

# Formulation and evaluation of herbal Shampoo

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**Abstract:** The goal of this research is to create a herbal shampoo that promotes hair growth and strength without harming it. The herbs reetha powder, amla powder, shikakai Powder, Fenugreek powder, flaxseeds powder, Aloe vera extract were chosen using a traditional system. Shampoo is used to clean the hair while also conditioning, smoothing, and maintaining hair health, keeping it free of dandruff, filth, grease, and lice.

The aim of this presents formulation and evaluation herbal shampoo and to assess its physiochemical function that emphasis on safety, efficacy, eliminating harmful ingredient, and substitute with safe natural ingredients. We discovered good qualities for herbal shampoo in our study, and we will continue to optimise the benefits of herbal shampoo for human usage as a cosmetic product. The advantage of herbal cosmetics is their non-toxic nature, reduce the allergic reactions and time tested usefulness of many ingredients. Thus in present work, we found good properties for the herbal shampoo and further optimization study benefits of herbal shampoo on human use as cosmetic product

**Keywords:** Herabl shampoo, Reetha Fenugreek, shikakai, evaluation of shampoo

## INTRODUCTION

Hairs are the integral part of human beauty. People are using herbs for cleaning, beautifying and managing hair since the ancient times. These reasons attracted community towards the herbal products, which are less expensive and have negligible side effects.

Shampoo is the cleansing preparation of the hair And scalp.

Though there are different types of skin cleansers, but the hair cleansing preparations can be grouped into only one category and are called as shampoo. They are basically water based products containing mainly surfactants. It's Primary function is of cleansing the hair of accumulated sebum, scalp, debris and residises of hair grooming preparations. The herbal

shampoo although better in performance and safer than the synthetic ones will be popular with consumers. Shampoo is a polyherbal formulation that consist of Reetha, shikakai, Fenugreek, flaxseeds, gooseberry, and aloe veraextct.

**Aim:** The aim of this presents formulation and evaluation herbal shampoo

**Objective:**

To formulate the herbal shampoo.

To evaluate the herbal shampoo

The part used for formulation is leaves, fruitsAnd root.

To reduce side effects of chemical formulation.

To improve hairs texture.

To darkening the hair

To imparting gloss to hair and to maintain their manageability and oilinessfor hairs.

Table

Sr no	Common name	Botanical name	Part used
1	Reeth	Sapindusmukorossi	Fruit
2	Shikakai	Acaciaconcinna	Fruit
3	Amla	Phyllanthusemblica	Fruit
4	Fenugreek	Trigogellafoenum graceum	Fruit
5	Flaxseed	Linumusitatissimum	Fruit
6	Aloevera	Aloe barbadensis	Pulp
7	Rose water	Rosa damascena	Flower

Introduction to ingredients used in herbal shampoo:

**Reetha:**

It is commonly known as Washnut, soapberry. Reetha or Soapnuts is also called as Arishtak.

Botanical name-Sapindusmukorossi family – Sapindaceae.

Chemical constituents-saponins (10% -11.5%), Sugar (10%) & mucilage, Triterpenes, Six sapindoside (sapindoside A, B, C, D) & mukorossisaponins (EI & YI)

Place of origin: Japan and China The fruit is used for shining hair, curing hair issue, Natural cleanser, Detergent foaming property's.

It can be used on a daily basis to provide nourishment to the hair scalp and promote hair re

The plant is well known for it's folk medicinal Values:

Reetha is found in the hilly regions of the Himalayas in India. The fruit of Reetha has been used in Indian Ayurvedic medicine for decades.

Reetha is a popular ingredient of many Ayurvedic shampoos and cleansers.

The seed kernels of Reetha are a rich source of proteins and show a balanced amino acid composition as per the World Health Organization.

In Addition Phytochemicals like polyphenols and saponins.

Also present to proteins, sugars and fibres are Also present.



Reetha

Shikakai :

Shikakai also known as shika in Tamil, seekaaya in telugu soap pod in English Botanical name: Acacia concinna

Family: Leguminosae

Chemical constituents: lupeol, spinsterol, Acacic acid

It also contains hexacosanol, spinasterone, oxalic acid, tartaric acid.

Place of origin: India.

It is a shrub like tree native to central India. It is a powerful ayurvedic plant that has been used for generations as a cleanser for healthy long hair,

dandruff management.

Therapeutic uses of Shikakai:



Shikakai is a plant that is used in India to treat long hair, dandruff, and skin disorders.

Shikakai is also known to have many medicinal properties include:

Anti-dandruff, Wound healing, Anti-hair fall Properties.

Anti-inflammatory, Antifungal activity.

Anti-oxidant activity. Hair growing property .

Cleans scalp without affecting the natural pH.

Promotes faster hair growth

Amla :

Amla is a superfood from India. Worldwide, it is known as Indian Gooseberry or Gooseberry Amla, also known as Indian gooseberries. Botanical name: Phyllanthusemblica.

Family: Phyllanthaceae.

Chemical constituents: Vitamin C, ascorbic acid, Gallic acid, chebulagic acid, aepigenin, quercetin, corilagin, leutolin. Place of origin: Europe, American, India, etc. Amla also has powerful antioxidants that provide several benefits to hair.

Therapeutic uses of amla :

- Strengthen the scalp and hair.
- Reduce premature pigment loss from hair or greying.
- Stimulate hair growth.
- Reduce hair loss.
- Prevent or treat dandruff and scalp.
- Prevent or treat fungal and bacterial hair and scalp infection.
- Improve overall appearance of.



### Amla

Fenugreek:

Common name : Herbaceous plant Genus Trigonella, Fenugreek seed. Trigonella Also spelled foenugreek, Fragrant herb of the pea.

Botanical name: Trigonella foenum-graecum Family: Fabaceae

Chemical constituents: alkaloids, saponins, and Flavonoids, Trigogenin, neotrigogenin

Place of origin: southeastern Europe, western Asia, India, and northern Africa.

Therapeutic uses of Fenugreek:

- Prevents Hair Loss.
- Revives damaged hair. Fights dandruff.
- Controls scalp inflammation
- Adds shine and soft texture
- Prevents premature grey hair.

Fenugreek (Trigonella foenum-graecum)



Flaxseeds:

Flaxseed, also known as flax, is an annual plant grown for its fiber and seeds.

The Latin name of flaxseed (*Linum usitatissimum* L.) means "very useful", and it has two basic varieties: brown and yellow or golden (also known as golden linseeds)

Botanical name: *Linum usitatissimum*.

Family: Linaceae.

Chemical constituents: a-linolenic acid, Linoleic acid, Oleic acid.



Aloe vera:

Aloe vera is gel from the leaves of aloe plants.

Common name: India aloe, Small aloe, Ghrithkumari  
Botanical name: *Aloe barbadensis* miller.

Family: Asphodelaceae (Liliaceae).

Chemical constituents: vitamins, enzymes, minerals, Sugars, lignin, saponins, salicylic acids and amino acids  
Vitamins contains: beta-carotene, C and E. Place of origin: Greece, Egypt, India, Mexico, Japan and China  
Therapeutic uses of aloe vera:

Moisturising: The high water content of aloe vera helps keep the scalp and hair hydrated. It helps lock in moisture, fighting dryness. Using aloe vera gel on your scalp will result in smooth, soft locks that look and feel healthy.

Reduces dandruff: Aloe vera has been proven to reduce dandruff significantly. Dandruff Caused by dryness is out of the question if the scalp is kept moisturised. Aloe Vera has Properties that fight fungal and bacterial microbes.

Cleanses the scalp: Aloe vera is a natural cleanser that helps remove dead skin cells, dirt, Excess sebum, and even tough product build-up. The antimicrobial property of aloe vera Keeps the scalp clean without stripping it off of its natural oils or making the scalp too dry.

Balances hair pH: Most over the counter hair products have the wrong pH disrupting the balance. However, aloe vera has a pH similar to that of hair. Using aloe Vera regularly will help bring the balance back, which may have been changed due to using the wrong kind of products.

Rose Water (Rosa Damascena):-

Dilute the shampoo in rose water to wash the hair. The CRT properties and pH of rose water will be especially helpful for cleansing. Many people use different brews or cold water as the last rinse. Rose water can be used as a last rinse for hydrating the hair and imparting a shine.

Rose Water Improves Hair Growth. The vitamins A, B3, C and E of rose water promote the growth of your hair, by nourishing the scalp and promoting hair growth.

Material and methods

Table 2 : Formulation of Herbal shampoo

Sr no.	Ingredients	Quantity
1	Reetha	40%
2	Shikakai	30%
3	Amla	10%
4	Fenugreek	5%
5	Flaxseed	5%
6	Aloevera	10%
7	Rose water	1-2 drop
8	Distilled water	Q.S

Preparation method:

Decoction:

Weighed all the ingredients according to the Formula. Decoction of Reetha, shikakai, amla, was prepared in one part of water. Filter it, by using muslin cloth. Collect filtrate.

Decoction of Fenugreek, flaxseeds, aloe vera gel was prepared in another part of water.

Mixed to each other of above filtrate with constant stirring.

Above extract was stirred for 20 min.

Continuous stirring was used.

Filter it by using muslin cloth. Collect filtrate.

The shampoo was prepared and placed into a plastic container.

Evaluation Test:

Shampoo was tested for the following parameters:

Organoleptic Evaluation:

Colour: The formulation's colour was tested against a white background,

Odour: The odour of the formulation was assessed by smelling it.

Visual assessment-

The prepared formulation was assessed for color, clarity, odor, and froth content

pH determination-

The pH of the prepared herbal shampoo in distilled water (10% v/v) was evaluated by means of pH analyzer at room temperature.

Surface tension measurement

The prepared shampoo in distilled water (10% w/v) was evaluated for surface tension using stalagmometer in room temperature.

Determine percent of solids contents

A clean, dry evaporating dish was weighed and added 4 gram's of herbal shampoo to the evaporating dish. The exact weight of the shampoo was calculated only and put the evaporating dish with shampoo was placed on the hot plate until the liquid portion was evaporated. The weight of the Shampoo only (solids) after drying was calculated.

Rheological evaluation

The viscosity of the shampoo was calculated by using Viscometer. The viscosity of the shampoos was measured with the temperature and sample containers size was kept constant during the study.

Dirt dispersion

Two drops of shampoo were added in large test tube contain 10 ml of distilled water. One drop of ink was added in the Test tube, was stopped and shake for ten times. The amount of ink in the foam was estimated as none, light, moderate or Heavy.

Skin sensitization test

This test is performed on skin of human volunteers and checks whether it irritation on skin or not.

Stability test

Stability and acceptability of organoleptic properties (odour and color) of formulations during the storage period of 2 months Indicated that they are chemically and physically stable,

Foaming ability and foam stability

Cylinder shake method was used for determining foaming Ability. 50 ml of the 19% shampoo solution was put into a 250 ml graduated cylinder and covered the cylinder with hand and shaken for 10 times were

recorded. The total volumes of the foam contents after 1 minute shaking. The foam volume was calculated only. Immediately after shaking the volume of foam at 1 minute intervals for 4 minutes were recorded.

#### RESULT

The created cleanser was clear and good appealing. It demonstrated good froth stability, detergency, good cleansing, small bubble size, low surface strain, and execution of good conditioning.

#### CONCLUSION

The main purpose behind this investigation was to develop a stable and functionally effective shampoo. The present study was carried out with the aim of preparing the herbal shampoo that provides smooth and straight effect to hairs, than the chemical conditioning agents.

Herbal shampoo was formulated with the aqueous extract of medicinal plants that are commonly used for cleansing and smoothening hair traditionally.

To provide the effective conditioning effects, the present study involves the use of aloe vera, Shikakai and Ritha extracts instead of synthetic cationic conditioners.

#### DISCUSSION

The herbal shampoos are the preparations which are used for the washing and cleaning of hairs and to provide nourishment. The herbal shampoos are widely used due to their no or less side effects as compared to conventional shampoos, because it contains pure natural or herbal ingredients rather than

synthetic chemicals. Herbal shampoo does not require animal testing and it is earth and skin friendly.

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