

Formulation and Evaluation of Herbal Antidandruff Shampoo

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Abstract: Presently the entire world is endeavouring to return towards the natural herbal materials through it has a no some other side effects towards ailments. We are utilizing manufactured items for our hair, losing their magnificence, quality, strength, volume and shine. Every single manufactured item like cleanser contains a destructive substance which is in charge of damage of hair. HS is the only product which used for hair washing and also used for hair remedy on hair problem. In recent study herbal HS (HS) has remarkable properties toward hairs. Greener preparation of HS made has two sections, In first section contain, herbal extract prepared by mixture of alma, reetha, shikakai, nagarmotha, bhringraj, brahmi, aloe Vera, lemon juice and some Ingredients. Herb extract (10%) take an alma, reetha, shikakai, nagarmotha, bhringraj, brahmi all in dried form in a beaker in aqueous medium, warm up to till the beginning of boil by microwave method, sieve and put for cooling, obtained herb extract. For their transparency add some lemon squeeze in it, followed by mixing up to colourless. In second section beaker contains SLES, glycerine and CAPB everyone followed by stirring gradually, Herb extract with lemon juice in it stir gradually due to avoid foaming.

Keywords: Shampoo, CAPB, Scalp, Dermatology, Dandruff.

I. INTRODUCTION

Formulating and assessing shampoo made from herbal plants for its anti-dandruff properties was the primary objective of the current study. While it can be handled and efficiently controlled, dandruff cannot be completely eradicated. In terms of both medicine and economy, herbal medicine has gained international importance. Herbal plant-based antidandruff shampoos are more effective than synthetic ones, albeit they do have certain drawbacks. Even so, use herbal plants rather than systemic medications, which can enhance the effectiveness, safety, and quality of shampoo. This study looked into the ability of Ocimum sanctum (tulsi) and Azadirachta indica (Neem) to remove dandruff from the scalp. Two plants that were chosen to make the anti-dandruff shampoo exhibit both antibacterial and anti-inflammatory properties.

Shampoo Formulation Is the Only One Preparation for Cleaning the Hairs and Scalp For human Being. As Using the Mild or Chemical Free Shampoos Are Prevent the Hair Problem like Hair Falls, Dandruff, and Unto Serious Problems like Eye Irritation, Itching of Skin, etc. The Herbal Shampoos are better to use In a Day-To-Day Life than Chemical Containing Shampoo. Herbal Shampoos some time not gives the foams to satisfy the Psychological Requirement but this are cleanse the hair safely as well as scalp also by giving benefits like hair growth, prevent dandruff, shiny and glossy, thicken hairs, etc. The herbal shampoo is important, as people's now days prefer herbal products than chemical ones for they proved to enhance health of hairs. The awareness and need for cosmetics with herbs are on the rise, primarily because it is believed that this products are safe and free from side effects. A shampoo is basically a solution of a detergent containing suitable additives for other benefits such as hair conditioning enhancement, lubrication, medication etc. Now-a-days many synthetic, herbal, medicated and non-medicated shampoos are available in the market but popularity of herbal shampoo among consumers is on rise because of their belief that these products being of natural origin are safe and free from side effects.

Shampoo:

Shampoo is hair care product typically, in the form of viscous liquid that is used for cleaning hair. In essence, a shampoo is a detergent solution with appropriate chemicals for additional benefits including lubrication, medicine, and improved hair conditioning. There are a lot of synthetic, herbal, medicated, and non-medicated shampoos on the market these days, but herbal shampoo is becoming more and more popular with consumers who think that since it comes from natural sources, it is safe and doesn't have any negative effects.

II. TYPE OF SHAMPOO

Clarifying shampoo:

A clarifying shampoo is a deep cleanser that uses heavier surfactants—the soap-like ingredients—than regular shampoos to eliminate grease, product residue, and impurities from your scalp. In other words, it's a heavy-duty cleanser you can use to reset your hair every once and a while. Eg. Oreal Paris, scalp advance

Dry shampoo:

Dry shampoo contains starch-based ingredients that absorb excess oil and grease build-up to improve your hair's appearance. It's useful for people with oily scalps, those who want to extend the time between washes, or busy individuals who don't have time for a traditional shampoo and rinse. Eg. Nykaa natural, Amika

Moisturizing shampoo:

shampoos that have been formulated using hyaluronic acid tend to be the most effective. Hyaluronic acid quickly gets moisture deep into the hair shaft to create a softened texture and immediately helps dry hair feel silkier. Eg. BBlunt intense moisture shampoo

Regular shampoo:

A regular hair shampoo is designed for people who don't have any specific hair needs or treatments. Regular shampoos are gentle cleansers with simple ingredients formulated to clean normal hair. Eg. Aveno

Dandruff shampoo:

Sebamed Anti-Dandruff shampoo has been especially formulated with mild wash active substances to gently cleanse hair and scalp, dislodging the dandruff flakes. The active ingredient PiroctoneOlamine counteracts dandruff causing microorganisms soothing irritation. Eg. Shikakai shampoo

Anti-breakage shampoo:

A frequent use shampoo that prevents hair fibre breakage and nourishes and strengthens long hair. It contains a high proportion of plant extracts, such as Hydrolysed Wheat Proteins, which facilitate hair rehydration, thereby strengthening and protecting hair fibres from breakage. Eg. Rubodex herbal shampoo

Two in one shampoo:

Think of 2-in-1s as a shampoo that contains some of the conditioning benefits of a conditioner, rather than a true "best of both worlds" situation. Eg. Native.

III. DANDRUFF

The main aesthetic issue and a major source of public concern in both industrialized and developing nations is dandruff. The term "dandruff" is a compound word made up of the letters "ten" and "drof," which imply "dirty." Chronic dandruff on the scalp Causes scaling, itching, and redness by shedding epidermal cells. Dead cells are shed by the scalp in an almost undetectable manner, however occasionally they appear as flakes known as dandruff. Following detergent treatment, roughly 487,000 cells/sq cm are liberated in the physiological spectrum of scaling. Plant extract is one of the many herbal ingredients found in many herbal shampoos on the market.

It isn't contagious or serious. But it can be embarrassing and difficult to treat. Mild dandruff can be treated with a gentle daily shampoo. If that doesn't work, a medicated shampoo may help.



Fig. 01. Dandruff

TYPE OF DANDRUFF

Skin dandruff:

It is also called as pityriasis simplex characterize by excessive formulation of minute scales which accumulate on the scalp area. In this type of dandruff there is no excessive hair loss. The inflammation on the skin no observed. The scales are first found in middle of the scalp and then spread of frontal, parietal and occupational areas.

Oily skin dandruff:

Oil related dandruff happen when there is an accumulation of sebum oil on the scalp. It is mostly found in young men following puberty. Inflammation of varied intens it y developed on the scalp along with oily scales of dirty yellow colour. Hair fall is mostly found in this condition.

ROLE OF HERBAL PLANT IN SHAMPOO:

A Herbal is a book containing the names and description of plant, usually with information on their medicinal, tonic, hallucinatory, aromatic or magical powers, and the legends associated with them.

NEED OF FORMULATION:

Now a day dandruff is major problem that has been facial by each and every age group. Dandruff is a chronic condition of the scalp that causes exfoliation, itching, and redness of the scalp due to the loss of epidermal cells. The scalp sheds dead cells in an almost invisible way, but sometimes they also sheds as visible flakes called scales. Tea tree oil, essential oil, vitamin E oil, pearl powder, glycerine with shampoo. Some of them have anti-dandruff properties. Anti-dandruff is designed to reduce dandruff. Although the cause of dandruff is not fully understood, treatment involves the use of several "active ingredients" that act as either antibacterial agents or mitotic inhibitors. Shampoo is probably the most commonly used hair care product today. Since it is based on synthetic detergent, it is relatively insensitive to the hardness of water. A good shampoo should produce enough foam almost immediately, regardless of the type of water used or the type of dirt or grease removed from the hair.

IV. MATERIAL AND METHODS

Hibiscus:

Hibiscus is a genus of flowering plants in the mallow family, Malvaceae. The genus is quite large, comprising several hundred species that are native to warm temperate, subtropical and tropical regions throughout the world. Member species are renowned for their large, showy flowers and those species are commonly known simply as "hibiscus", or less widely known as rose mallow. Other names include hardy hibiscus, rose of Sharon, and tropical hibiscus.

Uses: Treats Dandruffs, and Itchy scalp
Conditions hairs



Fig.02. Hibiscus.

Lemon Juice:

The lemon (*Citrus × limon*) is a species of small evergreen tree in the flowering plant family Rutaceae, native to Asia, primarily Northeast India (Assam), Northern Myanmar, and China. It has its distinctive sour taste and fresh scent because it's rich in citric acid. It comes from the flowering plant family Rutaceae, and its scientific name is *Citrus limon*. The lemon's unique flavor makes it a popular ingredient in drinks, desserts, and meals.

Uses: Add more shine.

Get rid of dandruff

Reduces Hair fall



Fig. 03.Lemon juice.

Aloe Vera:

Aloe Vera is a succulent plant species of the genus *Aloe*. Belong to family .it is widely distributed, and is considered an invasive species in many world regions Aloe Vera is a succulent plant whose thick leaves contain an inner pulpy mucilaginous gel. Compounds in aloe vera have been found to have anti-inflammatory and ant itch properties, as well as pain reduction and wound healing effects.[5]

Uses: Moisturising agent, delivers something property to the skin.



Fig.no.04. Aloe Vera

Shikakai:

Acacia concinna is a thorny spreading shrub or tree that can either be scandent or climb into other plants

Leaves of shikakai act as purgative, liver stimulant and improves tast. The decoction of shikakai pods acts as purgative and used to treat constipation, abdominal pain, indigestion and flatulence

Uses : Foaming agent, Anti-dandruff agent



Fig. 05 Shikak

Ritha :

Sapindus mukorossi, commonly known as Indian soapberry, washnut, Ritha or Chinese soapberry, is a species of tree in the family Sapindaceae.



Fig. 06. Ritha

Lavender oil:

Lavender oil, obtained from the flowers of *Lavandula angustifolia* (**Family:**Liliaceae) by steam distillation. Lavender is native to the mountainous zones of the Mediterranean where it grows in sunny, stony habitats. Today, it flourishes throughout southern Europe, Australia, and the United States. Lavender is a heavily branched short shrub that grows to a height of roughly 60 centimetres (about 24 inches).[5]

Use: anxiolytic, anti-inflammatory, antinociceptive, antioxidant, and antimicrobial effects.



Fig. 07.Lavender oil

Formulation table:

Table. 01 Formulation Table.

Sr.No	Ingredients	Formulation for 20ml
1.	Shikakai	3ml
2.	Ritha	5ml
3.	Hebiscus	2ml
4.	Aloevera	5ml
5.	Nutgrass	2ml
6.	Lemon juice	Q.s

V. EXTRACTION

Extraction, as the term is used pharmaceutically, involves the separation of medicinally active portions of plant or animal tissues from the inactive or inert components by using selective solvents in standard extraction procedures. The products so obtained from plants are relatively impure liquids, semisolids or powders intended only for oral or external use. These include classes of preparations known as decoctions, infusions, fluid extracts, tinctures, pilular (semisolid) extracts and powdered extracts. Such preparations popularly have been called galenicals, named after Galen, the second century Greek physician. The purposes of standardized extraction procedures for crude drugs are to attain the therapeutically desired portion and to eliminate the inert material by treatment with a selective solvent known as menstruum.

The extract thus obtained may be ready for use as a medicinal agent in the form of tinctures and fluid extracts, it may be further processed to be incorporated in any dosage form such as tablets or capsules, or it may be fractionated to isolate individual chemical entities such as ajmalicine, hyoscyne and vincristine, which are modern drugs. Thus, standardization of extraction procedures contributes significantly to the final quality of the herbal drug.

Methods of Extraction of Medicinal Plants:

Maceration:

In this process, the whole or coarsely powdered crude drug is placed in a stoppered container with the solvent and allowed to stand at room temperature for a period of at least 3 days with frequent agitation until the soluble matter has dissolved. The mixture then is strained, the marc (the damp solid material) is pressed, and the combined liquids are clarified by filtration or decantation after standing.

Decoction:

In this process, the crude drug is boiled in a specified volume of water for a defined time; it is then cooled and strained or filtered. This procedure suitable for extracting water-soluble, heat stable constituents. This process is typically used in preparation of Ayurvedic extracts called “quath” or “kawath”. The starting ratio of crude drug to water is fixed. the volume is then brought down to one-fourth its original volume by boiling during the extraction.

Percolation:

This is the procedure used most frequently to extract active ingredients in the preparation of tinctures and fluid extracts. A percolator (a narrow, cone-shaped vessel open at both ends) is generally used. The solid ingredients are moistened with an appropriate amount of the specified menstruum and allowed to stand for approximately 4 h in a well closed container, after which the mass is packed and the top of the percolator is closed. Additional menstruum is added to form a shallow layer above the mass, and the mixture is allowed to macerate in the closed percolator for 24 h. The outlet of the percolator then is opened and the liquid contained therein is allowed to drip slowly. Additional menstruum is added as required, until the percolate measures about three-quarters of the required volume of the finished product. The marc is then pressed and the expressed liquid is added to the percolate. Sufficient menstruum is added to produce the required volume, and the mixed liquid is clarified by filtration or by standing followed by decanting.

VI. FORMULATION OF SHAMPOO

- Mix all the ingredients as per quantity. Shikakai, Hibiscus and Fenugreek extract by decoction method, Soap nut extract by maceration method and add aloe Vera gel which directly taken from aloe leaf and grind it.
- Then add made soap of castor oil, onion oil and rose oil by saponification method
- Then the extracts are taken as per formula and then mixed those ingredients by shaking continuously till all ingredients are mixed.
- Then added 1ml of lemon juice to maintain PH and also as a preservative •Then i have added Gum Tragacanth as a thickening agent for maintained of consistency of Herbal shampoo as like semisolid nature.
- Then the three different formulation was done.

EVALUATION

1. Physical appearance: viscous in nature

2. Colour: Brown

3. Transparency: Non-Transparence

4. Consistency: Smooth

5. pH: The pH of formulated shampoo was determined by using digital ph. meter by dissolving 1gm of shampoo in 100ml of water. **PH-6.6** approximately

6. Consistency: the consistency of formulate cream were determined by hand. Take pinch of shampoo and rubbed it with finger.

7. Percentage of solid content: 25.75

6. Irritation test:- No irritation [10]

VII. RESULTS

This shampoo could become a media to use these medicinal properties effectively and easily as simple dosage form. Natural remedies are more acceptable as they are safer with fewer side effects than synthetic one, so a herbal anti-dandruff shampoo is nontoxic, safe, effective and improve patient compliance as it contain herbal ingredient, from the ancient time, this prepared herbal anti-dandruff shampoo was evaluated for various parameters like appearance, determination of consistency, PH, from stability and antimicrobial activity against staphylococcus aureus.

VIII. CONCLUSION

The main aim of formulated herbal anti-dandruff shampoo was to prevent dandruff and their infections. it was concluded that the anti-dandruff shampoo which are prepared from natural sources they show fewer side effect as compared to shampoo which are prepared from synthetic compound The prepared wound shampoo was evaluated using various parameter and was found to be satisfied for the application to the hair.

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