



FORMULATION AND EVALUATION OF HERBAL ANTI DANDRUFF SHAMPOO

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ABSTRACT:

One of the body's exterior gauges of internal circumstances is hair. The most popular type of hair treatment is shampooing. Shampoo's main purpose is to clean hair, which is necessary because To gathered sebum, dust, hair fragments, etc. Different shampoo formulas have been linked to specific issues such treating greasy hair, dandruff, and androgenic alopecia as well as hair quality and hair care habits. Shampoos are gel-like, creamy, or liquid-like formulations. The addition of conventional soaps that are saturated with glycerides, natural or artificial fatty alcohols, and thickening agents determines the consistency of the mixture. Indian ladies employ herbal remedies that are safe and natural cleaners, such reetha and shikakai.

Given that shampoos are a common cosmetic product used in daily life, the shampoo industry likely has the highest unit sales of all the hair care product categories. Adverse effects among consumers have occasionally been attributed to synthetic detergents and preservatives. Adding a natural extract whose functionality is equivalent to that of its synthetic elements is a more drastic method of cutting down on synthetic compounds. A shampoo is one of the most common beauty items and is used to clean hair.

The shampoo compositions of today go beyond just cleansing the hair. More advantages, such as conditioning, surface smoothing, healthy hair—that is, hair free of grease, oil, dandruff, and lice—as well as safety advantages are anticipated. Products applied to the scalp do not pass through any sort of filter because the scalp is one of the body's most absorbent parts. A multitude of skin and hair diseases arise when eating habits, stress levels, and environmental circumstances change. Natural ingredients with a track record of success in hair care preparation, such as Acacia cinchona (shikakai), Sapindus mukorossi (reetha), and Embelica officinalis (amla), were included in the formulation of this herbal shampoo. Several of these herbal ingredients together have allowed for the creation of a very effective shampoo. To guarantee the formulation's safety and effectiveness, it was completed at the laboratory scale and assessed for a variety of factors.

KEY WORDS: Shikakai, Amla, Reetha, Rose water, Heena, Anti-dandruff,

INTRODUCTION:

Shampoo is the hair and scalp's cleansing pretreatment. shampoo enhanced with natural component extracts. The finest and most durable results are produced by these shampoos, which is their best quality. These shampoos don't harm hair and don't contain any harsh ingredients. Nevertheless. While there are many varieties of face cleansers, there is only one kind of preparation that is used to cleanse hair, and that is known as shampoo. In essence, they are water-based compounds made primarily of surfactants. The main purpose is to remove any buildup of sebum, scalp debris, and hair grooming product residue from the hair. Customers will favor the herbal shampoo even though it performs better and is safer than the synthetic varieties. There are a lot of synthetic, herbal, medicated, and non-medicated shampoos on the market these days, but the appeal of natural Customers will favor the herbal shampoo even though it performs better and is safer than the synthetic varieties. There are a lot of synthetic, herbal, medicated, and non-medicated shampoos on the market these days, but the appeal of natural Customers will favor the herbal shampoo even though it performs better and is safer than the synthetic varieties. There are various synthetic, herbal, medicated, and non-medicated shampoos on the market these days, but people are becoming more and more interested in herbal shampoos because they think that since they are natural, they are safe and won't create any adverse effects. Herbal formulas are thought to be a good substitute for synthetic shampoo, however it can be challenging to formulate cosmetics with just natural ingredients. Numerous medicinal plants are frequently included in shampoo composition because of their purportedly positive effects on hair. Customers will favor the herbal shampoo even though it performs better and is safer than the synthetic varieties. These days, a lot of synthetic, herbal, Medicated as well as Shampoo is widely used by both men and women to wash their hair these days. Cleaning the hair of grime is one of shampoo's primary purposes. Sebum by the scalp, perspiration residue, horny layer flakes, residue from hair care products, dust, and other foreign objects deposited on the hair are all parts of the filth. It has been established that certain synthetic shampoo compounds have negative effects. These days, people are conscious of how they affect hair. For these reasons—their low cost and little adverse effects—the public is becoming more interested Herbal cosmetics are in high demand these days due to the extensive increase in the utility of herbs in cosmeceutical production herbal products.

Ideal properties of an Anti-dandruff shampoo:

- Should wash hair thoroughly and effectively
- Should eliminate all dust and extra sebum
- Must generate a significant amount of foam.
- Rinsing with water should make it simple to get rid of the shampoo.
- The hair should be left manageable, silky, shiny, and non-dry.
- Should give the hair a pleasing scent.
- Hands shouldn't be rough or chapped.
- Shouldn't irritate the skin or eyes or have any negative consequences.

BENEFITS OF HERBAL ANTI-DANDRUFF SHAMPOO:

- Controlling sebum production.
- Boosting hair strength and softness.
- Relieving dry and itchy scalp irritation.
- Fortifying hair.
- Preserving moisture.
- Repairing damaged hair.
- Preventing unneeded hair loss.

OBJECTIVE:

One of the essential components of the body, hair is derived from the ectoderm of the skin. It serves as a protective covering for the body and is regarded as an element of the integument, along with the sweat, sebaceous, and nail systems. According to Ayurveda, the main cause of baldness is pitta dosha. Herbs used in Ayurvedic hair loss medication can stop hair loss and promote healthy hair growth. Hair loss has a variety of causes, therefore the issue is still not completely understood. Plants have long been used to enhance hair production, according to reports from the Chinese, Unani, and Ayurvedic medical systems.

MATERIALS AND METHODES-

01. Collection of INGREDIENTS:

All the ingredients including heena, reetha, amla, shikakai, were collected from local market.

INGREDIENTS:

a) Reetha powder:



Alternative: washnut, soapberry, and soapnut

Name in botany: Sapindus mukorossi

Sapindaceae family

Chemical components: The main ingredients of reetha are mucilage, sugars, and saponins.

Applications: Detergent, psoriasis, eczema, epilepsy, and anti-dandruff.

b) Amla powder:



Phyllanthus embilica is its scientific name.

English synonyms for it are Indian gooseberry.

In Hindi: Amla

In Marathi: Awla, Amalaka in Sanskrit Family: Phyllanthaceae

Geographical Source: India is home to these little to medium-sized trees. It can also be found in Myanmar and Sri Lanka.

Ingredients: minerals, tannins, and vitamin C

Applications include hair conditioner, the treatment of scalp irritations, and the encouragement of hair development.

c) **Henna powder:**

Alternate: brick, bronze, chestnut, bay, amber, and bay. Lawsonia inermis is the botanical name.

Egyptian Heena is her common name.

Lythraceae is the family.

P coumaric acid, 2-methoxy-3-methyl-1,4-naphthoquinone and apigenin are the chemical components.

Applications: Fungal infection, dandruff, eczema, hair dye

d) **Shikakai Powder:**

Tatphala, Sari, Dipta Name according to biology: fruits of the Acacia concinna Linn plant.

Name in botany: Acacia concinna

Fabaceae: family

Applications: Anti-dandruff, foam base.

FORMULATION OF HERBAL ANTI-DANDRUFF SHAMPOO-

SR. NO.	INGREDIENTS	QUANTITY	ROLE
1	Shikakai powder	6 gm	Anti-bacterial, anti-oxidant
2	Henna powder	4gm	Anti-microbial
3	Amla powder	3gm	Strengthening
4	Reetha	4gm	Conditioner
5	Sodium lauryl sulphate	4gm	Surfactant
6	Distilled water	q.s.	Vehicle

METHODS OF PREPARATION:

1. Weigh all ingredients such as Shikakai powder, henna powder, amla powder, Reetha powder
2. Grinding mixture was mixed in sufficient amount of water
3. Add sodium lauryl sulphate. Mix the mixture with continuous stirring & filtration
4. Take filtrate in a beaker and store in plastic bottle

Evaluation of Herbal Shampoo:

Quality control procedures, such as visual inspection and physicochemical controls like viscosity and pH, were carried out to assess the manufactured formulations. Specific testing for shampoo formulations, such as measurements of dry residue and moisture content, were conducted in order to further ensure the quality of the goods. The outcomes were contrasted with commercial formulations.

Assessment of the shampoo formulation –

- Solid content; skin irritancy; pH; viscosity; foaming ability and foam stability; dispersion dirt test; and physical appearance/visual inspection.
- The compositions were assessed according to their texture, odour, color, and clarity.
- pH determination: A pH meter was used to assess the pH levels of the various shampoos tested in 1% and 10% water solutions.

- Most shampoos have an acidic or neutral pH. The hair's cuticle, or outer layer, shrinks and lies flatter on the hair shaft when exposed to acidic liquids. The cuticle swells and opens in response to simple solutions. Hair is smoother when treated with acidic solutions.
- Rheological evaluation (viscosity): An Ostwald viscometer is used to test viscosity.
- Stability and capacity for foaming.

Following a minute of shaking, the total volume of foam content was noted. Only the foam volume was computed. The volume of foam was immediately measured for four minutes, at one-minute intervals.

Dirt dispersion test: One drop of India ink was added to a one percent (1%) solution of each shampoo (1 g of sample in 100 mL of water); the test tube was then stopped and shaken ten times. There was estimated to be none, light, moderate, or strong ink in the foam.

Shampoos that result in a concentration of ink within the foam are said to be of low grade. The fraction of the water should contain the dirt. Remaining dirt in the foam will be tough to remove and will end up getting redeposited on the hair.

The percentage of solid material was determined by weighing and adding 4 grams of shampoo to a dry, clean evaporating dish. Weighing the dish and shampoo together was done. Once the precise weight of the shampoo was determined, the liquid portion of the

dish containing the shampoo was heated to a surface temperature and allowed to evaporate. After drying, the weight of the shampoo (solids) was determined.

A shampoo will be difficult to get into the hair and difficult to wash out if it contains too many solids. It will be overly liquid and wash away quickly if there are not enough particles in it. Solids make up 20–30% of a decent shampoo.

Skin Irritancy: - After a few minutes, check for localized irritation or an inflammatory reaction on the skin after using a tiny amount of the product to confirm shampoo skin irritation.

Result and conclusion:

Evaluation parameter	Observation
Physical appearance	Slightly brown amla like smell
pH	5.14+/-0.01
Viscosity	1.18
Foaming ability & foam stability	Good stability and foaming ability
Dispersion and dirt test	Estimated light, indicate dispersion nature of shampoo
Solid content	1.70gm% solid content
Skin irritancy	Not found

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