



# HERBAL POWDER SHAMPOO: A REVIEW

Sumit Kumar\*, Vishal Salaria, Sujata Thakur, Ashima Chandel, Dr. Rajesh Gupta

Sri Sai College of Pharmacy, Badhani, Pathankot(Punjab)

## ABSTRACT

People are becoming more and more dependent on herbal or ayurvedic remedies every day, not just for chronic conditions but also for a variety of urgent issues. Polyherbal shampoo has been proven as a promising formulation for cosmetic use. Dandruff cannot be completely eliminated; it can only be successfully managed and controlled. Herbal powder shampoo is an alternative for the detergents of synthetic origin that can deteriorate the hair follicles. Polyherbal shampoo has been manufactured using most effective herbs in order to ameliorate the antidandruff effect. However, more research and development were needed to enhance its quality, product performance, and safety.

**KEYWORDS:** Ayurvedic remedies, Polyherbal shampoo, Deteriorate, Product performance, Safety.

## INTRODUCTION

The essential component of human attractiveness is hair. Throughout the beginning of time, people have used herbs for cleansing, beautifying, and controlling hair. Although it has been sculpted and even dyed from the beginning of time, cleaning it has received comparatively little attention.<sup>1,2</sup> There are many different types of shampoos, including powder, clear liquid, lotion, and solid gel shampoo, medicinal shampoo, liquid herbal shampoo etc. Simple or basic shampoo, antibacterial or antidandruff shampoo, and nutritious shampoo including vitamin, aminoacids, and protein hydrolysate are all possible variations depending on the nature of the components.<sup>3</sup> No matter the type of water used, how much dirt or fat is in the hair, or how much shampoo is used, a good shampoo will quickly create enough foam needs to be eliminated from the hair. Even if the cleaning action is not released to the foam production, consumers psychologically always like a high foam product. Certain effective shampoos have been shown to have undesirable side effects, such as drying out the hair. Hair becomes too dry to manage or comb with. Because some shampoos irritate the eye and leave a persistent corneal fog, adequate conditioning of the hair is also a crucial factor.<sup>4</sup> Fungistatic components in anti-dandruff shampoos are recognised to control dandruff. The demand for herbal formulations is rising on the global market.<sup>5</sup> The market accepts natural therapies more due to their safety and lack of adverse effects. They include anti-dandruff shampoos and nutritional shampoos that include vitamins, amino acids, and hydrolyzed proteins.<sup>6</sup> The synthetic shampoo has a mixture of cationic, anionic, and non-anionic surfactants with good foaming properties, however it is hazardous and irritates the eyes. Methi, Amla, Hibiscus, Neem, Shikakai, Henna, and Ritha fruit powder were used. The choice of active ingredients for hair care powder is frequently made based on the ingredient's capacity to protect skin from harm while also enhancing skin quality through washing, nourishing, and safeguarding the skin. Each component in the composition of herbal shampoo has a particular function. The formulation at

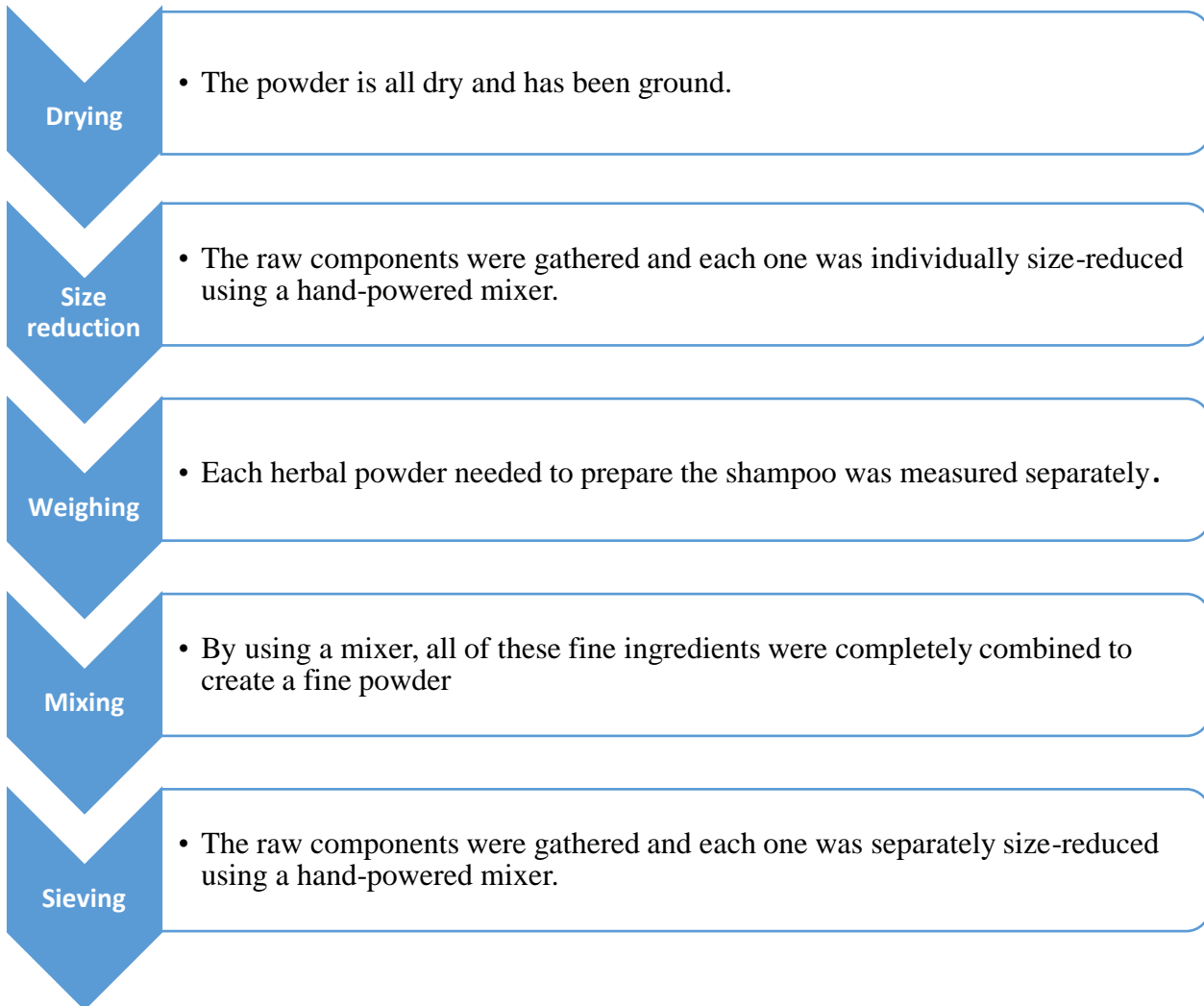
laboratory scale was done and evaluated for number of parameters such as pH, foam formation, viscosity, conditioning and wet ability were evaluated, and also to ensure its safety and efficacy. We discussed the creation and assessment of herbal hair care powder in the article.

### PRESENT STATUS:

People frequently gripe that different shampoo brands have contributed to various conditions like irritated scalps and hair loss.<sup>7</sup> The market for natural cleanser in India has grown over time. The Indian Herbal Shampoo Market had a current year valuation of USD 318.1 million and is anticipated to grow at a CAGR of 10.19% over the next forecast period.

### INDIAN EXTRACTS FOR HERBAL SHAMPOO:

S.No.	Ingredients	Biological source/Family	Uses
1	Hibiscus flower	It is contain fresh flowers & leaves of Hibiscus rosa-sinensis(Malvaceae)	Hair regrowth, high blood pressure, high cholesterol.
2	Amla	Dried ripe fruits of Embelica officinalis (Euphorbiaceae)	Hair growth promoter
3	Neem	Dried leaves of Azadirachta indica (Miliaceae)	Antiseptic, antibacterial
4	Henna	Dried leaves of Lawsonia inermis (Lythraceae)	Conditioner
5	Brahmi	Dried leaves of Centlla asiatica (Umbelliferae)	Support Health of Hair
6	Reetha	Dried fruits of Sapindus mukorossi (Sapindaceae)	Foaming agent.
7	Methi powder or Fennu greek	Dried seeds of Trigonella foenum-graecum(Leguminosae)	Conditioning and nourishment of hair.
8	Bhringraj	It is obtained from Entire herb Ecilipta-alba(Asteraceae)	Increasing haemoglobin level, Reduces kapha.
9	Jathamansi	It consist of dried rhizomes of Nardostachys jathmansi (Valerianaceae).	Sedative, diuretic, anti-spasmodic.
10	Shikakai	Dried pods of Acacia concinna (Mimosaceae).	Foam base and anti-dandruff, to improve hair and skin and it clears dandruff and the dirt accrued on the scalp.

**PROCEDURE:**

**Fig: - Herbal powder shampoo.<sup>14</sup>**

**Evaluation Parameters for herbal shampoo powder**

The following assessment criteria were applied to the shampoo formulas that had been created.

1. **Organoleptic evaluation:** - It was done to evaluate organoleptic factors such as color, flavor, and texture. Color and texture were assessed using touch and perception, respectively. Five taste and odour sensitive

people were assembled into a squad for the taste and odour evaluation, and random sampling was carried out.

2. **General powder characteristic:**- Evaluation of the variables that will have an impact on the preparation's external properties, such as flow properties, appearance, packing requirements, etc., is included in general powder characteristics. Particle size, angle of repose, bulk density, and tapped density are among the characteristics assessed under this segment. For the assessment, samples of all three shampoo powders were taken from the top, middle, and lower levels.
3. **Particle size:** - Particle size was found by sieving technique using I.P. Standard sieves by mechanical shaking for 10 Min. Particle size is a parameter that could influence various properties like spreadability, grittiness, etc.<sup>8</sup>
4. **Angle of repose:** - It is described as the greatest angle that can be formed between the particle pile's surface and the horizontal flow.

### Funnel method

An appropriate quantity of dried powder is poured into a funnel that is 6 centimetres above a horizontal base. On the horizontal plane, a heap of powder formed over the paper as it was permitted to flow. The powder's height and radius were observed and recorded. Using the method, one can determine the angle of repose.

5. **Bulk density:** - The relationship between a powder's mass and bulk capacity is known as bulk density. The necessary quantity of powder is dried and poured into a 50 ml measuring cylinder until it reaches the 50 ml line. The cylinder is then lowered from a height of 1 inch at 2-second intervals onto a hard wood surface. The powder's amount is calculated. Powder is then weighed. Repeating this will yield average numbers. The formula listed below is used to determine bulk density.<sup>9</sup>
6. **Tapped density:** - The powder sample was contained in a container that was mechanically tapped to raise the bulk density, which is known as the tapped density. Following the initial measurement of the powder's volume or mass, the measuring cylinder or vessel is mechanically tapped for one minute while readings are made every few seconds until little more volume or mass change is apparent. The measurement was given in grams per cubic centimetre.
7. **Compressibility / Carr's Index:**- This is calculated using the formula;

Bulk density (Tapped) – Bulk density (Untapped).<sup>10-12</sup>

$$\text{Carr's index}(\%) = \frac{\text{bulk density} - \text{tapped density}}{\text{tapped density}} \times 100$$

### Physicochemical evaluation

1. **pH:**- Both the pharmaceutical factor and the impact of shampoo on hair are impacted by pH. We took 1g of shampoo powder and mixed it with 9ml of purified water. A pH meter set to 37°C was used to determine the pH of the final solution.

2. **Washability:** - After applying formulas to the epidermis, physical inspection of the convenience and depth of water washing was performed.
3. **Solubility:** - The capacity of a substance to dissolve in a solvent is known as solubility. Accurately weighing one gram of the powder, it is then poured into a beaker with 100 millilitre of water. Warmth was applied to this after a thorough shaking to improve solubility. The residue obtained is weighed and recorded after it has been cooled and filtered.
4. **Skin irritation test:** - Because there are no synthetic surfactants in this formulation of herbal shampoo powder—the majority of synthetic surfactants causes corneal irritation and inflammation of the eyelids—the skin irritation tests on animals have shown that it has no adverse effects on skin. Since all of the ingredients in this formulation of herbal shampoo powder are naturally sourced, it has no adverse effects on animal skin.
5. **Nature of hair after washes:** - By gathering voluntary answers, it is possible to determine the nature of the hair after a wash.
6. **Foaming ability:** - A slightly modified version of the cylinder jiggle technique was used to gauge foaming capacity. A 100 ml measuring container was filled with 50 ml of the 1% shampoo solution, which was then covered with a palm. For one minute, the measuring container was rattled. After stirring for a minute, the entire amount of the foam components was measured. The process was carried out for five minutes.<sup>13</sup>

## CONCLUSION

The medicinal plants used to make herbal shampoo were discovered to be a wealthy supply of cutting-edge medications. These plants are Brahmi, Bhringraj, Shikakai, Feenugreek, Heena, Jathamansi, Neem, Hibiscus Flower, and Reetha has been reported for hair growth and conditioning. The different quality control metrics were examined. Every measure yields a positive outcome. The outcome of the current research demonstrates that adding these medications active components to shampoo results in more stable products with excellent aesthetic appeal. It has been demonstrated that the pH of the shampoo is significant for enhancing and enhancing the qualities of hair, reducing eye irritation, and maintaining the ecological equilibrium of the skin. The promotion of shampoos with a reduced pH level is a current development that helps to minimize hair damage. In order to create solid results for the utilization and positive outcomes of the product, such results are approximated from a formulation. Wetting agent, cleaning action, overall particle features, and organoleptic evaluation are among the evaluation factors. After washing, the hair was examined to determine its makeup, which was within the anticipated range.

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