

## A REVIEW ON FORMULATION AND EVALUATION OF HERBAL SHAMPOO

<sup>1</sup>\*Disha S. Nipurte, <sup>2</sup>Mahendra B. Datir and <sup>3</sup>Apeksha S. Fulsundar

<sup>1</sup>Dr. Naikwadi College of Pharmacy, Jamgaon, Maharashtra.

<sup>2</sup>M. Pharm (P'cutics), Assistant Professor, Dr. Naikwadi College of Pharmacy, Jamgaon, Sinnar.

<sup>3</sup>Dr. Naikwadi College of Pharmacy, Jamgaon, Sinnar.

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### \*Corresponding Author

**Disha S. Nipurte**

Dr. Naikwadi College of  
Pharmacy, Jamgaon,  
Maharashtra.

### ABSTRACT

Shampoo is one of the beautifying agent. It is a cosmetic type of products using surfactant as the main compound which when used under the specified conditions will remove surface grease, dirt, dandruff problems, irritation, skin debris from the hairs without adversely affecting the users. The purpose of this study is to formulate and evaluate pure herbal shampoo because synthetic shampoo may causes the various harmful effect on hairs and scalp. The herbal shampoo was prepared by using bahera, amla, hibiscus, neem, tulsi, shikakai, brahmi, ritha, alo-vera, fenugreek evaluated for Organoleptic, powder characteristics, foam test, dirt dispersion test, surface tension

measurement. As the selected drugs being used since long time as a single drug or in combination. The benefits of herbal cosmetic which have the negligible side effects, reduce allergic reaction, no chemicals added. Thus in present work, we found good properties for the herbal shampoo and further optimization study benefits of herbal shampoo on human used as beautifying agent.

**KEYWORDS:** beautifying agent, aesthetic attributes, cosmetic, viscous solution.

### INTRODUCTION

Hairs are the integral part of human. Hair is also a crown for humans for this reason, hair require special care to keep it shiny, smooth, difficult to broken and easy to combed. People are using herbal products for managing hair, cleaning, and beautifying purpose since ancient era.<sup>[1]</sup> Shampoos are mostly used as a cosmetic product it is a hair care product that is used

for cleaning, beautifying, managing hair in our daily life. Shampoo is one of the cosmetic product that are used to cleanse dirt that is build up on the hair. Shampoos are a viscous solution detergent containing suitable additives preservative and active ingredients. Nowadays many herbal, synthetic, medicated and non- medicated shampoos are available in market. As the time has passed synthetic agent have taken a large share but today people are getting aware of there harmful effects on hair, skin and eyes. However herbal shampoo popularized due to natural origin which is safer, increases consumer demand and negligible side.<sup>[2-4]</sup>

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 and for androgenic alopecia. Shampoos are liquid, creamy or gel like preparations. Indian women use herbals such as shikakai, gooseberry and reetha that are natural cleansing agents without harmful effects.<sup>[5]</sup> Shampoos are of various types, Shampoos are of the following types<sup>[5]</sup>-:

- Powder Shampoo
- Liquid Shampoo
- Lotion Shampoo
- Cream Shampoo
- Jelly Shampoo
- Aerosol Shampoo
- Specialized Shampoo
- Conditioning Shampoo
- Anti-dandruff Shampoo
- Baby Shampoo
- Two Layer Shampoo

#### **Benefits of herbal shampoo**

- Promote hair growth.
- Stimulates the formation of new and healthy roots.
- Biodegradable and earth friendly.
- Cost friendly-not much expensive.
- More shine.



## MATERIALS AND METHODS<sup>[13]</sup>

### Ingredients used in formulation

#### 1) Shikakai

**Biological source-** Dried pods of *Acacia concinna*.

**Family** -Mimosaceae

**Uses** - Foam base, cleansing agent and anti dandruff.



#### 2) Reetha

**Biological source-** Dried fruits of *Sapindus mukorossi*.

**Family**-Sapindaceae

**Uses** -Detergent, cleansing agent and antidandruff.



### 3) Amla

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

**Family-** Euphorbiaceae

**Uses -** Darkening of hairs and hair Growth promoter.



### 4) Neem

**Biological source-** Dried leaves of *Azadirachta indica*.

**Family-** Miliaceae

**Uses -** Prevent the dryness of hairs and Flaking of hairs.



### 5) Cinnamon

**Biological source-** dried inner bark of the shoots of coppiced trees of *cinnamomum zeylanicum*.

**Family-** lauraceae

**Uses –** stimulate hair growth, maintain the hairs natural texture.



**PREPARATION OF HERBAL SHAMPOO<sup>[11,12]</sup>**

Take 1 tablespoon of powdered Shikakai, Take 1 tablespoon Powdered Reetha, Take 3/4<sup>th</sup> tablespoon of powdered Amla, Take 1/2 tablespoons of Neem powder, 1/4 tablespoon of ground cinnamon powder Fresh spring rosemary (optional). few drops of your favorite essential oil (lavender, rosemary, peppermint, etc.) And 3 cups of water. Prepare it by combining all herbs and spring rosemary in a small pot on the fire. Add 2 cups of water and bring it to simmer. Once the ingredients start to foam, keep a watch on it. Do not bring it to boil. Heat it on low flame without covering for 15 minutes. Use a washcloth or a filter to sieve out the oil. Remember, it will take a lot of time to drain. Collect this in a cup or bowl. Now, you can add your choice of essential oils. Then add water and transfer to a better container for regular usage.

**EVALUATION OF HERBAL SHAMPOO**

The prepared formulation was evaluated for product performance which includes organoleptic characters, pH, physicochemical characterization, and for solid content. To Guarantee the nature of the items, particular tests were performed for surface tension, foam volume, foam stability, and wetting time using standard protocol.

**Visual assessment<sup>[6]</sup>**

The formulated shampoos were evaluated qualitatively for their clarity, Odour and color.

**pH determination<sup>[7]</sup>**

The pH of 10% v/v formulated herbal shampoo solution in distilled water Was determined by using pH analyzer at room temperature.

**Determination of Solid Content<sup>[7]</sup>**

Weight a clean dry evaporating dish and recorded the initial weight of evaporating dish. 4 gram of shampoo Formulation (not the 1% Solution) Were placed in clean, dry and weighed evaporating dish. Weighed dish and shampoo and recorded initial weight of shampoo and dish. It was then weighed again to confirm the exact weight of the 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.

**Surface tension measurement<sup>[8]</sup>**

The surface tension of 10% w/v shampoo in distilled water was measured using stalagmometer at room temperature. The surface tension of water at same condition was also measured Which used as a control.

**Wetting time test<sup>[9]</sup>**

To test the efficacy of the shampoo, wetting ability of a surfactant needs to be calculated which depends on the concentration of surfactant. A canvas paper was cut into 1-inch diameter discs having an average weight of 0.44 g. The smooth surface of disc was placed on the surface of 1% v/v shampoo solution and the stopwatch started. The time required for the disc to begin to sink was noted down as the wetting time.

**Foam ability and foam stability<sup>[9]</sup>**

Cylinder shake method was used to test for the foam ability. 50 mL of the 1% formulated shampoo solution was placed into a 250 mL graduated cylinder, it was covered with one hand and shaken 10 times. The total volume of the foam content after 1 min of shaking was recorded. Foam stability was valued by recording the foam volume after 1 min and 4 min of shake test.

**Dirt dispersion test<sup>[10]</sup>**

Two drops of formulated shampoo were added in a test tube contain 10 ml of distilled water test tube. to this solution, one drop of India ink was added and the test tube was stoppered and shaken ten times. The amount of ink in the foam was indicated by the rubric such as none, light, moderate or heavy.

**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.

**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 negligible side effects.

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