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### A Review on Exploring the Power of Herbal Ingredients in Smoothing Shampoos

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#### Abstract

The popularity of herbal shampoos has surged, driven by a shift towards natural and holistic wellness. This paper examines the creation of an herbal smoothing shampoo that utilizes traditional Ayurvedic ingredients known for their hair care benefits, such as Reetha (Soapnut) tree, Amla (Indian Gooseberry), Henna leaves, Shikakai, Hibiscus,

Aloe Vera, and Coconut oil. Each ingredient is selected for its unique properties, working synergistically to rejuvenate dull hair, making it smooth, shiny, and strong. The following paragraphs provide an in-depth exploration of each ingredient's role and benefits, highlighting their contributions to the shampoo's overall effectiveness.

**Keywords:** Ingredients, Ayurveda, India

#### 1. Introduction

Humans have been using natural compounds with preventive, protective, and curative Properties to take care of their skin, hair, and general health since the beginning of time. Nature offers a variety of natural ingredients that may be used to enhance the beauty of skin and hair, making it a store house of cosmetics <sup>[1]</sup>.

One of the visible indicators of interior bodily disorders is hair. The most popular hair treatment is shampooing. Shampoo's main purpose is to cleanse the hair, which is necessary because of accumulated sebum, dust, and other waste from the scalp. Different shampoo formulas are linked to specific issues including treating greasy hair, dandruff, and androgenic alopecia, as well as hair quality and hair care habits. Shampoos can be gel-like, creamy, or liquid. The constancy Herbal shampoos are more popular among consumers than synthetic ones since natural sources are still more appealing these days <sup>[1, 2]</sup>.

When applied under certain conditions, a shampoo—a preparation containing a surfactant in a suitable form—whether liquid, solid, or powder—will remove skin debris, surface grease, and grime from the hair shaft without negatively impact.

#### Ideal shampoo characteristics

1. Dust and excessive sebum should be removed thoroughly and effectively.
2. Hair should be washed efficiently.
3. Caught to generate a substantial quantity of foam.
4. Rinsing with water should be an easy way to get rid of the shampoo.
5. It should leave the hair manageable, silky, shiny, and non –dry.
6. It ought to give the hair a pleasing scent.
7. Avoid making the hand harsh.

#### Composition of shampoo






- ❖ Principal surfactant
- ❖ Secondary surfactant
- ❖ Antidandruff agents
- ❖ Conditioning agents
- ❖ Pearlescent agents

- ❖ Sequestrants
- ❖ Thickening agents
- ❖ Colours, perfumes and preservatives.

### Shampoo Types

1. Shampoo in liquid form
2. Shampoo with solid cream
3. Jelly shampoo
4. Powder shampoo
5. Shampoo and lotion.

**Table 1:** Types of Shampoo

	<i>Shampoo in liquid form</i>
	<i>Shampoo with solid cream</i>
	<i>Jelly shampoo</i>
	<i>Powder shampoo</i>
	<i>Shampoo and lotion</i>

### Shampoo in liquid form

The most often used type of hair cleaner nowadays is liquid shampoo, which offers a wide variety of choices to meet different hair care requirements. Regular shampoos for daily use, clarifying shampoos that thoroughly clean and get rid of product buildup, and moisturizing shampoos that hydrate and nurture dry, brittle hair are all included in this category. Shampoos that are color-safe preserve the vibrancy of colored hair, while volumizing shampoos give fine or limp hair volume and lift. Sulfate-free shampoos provide a softer cleaning, perfect for sensitive scalps, while anti-dandruff shampoos use active ingredients to treat and prevent dandruff. Medicated shampoos are designed to treat particular scalp diseases, whereas herbal shampoos are enhanced with natural components to nourish both hair and scalp<sup>[3, 4]</sup>.

### Shampoo with solid cream

Shampoos with solid cream formulations offer a luxurious and concentrated alternative to traditional liquid shampoos. These products often come in a solid bar or a thick, creamy consistency that can be applied directly to wet hair. The solid cream form is typically enriched with nourishing ingredients like shea butter, coconut oil, and various plant extracts, providing intense hydration and conditioning benefits. Users appreciate the solid cream shampoo for its convenience, travel-friendly packaging, and minimal use of plastic, making it an eco-friendly choice. These shampoos are also highly concentrated, meaning a little goes a long way, effectively cleansing and moisturizing the hair without stripping it of its natural oils. This type of shampoo is ideal for those looking to deeply nourish their hair while also caring for the environment<sup>[1, 3]</sup>.

### Jelly Shampoo

An interesting and entertaining substitute for conventional liquid and solid shampoos is jelly shampoos. These shampoos have a gelatinous substance that makes washing hair seem opulent and enjoyable. They are very appealing to

both adults and children since they frequently have vivid colors and pleasant fragrances. The nutritious components found in jelly shampoos, such as vitamins, plant extracts, and essential oils, aid in cleansing, moisturizing, and reviving the hair and scalp. They are simple to use and disperse evenly throughout the hair because to their jelly-like texture, which produces a thick lather that efficiently gets rid of buildup and impurities. Furthermore, a lot of jelly shampoos are made to be sulfate-free and eco-friendly, appealing to people looking for sustainable and natural hair care products<sup>[5, 7]</sup>.

### Powder Shampoo

An eco-friendly and practical substitute for conventional liquid shampoos are powder shampoos. These shampoos are available as fine, dry powders that are simple to activate with water to produce foam that is cleaning. Due to their lightweight nature and lack of spill risk, powder shampoos are particularly convenient for travel. Additionally, they usually have minimum packaging and are composed of sustainable materials, which appeals to customers who care about the environment<sup>[6]</sup>. Natural elements like rice starch, clay, and essential oils are used in the formulation of powder shampoos, which effectively cleanse without the use of harsh chemicals. They provide a mild yet thorough cleaning, making them perfect for people with a variety of hair types and issues, including sensitive skin and oily scalps<sup>[7, 8]</sup>.

### Shampoo and lotion

Powder shampoos are a convenient and environmentally beneficial alternative to traditional liquid washes. These shampoos come in the form of fine, dry powders that are easy to activate with water to create cleaning foam. Powder shampoos are very handy for travel because they are lightweight and don't spill. Customers who are concerned about the environment will also find them appealing because they often have less packaging and are made of sustainable materials. Powder shampoos, which effectively cleanse without the use of harsh chemicals, are made with natural ingredients like rice starch, clay, and essential oils. They are ideal for persons with a range of hair types and problems, such as oily scalps and sensitive skin, because they offer a gentle yet thorough cleansing<sup>[9, 10]</sup>.

Aerosol shampoo with foam Foasty aerosol shampoo are a creative and practical way to clean hair. The aerosol cans in which these shampoos are manufactured enable the substance to be distribution as a foam. The foam is perfect for a quick and mess-free hair wash because it is lightweight and simple to apply. Aerosol foam shampoos' capacity to effectively cleanse without the use of water is one of its key advantages, which makes them ideal for travel, on-the-go use, and circumstances when access to water is restricted<sup>[9, 12]</sup>.

### Herbal shampoo's ideal qualities

1. It should efficiently and thoroughly cleanse the hair of loose corneal cells, excess sebum or other fatty materials, and dust or dirt.
2. It should generate a sufficient amount of foam to meet the user's psychological needs.
3. Rinsing with water should make it easy to remove.
4. It should leave the hair smooth, shiny, none dry, manageable, and with little flyaway.
5. It should give the hair a pleasing scent.

6. It shouldn't irritate the skin or eyes or create any negative.
7. It shouldn't cause the hand to become rough and dry <sup>[10, 11]</sup>.

### The advantage of using herbal shampoo

- It gives hair a glossy appearance and reduces hair loss.
- Gives hair a natural color that lasts.
- It must be chemical-free and include only natural ingredients.
- It won't cause skin or irritation.

## 2. The ingredients needed to make to herbal shampoo

**2.1 Fruit of the Reetha tree:** Scientifically named as *Sapindus mukorossi*, this huge deciduous tree belongs to the Sapindaceae family. Common names for it include aritha, dodan, dodani, soapberry, soapnut, and washnut <sup>[13]</sup>.



Fig 1: Reetha

Reetha's characteristics include the potential for antifungal, antibacterial, and anti-protozoal effects. Reetha's Possible Applications for Hairs

- A common component of many ayurvedic shampoos and cleansers is reetha.
- Shampoos can employ the powdered dried fruit as a foaming agent. Because it creates a natural lather, it can be used as a hair cleanser and tonic in addition to cleansing the greasy secretions in the skin <sup>[14]</sup>.
- It can also be used on hairs to get rid of lice. But it's best to speak with your doctor beforehand and only use them if advised <sup>[15]</sup>.

**2.2 Amla:** *Phyllanthua Emblica*, sometimes referred to as Indian gooseberry, myrobalan, emblic, or Malacca tree.



Fig 2: Amla

### Gooseberry's advantages for hair

Natural hair straighteners are beneficial because they make hair appear silky and smooth. In India, they have been used for generations as an herbal remedy to stop dry hair and dandruff.

In addition to acting as a natural hair conditioner, it can stop premature graying <sup>[13, 16]</sup>.

**2.3 Heena leaves:** *Lawsonia inermis* commonly referred to as the mignonette tree, Egyptian privet, or heena tree, is used to make heena, a dye. Heena can also be used to describe the transient body art created when colors discolor skin <sup>[14, 16]</sup>.



Fig 3: Heena leaves

### The characteristics of powdered heena leaf

Heena has the ability to cover gray hairs, has antifungal and antibacterial qualities that can kill hair lice and other infection-causing bacteria on the scalp, reduces dandruff, and revitalizes hairs from the ground up.

- Works as a natural hair conditioner;
- Reduces itching and infections of the scalp;
- Hydrates hair and aids in hair development <sup>[15, 17]</sup>.

**2.4 Shikakkai:** The shrub-like Shikakkai tree, also called *Acacia concinna*, is indigenous to central India.



Fig 4: Shikakkai

Shikakkai's properties include:

- Potential anti-dandruff effects;
- Potential to aid in wound healing;
- Potential to prevent hair loss;
- Potential to be anti-inflammatory;
- Potential to be antibacterial and antifungal
- Good antioxidant; • Help with hair loss <sup>[18]</sup>.



## 2.5 Leaves of Hibiscus

1. Rid dandruff and an itchy scalp;
2. Prevent premature greying;
3. Condition hairs;
4. Promote hair development and restore lost hair volume and luster over time<sup>[17, 19]</sup>.



Fig 5: Hibiscus

## Aloe Vera



Fig 6: Alovera

### Properties of aloe vera

1. Aloe vera promotes healthy growth and shine by nourishing, calming, and hydrating the hair and scalp.
2. Proteolytic enzymes included in aloe vera help to heal dead skin cells on the scalp<sup>[18, 20]</sup>.
3. Soothe an itchy scalp,
4. Deep clean oily hairs, strengthen them,
5. Encourage hair development,
6. Smooth out natural curls,
7. Lessen frizz,
8. Detangle hairs.

## 2.6 Coconut Oil



Fig 7: Coconut Oil

**Strengthening:** Lessens split ends and breakage by strengthening hair strands.

**Conditioning:** Leaves hair feeling silky, silky, and lustrous by acting as a natural conditioner.

**Repairing:** Prevents protein loss and penetrates the hair shaft to repair damaged hair.

### Future Prosoects

Ancient societies such as Egypt, South America, China, and India still use a range of plant-based remedies to cure various ailments. 60% of people use herbal medicine globally, according to estimates from the World Medical Association (WHO), and 80% of people in developing countries depend almost exclusively on it to meet their basic medical needs. Because of phytochemicals and their chemical analogs, many clinically effective drugs have been developed to treat acute and chronic diseases<sup>[21, 22]</sup>. Additionally, research into new therapeutic chemicals from medicinal plants is always ongoing. The herbal industry shares around \$100 billion worldwide, and it has plenty of space to grow. As stated by the WHO, the trade in medicinal plants, herb origins, and herbal medicines is growing at a rate of over 15% annually<sup>[20, 23]</sup>. The growing acceptability and popularity of herbal medicine is being driven by the belief that natural substances are safe, reasonably priced, and widely available. However, there are also some problems with the pharmacognosy and standardization of herbal medicine when compared to conventional drugs. Both developed and developing countries have stepped up their research efforts over the past 20 years to verify and evaluate herbal medicines scientifically through clinical studies. We thus attempted to conduct a comprehensive analysis of the current status of the use of herbal medicines in the treatment of various illnesses and associated pharmacological issues, given their more optimistic future.

### Advantages of Herbal Shampoo

**Nourishment:** They provide the hair and scalp with natural vitamins, minerals, and extracts.

**Decreased Chemical Exposure:** They are kinder to the hair and scalp because they don't include harsh chemicals like parabens and sulfates.

**Better Hair Texture:** Aloe vera, coconut oil, and hibiscus are among the ingredients that assist to soften and smooth hair while minimizing frizz.

**Scalp Health:** Herbs with antibacterial and antifungal qualities, such as neem and tea tree oil, can help with dandruff and other scalp problems<sup>[24]</sup>.

**Hair Growth:** Components like bhringraj and amla strengthen hair follicles and encourage hair growth.

**Eco-Friendly:** They frequently use sustainable packaging and biodegradable ingredients, making them more environmentally friendly.

**Natural Fragrance:** Rather of using artificial perfumes, they usually have a delicate, natural scent from the herbs and essential oils employed<sup>[25]</sup>.

## 3. Conclusion

The goal of the current study was to create a herbal shampoo that strengthens hair development, decreases hair loss while combing, and is safer than chemical conditioning agents. The aqueous extract of medicinal plants, which are frequently used for hair washing in ancient practices, was used to produce herbal shampoo. Protein or hair loss is

decreased by the use of synthetic conditioning treatments. Shikakai, amla, and other plant extracts are used in this study in place of synthetic ones in order to produce efficient conditioning effects. Conditioners that are cationic. This study's primary goal was to create a shampoo that is both stable and functionally useful while avoiding all synthetic ingredients that are typically used to these kinds of formulations. Numerous experiments were conducted to determine whether the manufactured shampoo performed well as a product.

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#### 5. Conflict of Interest

The authors declare that no conflict of interest of any financial or other issues.

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