

Research On Formulation And Evaluation of Herbal Shampoo.

Author Name- 1) Gaikwad Saurabh Dilip.

2) Gaikwad Supriya Bhausahab.

3) Ghule Ajit Jagannath .

4) Gavali Akshay Sampat.

5) Gaikwad Rishikesh Rajendra.

6) Assi.Prof.Bhosale Mahesh Pandurang.

(Dharmaraj Shaikshanik Pratishthan's College of Pharmacy, Walki, Ahmednagar)

Herbal shampoo : An Overview

Abstract

The primary goal of this research is to create and evaluate a herbal shampoo, as well as to discover its physiochemical function, with a focus on the product's safety, efficacy, and quality. Herbal Shampoo is a natural haircare solution that removes grease, dirt, and dandruff while also encouraging hair growth, strength, and darkness. It also gives the hair softness, smoothness, and radiance. Shampoo for cosmetics is made up of a variety of medications. Hair loss, increased scaling, scratching, pain, nausea, and headache are some of the negative effects of these medications. As a result, an effort is made to create a herbal shampoo that is devoid of adverse effects. The main objective of this study was to eliminate harmful synthetic ingredient from shampoo formulation and substitute them with safe natural ingredients

Keywords: *cosmetic, Herbal shampoo, aloe vera, dandruff, Hibiscus rosa-sinesis, Acasia concinna, sapindus mukorossi, Azadirachta indica and Glyccerrhiza glabra.*

Introduction:

Shampoos are possibly the most broadly used beauty merchandise for cleaning hairs and scalp in our every day life [1]. Herbal shampoos are the beauty preparations that with the use of typical ayurvedic herbs are intended for cleaning the hair and scalp simply like the normal shampoo. They are used for elimination of oils, dandruff, dirt, environmental pollution etc. Herbal shampoo is kind of beauty preparation that makes use of herbs from plant life as an choice to the artificial shampoo available in the market. The natural shampoo is important, as humans nowadays choose natural merchandise than chemical ones for they proved to decorate health.

Hair is one of the exterior barometers of inside physique conditions. It is an necessary phase of human physique [1] derived from ectoderm and is protecting appendages on the physique [2] related with sebaceous glands, sweat glands. Haircare merchandise are the training which are intended for cleansing, editing the texture, altering of the color, providing nourishment to the hair and giving the healthful seem to the hair [3]. Shampoo is described as a beauty preparation supposed for washing hair of gathered sebum, scalp particles and residue of hair grooming preparations. The goal of the existing lookup work is to formulate and consider an natural shampoo with a range of herbs for multipurpose use by way of putting off all

historically integrated artificial ingredients. This shampoo clears sebum, dirt, dandruff, promotes hair growth, strengthens, and darkens hair. Moreover, it additionally acts as a conditioning agent. This natural shampoo powder performs all these moves except affecting or destructive hair [1].

❖ HUMAN HAIR: -

Human hair has about 65-95% of its weight in proteins, extra 32% of water, lipid pigments and different components.

Chemically, about 80% of human hair is shaped via a protein regarded as keratin, with an excessive grade of sulfur. Keratin is a laminated complicated fashioned with the aid of distinctive structures, which offers the hair strength, flexibility, durability, and performance (1)

. The physicochemical homes and form of the hair is the direct end result of the corporation of its a range of structural elements, proteins being the most significant. Hair shape is described in the hair



STRUCTURE OF HAIR:-



- Each hair has a hair shaft and a hair root. The shaft is the seen section of hair that sticks out of the skin. The hair roots is in the pores and skin and extends down to the deeper layers of skin. It is surrounded by means of the hair follicle (a sheath of pores and skin and connective tissue), which is additionally related to a sebaceous gland.
- Each hair follicle is connected to a tiny muscle (arrector pili) that can make the hair stand up. Many nerves feel hair motion and are touchy to even the slightest draft.
- At the base of the hair, the hair root widens to a spherical hair bulb. The hair papilla, which elements the hair root with blood, is discovered interior the backside of the hair

bulb. New hair cells are continuously being in the hair bulb, shut to the papilla.

- New cells are continuously forming in hair bulbs. The cells stick collectively and harden. The full strand of hair develops from this team of hardened hair cells. Because new hardened cells hold on attaching to the hair from below, it is progressively pushed up out of the skin. In this way, a single hair on your head grows at a rate of about 1 cm per month.
- The shade of the hair is decided by means of the quantity of melanin in the hardened cells. This can fluctuate a lot from character to person, and it adjusts over the direction of a lifetime. The quantity of melanin typically decreases as human beings get older, and greater air receives trapped inner the hair – it then loses its color and turns white. Depending on someone's authentic hair shade and the variety of white hairs that develop, the hair on their head then turns grey or white.

History ;

In the Indian subcontinent, a range of herbs and their extracts have been used as shampoos considering historic times. A very high-quality early shampoo used to be made with the aid of boiling Sapindus with dried Indian gooseberry (amla) and a resolution of different herbs, the use of the strained extract. Additionally recognized as soapberries or soapsuds, a tropical tree widespread in India, is known as ksuna[3]. In historical Indian texts and its fruit pulp consists of saponins which are a herbal surfactant. Cleansing with hair and physique rubdown (champu) all through one's every day tub was an indulgence of early colonial merchants in India. When they lower back to Europe, they brought the newly realized habits, which includes the hair treatment they know as shampoo.

IDEAL PROPERTIES OF HERBAL SHAMPOO:

1. It must correctly and totally do away with dirt or soil, immoderate sebum or different fatty supplies and unfastened corneal cells from the hair.
2. It ought to produce an appropriate quantity of foam to fulfill the psychological requirements of user.
3. It has to be without problems eliminated on rinsing with water.
4. It needs to depart the hair non-dry, soft, lustrous with right manageability and minimal fly away.
5. It has to impart a first-rate fragrance to the hair.
6. It has to no longer purpose any side-effects / infection to pores and skin or eye.
7. It must now not make the hand difficult and chapped.

Use of Ingredients :

Soap Nut

- stop hair fall
- fight against infection
- prevent dandruff.



2) Amla Extract-

- Strengthen the scalp and Hair.
- Reduce Hair Loss.
- Stimulate Hair Growth.
- Prevent or treat dandruff and dry scalp. Improve overall appearance of Hairs.
- Reduce premature pigment loss from hair, or greying



Shekekai extract –

- Prevent grey
- Add more shine to hair
- Clean hair

- Curb hair loss
- Prevent splits end.



Hibiscus –

- Stimulate hair growth and lost hair volume and luster over year.
- Treat dandruff and itchy scalp condition of hair
- Prevent the premature graying .



3) Bhringraj Extract-

- Makes Hair Lustrous.
- Treats baldness and help in growth of hairs



Seena extract –

- Great conditioner
- Strong hair
- Combats hair loss.



Aloe vera -

- Strengthens.
- Calms an itchy scalp.
- Deeply Cleans Oily hairs.
- Promote hair growth.
- Smooth natural curls.
- Reduce flakiness.
- Detangle Hairs



Gelatin

- It gives thickness to hairs.
- It can improve hair thickness and growth. For strengthening of hairs.



Lemon juice

- add More shine. Split ends .
- Get rid of dandruff. Reduces Hair fall.
- Gives Natural color to hairs. Promote the growth of hairs. Detox the scalp.
- Great hair mask for dry and damage hairs.



Rose oil -

- It repairs hair damage
- Improves growth of hairs.
- Reduces the dandruff.
- Gives fragrance to the shampoo.



MATERIALS AND METHODS:**Collection of material :**

Different components of plant had been chosen to learn about hair care property. All the required plant components had been bought from the nearby Jadav Nursery of Udaipur. These are powdered for similarly use and exceeded thru sieve No. a hundred Details of the plant substances learn about is given in Table

Material	Quantity
Reeta extract	2.5 gm
Amal extract	2.5gm
Sheekakai extract	2.5 gm
Sidra extract	2 gm
Lemon juices	1 ml
Methyl paraben	1 ml of 0.05%
Gelatin solution	qs
Citric acid	qs
Essential oil	1 ml

Preparation of extracts

About hundred g of every powdered plant materials, particularly Neem, Hibiscus flower, Aloe vera, Shikakae, Liquorice, Amla, Soap nuchae been homogenized. The powdered cloth was once extracted with distilled water through boiling for four h. The extract of every plant cloth was once separated and evaporated

Sr. No	Drugs Names	Parts	Quantity for 100 g
1	Neem powder	Leaves	09%
2	Hibiscus Flower powder	Flower	12%
3	Aloe vera powder	Leaves	07%
4	Shikakae Powder	Pods	22%
5	Amla Powder	Fruit	25%
6	Soap Nut	Nut	20%

Table 2 – Extraction Of Herbal Drug

Formulation Of Herbal shampoo

Formulation of the natural shampoo used to be achieved as per the system given in Table 1. To the gelatin answer (10%), delivered the natural extract and mixed through shaking constantly at the time interval of 20 min. 1 ml of lemon juice was once additionally delivered with steady stirring. To enhance aroma in the formulation, ample volume of vital oil (rose oil) used to be delivered and made up the quantity to a hundred ml with gelatin.



Extract of (Amla, Senna, Neem)



Material required	Quantity	Medicinal Use
Neem	2.5.g	Antibacterial Agent
Soap Nut Extract	2.5g	Foaming Agent
Amla Extract	2.5g	Antidandruff Agent
Shikakai Extract	2.5g	Detergent
Aloe Vera	2.5g	Moisturizing Agent
Gelatin	q. s	Gelling Agent
Lemon Juice	q. s	Antimicrobial
Rose Oil	q. s	Fragrance

Table no 2 – Formulation of material



Benefits Of Herbal shampoo :

- 1) Reduce hair loss.
- 2) More shine.
- 3) Long Lasting colour.
- 4) Stronger hair.
- 5) No side effects.
- 6) Wont irritate skin or scalp.
- 7) Induce hair growth .

Functions Of Herbal Shampoo :

- 1) conditioning.
- 2) Lubrication.
- 3) Hair Growth.
- 4) Medication.Maintainance of hair colour

Properties Of Herbal Shampoo:

- 1) Removal Of More Debris.
- 2) Ease Of Application.
- 3) Low Level Of Irritation.
- 4) Good Stability.
- 5) Easy Wet Combing.
- 6) Fragrance.

Advantages Of Herbal Shampoo

- 1) 2free from side effects.
- 2) No Synthetic Additives.
- 3) Pure And organic Ingredients.
- 4) No Surfactant. No Animal Testing

Evaluation OF Herbal Shampoo :

The organized system used to be evaluated for product overall performance which includes organoleptic characters, pH, physicochemical characterization, and for solid content. To guarantee the nature of the items, particular tests were performed for surfactention, foam volume, foam stability, and wetting time using standard protocol.

- 1) **Visual assessment** : The organized method was once assess for color, clarity, odor, and froth content.
- 2) **Determination of pH**: A 10% v/v shampoo solution was constituted in distilled water and the pH of the solution was measured by using a calibrated pH meter.
- 3) **Dirt dispersion** : 2 drops of shampoo were added in a large test tube contain 10 ml of distilled water. A Drop of India ink was added to the test tube the test tube was stoppered and shakes it ten times. The amount of ink in the foam was estimated as None, Light, Moderate, or Heavy.
- 4) **cleaning action**: 5 grams of wool yarn were placed in grease, after that it was placed in

200 ml. of water which contain 1 gram of shampooing a flask. Then temperature of water was maintained at 35 °C. The flask was Shaked for 4 minutes at the rate of 50 times per minute. The solution was removed and sample was taken out, dried and weighed. The amount of grease which was removed is calculated by following equation :

$$Dp=100(1-T/c)$$

In which, Dp is the percentage of detergency power, C is the weight of sebum in the control sample and T is the weight of sebum in the test sample.

5) Determination of percent solids contents:

4grams of shampoo were added to the evaporating dish. The dish and shampoo was weighed. The exact weight of the shampoo werecalculated, both the shampoo and evaporating dish was placed on the hot plate until the liquid portion was evaporated. The weight of the shampoo after drying was calculated.

6) surface tension measurement: The proper shampoo should be able to decrease the surface tension of pure water to about 40dynes /cm. The reduction in surface tension of water from 72.8dynes/cm to 35.37dynes/cm by the herbal shampoos is an indication of their good Action of detergent.

7) Foam stability test: 50 ml of prepared shampoo solution was taken in a 250 ml of graduated cylinder and shaken vigorouslyfor 10 min. Foam stability was measured by measuring the foam volume of shake test after 1 min and 4 min, respectively. After 1 min of shaking total foam volume was measured.

8) Stability study: Acceptability and stability of color and odor of formulations during the storage period show that they are physically and chemically stable. The polyherbal shampoo which was prepared should be physically and chemically stable at room temperature of 25-30 degree C. The result indicate that it possessesgood stability within the 6 weeks of stability study.

Conclusion:

The main purpose behind this formulation was to develop a stable and effective shampoo by including all types of additives which are added in this formulation. By using herbal natural extracts we can reduce the side effects of shampoo. Herbal shampoo is more safer than synthetic shampoo. The PH of the shampoo was adjusted to 5, to retain mantle of scalp which is acidic.

In the present scenario, it seems improbable that hearbal shampoo, although better in performance and safer than the synthetic ones, will popular with consumers. There is a strong need to change the consumer perception

References

1. Aghel N, Moghimipour B, Dana RA. Formulation of a herbal shampoo using total saponins of *Acanthophyllum squarrosum*. Iran J Pharm Res.
2. Potluri A, Asma SS, Rallapally N, Durrivel S, Harish GA. Review on herbs used in anti-dandruff shampoo and its evaluation parameters. Indo Am J Pharm Res.
3. Mainkar AR, Jolly CI. Formulation of natural shampoos. Int J Cosmet Sci .
4. Klein K. Evaluation of shampoo foam. Cosmet Toilet Mag .

5. Ali HS, Kadhim RB. Formulation and evaluation of herbal shampoo from *Ziziphus spina* leaves extract. *Int J Res Appl Pharm.* Klein K. Evaluation of shampoo foam. *Cosmet Toilet Mag* .
6. Akula, NP (2015), "Preparation and evaluation of shampoo powder containing herbal ingredients", *Asian journal of pharmaceutical and clinical research*, Vol. 8(1), 266-270.
7. Patil, SS; Mane, YJ and Mohite, SK (2015), "Formulation and evaluation of herbal shampoo powder", *International Journal of Advanced Research*, Vol. 3(3), 939-946.
8. Wani, S; Khot, N and Buchake VV (2014), "Preparation & evaluation of antifungal polyherbal powder shampoo", *Pharmacophore (An International Research Journal)* Vol. 5(1), 77-84.
9. Pandey, S; Meshya, N and D. Viral (2010), "Herbs play an important role in the field of cosmetics", *Int J Pharm Tech Res*, Vol.2(1), 632-639.
10. Sutar, M; Deshmukh, S; Chavan, M and Singh, S (2013) "Preparation and evaluation of polyherbal shampoo powder", *International Journal of Pharmacy and Biological Sciences*, Vol. 3(2), 151-159.
- 12.. Namita and Nimisha, (2013) "Formulation and evaluation of herbal shampoo having antimicrobial potential", *International Journal of Pharmacy and Pharmaceutical Sciences*, Vol. 5, (3), 708-712.
13. Badi, KA and Khan, SA (2014), "Formulation, evaluation and comparison of the herbal shampoo with the commercial shampoos" *beni-suef university journal of basic and applied sciences* 3, 301-305.
14. Umbach W., (1991) "Cosmetics and Toiletries Development", *Production and Use*, 26.