PREPARATION AND VALIDATION OF NATURAL CLEANSER

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ABSTRACT :

This study's main objective is to create, evaluate, and determine the physiochemical function of a herbal Cleanser, with a focus on the product's effectiveness, safety, and quality. Herbal Cleanser is a natural hair care product that promotes hair growth, strength, and darkness while getting rid of oil, dirt, and dandruff. It also adds luster, silkiness, and softness to the hair. Many drugs are used to make cosmetic Cleanser. These drugs have a number of side effects that have been documented, such as hair loss, increased scaling and itching, discomfort, nausea, and headaches. Consequently, an endeavor is made to develop a herbal Cleanser that is safe.

INTRODUCTION-

Cleanser is the most widely used hair treatment. Cleansers are items primarily used for hair and scalp cleaning. Herbal Cleanser works better and is safer than synthetic Cleanser, but given the current climate, it doesn't seem likely that customers will adopt it. Changing consumer expectations by emphasizing Cleanser efficacy and safety would be a more radical approach to increasing the usage of herbal Cleanser. The main objective of this study was to find safe natural substitutes for any potentially harmful synthetic components in the composition of herbal Cleanser.

Aim and objectives of herbal Cleanser

Aim:-

   preparation and evaluation of herbal Cleanser

Objective: -

- The collect samples of herbal drug extract
- To carry out organoleptic characteristics of herbal drugs
- To perform different chemical test for different phyto constituents
- To select suitable excipient
- To determine drug excipient compatibility
- To formulate herbal Cleanser
- To evaluate herbal Cleanser such as physical evaluation
- To perform stability test
- To identify the most significant variable, effect of level of preferences

Materials and methods :-

Cleansers (a variety of brands were purchased from the local market) Quality control tests, such as visual inspection and physicochemical controls like pH, density, etc., were carried out to assess the formulations. Additionally, particular tests for Cleanser formulations, such as the assessment of dry residue and wetting property, total surfactant activity, surface tension, and detergency tests, were conducted to guarantee the quality of the goods.

Instruments: -

_1)Burner
2)Testing Instruments –
3)pH meter Mixing vessel with stirrer
4)Measuring cylinder

5)Turbidity meter,

6)Conductivity Meter tc.

Ingredients used in herbal Cleanser:-

Sr.no.	ingredients	Parts used	Quantity
1.	Curry leaves	Leaves	10g
2.	Fenugreek seed	Seeds	10g
3.	Amla	Fruit	10g
4.	Shikakai	Beans	10g
5.	Reetha or soap nuts	Fruit	Q. S
6.	Rose oil	-	Q. S
7.	Distilled water	-	Q. S
8.	Methyl paraben	-	Q. S

Preparation and evaluation of Herbal Liquid Cleanser:-

Weigh each ingredient precisely, then let it soak for the entire night. After soaking the ingredients overnight, the following morning (after the mixture has cooled and filtered), boil the ingredients in the same water over medium heat. All of the ingredients will be puffed and full of water. Rose oil, an adequate amount of essential oil, and methyl paraben were added for scent and preservation. The developed Cleanser was put away in an appropriate container and used in additional tests.

Determination of Cleanser:-

(Determination of Cleanser)

Evaluation:Cleansers are evaluated using physiochemical controls including pH, density, and viscosity as well as visual assessment and quality control tests. The most popular type of detergents are those that contain sodium lauryl sulfate, yet even within a manufacturer's product line, the concentration might differ significantly between brands. Expensive Cleansers might have relatively little of a cheap detergent, whereas cheap Cleansers might have a high concentration of detergent.

Evaluation of Cleanser:-

1)Determination of ph

2) Dirt dispersion

3)physical appearance/visual inspection

4)Determination of percentage solid content

5)Surface tension measurement

6)Cleaning action

7)Wetting time

8)Foaming ability and foam stability

9) spreadability

10)% solid content

Evaluation test:-

The prepared formulation was evaluated for product performance which includes organoleptic characters, pH,physiochemical characterization, and for solid content. To guarantee the nature of the items, particular tests were performed for surface tension, foam volume, foam stability, and wetting time using standard protocol.

- **Visual assessment** – The prepared formulation was assessed for color, clarity, odor, and froth content.
- **pH determination** – The pH of the prepared herbal Cleanser in distilled water (10% v/v) was evaluated by means of pH analyzer at room temperature.

pH determination test

- **Testing of wetting** – Wetting time was calculated by noting the time required by the canvas paper to sink completely . A canvas paper weighing 0.44 g was cut into a disc of diameter measuring 1-inch. Over the Cleanser (1% v/v) surface, the canvas paper disc was kept and the time taken for the paper to sink was measured using the stopwatch
- **Foam Formation (Shake Test) –** Cylinder shake method was used to determine Foaming ability. 5ml of Cleanser was taken into measuring cylinder and volume was make up to 25ml of water and shaken properly for ten times.

  Then 5 test tubes were taken and stock isolation was measured also given in following observation table .And each test tube was adjusted for volume 10ml by adding water.

Sr. No	Number of test tubes containing ml of stoke solution	Height of Foam in cm
1	1 ml	1.7 cm
2	2 ml	2.4cm
3	3 ml	2.8cm

Viscosity-- Viscosity was determined by using the Ostwald viscometer.

Surface Tension-- made a 1% v/v Cleanser solution by combining 200 ml of distilled water with 2 milliliters, or 40 drops, of Cleanser. After taking the Cleanser out of the beaker, distilled water was gradually added. A stalagmometer was used to measure the surface tension following a thorough mixing of Cleanser and water.

Foam stability test – The cylinder shake method was utilized to ascertain the stability of the foam. A 250 ml graduated cylinder was filled with around 50 ml of the created Cleanser solution (1%) and shaken violently ten times. The shake test's foam volume was recorded after one minute and four minutes, respectively, to determine the foam stability. After shaking the foam for one minute, the total volume was measured.

Dirt dispersion test – Two drops of cleanser were added to 10 milliliters of filtered water and placed in a test tube with a wide mouth. One drop of Indian ink was added to the Cleanser mixture, and the test tube was sealed with a stopper before being shaken for ten minutes. The amount of ink in the froth was measured, and the outcome was categorized as light, medium, heavy, or none at all.

Conditioning performance evaluation – An Indian woman's synthetic hair was purchased from a salon and split into two swatches, each measuring roughly 10 cm in length and 5 grammes in weight. The test swatch that was washed with the specially designed Cleanser was separated from the control sample, which had not been cleaned. Each hair was added for two minutes to a mixture of Cleanser and water (10:15) in a conical flask, and

then 50 milliliters of distilled water was used for washing. The process was carried out a maximum of ten times, allowing each tree to air dry at room temperature. A blind touch test was used to assess the conditioning impact of the produced Cleanser in terms of softness and smoothness. Volunteers from student 20 numbers were chosen at random for the test. The conditioning demonstration of

Percent of Solids % solid content- A clean dry evaporating dish was weighed & add 10 gm of Cleanser to evaporating dish

Cleanser is heated on 100^0 C for 30 min and calculate the solid content.

A. Weight of empty dish = 37.37gm
B. After evaporation of Cleanser solid content in evaporating dish 40.39gm.

%of solid content = B - A/100 X 10/100 =40.39-37.37/100 X10 = 30.02

Evaluation tests:-

Evaluation test	Results
Color	Greenish brown
Transparency	Clear
Odor	Good
Ph of 10% sol.	4.42
Solid contents (%)	30.02
Foam volume (ml)	25
Foam type	Dense, small
Surface tension (dynes/cm)	33.18
Wetting time (s)	120s

RESULT AND CONCLUSION :-

A number of unique tests, including a physical test, PH, solid contents, surface tension, cleaning action, wetting time, foaming ability, and foam stability, were used to analyze this herbal Cleanser.

Traditional knowledge was used in the formulation of the herbal Cleanser preparation, with a focus on creating a stable and functionally useful product. In addition to being safer than chemical conditioning agents, the specially designed Cleansers also significantly lessen hair loss when combing and promote hair development. Curry leaves, fenugreek, amla, shikakai, ritha, and rose oil are some of its constituents. which are secure to utilize.

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