



FORMULATION AND EVALUTION OF HERBAL SOAP BY USING CENTELLA ASIATICA

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❖ Abstract

Neem leaf was used in the formulation of the herbal soap. All herbalsubstances can be found in the nearby herbal market with ease. The useof cosmetics is a part of taking care of the skin and other body partsbecause of the negative effects of today's pollution and UV rays on the

human body. Aloe plants generate a material that is used in cosmeticgoods to treat burns, psoriasis, acne, and other skin disorders. Herbalsoap preparation is a medication or therapy with therapeutic benefitsfor the skin, including antibacterial and antifungal qualities. The

unprocessed medication that is used to make soap has variousproperties that make it a good medicinal or cosmetic. The plant used to make soap has theability to soften the skin's epidermis, provide greater penetration, eradicate acne, and speedup healing and resolution. Aloe Vera is a natural product that is used to prevent and treat avariety of skin issues. Aloe Vera soap has a number of therapeutic characteristics, includingthose that are anti-septic, anti-microbial, anti-viral, antioxidant, and anti-fungal. The aloe Vera plant has triangular, fleshy leaves with serrated edges, tubular yellow blooms, and fruits with many seeds. Every leaf is made up of three layers The first is an inner clear gel that is made up of 99% water, with the remaining 2% being glucomannans, amino acids, lipids,sterols, and vitamins. the bitter yellow sap that makes up the middle layer of latex.

KEYWORD: Herbal Soap, Neem, Hibiscus, Vitamin E, Aloe Vera, Turmeric, Rose Water,
Soap Base, Orange Oil.

❖ INTRODUCTION

Soap is the product of a chemical process called saponification, which occurs when acids in the form of animal or vegetable fats are combined with an alkali (a solution of sodium hydroxide and water, called lye) and produce a mixture of soap and glycerine. Quite simply, it's a slippery substance that produces bubbles.

Soap making is an ancient craft. Prehistoric people may have discovered soap when fat and ash met and saponified as they cooked over open pits. A soap manufactory was uncovered in the ruins at Pompeii, and the Greek physician Mr Galen wrote about soap in the second century. It's hard to believe that as recently as the last century, soap had to be labelled for its use. Also during this time, soap fell out of popularity as some modest Victorians believed "soap baths" were disgraceful and sinful.

Some of the famous brand-name soaps that you buy today are actually not soap at all. Nowhere on the packages does the word "soap" appear; rather the products are labelled "beauty bars" or "deodorant bars". They are synthetic detergents. These "beauty bars" also contain chemical components called "builders" that increase the efficiency of the soap. This book will teach you how to make your own "NATURAL SOAP". Starting

with a soap bar, you can add your own natural ingredients, creating a product superior to a synthetic chemical blend that is commercially available. This book contains practical, easy-to-follow instructions for creating your own hand-milled soap and other bath products. From the experience, perhaps you will develop a kinship with generations of homemakers who, using recipes handed down for centuries, produced bath and beauty products for their household using simple ingredients, herbs from the garden, and natural fragrances.

The addition to the basic white soap include fragrant essential oils, herbs, flowers, colorants and rich oils to greatly improve the quality and appeal of the soap. Recipes are presented for more than 20 different hand milled soaps. Only simple equipment is required (most of what you need is probably already in your kitchen), and the ingredients are common and readily available in grocery stores, natural food markets, or easily grown in a home garden. There are also a variety of packaging and labelling ideas and plans for creating unique and attractive gift collections with soap and bath products that will delight family and friends, children and adults, even the family dog. Most of the money you pay for commercial bath products covers the costs of advertising, packaging and promoting the products, not for what's in them. You can make your own bath products at home and package them elegantly for a fraction of the cost of store-bought wares. Another advantage is knowing what's in your home-made products many store-bought products, including soaps, are not required to list their ingredients.

❖ Aim and Objectives:

Aim :

The aim of the present investigation is "formulation and evaluation of herbal soap by using Natural ingredients.

Objective

The objective of the proposed work is

1. The preparation of herbal soap using the double-boiling method
2. The formulations are developed and evaluated for parameters such as
 - □ Appearance
 - □ Odour
 - □ Visual inspection
 - □ pH
 - □ Foaming ability and foam stability.
 - □ Thermal stability.

➤☐ Accelerated stability studies.

❖ **HERBAL INGREDIENT USED IN SOAP:**

Plant Profile: -

1) Centella Asiatica



Fig.No:-01

BOTANICAL NAME: *Centella Asiatica*

Family: *Apiaceae*

Chemical Constituent: Asiaticoside, Asiatic Acid, Madecassic Acid

Part Typically Used:- Leaves

Colour:- Green

Properties: Increased the elasticity of skin

2) TULSI



Fig.No:-02

BOTANICAL NAME: *-Ocimum Tenuiflorum*

Common Name: Holy Basil.

Family:- Lamiaceae

Chemical Constituents: Eugenol Germacrceterpen

Part Typically Used- Leaves

Colour: Green

Properties: Antifungal, Antibacterial, Antiseptic

3) TURMERIC



Fig. No: -03

BOTANICAL NAME: -*Curcuma longa*

Common Name: Haldi

Family: Zingiberaceae

Part Typically Used: Root

Effect: Dark Spot, Natural glow, Dimi

Properties: Antibacterial, Antiaging, Antioxidant

4) NEEM:



Fig. No: -04

BOTANICAL NAME: *Azadirachta Indica*

Family: Meliaceae

Constituent: Azadirachta, Nimbin, Nimbidin

Parts Use: Leaves, Seeds, Flower, Bark

Uses: Moisturising, Cooling

Properties: Antibacterial, Anti-Septic Feedant

5) ROSE WATER: -



Fig.No: -05

BOTANICAL NAME: Rosa Damascena

Family: -Rosaceae Family

Constituents: Phenethyl Alcohol, Geraniol, Beta-Citronellol

Parts Used: Rose Petal

Properties: Antibacterial, Anti-Inflammatory

6) ALOVERA



Fig.No: -06

BIOLOGICAL SOURCE: Dried Latex of Leaves of IT

Family: Asphodelaceae

Constituents: Amylase, Monosaccharide

Parts Used: Green Part of the Leaf

Properties- Antioxidant, Anti

7) VITAMIN E



Fig.No:-07

- Rejuvenates and restores dehydrated skin
- Moisturizes the skin
- Reverses premature skin ageing
- Lightens dark spots
- Acts as a cleansing agent
- Prevent wrinkles

8) Lavender Essential Oil (Flavouring agent)



Fig.No: -08

- Antioxidant protection
- Used as a natural diabetes treatment
- Promotes healthy skin and hair
- Improve sleep
- Relieves pain

❖ Collection and Extraction

The leaves of the neem are collected from the fresh plant, washed properly, and dried.

Tulshi leaves also used with the same method. ❖ Extraction of the neem leaf mix in the mixture and extract its juice using the same method used



Formulation Table

❖ METHODOLOGY (F1)

Give 5g of neem powder in a beaker, then this beaker may be added 2g of Tulsi, 3g of Aloe vera, 1.5g of vitamin E, rose water 5ml, and turmeric 0.5g then all are mixed for 2 to 3 min. The double heat method is used for the melting glycerine soap base, so give span on induction and Add so water, then add the small content take in water and add 22g of glycerine soap base in the container and it melts. After melt base add mix all ingredient in the melt soap and mix it them finally heat Stop and add lavender essential oil in the preparation solution will be give in small, small container for the shape of the soap. The final soap is ready, and it is packed in paper.

METHODOLOGY(F2)

500g glycerine soap base (or goat milk soap base)

- 1–2 tea spoons turmeric powder
- 1 table spoon coconut oil or olive oil
- 10–15 drops of essential oil (optional: lavender, lemon, tea tree)
- 1 tea spoon honey (optional)
- Silicon soap mould

Sr.No.	Ingredient	Quantity	
		F1	F2
1	Soap Base	50 gm	45 gm
2	Centella Asiatica Extract	5 ml	0.5 ml
3	Tulsi	2 gm	1 gm
4	Turmeric	2 gm	4 gm
5	Neem	1 gm	1 gm
6	Rose Water	5 ml	5 ml
7	Alovera	2 ml	2 ml
8	Vitamin E	2 cp	3 cp
9	Lavender Oil	2 drops	2 drops

❖ Tests for alkaloids

1. Dragendorff's test: By adding 1 ml of Dragendorff's reagent to 2 ml of extract, an orange Red precipitate was formed, indicating the presence of alkaloids.



2. Mayer's test: A few drops of Mayer's reagent were added to 1 mL of extract. A yellowish A white precipitate was formed, indicating the presence of alkaloids.

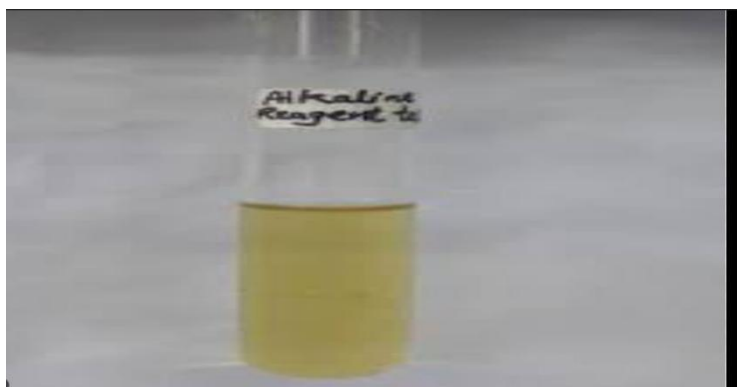


3. Hager's test: 2 ml of extract was treated with a few drops of Hager's reagent. A yellow precipitate was formed, indicating the presence of alkaline.



❖ Tests for flavonoids

1. Alkaline reagent test (flavonones): Two to three drops of sodium hydroxide were added to 2 ml of extract. Initially, a deep yellow colour appeared but it gradually became colourless by adding few drops of dilute HCl, indicating that flavonoids were present.



2. Shinod's test (flavones): Ten drops of dilute HCL and a piece of magnesium were added to 1 ml of extract, The resulting deep pink colour indicates the presence of flavonoids.

❖ **Test for carbohydrates**

1. **Molish test:** A few drops of alcoholic α -naphthol solution were added to 2 ml of extract. Later, a few drops of concentrated H_2SO_4 were added along the walls of the test tube. At the junction of two liquids, a violet colour ring appeared



❖ **EVALUATION OF PREPARED HERBAL SOAP:-**



Determination ash value

Total Ash value

2 gm of powder was weighed accurately in a previously ignited and tarred silica crucible. The material was then ignited by gradually increasing the heat to 500-600°C until it appears white indicating absence of carbon. It is then cooled in a desiccator and total ash in mg per gram of air dried material is calculated.

Determination of loss on drying

Loss on drying was determined by weighing about 2gm of the powder material in previously weighed dried petridish (tarred evaporating dish) and dried in an oven at 105°C, till two consecutive weights, which do not differ by more than 5mg. The weight after drying was noted and loss on drying was calculated. The percentage was expressed as %w/w with reference air dried sample.

Determination of pH

5 to 6 g of the soap was weighed accurately in a 100ml beaker 40ml water was added and dispersed the soap in it. The pH of the solution is determined by using pH meter. PH of soap is 8.5.

Foaming Ability and Foam stability

Foaming ability was determined by using cylinder shake method. 40ml of the formulation soap solution was placed in a graduated cylinder. It was covered with a hand and shaken 10 times. The total volume of the foam content after 1 min of shaking recovered foam stability was evaluated by recording the foam volume after 1 min and 4 min. 80 to 93% foam formed.

❖ RESULT AND DISCUSSION

By using the powder of herbal soap, the preliminary phytochemical study was done. It shows the presence or the absence of the chemical constituent. The detailed results are shown in table 1.

Test	Presence/Absence in Aqueous Extract of Herbal Soap
Alkaloids	+
Flavonoid	+
Carbohydrates	+
Protein	+
Volatile Oil	+
Steroid	+
Glycosides	+
Vitamin	+

PHYSICAL PARAMETER

After the successful stability test was done and its shows the colour, odour, pH determination, and smoothness.

Sr.No	Parameters	F1	F2
1	Colour	Dark Green	Yellow
2	Odour	Sweet Smell	Sweet Smell
3	pH Determination	8.5	8.1
4	Smoothness	Smooth	Smooth

❖ CONCLUSION

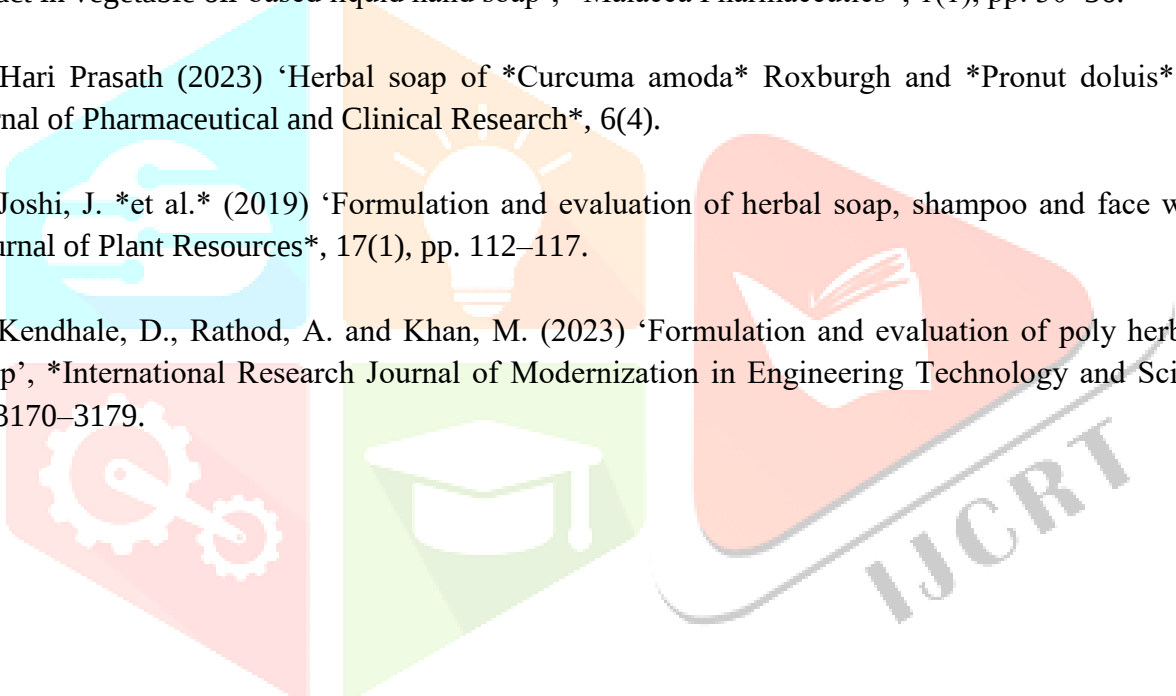
The plant of neem, tulsi, turmeric and aloe vera constituents' extraction was studied. The prepared formulation when tested for different test gave good result. It does not give any irritancy to the skin. It was determined by using these soaps by few volunteers hence it is proven that soap does not give any irritancy to the skin. Furthermore, the prepared soap was standardized by evaluating various physico chemical properties such as pH, appearance odour in which they exhibit satisfactory effect. Herbal therapy does have the ability to heal a wide number of skin ailments. Around 80% of population in India depends on traditional health medicine and use different plant-based products for curing problems associated with skin. Compared with the conventional allopathic drugs, ayurvedic medicines have relatively low cost and can be of great benefit to the Indian people especially the poor people. Herbal medicines are a rich source of active ingredients and can be safer and cost-effective skin infection treatment ranging from rashes to dreadful skin cancer.

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