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Mini Review Article

Formulation And Evaluation of Herbal Soap

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ABSTRACT

The formulation of herbal soap has gained increasing attention due to the demand for natural and eco-friendly skincare products. This study focuses on the preparation, formulation, and evaluation of herbal soap containing natural ingredients with therapeutic benefits. Herbal extracts, such as Aloe vera, Neem, Hibiscus powder , and Turmeric, were incorporated into a soap base. The formulated soap was evaluated for various parameters, including PH, foam stability, antimicrobial activity, and skin compatibility. Results demonstrated that herbal soap exhibits excellent cleansing action with potential medicinal benefits, making it suitable for regular use and commercial applications.

INTRODUCTION

Herbal soap is a personal care product formulated using plant-based ingredients that provide multiple benefits such as cleansing, moisturizing, and antimicrobial properties. The shift towards herbal products is due to increased awareness of the side effects associated with synthetic chemicals in conventional soaps. Natural additives like Neem (Azadirachta indica), Aloe vera, and hibiscus powder) possess antimicrobial, anti-inflammatory, and skin-healing properties. The main objective of this study is to develop a soap formulation that harnesses the benefits of herbal extracts while ensuring physicochemical stability and effectiveness in cleansing.

1. Neem: Definition: Neem (Azadirachta indica) is a tropical evergreen tree known for its medicinal properties. Its leaves, seeds, and bark have been used for centuries in traditional medicine to treat various skin ailments.

2. Turmeric: Definition: Turmeric (Curcuma longa) is a golden-yellow spice commonly used in cooking and traditional medicine. It has been used for centuries in various cultures for its healing and therapeutic benefits.

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3. Aloe Vera: Definition: Turmeric (Curcuma longa) is a golden-yellow spice commonly used in cooking and traditional medicine. It has been used for centuries in various cultures for its healing and therapeutic benefits.

4. Orange Oil: Definition: Orange oil is an essential oil extracted from the peel of sweet oranges (Citrus sinensis). It is known for its refreshing citrus aroma and skin- enhancing properties.

5. Rose Water: Definition: Rose water is a fragrant, distilled water derived from the petals of roses. It is often used in skin care for its soothing and hydrating properties.

6 Hibiscus Powder: Definition: Hibiscus powder is made from dried hibiscus flowers (Hibiscus rosa-sinensis). This plant is well-known for its rich anthocyanins and natural acids, making it beneficial for skin care.

7. Soap Base: Definition: The soap base is the primary component that provides the cleansing and lathering properties in herbal soaps. It forms the foundation of the soap and can be made from various ingredients, including vegetable oils (like coconut oil, palm oil, or olive oil), glycerin, and herbal extracts.

8. Vitamin E: Definition: It is a Fat soluble nutrient, specifically a group of eight compound (tocopherols and tocotrienols) , that act as an antioxidant ant in the body.

MATERIALS AND METHODS

2.1 Ingredients Used

• Soap Base: Glycerin or sodium hydroxide

• Herbal Extracts: Neem, Aloe vera, Turmeric, Hibiscus powder

• Additives: orange oil, Rose Water

• Preservatives: Minimal natural preservatives (e.g., Vitamin E)

2.2 Formulation Procedure

1. Take the necessary amount of soap base in a beaker.
2. When heating the soap base with a water bath, adjust and maintain the temperature.
3. soap base will become liquid after heating.
4. Then add the ingredients listed in the formulation table.
5. In a water bath, bring the mixture to a boil.
6. without stirring, obtain the proper mixture.
7. The soap mold is filled with this mixture.
8. It was cooled for a couple of hours at room temperature.
9. Soap is formed

Material:

Sr.no	Ingredients	Quantity
1.	Neem Plant	3 gm
2.	Turmeric	0.5 gm
3.	Aloe	2 ml
4.	Hibiscus Powder	7 gm
5.	Rose water	QS
6.	Orange Oil	2 Drop
7.	Soap Base	100 gm
8.	Vitamin E	3 unit

Evaluation Parameters

3.1 Physical Apperance: colour.The prepared formulation of soap were evaluated in terms of clearity. The prepared soap shows Brownish Red

3.2 Thermal Stabilty -Thermal stability of the formulation was determined by the humidity chamber controlled at 60-70/ RH at room temperature. This soap is mainly stable at room temperature temperature increases it mainly unstable.

3.3 PH Determination:

5 to 6 g of the soap was weighted accurately in a 100ml beaker 40ml water was added and dispersed the soap in it.The pH of the soap was measured using a pH meter to ensure skin compatibility (pH range 5.5–8.0).

Fig-Determination of PH

Foam Stability

The foam stability was assessed using the *shake flask method*, where soap solutions were agitated, and foam retention was observed after 5 and 10 minutes.

3.1 Microbial growth: Using agar plates the plates were placed in to the incubator and are incubate at 37c for 24 hours and compared with standard .

3.6. Consistency:

The consistency of formulated soap were determined by hand. Take pinch of soap and rubbed it with finger

3.7.Foam Retention :

About 1% soap solution was prepared and from this ,25ml was taken in a100ml measuring cylinder .the cylinder was covered with hand and shaken for 10 min . the volume of format 1 min intervals for4 min was recorded.

Evaluation Parameters	Observation
Physical appearance	Colour: Brownish red Odour: Aromatic Appearance: Good
Thermal Stability	Stable at room temperature. soap melt at 60c
Determination of PH	7.7
Stability Studies	No Colour Change
Microbial Growth	No Microbial Growth
Foaming ability	Stable Soap
Foam retention	1.6 cm

CONCLUSION

A herbal soap has been produced successfully from Neem leaves extracts in this study. The result form the Phytochemical properties of the Herbal soap prepared was compared to Hibiscus Powder , oil soap &commercial Herbal soap.The result imply that the Herbal soap has been produced and is suitable for human skin.More over, it is product innovation of natural medicated soap produced from neem leaves extract that is free from chemicals such as artificial colorants, artificial fragrance.Thus can be affordable alternative therapy for consumer/costumer who have skin problem

Result: About 1%soap solution was prepared and from this ,25ml was taken in a100ml measuring cylinder .the cylinder was covered with hand and shaken for 10 min the volume of format 1 min intervals for4 min was recorded.

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