# Formulation and Evaluation of Herbal Antidandruff Shampoo

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**Abstract - The primary object of this research is to formulate and evaluate herbal shampoo with product safety, efficasy, quality Shampoos for cosmetics are made up of different types of drugs. Hair loss, premature graying, itching , pain, nausea, are the adverse effects of these drugs. The main objective of this study is to remove hermful synthetic ingredients from the formulation and replace them with natural ingredients. Herbal shampoo is natural hair care cleanser that removes dirt, oil, dandruff and promotes hair growth and gives shine, smoothness, silkiness to the hairs.**

## INTRODUCTION

Shampoo is a hair care product typically in the viscous liquid that is used for cleansing the hairs. The goal of using the shampoo is to remove unwanted build up in between the hairs without strip out. Shampoos are the most used products for cleansing the hair and scalp. In the present scenario, it seems probable that use of herbal shampoo is better in performance and safer than synthetic one. The herbal shampoo are safer to use as they are made from natural ingredients. There are different types of hair cleansers but the most profitably used is shampoo on large extent. The herbal shampoos are more popular among the consumers as they have no side effects.

Aim and objectives of herbal shampoo

Aim : The aim of this project work is to prepare and formulate herbal shampoo based on natural ingredients with safety and efficasy

Objectives:

1. To formulate herbal S shampoo using amla, neem, shikakai, ritha and understand the importance of ingredients in day to day life.
2. To improve hair structure
3. To reduce formation of dandruff.
4. To remove dirt, oil form scalps.
5. To strengthen the hair follicles.
6. To evaluate the herbal shampoo using amla, shikakai, ritha to understand the stability of shampoo.
7. To understand the advantage of herbal shampoo over synthetic one.

Ingredients used

The herbal shampoo contain the natural ingredients with herb extract. It includes amla, reetha l, shikakai, aloe etc. in proportion. All the ingredients are obtained from nature.

| Sr. No. | Ingredients | Weight of ingredient |
|---|---|---|
| 1 | Amla | 2.55 gm |
| 2 | Reetha | 0.87 gm |
| 3 | Shikakai | 2.55 gm |
| 4 | Aloe vera | 0.5 gm |
| 5 | Distilled water | 1 ml |
| 6 | Rose oil | 0.5 ml |
| 7 | Lemon juice | 0.5 gm |
| 8 | Hibiscus | 2 gm |
| 9 | Fenugreek seeds | 0.4 gm |

Table 1. List of ingredients

Description of ingredients of herbal shampoo

| Common name | Biological name | Parts used | Category |
|---|---|---|---|
| Hibiscus | Hibiscus Rosa sinensis | Flower | Conditioning agent |
| Amla | Emblica officinalis | Fruit | Anti dandruff agent |
| Shikakai | Acacia concinaa | Powder | Detergent |
| Aloevera | Aloe barbadensis | Leaf | Coolant |

Use of ingredients:

Amla

- Nourishes hairs.
- Helps for growth of hairs.
- Controls hairloss
- Ast as conditioner that shines the hair
- It strengthen the root of hairs

Reetha

- It is cleansing agent that keeps scalp gentle.
- Controls hairfall
- Helpful to prevent from dandruff
- Help to delay the graying of hairs.

Shikakai

- Keeps hair lustrous and healthy
- It condition and strengthen the hairs.
- Reduce hair loss
- Adds volume to hairs.
- Prevent split ends.

Aloe Vera

- Helps for thickening of hairs.
- Helps to nourish the hairs.
- Acts as cooling agent.

Lemon juice

- Helps to maintain the pH of shampoo.
- Gives fragrance to formulation.
- Deeply cleanse the scalps and hair follicles.

Hibiscus

- Induce hair volume .
- Stimulates hair growth.
- Helps in hair conditioning.

Rose oil

- Improves growth of hair.
- Repairs hair damage.

- Reduce dandruff.
- Adds fragrance to formulation.

Preparation methods of herbal shampoo
Extraction
About 100g of each powdered namely Neem, Hibiscus flower, aloe vera, shikakai etc. were homogenised. The powdered material was extracted with distilled water by boiling for 4 hrs. The extract of each plant was prepared and evaporated.

Formulation
Decoction Method:

- Weighed all the ingredients according to the formula.
- Decoction of Hibiscus, Neem, Amla, Henna, aloevera gel was prepared in one part of water.
- Filter it by using muslin cloth. Collect filterate.
- Decoction of shikakai and ritha was prepared in another part of water. Filter it and collect filterate.
- Mixed to each other of above filterate with constant stirring.
- Preservatives and perfumes was added lastly.
- 1 ml of lemon juice added to the solution.
- To increase the fragrance in the formulation, rose oil was dispensed abundantly.

Evaluation of herbal shampoo
1.Physical appearance
The formulation prepared were evaluated in terms of their clarity, foam producing ability and fluidity. The Result of inspection of series of formulation are listed below.
Colour – brick red or brown
Transparancy – Transparent
Smell – Pleasant

2. Determination of pH
The pH of herbal shampoo has been shown to be important and enhancing the qualities of hair, minimizing irritation to the eyes and stabilizing the ecological balance of the scalp. The current trend to promote herbal shampoo followers. PH is one of the ways to minimize damage to the hair. Mild acidity prevents swelling and promote tightening of the scales, there by inducing shine. As seen from below table all the shampoos were acid balanced and were ranged 6.0 to 6.4.

3.Determine percent of solid contents

- A clean, dry evaporating dish was weighed and added 4gm of herbal shampoo to evaporating dish.
- The exact weight of shampoo was calculated only and put evaporating dish with shampoo was placed on hot plate until liquid portion was evaporated.
- The weight of the shampoo only solid after drying was calculated.

Percentage of solid = net wt. Of dry sample / net wt. Of test sample ×100

4. Rheological Evaluation
The viscosity of shampoo was calculated by using viscometer. The viscosity of the shampoos was measured with the temperature and sample containers size was kept constants during the study.

5. Dirt dispersion
Two drops of shampoo were added in large test tube contain 10 ml of distilled water. One drop of ink was added in test tube and shake for ten times. The amount of ink in foam was estimated as none, light, moderate or heavy.

6. Skin sensitization test
The test is performed on skin of human volunteers and checks whether it irritation on skin or not. As the formulation contain all the natural ingredients it has no side effect.

7. Stability test
Stability and acceptability of organoleptic properties (odour and colour) of formulation during the storage period of 2 months indicate that they are physically and chemically stable.

8.Net content
Before starting the experiment, outside of the bottle was marked at the surface level of liquid, and then at the end of the experiment, the volume of water required to fill it up to the mark was noted. If the formulated materials are paste or solid forms, then the materials were placed in an open can with the frozen

material taking the weight of the container and the net content was noted.

9.Wetting time

The canvas was cut into 1inch diameter discs having avg. Wt. 0.44 gm. The disc was floated on surface of shampoo solution of 1% w/v and the stopwatch started. The time required for the disc to begin to sink was measured accurately and noted as wetting time.

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