

Formulation and Evaluation of Herbal Anti-Dandruff 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 neem, shikakai, tulsi, aloe-vera, cetosteryl alcohol, sodium lauryl sulphate, guar gum, methyl paraben, propyl parabin, lavender oil, glycerin and purified water 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: Herbal shampoo, tulsi, aloe-vera, cetosteryl alcohol, shikakai, evaluation of shampoo

INTRODUCTION

Dandruff is the major cosmetic problem and great public concern both in developed and developing countries.

The word dandruff is combination of ‘tan’ meaning ‘tetter’ and ‘drof meaning ‘dirty’.

Dandruff is a chronic scalp condition leading to scaling, itching, redness of scalp by shedding epidermal cells. Scalp sheds dead cells in nearly invisible way but sometimes sheds as visible flakes called dandruff.

Dandruff is a cluster of coenocytes retained by cohesion with one another and detach from surface of stratum carenum. Parakeratosis cells often make up a

part of dandruff. In physiological spectrum of scaling about 487,000 cells/sq cm get released after detergent treatment.

During the past decades there has been increase in use of natural products in cosmetics. Natural botanical use their crude form, purified extracts. Many herbal shampoo available in market contains herbal ingredients such as plant extracts and essential oils. Tulsi, Henna, Neem, Lemon, shikakai are commonly used plants in shampoo formulations of which some how anti-dandruff activity

Classification of Dandruff-

Depending upon the symptoms the dandruffis classified into two main types

Dry dandruff:

It is also called as pityriasis simplex characterize by excessive formation 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 is not observed.

The scales are first found in middle of the scalp and then spread to frontal, parietal and occipital areas.

Oily dandruff:

It is also called as pityriasis steatoides.

It arrives on the scalp with sebum production.

It is mostly found in young men following puberty. Inflammation of varied intensity developed on the scalp along with oily scales of dirty yellow colour.

Hair fall is most commonly found in this condition. The most common site affected by this type of dandruff is scalp, behind the ears, over breast bone, armpits.

Promotes faster hair growth

OBJECTIVE

1. To formulate anti-dandruff shampoo by using ingredients such as Neem and Tulsi.
2. Evaluation of herbal anti-dandruff shampoo for Appearance, Percentage solid content, pH, Foam volume and antimicrobial activity against Staphylococcus aureus.
3. The objective of this study is to formulate and evaluate polyherbal shampoo for cosmetic purpose from herbal ingredients.
4. Herbal anti dandruff shampoo were prepared by using various herbal ingredient
5. Therapeutic uses of Fenugreek:
 - Hair Loss.

MATERIALS

Drug Profile and Excipient

Sr.No	Common Name	Figure	Category
1	Neem		Antibacterial, Wound healing activity, skin ulcers, fever, cardiovascular diseases, liver problem.
2	Tulsi		Reduce gastrointestinal disorder, it relieves signs of asthma, antimicrobial, wound healing activity
3	Aloevera		Used in abrasion and skin irritation, Antinflammatory
4	Shikakai		Antifungal, Nourish follicles, curb dandruff

7	Guar gum		Thickening agent, Stabilizing agent
8	Methyl Paraben		Antifungal, preservative.
10	Lavender oil		Flavoring agent, Skin application, Used in massage Therapy.
11	Glycerin		Minimizing the water loss, keeping the skin hydrated
12	Purified Water		Solvent, Conditioning agent, Cleansing agent.

METHODS

Preparation of Plant Extract :

The extract was prepared by simple maceration. Firstly we were take 20 gm of each leaves of plants such as Neem and Tulsi, Shikakaithey were dried pulverized in air, and then they were soaked with 200ml of water for 48hr. After 24hr solvent was decanted and theresidue again soaked with the same solvent for 24hr. The total extract was combined and filter then the evaporation of solvent was done on heating mental this was dried and stored in desiccator for further use.

Formulation of anti-dandruff shampoo:

Shampoo was formulated using simple mixing process. Tulsi, shikakai, Neem extracts weremixed with other ingredients as given in formulation table no 2.

FORMULA

Ingredient of Herbal Anti-Dandruff Shampoo

Sr.No.	Ingrediens	Quantity
1	Neem	2ml
2	Tulsi	2ml
3	Shikakai	2ml
4	Aloevera	2ml
5	Cestosteryl Alcohol	1g
6	Sodium Lauryl Sulphate	6g
7	Guargum	0.5g
8	Methyl paraben	0.1g
9	Propyl paraben	0.9g
10	Lavender oil	1ml
11	Glycerin	3ml
12	Purified water	q.s.

PHARMACEUTICAL EVALUATION OF SHAMPOO:

The formulation were evaluate for As per following parameter >Physical Appearance -

The formulated shampoo were observed for their visual appearance, transparency, color, consistency.

Appearance: clear Color: Brown

Transparency: Non-Transparence Consistency: Smooth



Formulated shampoo

>pH -

The pH of formulated shampoo was determined by using digital pH meter by dissolving 1gms shampoo in 100ml of water.

Hair pH = 4.5-5.5 Skin pH = 5.4-5.9



pH Test

The consistency of formulated cream were determined by hand. Take pinch of shampoo and rubbed it with finger.

Percentage solid content -

The percentage solid content was determined by weighing about 4g of shampoo in evaporating dish. The liquid portion of shampoo was evaporated by placing in heating mantle. Finally the weight and



Antimicrobial Activity -

In this method the agar is melted, cooled at 45°C, Inoculate with the test microorganism and then pour in the sterile petri plate. In this method when the agar plate has been solidified then holes about 9mm in diameter in the medium with sterile cork borer, Then the antimicrobial agent are placed in the hole and in another hole placed marketed formulation acts as standard, the diameter of zone of inhibition were measured

after inoculation at 30°-35°C for 2-3 days. The diameter of zone of inhibition gives an indication of the relative activity of different antimicrobial substance against tested microorganism.

Foam stability test-

The stability of foam was determined by using cylinder shake method. About 50 ml of 1% formulated shampoo taken in 250 ml measuring cylinder and shaken for 10 minutes. The total foam volume was measured after 1 minute and foam stability was determined by recording foam volume from 1 to 4 minute



Stability Studies -

The stability of the formulation was tested by filling the cream in plastic container and placing it in humidity chamber at 45°C and 75% relative humidity. The stability of the formulation was inspected for 3 months at interval of One month each.

RESULT

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 ones. So, a herbal anti-dandruff shampoo is nontoxic, safe, effective and improves patient compliance as it contains a herbal ingredient. From ancient times.

These prepared herbal anti-dandruff shampoo was evaluated for various parameters like appearance, determination of consistency, pH, Foam stability and antimicrobial activity against *Staphylococcus aureus*.

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 shows fewer side effects as compared to shampoo which are prepared from synthetic compounds.

The prepared shampoo was evaluated using various parameters and was found to be satisfied for the application to the hair.

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