



A Review article on: Herbal Anti Dandruff Shampoo

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Abstract : Shampoos are primarily been products aimed at cleansing the hair and scalp. It seems improbable that herbal shampoo, although better in performance and safer, will be popular with the consumers. A more radical approach in popularizing herbal shampoo would be to change the consumers' expectations from a shampoo. The shampoo sector is one of the largest units of among the hair care products. Majority of the ingredients in the shampoos are chemicals and have been under severe attack due to its potential risk of side effects. The aim of this study is to study how to eliminate harmful synthetic ingredients from anti-dandruff shampoo and substitute them with safe natural ingredients.

KEYWORDS : Herbal shampoo, Natural Ingredients, Hair, Dandruff, Cleansing action, Natural , Antidandruff shampoo, Evaluation.

Introduction –

The most common cosmetic item utilised in our daily lives to clean our hair and scalp is certainly shampoo. Herbal shampoos fall under the category of cosmetic preparations and are primarily used to cleanse the hair and scalp with age-old Ayurvedic herbs. They are primarily used to remove oils, toxins from the environment, dandruff, filth, etc. and nourish your hair easily. Herbal shampoo uses plant-based herbs as an alternative to commercially available synthetic shampoo. Herbal shampoo is significant because people prefer it to chemical goods now days since chemicals have harmful effects, and because people are more conscious of and need cosmetics with natural ingredients. Herbs are becoming more popular because consumers feel they are risk-free and have no negative side effects. Herbal shampoo formulas are recommended as an alternative to synthetic shampoo, but it can be challenging to create cosmetics using only natural ingredients. In our daily lives, shampoos are likely the most often used cosmetic products to clean our hair and scalp[1]. Herbal shampoos are cosmetic products made with traditional ayurvedic herbs that are intended to clean the hair and scalp in the same way as ordinary shampoo. They are used to clean up environmental pollutants, dandruff, oils, and dirt, among other things. A type of cosmetic preparation known as herbal shampoo uses 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. The necessity for cosmetics and public knowledge of them[2].

The evaluation of shampoos include physiochemical controls including pH, density, and viscosity as well as visual assessment and quality control testing. Lauryl sulphate sodium The most popular detergents are those that are based, however even within a manufacturer's product line, concentrations can differ significantly from brand to brand. Cheap shampoos could have a high dose of detergent. While premium shampoos might just have trace amounts of inexpensive detergent Shampoos for dry hair and oily hair might both include the exact same detergent in the same concentration. The difference may only be in the package, or it may simply be a lesser amount of oil or conditioning substance in the shampoo for oily hair. [3]

- Hairs are an essential component of human beauty.

- On the dermis or skin, hair grows from follicles and is made up of a protein filament.
- Hair is known scientifically as pili or pilus.
- Hair extends into the dermal layer, where it is located in the hair follicle, and is a part of the integumentary system.
- The existence of hair is a key characteristic that distinguishes mammals as a distinct class of species.
- It has a sensory function, protects from cold and UV radiation, and can have a significant psychological impact when its growth or structure is abnormal in humans. It is a prized and highly visible indicator of health, youth, and even class.
- The variation In each Hair's length, colour, diameter, and cross-sectional shape can be seen at the microscopic level.

Regardless of gender or ethnicity, about half of post-pubertal people suffer from dandruff, a common scalp ailment. It usually causes itchiness. The role keratinocytes play in the expression and activation of immune responses during the development of dandruff is well established. Because it frequently gets worse in the winter, the degree of dandruff fluctuates from season to season. A specific shampoo can be used to treat the majority of dandruff. People who have dandruff have learned that it can lead to social and self-esteem issues, providing both psychological and physiological grounds for treatments. Shampoo is a hair care product that is used to clean hair; it typically takes the shape of a thick liquid. Shampoo is used to eliminate undesirable build up from between the hairs while minimising removal. Shampoo is used to get rid of buildup between the hairs without eliminating too much sebum and causing unmanageable hair. Shampoos are often created by mixing a co-surfactant, most frequently Cocamidopropyl betaine, with a surfactant, most frequently sodium lauryl sulphate or sodium laureate sulphate, in water. Herbal anti-dandruff shampoos have been developed and thoroughly tested as a result of the probable adverse effects of synthetic shampoos [4].

ADVANTAGES OF HERBAL SHAMPOO-

- Pure and organic ingredients are used to make herbal shampoo, and there are no synthetic additives or surfactants. Are without any negative consequences.
- Biodegradable and earth-friendly, herbal shampoos.
- The eyes are not irritated by it.
- It is reasonably priced and cost-friendly.
- Using herbal shampoo on a regular basis can do wonders for your hair.
- Using herbal hair results in the ideal oil balance.
- They contain a natural essential disinfectant that guards against skin infections and harsh UV radiation on the hair and scalp[5,6,7]

DISADVANTAGES OF HERBAL SHAMPOO-

- If you use dry shampoos excessively or regularly, a buildup of residue may result, giving your hair a coarse texture.
- Excessive use can also make the hair more brittle and dry it out by preventing natural oils from moisturising it.
- The residue left behind by dry shampoo can obstruct the pores on the scalp, which can lead to inflammation or breakouts the residue is scented, the aroma may irritate some scalps and serve as the ideal environment for the growth of dandruff.

Functions of Shampoo -

1. To make the hair smooth and shiny.
2. Produce good amount of foam.
3. Should not cause irritant to scalp, skin and eye.
4. Should completely, effectively remove dirt.
5. Impart pleasant fragrance to hair.

6. It should effectively and completely remove dirt or soil.
7. It should effectively wash the hair.
8. It should produce a good amount of foam to satisfy the user.
9. It should be readily removed by rinsing with water.
10. It should impart a pleasant fragrance to the hair.
11. It should not have any side effects or causes irritation to the skin and eye.

Ideal Characteristics of Shampoo –

- Should effectively wash hair.
- Should produce a good amount of foam.
- The shampoo should be easily removed by rinsing with water.
- Should leave the hair non-dry, soft, and lustrous with good, manageability.
- Should impart a pleasant fragrance to the hair.
- Should not make the hand rough and chapped.
- Should not have any side effects or irritate skin obeyed [8].

Need of Shampoo –

Your skin and scalp are kept hydrated by sebum, an oily material. Sebum can quickly accumulate if you don't shampoo, making your hair oilier than you'd like. Sebum also draws microfauna, which can lead to dandruff and other problems with the hair. Shampooing is necessary to remove sebum from your scalp as well as any traces of other hair products. The market uses it extensively [9].

A frequently washed scalp can also get dry. Shampoos containing abrasive chemicals can strip the oil from your scalp, causing flaking. Additionally, washing in extremely hot water might result in dry hair, broken ends, and flaky skin. Redness, swelling, and itching are signs of a dry scalp issue.

Types of Shampoo-

- Lotion Shampoo
- Cream Shampoo
- Jelly Shampoo
- Aerosol Shampoo
- Specialized Shampoo
- Conditioning Shampoo
- Anti-dandruff Shampoo
- Baby Shampoo
- Two Layer Shampoo
- Powder Shampoo
- Liquid Shampoo[10].

Anatomy of hair –

Only animals have hair, which is a filamentous, typically coloured outgrowth from the skin. Except for the lips, fingertips, palms, soles, glans penis, and labia minora, all parts of the skin have hair. These fine strands emerge from the dermis, the deeper layer of the skin, where they were formed by hair follicles (epidermis). Each fibre is made up of dead cells, mostly of the keratin protein. Hair follicles in the scalp's fatty layer are where hair grows. Contrary to popular belief, hair really grows in groups of 1-4 hairs called "follicular units" rather than as single strands. Each hair follicle has a hair bulb at the base, which houses the machinery for growing new hair.

Each hair follicle has a hair bulb at the base, which houses the machinery for growing new hair. The blood arteries in the dermis provide nourishment for hair follicles. To create the hair shaft, the cells divide and grow[11].

Structure of Hair –

A hair follicle is a hollow in the skin that houses a hair's root (see photo). The papilla, which is composed of connective tissue and tiny blood arteries, is located at the base of the follicle. The hair matrix, which is made up of epithelial cells with scattered melanocytes, surrounds the papilla. The creation of the hair fibre is the result of cell division within the matrix. One of the populations of cells in the body that is growing the fastest is the hair matrix epithelium. As a result, some chemotherapy and radiation treatments that target quickly dividing cells may cause temporary baldness. The sebaceous gland, which generates sebum alongside the hair shaft, is joined to the hair follicle. The palms, lips, and face do not contain sebaceous glands.

HAIR PHYSIOLOGY:

The majority of the hair is growing at any given time. This phase lasts several years for each hair.

During the transitional period of catagen, the hair follicle shrinks and hair growth slows over a few weeks.

Telogen (resting phase): Over several months, the hair follicles' ability to produce new hair ceases, and the old hair falls off. The growth phase of a new hair starts, pushing the old hair.

Stem cells quickly divide and differentiate into keratinocytes, which move, flatten, and die to generate keratinized cells, the building blocks of hair.

The final hair product that shows on the skin's surface is made completely of keratin. The development of the hair follicle occurs in cycles.

PROBLEMS RELATED TO HAIR:

- Dandruff
- Dry hair
- Split ends
- Oily ends
- Frizzy hair
- Limp hair
- Hair loss
- Heat damage
- Color damage
- Grey hair

Dandruff –

A common ailment known as dandruff causes the scalp's skin to flake. It is neither serious nor contagious. However, it can be awkward and challenging to treat. A gentle daily wash can be used to treat mild dandruff. A medicated shampoo might be useful if that doesn't help.

Seborrheic Dermatitis (SD), which only affects the scalp and creates itchy, flaky skin, is connected to dandruff. It affects nearly half of the world's adult population because it is so prevalent. Most people pay attention to the flakes. On the other hand, the most uncomfortable side effect could be itching.

Symptoms :

1. Erythema, which is red patches on the skin of the scalp, and sometimes on the face
2. Eyebrow dandruff
3. Hair loss
4. Dry flakes on the skin of the face

CAUSES OF DANDRUFF :

- Dry skin.
- Irritated,oily skin.
- Not shampooing often enough
- Other skin conditions:
 1. Eczema
 2. Psoriasis
- Seborrheic dermatitis Malassezia-yeast like fungus
- Sensitivity to hair products (contact dermatitis)

TREATMENT :

- Follow a healthy diet.
- Avoid stress.
- Shampoo use a combination of special Ingredients to control dandruff.[6]

HERBAL SHAMPOO:

They are cosmetic products that clean the hair and scalp in a manner similar to ordinary shampoo by utilising traditional ayurvedic herbs.

They are employed in the cleanup of environmental contamination, dandruff, oils, and other substances.

By providing essential oils and nourishment to the base and follicles of the hair, herbal shampoos for hair growth are designed to strengthen the hair follicles. In turn, this encourages the growth of fresh, healthy hair roots and encourages hair growth.

It Is frequently advised to use a medicated shampoo or to increase your vitamin intake as dandruff treatments. Lemons are recommended as a remedy in several online forums and folk Lemons are abundant in antioxidants, necessary vitamins, and citric acid (a type of vitamin C), as do many citrus fruits.

The Immune system is said to be strengthened and the health of the hair is maintained by this vitamin combination. Malassezia, a fungus that resembles yeast and feeds on the oils on the scalp, is a common cause of dandruff. Like other natural fungus, Malassezia usually doesn't create too many problems until it's present in large amounts. In the 16th century, the founder and first guru of Sikhism, Guru Nanak, made references to the soapberry tree and soap. [10]

Natural dandruff treatment believe lemons can:

- Provide vitamin C, citric acid, flavonoid, and iron — all nutrients essential to hair and skin health
- Balance the pH of the scalp to keep dandruff at bay
- Strengthen hair follicles
- Eliminate excess oils in the scalp that lead to buildup and scalp flakes

Formulation of Shampoo –

| Sr No | Ingredients | Biological Name | Quantity | Category |
|-------|----------------|-----------------------|----------|---|
| 1 | Lemon juice | Citrus Lemon | 2ml | AntiDandruff , maintain pH, preservative |
| 2 | SLS | Sodium lauryl sulfate | 20 ml | Foaming Agent, surfactant |
| 3 | Glycerine | - | 2 ml | Moisturizer |
| 4 | Orange juice | Citrus Sinensis | 2ml | Anti – Dandruff, Anti – Fungal,, balance in scalp |
| 5 | Essential Oils | | qs | Soothing effect , promote hair growth |
| 6 | Purified water | - | 25 ml | Vehicle, solvent |

Function of Ingredients –**1. Lemon juice –**

In the flowering plant family Rutaceae, the lemon (*Citrus limon*) is a species of small evergreen trees that is indigenous to Asia, particularly Northeast India (Assam), Northern Myanmar, or China[10,11].

Limonene, which is found in lemons, helps restore dry, frizzy, and coarse hair. Antioxidants and other elements found in lemon juice aid to maintain healthy, lustrous hair. Vitamin C and folic acid are both abundant in lemon juice. Additionally, it can assist to lessen oiliness and create lustrous, silky hair lengths[12].

2. SLS –

Since its introduction as a soap substitute in the 1930s, SLS has been a common ingredient in shampoo. As a surfactant, it draws oil-based filth from the hair and traps it so that water may be used to rinse it out.

An anionic surfactant often used as an emulsifying cleaning agent is sodium lauryl sulphate (SLS), sometimes known as sodium laurilsulfate or sodium dodecyl sulphate.

3. Glycerine –

The most efficient humectant is known to be glycerin, or glycerol. It pulls moisture to the hair and scalp as a result. It also aids in forming a barrier to stop moisture from escaping from the skin and hair follicles.

4. Orange juice -

The Rutaceae family includes the orange plant (*Citrus x sinensis*). It is a blooming tree that matures to a height of 16 to 50 feet (between 5 and 15 m). Orange trees are mostly produced for their fruits[12].

Your scalp and hair will be hydrated after an orange juice rinse, and your hair will get a lot of shine and lustre.

5. Essential oils –

Almond oil soothes and moisturizes the scalp.

Cedarwood oil stimulates the scalp and promotes hair growth.

Chamomile oil adds shine and softness to hair, and soothes the scalp.

Clary sage oil promotes hair growth and stimulates the scalp.

Coconut oil softens hair and increases shine.

Materials and methods Collection of plants:

Orange (fruit), lemon (fruit), and SLS plant pieces were gathered from the neighbourhood market. Essential oils and glycerine were purchased from a lab.

To eliminate pollutants, these were rinsed under running water. They are made into coarse powders, dried in the sun, and sieved. The extracts were made using the decoction method, and they were kept in tightly-sealed containers. A measurement of the amount of ink in the foam produced a grade of none, slight, medium, or heavy [13].

METHOD OF PREPARATION -

1. Weighing:

All required herbal ingredient for shampoo Preparation were accurately weighed individually by Using digital balance.

2. Mixing:

They are prepared by simple mixing process in case Of clear liquid shampoo. Mix all the ingredient Together and add lemon juice for good transparency . Then add essential oil for good fragrance. The prepared shampoo in distilled Water (10% w/v) was evaluated for surface tension using stalagmometer In room temperature [14].

3. Storage:

Store in suitable container.

Results –

The present study states that to develop a stable and Effective herbal shampoo without synthetic Chemicals. The following prepared herbal shampoo Reduce dandruff ,Reduces hair fall, promotes hair growth and acts as Anti-dandruff. Formulated herbal shampoo contains SLS (Synthetic chemical) But its percentage is less Compared to marketed synthetic shampoo. For Effective conditioning effects, the prepared formulation involves the use of lemon juice , Orange juice etc instead of other Synthetic agents.

Conclusion-

The study's goal was to create a herbal shampoo that was stable and functionally successful without the use of synthetic ingredients, which are Frequently used in such formulations to greater extent Shampoo for synthetic hair is known to the hair cuticle, causing it to become brittle, drab, and Dry . Despite the fact that the shampoo's recipe SLS (7.5%) is a synthetic chemical, however its % is insufficient compared to synthetic Accessible shampoo (10–40%) in the market. A testing of our shampoo produced positive results. Quickness, enhanced foaming ability, and cleaning action Wetness period.

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