



A REVIEW ON FORMULATION AND EVALUATION OF HERBAL SHAMPOO

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abstract: the purpose of this review is to gather information related to herbal shampoo. in day-to-day life hair care is of prime importance. a good care of hairs can be taken by use of different cosmetic products like hair oil, hair shampoo, hair gel, hair serum, hair cream etc. the primary goal of this study is to create and assess a herbal shampoo and determine its physicochemical function, with an emphasis on the product's safety, efficacy, and quality. herbal shampoo is a natural hair care solution that is used to clean up grease, debris, and dandruff as well as to encourage hair growth, strength, and blackness. additionally, it gives the hair gloss, smoothness, and tenderness. cosmetic shampoo is made with a variety of medications. the negative effects of these medication include hair loss, increased scaling, itching, discomfort, nausea, and headaches. consequently, an effort is made to create herbal shampoo that has no negative effects. many herbal crude drugs are used in shampoo formulation like lemon juice, turmeric, coconut oil almond oil, sodium hydroxide, sodium lauryl sulfate, coca butter.

keywords: herbal shampoo, dandruff, hair care, olive extract, lemon juice, turmeric extract.

I. INTRODUCTION

herbal shampoo:

in our daily lives, shampoos are likely the most often used cosmetic products to clean our hair and scalp(1)shampoos made from herbs are cosmetic products that, like conventional shampoo, is intended to clean the hair and scalp through the application of traditional ayurveda herbs. they are used to remove pollutants from the environment, dandruff, oils, and grime. herbal shampoo is a type of cosmetic product that uses plant-based herbs as an alternative to commercially available synthetic shampoo. the use of herbal shampoo is crucial since modern consumers prefer natural goods over synthetic ones because they have been shown to improve health. herbal cosmetics are becoming more popular and in demand, largely because it is thought that they are risk-free and have no negative side effects. (2) shampoo is a liquid or semi-liquid product used to wash the hair and scalp. in the same way that conventional shampoos are used to clean the hair and scalp, herbal shampoos are cosmetic preparations made from traditional and ayurvedic herbs.

they are used for the purpose:

1. removal of dirt
2. removal of dandruff are meant for cleansing the hair and scalp just like the regular shampoos.
3. removal of oil.

the main goal is to rid the hair of accumulated sebum, scalp residue, and hair-grooming preparation residue. the performance of herbal shampoos is superior than synthetic ones, and they are also safer.(3)

need of shampoo:

sebum is a fatty fluid that is produced by the skin on our heads. it is created to coat the entire head in order to protect the hair. when secreted in big amounts, this makes the hair look dirty but gives it a healthy sheen.

history:

indian subcontinent :

since ancient times, many herbs and their extracts have been utilised in shampoos throughout the indian subcontinent. in the past, boiling Sapindus with dried indian gooseberry produced an extremely potent shampoo. using the strained extract, one can prepare (amla) and a variety of other plants. indians refer to the sapindus tree, sometimes referred to as soapberries or soapnuts, as ksuna(4). ancient indian scriptures mention the fruit pulp's saponins, a naturally occurring surfactant. indian scriptures referred to the lather produced by soapberry extract as phenaka(5). the hair is left feeling silky, lustrous, and manageable. shikkai (acacia concinna), hibiscus blossoms, ritha (sapindus mukorossi), and arappu (albizzia amara) were other hair-cleansing ingredients. (6,7,8) the originator and founder of sikhism, guru nanak, made allusions to soap and the soapberry tree in the sixteenth century .(9)early colonial traders in india indulged in champu, or body and hair massage, as part of their daily bath ritual. they brought the newly acquired habits, including the shampoo-like hair treatment, back to europe (10).

ideal properties of herbal shampoo

1. ease of application
2. removal of debris.
3. wet combing will be easy.
4. good fragrance.
5. irritation level is low.
6. well preserved.
7. good stability (11)

advantages

- pure and organic ingredients are used.
- these shampoos are free from side effects.
- no synthetic additives such as sodium lauryl sulphate.
- no animal testing.
- skin friendly.
- these shampoos help in the strengthening the root which in turn helps in increasing the growth of hair.
- herbal shampoos also help in increasing the shine of hair therefore for one who suffers from dry and dull hair these herbal shampoos are beneficial.
- it enhances the roots and helps in the formation of new root which are soft then before.
- herbal shampoos help in reducing the dandruff production in the scalp.
- they may be beneficial in reduction of hair fall.

disadvantages

- some herbs are sensitive to scalp. example: menthol.
- natural products affect product uniformity and quality control.
- sessional variation of plant constituents occurs.
- less stable so, preservative should be added.
- varying in consistency from batch to batch.

- dry shampoo doesn't clean hair.
- skin allergies may be occurred. (12)

functions of shampoo

1. it should effectively and completely remove dirt or soil.
2. it should effectively wash the hair.
3. it should produce a good amount of foam to satisfy the user.
4. it should be readily removed by rinsing with water.
5. it should impart a pleasant fragrance to the hair.
6. it should not have any side effects or causes irritation to the skin and eye.

classification of shampoo

1 based on appearance.

- powder shampoo
- liquid shampoo or lotion shampoo
- gel shampoo or solid shampoo
- cream shampoo
- oil shampoo
- miscellaneous anti dandruff shampoo or medicated shampoo

2. based on use or function.

- conditioning shampoo
- antidandruff shampoo
- therapeutic shampoo
- baby shampoo
- balancing shampoo
- clarifying shampoo

3. based on origin:

- herbal shampoo
- egg shampoo

evaluation of shampoos comprises the quality control tests including visual assessment and physiochemical controls such as ph, density and viscosity. (13)

formulation of herbal shampoo:

to create herbal shampoo, different plant extracts were combined in varying ratios.
ingredients needed to make herbal.

formulation table:

| sr.no. | ingredients | quantity | category |
|--------|------------------------|----------|-------------------|
| 1. | lemon juice | 70 ml | antimicrobial |
| 2. | turmeric | 10gm | anti-inflammatory |
| 3. | coconut oil | 75ml | anti-bacterial |
| 4. | almond oil | 15ml | anti-fungal agent |
| 5. | sodium hydroxide | 43.3 gm | preservative |
| 6. | sodium lauryl sulphate | 4gm | cleansing agent |
| 7. | coca butter | 75gm | anti-bacterial |

evaluation of herbal shampoo:

the produced formulation was assessed for product performance, including solid content, ph, solidoleptic characteristics, and physicochemical characterization. to ensure the products' quality, specific using a set methodology, experiments were carried out to measure surface tension, foam volume, foam stability, and wetting time.

visual evaluation:

the prepared formulation's colour, clarity, odour, and foam content were evaluated.

ph determination :

by using a ph metre at room temperature, the ph of the produced herbal shampoo in distilled water (10% v/v) was determined. (14)

determination of solid content percentage –

weighing approximately 4 g of shampoo in a dry, clean, and evaporating dish allowed us to calculate the percentage of solid substance. the operation was conducted once more to verify the outcome. by placing the dish on a heated plate, the liquid shampoo portion evaporated. after the shampoo had fully dried, the proportion and weight of the solid components were calculated. (15)

surface tension measurement-

the surface tension of the produced shampoo in distilled water (10% w/v) was measured using a stalagmometer at room temperature. (16)

testing of wetting-

the amount of time needed for the canvas paper to completely sink was used to compute the wetting time . a disc with a 1-inch diameter was made from a piece of canvas paper that weighed 0.44 g. the canvas paper disc was placed over the shampoo (1% v/v) surface, and the duration it took for the paper to sink was timed using a timer.

foam stability test-

the cylinder shake method was used to assess the stability of the foam. in a graduated cylinder with a capacity of 250 ml, 50 ml of shampoo formulation (1%) solution was added, and the cylinder was forcefully shaken 10 times. by measuring the foam volume of a shake test after one minute and four minutes, respectively, foam stability was determined (17). after one minute of shaking, the total volume of foam was measured.

dirt dispersion test-

two drops of the cleanser were added to 10 ml of distilled water and placed in a test tube with a large mouth. one drop of indian ink was added to the prepared shampoo, and the test tube was sealed with a stopper. the mixture was then shook for 10 minutes. measurements were made of the amount of ink in the froth, and the results were categorised as none, slight, medium, or heavy.(18)

conclusion:

the goal of the current study is to develop a herbal shampoo that stops hair loss and increases hair strength and growth. the aqueous extract of medicinal herbs was used in the formulation of herbal shampoo. plants that are frequently used in traditional hair washing methods. the use of synthetic conditioning treatments lowers protein or hair loss. instead of synthetic ingredients, the current study uses lemon juice, turmeric, coconut oil almond oil, sodium hydroxide, sodium lauryl sulphate, coca butter and other plant extracts to offer the conditioning benefits.

reference :

1. .ishii mk. objective and instrumental methods for evaluation of hair care product efficacy and substantiation of claims. in: hair and hair care. new york: marcel dekker, inc; 1997. p. 261-302
2. arora, p., nanda, a., karan, m. 2011. shampoos based on synthetic ingredients vis-à-vis shampoos based on herbal ingredients: review. int. j. pharma sci. rev. res. 7, pp.41.
3. .vijaya lakshmi a, sangeetha s, ranjith n. formulation and evaluation of herbal shampoo. asian journal of pharmaceutical and clinical research. 2018;11(4):121-124.
4. .sanskrit lexicon, monier-williams dictionary (1872) .
5. spoken sanskrit, university of koeln, germany.
6. .rahman, history of indian science, technology and culture at google books, oxford university press, isbn 978-0195646528, page 145
7. "tamil nadu medicinal plants board" (pdf). archived from the original (pdf) on july 21, 2011.
8. ."forestry :: nursery technologies". agritech.tnau.ac.in.
9. khushwant singh, hymns of guru nanak, orient longman, isbn 978- 8125011613
10. .virginia smith (2007), clean: a history of personal hygiene and purity, oxford university press
11. .suyog sunil bhagwath. formulation and evaluation of herbal shampoo. jcrt. 2021;8(9):2860-2869.
12. priya d, gaikwad, kamani v mulay, madhavee d borade. formulation and evaluation of herbal shampoo. ijsr.2018;9(3):29-31.
13. .ashwini sukhdev pundkar* and sujata p. ingale ,world journal of pharmaceutical research, volume 9, issue 5, 901-911.
14. .badi ka, khan sa. formulation, evaluation and comparison of the herbal shampoo with the commercial shampoo. beni-suef univ j basic appl sci 2014;3:301-5.
15. .gaud rs, gupta gd. practical physical pharmacy. 1st ed. new delhi: c.b.s. publisher and distributor; 2001. p. 81-105.
16. .mainkar ar, jolly ci. evaluation of commercial herbal shampoos. int j cosmet sci 2000;22:385-91.
17. .klein k. evaluation of shampoo foam. cosmet toilet mag 2004;119:32-5.
18. .ali hs, kadhim rb. formulation and evaluation of herbal shampoo from ziziphus spina leaves extract. int j res appl pharm2011;2:1802-6.