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# A REVIEW ON:HERBAL SHAMPOO

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**ABSTRACT:**

A primary goal of this study is to manufacture and assess an herbal shampoo and identify its physiochemical function, with an emphasis on the product's safety, efficacy, and quality. Herbal shampoo is a natural product. The most popular hair treatment is shampoo. Shampoo is essentially a product used to remove dirt, dandruff, and otherimpurities from the hair. It also works to strengthen, darken, and encourage hair growth.

Shampoo is a liquid, cream, or cream-based soap or detergent mixture used to wash hair. One cosmetic item that people use on a regular basis to care for and enhance their hair is shampoo. The majority of shampoo's ingredients are chemical, and as a result, they have come under intense criticism for the possibility that using them could have negative side effects like hair loss, increased scaling and itching, discomfort, nausea, and headaches.

Hibiscus rosa-sinensis (hibiscus), Embolic officinalis (amla), Acacia concinna (shikakai), Sapindus indica (soapnut), Cassia auriculata (cassia), Eclipta prostrata (bhringraj), and Aloe barbadensis are the herbal extracts employed in thecomposition (Aloe vera). It gives the hair softness, smoothness, and lustre.

Consequently, an effort is made to create herbal shampoo that has no negative effects.

**KEYWORDS:** Herbal Shampoo, Natural and Healthy, Eclipta Prostrata,Sapindus Indica, Evaluation of Shampoo .

## INTRODUCTION: [1-9]

## DEFINATION:

Definition: A shampoo is a preparation of a surfactant (i.e., surface active material) in an appropriate form, whether liquid, solid, or powder, that, when used under the required circumstances, will remove surface grease, dirt, and skin debris from the hair shaft and scalp without negatively affecting the user.

Simply put, shampoo is a hair care product used to clean both the hair and the scalp. The word "shampoo" is an English translation of the Hindustani word "CHAMPOO." Shampoo is a hair care treatment that removes dandruff, oil, dust, pore and skin debris, pollution, and other contaminants from the hair. Increasing amounts of particles in the hair. Shampoo is used to remove the unwanted hair growth between the hair without stripping the hair. Hair cleaning has always been a challenging process, particularly for women. A woman has hair covering 4 to 8 square metres. Because Indian women have a tradition of wearing their hair long, they will probably be for them.

soaps that were formerly applied to the skin and the scalp are no longer recommended for cleaning since they have poor lathering capabilities and leave behind "soap scum" when combined with hard water, which is difficult to remove. In the 1930s, modern shampoo as we know it today was first introduced. The first synthetic shampoo, which initially functioned as a carpet cleaner and laundry detergent but eventually

developed into a hair shampoo, employed a synthetic surfactant in place of soap.

Herbal shampoo is a cosmetic product that cleans the hair and scalp using traditional Ayurvedic herbs. It usually comes in the form of a viscous liquid for application on the hair. The ingredients used to make herbal shampoo come in a wide variety. Each component in the formulation of herbal shampoo has a distinct function.

Different shampoo formulations are related to hair type, hair care practises, and specific issues including treating oily hair, dandruff, and androgenic alopecia. Shampoo preparations come in liquid, creamy, or gel forms. The

addition of traditional soap that has been glyceride and natural or synthetic fatty alcohol, or thickening additives, affects the preparation's consistency (e.g., Gum, resin and PEG). Indian ladies employ natural cleaning agents like shikakai and reetha, which have no negative side effects.

The choice of an active ingredient for hair care powders is based on the ingredient's capacity to shield skin from harm and enhance skin quality by nourishing, rinsing, and protecting the skin. In terms of stability criterion for herbal shampoo. The main ingredients used to make shampoo are detergents (surfactants), conditioners, and ingredients that promote hair growth. Additionally, additives that change the effect of surfactants (such as viscosity control agents, foam stabilisers, and viscosity modifiers), preserve products (preservatives), and improve products' appearance (fragrances, essence) must be added to the formulation of shampoo in order to increase stability and safety.

Synthetic surfactants are included to synthetic shampoos primarily for their washing and foaming properties, but prolonged usage of these surfactants can have major side effects, including eye and scalp irritation, hair loss, and dryness of the hair. We have natural herbal shampoo as an alternative to synthetic shampoo.

**Herbal Shampoo**:

Shampoos are arguably the most common cosmetics items used in daily life to clean the hair and scalp. Herbal shampoos are cosmetic products that clean the hair and scalp in the same way as ordinary shampoo by utilising traditional ayurvedic herbs. They are employed to remove oils. dirt, pollution of the environment, etc.

Herbal shampoo is a type of cosmetic product that utilises plant-based herbs as an alternative to commercially available synthetic shampoo. The use of herbal shampoo is crucial since modern consumers choose natural over synthetic goods because they have been shown to improve health. Herbal cosmetics are becoming more and more popular, in part because it is thought that they are risk-free and have no adverse effects

**Need For Shampoo**:

The skin on our heads secretes a greasy substance called sebum that coats the whole surface of the head to protect the hair. Although it gives the hair a healthy sheen, when secreted in big amounts, it makes the hair appear unclean.

**History:**

1. The term "hair" in science is "pill" or "pilus."
2. A part of the integumentary system is hair. It penetrates the dermal layer, where it lies in the hair follicle, andpenetrates the integumentary system.
3. Mammals are a special class of species, and one of their main differences is that they have hair. It is a prized andconspicuously displayed sign of youth, good health, and even social class in people.
4. It has a sensory function, offers protection from the cold and UV rays, and can have a big psychological effect.
5. the Indian continent Since ancient times, many herbs and their extracts have been utilised in shampoos throughout the Indian subcontinent. Using the filtered extract, Sapindus was boiled with dried Indian gooseberry (amla) and a variety of other herbs to create an extremely potent early shampoo. A tropical tree commonly found in India is the sapindus, usually referred to as soapberries or soap nuts, and is known as Kuna. Ancient Indian scriptures mention the fruit pulp's saponins, a naturally occurring surfactant. Indian scriptures referred to the lather produced by soapberry extract as phenaka.The hair is left feeling silky, lustrous, and manageable. Hibiscus flowers, ritha (Sapindus mukorossi), arappu, and shikakai (Acacia concinna) were additional cleaning agents for hair (Albizzia amara) In the 16th century, Guru Nanak, the first and founder of Sikhism, made allusions to soapberry trees and soap. Early colonial traders in India indulged in champu, or body and hair massage, as part of their daily bath ritual. They introduced the newly acquired habits, including the hair treatment they termed shampoo, when they returned to Europe.

**Ideal Properties of Herbal Shampoo**: [10-11]

1.Dust and excessive sebum should be fully and properly removed.2.Should thoroughly cleanse hair.

3. Should generate a significant amount of foam
4. Rinsing with water should make it simple to get rid of the shampoo.
5. Should leave the hair manageable, soft, and shiny with no dryness.
6. Should give the hair a pleasing aroma.

7.Should not cause the hand to become chapped and rough. 8.There shouldn't be any negative effects like skin or eye irritation.

9. Must totally and successfully remove any extra sebum and particles. 10.Hair should be washed thoroughly.

11. Should generate a significant amount of foam
12. Rinsing with water should make it simple to eliminate the shampoo.
13. Should leave hair manageable, silky, and shiny with no signs of drying out
14. Should give the hair a pleasing smell.
15. Should not cause skin or eye irritation. 16.Should not make the hands rough and chapped.

**Composition of Herbal Shampoo:** [12]

1.Colours, fragrances, and preservatives2.Principal surfactant

3.Secondary surfactant 4.Antidandruff agents 5.Conditioning agents 6.Pearlescent agents 7.Sequestrants 8.Thickening agents

**Types of Herbal Shampoo :** [13]

1. **Powder shampoo:**

It is offered as a dry powder. Originally, dry soaps were used to produce it, but today dry synthetic detergents are used instead. When making shampoo, especially medicated shampoo, powder is used because adding water or another solvent decreases the action of the ingredients. These shampoos are no longer utilised in modern times because of the difficulties associated with using them.

2. **Liquid shampoo:**

The most popular preparations are these transparent liquid ones. Typically, low cloud point detergent is used to make them. These shampoos could include transparent varieties.

3. **Cream shampoo:**

These are modified transparent liquid cream shampoos that go by the name "lotion shampoos." To dissolve the additional opacifier, solubilizing chemicals like magnesium stearate are also employed**.**

4. **Jelly shampoo:**

These are often created using a gelling agent and are translucent and thick (e.g., cellulose). Hair salons and beauty salons make extensive use of it. Detergent, which can be used either alone or in conjunction with soap, is the main component. The detergent proportion can be changed to produce gel with the desired consistency. Gel shampoo can also be created by thickening clear liquid shampoo after adding methyl cellulose to it**.**

**5. Aerosol shampoo:**

They are known as aerosol shampoos because of the spray containers in which they are housed. They require special formulation, processing, and packaging because an additional propellant is used. The propellant that is added needs to be compatible and shouldn't impair the effectiveness of the shampooing agents. A valve is attached to the container opening. When the valve is squeezed, shampoo foams up. Therefore, foam type shampoo is also known as

**6. Keratin shampoo:**

Benefits that nourish and condition the hair can be obtained by using shampoo (or any other hair care product) that contains keratin oil. This makes it appear smooth and polished. Additionally, it aids in reducing frizz, controlling flyaway, and guarding against harm from styling appliances like a straightening iron or blow dry

**7. Voluminzing shampoo:**

Shampoos that add volume or volumes hair give it a fuller, bouncy, and more full-bodied appearance. The texture of the hair is more important than its strand thickness. Instead, valominizing shampoos ought to be light enough to prevent your hair from becoming weighed down, which will ultimately give it more body.

**8. Specialised shampoo:**

People with dandruff, colour-treated hair, gluten or wheat allergies, a desire to use an organic product, new-borns, and young children are among the target markets for specialty shampoos ("baby shampoo" is less irritating

**Benefits of Herbal Shampoo :** [14]

1. More Glow
2. Less balding
3. Colour That Lasts
4. Hairs that are more robust and fortified
5. Natural and chemical-free
6. Won't Affect Scalp or Skin
7. Maintain Your Natural Oils

**Function of Herbal Shampoo:** [15-17]

1. Lubrication
2. Condition
3. Hair Growth
4. Continuing Hair Colour Maintenance

4. Medicine

6. The dirt or soil should be thoroughly and successfully removed.
7. It needs to wash hair thoroughly.
8. To satisfy the user, it must generate a sufficient amount of foam.
9. Rinsing with water ought to make it easy to remove.
10. It must leave the hair with a pleasing aroma.
11. There should be no negative effects like skin or eye irritation.

**Advantages 0F Herbal Shampoo:** [18-19]

1. Natural and pure ingredients
2. Lacks Side Effects
3. No surfactants, such as SLS,

4. No Artificial Ingredients
5. No Animal Research
6. Skin and Earth-friendly
7. No ingredients derived from petroleum

**Classification of Shampoo:** [40-41]

**1. Based on Appearance**

I. powder shampoo

ii. shampoo or lotion shampoo

iii. Gel shampoo or Solid shampoo

iv. Cream shampoo

v. Oil shampoo

VI. Miscellaneous anti dandruff shampoo or medicated shampoo

**2. Based on Use or Function.**

I. Conditioning shampoo

ii. Antidandruff shampoo

iii. Therapeutic shampoo

iv. Baby shampoo

v. Balancing shampoo

vi. Clarifying shampoo

**3. Based on origin:**

I. Herbal shampoo

ii. Egg shampoo

Evaluation of shampoos comprises the quality control tests including visual assessment and physiochemical controlssuch as pH, density and viscosity.

**Anatomy of hair:** [20-24]

I. follicles found in the fatty layer of the scalp are where hair grows. Contrary to popular assumption, hair follicles actually grow in groups of 1-4 hairs known as "follicular units," as opposed to single strands.

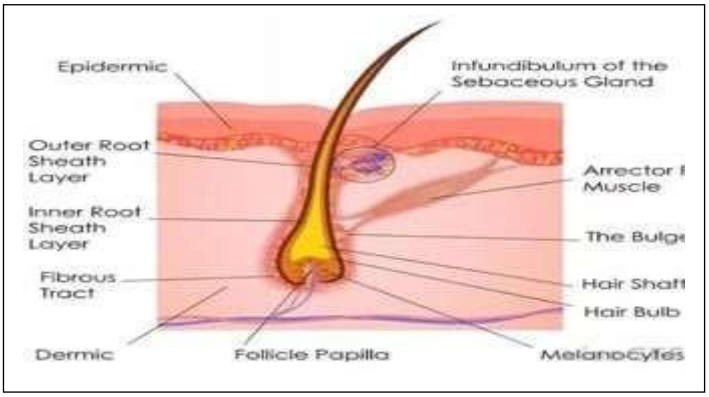
ii. hair follicle has a hair bulb at the base, which is where the process of creating hair takes place. The blood arteries in thedermis provide nutrients for hair follicles. To create the hair shaft, cells divide and grow.

iii. hair retains a delicate form while it is still growing
beneath the epidermis. The outer layer of after it pushes through the epidermis hardens into keratin.

**Parts of the Hair:** [25-27]

**1. Dermal papillae:**

In addition to being made up of androgen receptors that are sensitive to the presence of DHT, the dermal papilla is in charge of regulating the hair cycleand hair development.




Matrix:
All of the active cells required for hair growth and the development of the different sections of the hair, including the outer root sheath, the inner root sheath, and the hair shaft, are found in the matrix that surrounds the dermal papillae. The hair bulb is made up of both the matrix and the dermal papillae.

**2. Outer root sheath:**
The outermost portion of the hair is keratinized and is called the trichilemmal, or outer root sheath. It provides a hole for the hair follicle to emerge from by covering the entire hair follicle inside the dermis and moving through to the epidermis**.**

**3. Inner root sheath:**
The Henley layer, Huxley layer, and cuticle make up the three components of the inner root sheath. The Huxley and Henley layers are capsular layers that adhere to one another in order to stabilise the hair. The innermost layer closest to the hair shaft, known as the cuticle, is formed of hardened, dead cells and provides the hair shaft with additional protection. The hair is held in place and can lengthen thanks to this, as well as the capsular layers that make up the Henley's and Huxley's layers**.**

**4. Hair shaft**:
I. component of the hair follicle to fully emerge from the skin's surface is the hair shaft. The cortex, the cuticle, andmedulla are the three layers that make up the hair shaft.
ii. The medulla is a described as an unorganised and unstructured region that is not always present in the innermostpart of the hair shaft.
iii. The cortex, which is formed of keratin and gives hair its strength and durability as well as its ability to absorb water, is highly structured and organised in contrast to the medulla. The cortex also includes melanin, and the amount, distribution, and kind of melanin granules that are present affect the colour of the hair.
iv. The internal root sheath is attached to the cuticle, which is the hair's exterior protective coat. It is an intricatestructure with a single lipid molecule layer that aids in the water- repellence of hair.

**INGREDIENTS:** [28-32]

| **Materials required** | **Quantity to be weighed** |
|---|---|
| Soap nut extract | 0.5 g |
| Amla extract | 0.5 g |
| ShiKai extract | 0.5 g |
| Hibiscus | 0.5 g |
| Bhringraj extract | 0.5 g |
| Senna extract | 0.5 g |
| Aloe vera | 1 g |
| Gelatin | q.s |
| Lemon juice | q.s |
| Rose oil | q.s |

**USE OF INGREDIENTS: [33-35]**

**1. Soap Nut Extract:**

I. Stops hair loss

ii. prevents dandruff

iii. battles scalp infections

**2. Amla Extract:**

I. Strengthening the Hair and Scalp.

ii. Slow down the premature greying or loss of hair pigment.

Encourage Hair Growth

iv. Stop Hair Loss

v. Avoid or take care of scalp dryness and dandruff.

vi. Prevent or treat bacterial and fungal scalp and hair infections

vii. Enhance the look of hairs overall

**3. shikakai extract:**

I. Makes Hair Clean.

ii. Give the hairs more shine Prevents Gray's

iii. Curbs Hair Loss

iv. Prevents Gray's

v. Prevents Eczema, Scabies, Psoriasis, and Lice.

vi. Nourishes the hair and encourages quick, healthy hair development.

vii. Prevents split ends, point.

**4. Hibiscus:**

I. Promote hair growth and restore volume and lustre that have been lost over time

ii. Hair conditions

iii. Prevents Baldness (Minoxidil & Finasteride).

iv. Treat an itchy scalp and dandruff.

V. Prevents early greying.

**5. Bhirngraj Extract :**

I. Treats baldness and promotes hair growth.

ii. Adds Lustre to Hair

**6. Senna Extract:**

1. Promotes Strong Hair

2. Excellent Conditioner

3. Prevents Hair Loss

**7. Aloe vera:**

I. Relieves a scratchy scalp.

ii. Deeply cleans greasy hair,

iii. Consolidates

iv. Strengthens

v. Proteolytic enzymes found in aloe vera help to regenerate dead skin cells on the scalp.

vi. encourage hair growth

vii. soft, silky curls

viii. Reduce vii the fizziness. Straighten hair.

**8. Gelatin:**

I. Gelatine has been shown to increase hair thickness and growth.

ii. Giving 24 alopecia sufferers a gelatine supplement or a placebo for 50 weeks.

iii. It increases the thickness of hairs.

iv. For boosting hair strength.

**9. Lemon Juice:**

I. Increase the shine.

ii. Remove dandruff

iii. Reduces hair fall

iv. Split ends

v. Gives hairs a natural colour. For hair strengthening

vi. Gives hairs a natural colour. For hair strengthening

vii. Cleanse the scalp vii. Encourages hair growth

viii. Excellent hair mask for damaged and dry hair

**10. Rose oil:**

I. It restores damaged hair

ii. Promotes Hair Growth

iv. Decreases dandruff

iv. Enhances the shampoo's fragrance

**DESCRIPTION OF THE INGREDIENTS:** [36]

3.

| S.NO. | Common name | Pictures | Botanicalname | Parts used |
|---|---|---|---|---|
| 1. | Hibiscus |  | Hibiscus rosa-sinensis | Flower |

| | | | | |
|---|---|---|---|---|
| 2. | Amla |  | Emblica officinalis | Fruit |
| 3. | Shikakai |  | Acacia concinna | Powder |
| 4. | Soapnut |  | Sapindus indica | Fruit |
| 5. | Cassia |  | Cassia auriculata | Leaves |
| 6. | Bhringraj |  | Eclipta prostrata | Leaves, flower |
| 7. | Aloe vera |  | Aloe barbadensis | Leaf |

**Formulation of Herbal Shampoo:** [37-39]

According to the recipe listed in Table 1, the herbal shampoo was created. The herbal extract was added to the 10% gelatine solution, and at intervals of 20 minutes, the mixture was continually shaken. Continually stirring was used to add 1 cc of lemon juice. Rose oil, an essential oil, was added in appropriate amounts to bring the formulation's aromaup to par**.**

**EVALUATION OF HERBAL SHAMPOO:**

The produced formulation was assessed for product performance, including solid content, pH, oligolectic characteristics, and physicochemical characterization. Specific tests for surface tension, foam volume, foam stability,and wetting time were carried out using standard protocol to ensure the goods' quality.

**Visual assessment:**

prepared formulation's colour, clarity, odour, and foam content were evaluated.

**pH determination:**

By using a pH metre at room temperature, the pH of the prepared herbal shampoo in distilled water (10% v/v) wasmeasured.

**Surface tension measurement:**

A stalagmometer was used at room temperature to measure the surface tension of the produced shampoo in distilledwater (10% w/v).

**Testing of wetting:**

The amount of time needed for the canvas paper to completely sink was used to compute the wetting time. A disc with a 1-inch diameter was made from a piece of canvas paper that weighed 0.44 g. The canvas paper disc was placed over the shampoo (1% v/v) surface, and the duration it took for the paper to sink was timed using a timer. by usinggelatine.

**Foam stability test:**

A 250 ml graduated cylinder with shampoo (1%) solution in it was shaken ten times. The cylinder shake method was used to assess the stability of the foam. 50 ml of aggressively prepared product. By measuring the foam volume of the shake test after 1 and 4 minutes, respectively, foam stability was determined. After shaking for a full minute, the total volume of foam was measured.

**Dirt dispersion test:**

Two drops of the cleanser were added to 10 ml of distilled water and placed in a test tube with a large mouth. One drop of Indian ink was added to the prepared shampoo, and the test tube was sealed with a stopper. The mixture was then shaken for 10 minutes. Measurements were made of the amount of ink in the froth, and the results were categorised as none, slight, medium, or heavy.

**Conditioning performance evaluation:**

A salon provided two swatches of artificial Indian women's hair, each measuring roughly 10 cm in length and weighing 5 g. The test swatch was washed with the specially prepared shampoo while the control swatch was left unwashed. Each hair was added for 2 minutes to a mixture of shampoo and water in a conical flask at a ratio of 10:15, and then washed with 50 cc of distilled water. Each tress was air dried at room temperature and the technique was repeated for maximum of 10 times. A blind touch test was used to assess the prepared shampoo's conditioning impact on softness and smoothness utilising volunteers from 20 randomly chosen students. All the chosen students were asked to touch the tresses that had been washed with the prepared shampoo. They were then asked to score the shampoo's conditioning effectiveness on a scale of 1-4 (4 being excellent, 3 good, 2 satisfactory, and 1 being poor).

**Conclusion:**

The goal of the current study was to develop a herbal shampoo that increases hair development while also reducing hair loss during combing and is safer than chemical conditioning agents. The aqueous extract of medicinal plants that are frequently used to wash hair traditionally was utilised to create herbal shampoo. Synthetic conditioning treatments are used less frequently, which results in less protein or hair loss. In the current study, natural plant extracts such as shikakai, amla, and others are used in place of synthetic cationic conditioners to provide the conditioning effects. The main goal of this investigation was to create a stable and functionally effective shampoo by omitting all types of synthetic additives, which are typically included in such formulations. Numerous tests were carried out to assess the manufactured shampoo's functionality as a decent product. The assessment research of the developed shampoo produced equivalent results for the quality control test, but more scientific confirmation is required for the quality of the product as a whole.

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