calms an itchy scalp.

- ❖ Deeply Cleans Oily hairs.
- ❖ Promote hair growth.
- ❖ Smooth natural curls.
- ❖ Reduce frizziness.
- ❖ Reduce redness



Fig. 7 Aloe Vera

Material and methods:

Sr. No.	Drugs Name	Parts for	Quantity
1.	Neem powder	Leaves	09%
2.	Hibiscus flower	Flower	12%
3.	Aloe Vera	Leaves	07%
4.	Shikakai powder	Pods	22%
5.	Liquorice powder	Root	05%
6.	Amla powder	Fruit	25%
7.	Soap Nut	Nut	20%

Preparation of extract:

About 100 g of each powdered plant materials, namely Neem, Hibiscus flower, Aloe Vera, Shikakai, Liquorice, Amla, Soap nut were homogenized. The powdered material was extracted with distilled water by boiling for 4hr. The extract of each plant material was separated and evaporated.

Formulation of herbal Shampoo:

Formulation of the herbal shampoo was done as per the formula given in Table , To the gelatine solution (10%), added the herbal extract and mixed by shaking continuously at the time interval of 20 min. 1 ml of lemon juice was also added with constant stirring. To improve aroma in the Formulation, sufficient quantity of essential oil (rose oil) was added and made up the volume to 100 ml with gelatine.

Ingredients:

Sr. No.	Material required	Quantity	Medicinal Use
1.	Neem	0.5g	Antibacterial agent
2.	Soap nut extract	0.5g	Foaming agent
3.	Amla extract	0.5g	Antidandruff agent
4.	Shikakai extract	0.5g	Detergents

5.	Hibiscus	0.5g	Conditioning agent
6.	Bhringraj extract	0.5g	Hair growth
7.	Aloe Vera	0.1g	Moisturizing agent
8.	Gelatine	q.s	Gelling agent
9.	Lemon juice	q.s	Antimicrobial
10.	Rose oil	q.s	fragrance

Evaluation Of herbal Shampoo:

The preparation process was evaluated for products including sensory properties, pH, physical properties and solids content. To guarantee the properties of the product, special tests were carried out using methods for surface tension, foam volume, foam stability and wetting time.

Visual inspection – Prepared samples are examined for color, clarity, odor and foam content.

pH determination – pH measurement of herbal shampoo prepared in distilled water (10% v/v) at room temperature on a pH analyser.

Determination of Solids – The percentage of solids is determined by weighing approximately 4 g of shampoo by evaporating it in a dry, clean container. To verify these properties, specific tests were carried out according to the standard procedure [Gaud RS-2001] for surface tension, foam volume, foam stability and wet time.

Visual inspection – Prepared samples are examined for color, clarity, odor and foam content.

Determination of pH – Measuring the pH of the shampoo in distilled water (10% v/v) at room temperature with a pH analyser.

Determination of the % of the product content – Determining the % of the material used by measuring approximately 4 gr Take the shampoo into a dry bowl and clean it by evaporating. Repeat the process again to confirm the results. Place the bowl on a warm plate to allow the liquid part of the shampoo to evaporate. Once it has dried completely, calculate the percentage and weight of the product in the shampoo. [MainkarAR-2000].

Surface tension measurement – The surface tension of the shampoo prepared in distilled water (10% w/v) was evaluated using a barometer at room temperature.

Testing of wetting– Wetting time is calculated by recording the time required for the canvas to fully submerge. Cut 0.44g weight canvas paper into 1 inch diameter discs. Place the blanket sheet on the surface of the shampoo (1% v/v) and use the timer to measure the time it takes for the sheet to sink.

Foam stability test– Foam stability testing is used to determine the stability of the foam. Take approximately 50 ml (1%) of the prepared shampoo into a 250 ml measuring cylinder and shake 10 times. Foam stability was measured by recording the foam volume after 1 min and 4 min shaking testing. Measure the total foam volume after shaking for 1 minute. [klein K-2004]

Conclusion:

The aim of this study is to prepare a shampoo that can reduce hair loss, stimulate hair growth and make hair stronger. Herbal shampoo is made from aqueous solutions of medicinal herbs traditionally used to wash hair. The results obtained during the experiment clearly demonstrate the potential of an effective herbal hair shampoo with its unique scent, color, cleansing and foaming ability. Shampoo plays an important role in removing oil and dirt from the hair and scalp.

References:

1. Ishii MK. Objective and instrumental methods for evaluation of hair care product efficacy and substantiation of claims. In: Hair and hair Care. New York: Marcel Dekker, Inc; 1997. P. 261-302
2. Arora, P., Nanda, A., Karan, M. 2011. Shampoos based on synthetic ingredients vis-à-vis shampoos based on herbal ingredients: A review. Int. J. Pharma Sci. Rev. Res. 7, pp.41.
3. Sanskrit Lexicon, Monier-Williams Dictionary (1872) .
4. Spoken Sanskrit, University of Koeln, Germany.
5. Rahman, History of Indian Science, Technology and Culture at Google Books, Oxford University Press, ISBN 978-0195646528, page 145
6. Virginia Smith (2007), Clean: A History of Personal Hygiene and Purity, Oxford University Press,
7. Balsam, S.M., Gershon, S.D., Rieger, M.M., Sagarin, E., and Strianse, S.J.: Cosmetic Science and Technology, 2nd edition, Vol-2, John Wiley India, New Delhi, 2008

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8. Barel, A.O., Paye, M., and Maibach, H.I.: Handbook of Cosmetic Science and Technology, 3rd Edition, Informa Healthcare, New York.
 9. Khushwant Singh, Hymns of Guru Nanak, Orient Longman, ISBN 978-8125011613 Virginia Smith (2007), Clean: A History of Personal Hygiene and Purity, Oxford University Press,
 10. Balsam, S.M., Gershon, S.D., Rieger, M.M., Sagarin, E., and Strianse, S.J.: Cosmetic Science and Technology, 2nd edition, Vol-2, John Wiley India, New Delhi, 2008
 11. Barel, A.O., Paye, M., and Maibach, H.I.: Handbook of Cosmetic Science and Technology, 3rd Edition, Informa Healthcare, New York.
 12. 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.
 13. Gaud RS, Gupta GD. Practical Physical Pharmacy. 1st ed. New Delhi: C.B.S. Publisher and Distributer; 2001. P. 81-105.