



FORMULATION AND EVALUATION OF HERBAL ANTIDANDRUFF SHAMPOO

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ABSTRACT

Herbal antidandruff shampoo is widely used now a days because of its good antidandruff activity and less harmful effect as compared to synthetic one. There are large no of plants which are reported to have beneficial effect on hair and commonly used in shampoo. In the present study herbal cream shampoo was prepared by using natural ingredients such as fenugreek powder, eucalyptus powder, hibiscus, neem, lemon juice. along with other ingredients like glycerin, sodium lauryl ether sulphate, propyl glycol and coconut oil. The formed herbal shampoo thick, cream in color, good foaming ability and fluidity. the ph of herbal shampoo was found 5.82 which is acidic in nature. Solid content was found to be 0.01gm of weight of total content, foam stability was found 1 min. dirt dispersion study shows result as light. All these characters demonstrates that the herbal shampoo is high quality for usable in daily life.

KEYWORDS: Crude drug extraction, herbal shampoo, maceration method, fenugreek, eucalyptus oil.

INTRODUCTION

Herbal antidandruff shampoo is defined as a preparation of surfactant (surface active material), It contains all the natural ingredients with herb extract. It helps hairs to improve their quality of moisture, shine, growth, thickening, strength of hair roots. The most advantage of herbals is that it has no any side effects. Herbal antidandruff shampoo contains neem, hibiscus the fenugreek powder, eucalyptus powder, lemon.

Herbal drugs or their formulations are viable alternative to synthetic drugs. During the past few decades, there has been a dramatic increase in the use of natural products in cosmetics. Natural botanicals may be used in their crude form or they may be extracted, purified or derivative to render them more suitable for use in cosmetic. A wide range of active principles of various plants including vitamins, hormones, phyto-hormones, bioflavonoid, enzymes, tannic acid, fruit acids, amino acids, sugars, glycosides and essential oils, are being considered useful in cosmetic formulations. The need for cosmetics with herbs is primarily because it is believed that these products are safe and free from side effects. Now-a-days, many herbal shampoos are available in the market which contains herbal ingredients such as plant extracts and essential oils. There are large numbers of plants which are reported to have beneficial effects on hair and are commonly used in shampoo.

The prepared formulas were in vitro evaluated for detergency, foam volume and stability, surface tension, wetting properties, pH, viscosity, conditioning effects. The prepared formulas were in vitro evaluated for detergency, foam volume and stability, surface tension, wetting properties, pH, viscosity, conditioning effects.

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MATERIAL AND METHODS

1. Collection of plant material

Leaves of the plant eucalyptus, neem, fenugreek leaves and hibiscus were collected from botanical garden of government college of pharmacy Aurangabad in Oct 2019. Authentication of sample was done by the head of department pharmacognosy at government college of pharmacy Aurangabad.

2. Preparations of herb extract

Initially neem leaves, eucalyptus leaves and fenugreek seeds were ground using a mixer grinder. The grinded mixture was added to the ethanol solution in the ratio of 1:1 by using the maceration method as follows. In this process, the whole or coarsely powdered crude drug is placed in a stopper 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 is then strained, the marc (the damp solid material) is pressed, and the combined liquids are clarified by filtration or decantation after standing. In this process, the ethanol extract was filtered through Whatman filter paper in order to get a particulate-free extract. Final extract was prepared by mixing extract with a small amount of coconut oil.



B. PREPARATION METHOD

1. In a beaker, Sodium lauryl ether sulphate, Glycerin, and coconut oil were mixed by gradual stirring. (acc. To table no. 1)
2. Herbal extract with lemon juice is then added to it and stirred gradually to avoid foaming.
3. Preservative like methyl Paraben and sodium benzoate is added along with coconut oil.
4. Then perfume is added as per need and prepared shampoo was evaluated for its activity.

Formulation table

Table 01:

| Ingredients | Quantity | Use |
|------------------------|----------|----------------------------|
| Sodium lauryl sulphate | 7.5 mg | Surfactant |
| Herb extract | 2.5ml | Active constituents |
| Glycerin | 4.5 ml | Moisturizing agent |
| Coconut oil | 1.5 ml | It increases the viscosity |
| Sodium benzoate | 0.37mg | As preservative |
| Propyl Paraben | 0.25mg | As preservative |
| Perfume | Q.S | fragrance |

Evaluation Parameter Of Herbal Antidandruff Shampoo

1. Physical appearance: The prepared formulations were evaluated in terms of their clarity, thickness, color, foam-producing ability, and fluidity.



2. Determination of Ph

The pH of herbal antidandruff shampoo solution in distilled water was determined at room temperature degree by using digital pH meter.



Determine % of solid contents

A clean dry porcelain dish was weighed and added 1mg of herbal antidandruff shampoo to the evaporating dish. The dish and herbal antidandruff shampoo was weighed. The exact weight of herbal antidandruff shampoo was calculated only and put the evaporating dish with herbal antidandruff shampoo was placed on the plate until liquid portion was evaporated. The 0.01gm weight of herbal antidandruff shampoo only (solid) after drying was calculated.

1. Dirt dispersion

Two drops of herbal antidandruff shampoo were added in large test tube contain 10 ml distilled water. 1 drop of

Indian ink wash added: the test tube was stopper and shake it ten times. The amount of ink in the foam was estimated as light.



Cleansing action

5gm of wool yarn were placed in grease. After that it was placed in 200ml of water containing 1 gm Herbal antidandruff shampoo in flask. Temperature of water is maintained at 35 degree Celsius. The flask was shaken for 4min at the rate 50 min the solution was removed and sample was taken out. The amount of grease removed.

$DP = \frac{W}{C} \times 100$ In which, DP is the percentage of detergency power, 1g is the weight of sebum in the control sample and

the cleansing action HS is found to be 15% in which, DP is the percentage of detergency power, 1g is the weight of sebum in the control sample and the cleansing action HS is found to be 15%. In which DP is detergency power, 1 gm is weight of grease in the control sample and cleansing action of sample was found to be 10%.



Foaming ability: Cylinder shake method was used for determining foaming ability. 50ml of the 1% herbal antidandruff shampoo solution was put into 250 ml graduated cylinder and cover cylinder with hand and

shake for 10 times. The total volume of the foam content after 1 min shaking were recorded. The foam volume is calculated only. Immediately after shaking volume of foam at 1min interval for 4min were recorded.



Rheological evaluations

The viscosity of the HS was determined by using Brookfield Viscometer set at different spindle speeds from 0.3 to 10 rpm. The viscosity of the HS was measured by using spindle T95. The temperature and sample container's size was kept constants during the study

RESULT

The herbal antidandruff shampoo was formulated using neem, eucalypts, hibiscus, lemon juice, fenugreek powder extract with various ingredients as mentioned in table. SLS used as surfactant. Glycerin as moisturizing agent. Propyl paraben and sodium benzoate used as preservative. And Propyl glycol as pearlescing effect. The formulation was evaluated against various quality parameter like PH, Appearance, viscosity, stability, rheology and cleansing.

Table 02:

| Sr.No | Parameters | Result |
|-------|---------------------|--|
| 1 | Physical appearance | Brown color. |
| 2 | PH | 5.82 ±0.3 |
| 3 | solid contents | 0.01 gm |
| 5 | Dirt dispersion | The estimated amount of ink in the foam is considered as light |
| 6 | Cleansing Action | Good |
| 7 | Foaming ability | Good stable foam up to 1 min. |
| 8 | Rheology | 0.89 Pa. |
| 9 | Cleansing action | 10% ±0.21% |

CONCLUSION

The present study focus on preparation of herbal shampoo which is used to eliminate the use of harmful synthetic ingredient from antidandruff shampoo. Formulation and substitute them with safe natural ingredients. Formulated herbal shampoo shows good physical properties like PH, percentage of solid, foam retention, viscosity and dirt dispersion.

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