

FORMULATION AND EVALUATION OF MOISTURIZING MEDICATED SOAP FOR THE MANAGEMENT OF XEROSIS

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Abstract—Xerosis is a common skin condition characterized by dryness, roughness, itching, and scaling due to loss of skin moisture. The present study was carried out to formulate and evaluate a moisturizing medicated soap for the management of xerosis using shea butter soap base, glycerin, aloe vera gel, coconut oil, and vitamin E oil. The soap was prepared by melt-and-pour method and evaluated for various parameters such as appearance, pH, foamability, hardness, washability, skin irritation, and moisturizing property. The prepared formulation showed satisfactory physicochemical properties, good moisturizing effect, and skin compatibility without causing irritation. The presence of moisturizing and soothing ingredients helped maintain skin hydration and softness after washing. The study concluded that the formulated moisturizing medicated soap may be useful for gentle cleansing and management of dry skin conditions like xerosis.

The formulation was found to be simple, economical, and easy to prepare using readily available ingredients. Herbal and moisturizing agents incorporated in the soap improved the overall quality and acceptability of the formulation. The study also highlighted the importance of using skin-friendly cleansing products for maintaining healthy skin and preventing excessive dryness. Therefore, the developed formulation may serve as a beneficial skincare product for individuals suffering from xerosis and sensitive skin conditions.

Index Terms—Xerosis, Moisturizing Soap, Aloe Vera Gel, Glycerin, Coconut Oil, Vitamin E Oil, Shea Butter Soap Base, Dry Skin.

I. Introduction

Skin is the largest organ of the human body. It serves as a protective barrier against the outside world. It keeps out dust, germs, chemicals, sunlight, and helps prevent water loss. Healthy skin contains natural oils and moisture, which keep it soft, flexible, and smooth. When skin loses moisture, it becomes dry, rough, and irritated. This condition is known as xerosis.

II. Xerosis

2.1 Xerosis

Xerosis, or dry skin, is a skin condition that happens when the outer layer of the skin loses water. It is one of the most common skin issues in both young and old people. Xerosis mainly affects the hands, legs, arms, elbows, and feet. Dry skin often becomes more noticeable in winter or low-humidity environments.

The outermost layer of the skin, called the stratum corneum, helps retain moisture. It has natural lipids and moisture that protect the skin. When this layer is damaged or loses moisture, the skin becomes dry and sensitive.

Causes of Xerosis

Xerosis can arise from various internal and external factors, including:

- Frequent washing with harsh soaps or detergents
- Cold weather and low humidity
- Aging
- Excessive exposure to hot water
- Nutritional deficiencies
- Skin conditions like eczema or psoriasis
- Prolonged sun exposure
- Use of chemical-based skincare products

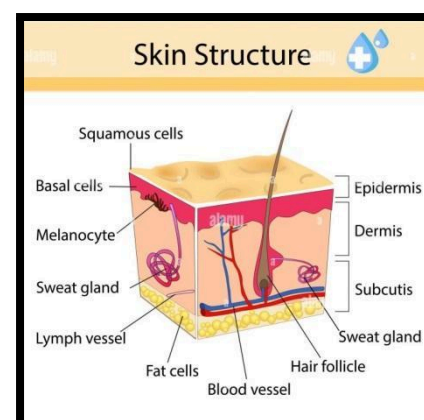


Fig. 1.1

Symptoms of Xerosis

Common signs of xerosis include:

- Dry, rough skin texture
- Itching and irritation
- Skin tightness
- Flaking or scaling
- Redness and cracks in severe cases
- Loss of skin softness

If xerosis is not treated properly, it can lead to discomfort, inflammation, and skin damage.

2.2 Structure of Skin

The skin has three main layers:

1. Epidermis

The epidermis is the outer layer of skin. It acts as a protective barrier and contains the stratum corneum, which is vital for holding moisture

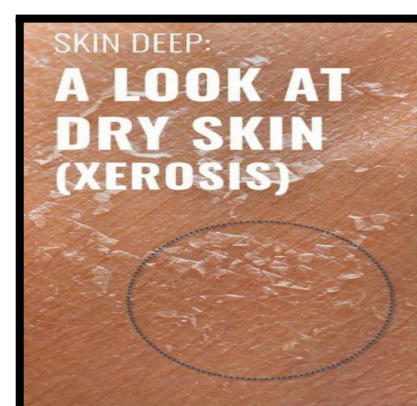


Fig. 1.2

2. Dermis

The dermis is the middle layer of skin. It contains blood vessels, sweat glands, nerves, and connective tissue.

3. Hypodermis

The hypodermis is the deepest layer made of fat tissue. It helps protect the body from injury and keeps body temperature steady. Of these layers, the epidermis is crucial for maintaining skin hydration and preventing water loss.

2.3 Importance of Moisturizing Soap

Regular soaps mainly clean the skin. However, some soaps can strip away natural oils, leading to dryness and irritation. This is especially an issue for people with xerosis.

Moisturizing soaps are designed to clean the skin while keeping moisture intact. They include ingredients that hydrate, soften, and protect the skin.

Benefits of Moisturizing Soap

- Maintains skin hydration
- Prevents excessive dryness
- Supports skin barrier function
- Reduces irritation and itching
- Improves softness and smoothness
- Suitable for sensitive skin

2.4 Need for Medicated Moisturizing Soap

Medicated moisturizing soaps are beneficial for those with dry skin because they clean and provide therapeutic effects. These soaps include skin-friendly ingredients that help restore moisture and improve skin health.

In this project, a moisturizing medicated soap was developed using a shea butter soap base, glycerin, aloe vera extract, coconut oil, and vitamin E oil. These ingredients were chosen because they help retain moisture, nourish the skin, and reduce dryness.

The formulation aims to provide mild cleansing without harming the natural skin barrier. This makes it suitable for individuals with xerosis.

Fig. 1.3



Fig. 1.4



III. AIM

3.1 AIM

The main aim of the present study was to formulate and evaluate a moisturizing medicated soap for the management of xerosis by using skin-friendly and moisturizing ingredients. Xerosis is a condition in which the skin becomes excessively dry, rough, itchy, and flaky due to loss of moisture from the outer layer of the skin. Many ordinary soaps available in the market contain harsh cleansing agents that remove natural oils from the skin and may further increase dryness and irritation. Therefore, there is a need to develop a soap that not only cleanses the skin effectively but also helps in maintaining skin hydration and softness.

3.2 OBJECTIVE

The main objectives of the present study are as follows:

1. To prepare a moisturizing medicated soap using melt-and-pour technique

The objective of this study was to prepare a medicated soap by using the melt-and-pour method, which is simple, safe, and suitable for incorporating moisturizing ingredients.

2. To incorporate moisturizing ingredients such as glycerin, aloe vera extract, coconut oil, and vitamin E oil.

The study aimed to include natural moisturizing agents in the soap formulation to help maintain skin hydration, softness, and nourishment.

3. To develop a soap suitable for dry and sensitive skin

Another objective was to formulate a mild and skin-friendly soap that can gently cleanse the skin without causing irritation or excessive dryness.

4. To evaluate the prepared soap for physicochemical properties

The prepared soap was evaluated for various parameters such as appearance, texture, hardness, foamability, and stability to ensure good quality and effectiveness.

5. To determine pH, foamability, washability, texture, and skin compatibility

The study also aimed to assess important quality control parameters to confirm that the soap is safe, effective, and suitable for regular use on dry skin.

6. To study the moisturizing effect of the prepared formulation

The objective was to observe the ability of the soap to reduce skin dryness and improve skin smoothness and moisture retention.

7. To prepare a simple, cost-effective, and user-friendly moisturizing soap formulation

The final objective was to develop an economical and easy-to-use moisturizing soap formulation that can be prepared using easily available ingredients.

IV. REVIEW OF LITERATURE

1. Patel et al.

Patel et al. conducted a study on moisturizing soaps containing glycerin and reported that glycerin acts as an effective humectant. Humectants attract water from the environment and help retain moisture within the stratum corneum of the skin. The study observed that glycerin-based soaps caused less dryness and irritation compared to conventional soaps. Regular use improved skin softness and prevented excessive moisture loss after washing. The authors concluded that glycerin is an important ingredient in moisturizing soap formulations intended for dry skin conditions such as xerosis.

2. Sharma et al.

Sharma et al. evaluated herbal soaps prepared using aloe vera gel and observed significant soothing and hydrating effects on dry skin. Aloe vera contains polysaccharides, vitamins, amino acids, and antioxidants that help nourish and moisturize the skin. The study reported that aloe vera-based soaps reduced skin irritation and provided a cooling sensation after use. The formulation was found suitable for sensitive and xerotic skin due to its mild cleansing and skin-healing properties.

3. Kumar et al.

Kumar et al. reported that coconut oil possesses excellent emollient and moisturizing properties. Coconut oil is rich in fatty acids such as lauric acid, which help strengthen the skin barrier and reduce transepidermal water loss. The study demonstrated that incorporation of coconut oil in soap formulations improved skin smoothness, softness, and hydration. The authors also noted that coconut oil provides mild antimicrobial activity and protects dry skin from cracking and roughness.

4. Singh et al.

Singh et al. conducted a formulation study on medicated moisturizing soaps containing natural oils and herbal ingredients. The study found that incorporation of oils such as coconut oil and other moisturizing agents significantly improved skin hydration. The formulated soap reduced scaling, roughness, and itching associated with xerosis. The authors concluded that medicated moisturizing soaps can provide both cleansing and therapeutic benefits for dry skin management.

5. Rao et al.

Rao et al. demonstrated the importance of vitamin E oil in skincare formulations. Vitamin E acts as a powerful antioxidant that protects the skin from oxidative stress and free radical damage. The study reported that vitamin E helps maintain skin moisture, improves elasticity, and prevents dryness. Incorporation of vitamin E oil in soaps enhanced the protective effect of the formulation and contributed to healthier and smoother skin.

6. Gupta et al.

Gupta et al. studied the role of shea butter in cosmetic and skincare formulations. Shea butter was found to possess strong emollient and nourishing properties due to the presence of fatty acids and vitamins. The study reported that shea butter helps soften dry skin, improves skin elasticity, and provides long-lasting moisturization. It was also observed that soaps containing shea butter were mild, skin-friendly, and suitable for sensitive skin conditions.

7. Verma et al.

Verma et al. evaluated herbal moisturizing soap formulations containing aloe vera and glycerin. The results showed that these ingredients provided superior moisturizing effects compared to ordinary commercial soaps. The herbal formulations reduced skin tightness and dryness after washing. The study concluded that the combination of aloe vera and glycerin enhances hydration and improves the overall quality of moisturizing soaps.

8. Ahmed et al.

Ahmed et al. conducted a study on the management of xerosis and emphasized the importance of moisturizing cleansers in maintaining skin hydration. The study suggested that regular use of moisturizing soaps and cleansers helps reduce symptoms such as itching, scaling, flaking, and roughness. The authors highlighted that harsh soaps worsen skin dryness, whereas medicated moisturizing soaps help restore the skin barrier and improve patient comfort.

9. Joshi et al.

Joshi et al. reported that medicated soaps containing herbal ingredients showed better skin compatibility and lower irritation potential compared to synthetic formulations. Herbal ingredients such as aloe vera and natural oils provided soothing and moisturizing effects. The study indicated that herbal soaps are safer for long-term use and more acceptable for individuals with dry and sensitive skin.

10. Naik et al.

Naik et al. investigated the physicochemical properties of moisturizing soaps and emphasized the importance of evaluation parameters such as pH, foamability, hardness, washability, and moisture content. The study concluded that maintaining a skin-friendly pH is essential to avoid irritation and dryness. Proper foamability and hardness were also found important for consumer acceptability and product quality. These parameters were considered necessary for developing an effective moisturizing soap.

11. Mishra et al.

Mishra et al. conducted research on herbal cosmetic preparations containing aloe vera gel and coconut oil. The study observed that the combination provided enhanced moisturizing, soothing, and skin-protective effects. Aloe vera offered hydration and cooling action, while coconut oil improved skin softness and barrier protection. The formulation showed good stability and was found beneficial for dry and damaged skin.

12. Khan et al.

Khan et al. reported that soaps containing natural moisturizing agents help maintain skin hydration and improve overall skin appearance. The study found that herbal moisturizing soaps reduced skin roughness and promoted smoother texture after regular use. Natural ingredients also improved consumer preference because of their mildness and lower irritation potential.

13. Desai et al.

Desai et al. studied glycerin-based soap formulations and found that glycerin significantly reduced excessive dryness caused by harsh cleansing agents. The study showed that glycerin forms a protective moisture-retaining layer on the skin surface. Users experienced less irritation, better hydration, and improved skin smoothness after repeated use of glycerin-containing soaps.

14. Roy et al.

Roy et al. demonstrated that herbal ingredients in medicated soaps improve consumer acceptability due to their natural and skin-friendly properties. The study observed that herbal soaps produced less irritation and dryness while providing adequate cleansing action. Consumers preferred herbal moisturizing soaps because they were gentle on the skin and produced a refreshing effect.

15. Jain et al.

Jain et al. evaluated moisturizing soap formulations prepared by the melt-and-pour method. The study concluded that the method is simple, economical, and suitable for preparing herbal and medicated skincare products. The prepared soaps showed good appearance, stability, and uniform distribution of ingredients. The authors suggested that the melt-and-pour method is highly useful for small-scale formulation development of moisturizing soaps for xerosis management.

DRUG PROFILE

Fig 4.1 Detai

Biological Source

Aloe vera is obtained from the fresh leaves of the Aloe vera plant. The gel present inside the leaves is used for medicinal, cosmetic, and skincare purposes. Aloe vera belongs to the family Liliaceae.

□ Synonyms

- Aloe gel
- Aloe mucilage
- Aloe extract
- Scientific Classification

Category	Detail
Biological Name	Aloe Vera
Family	Liliaceae
Kingdom	Plantae
Common Name	Aloe Vera

□ Chemical Constituents

Aloe vera gel contains several active constituents responsible for its therapeutic activity.

□ Major Chemical Constituents

- a) Polysaccharides
- b) Vitamins (A, C, E, B12)
- c) Amino acids
- d) Enzymes
- e) Minerals
- f) Saponins
- g) Anthraquinones
- h) Lignin

These constituents help provide moisturizing, soothing, and healing effects on the skin.

□ Description

Aloe vera gel is a transparent, colorless to slightly pale green mucilaginous substance obtained from the inner portion of aloe vera leaves. It has a cooling effect and is widely used in herbal cosmetics and dermatological preparations.

□ Uses of Aloe Vera Gel

- Aloe vera gel is widely used in pharmaceutical, cosmetic, and herbal preparations because of its multiple skin benefits.
- Medicinal and Cosmetic Uses
- Moisturizes dry skin
- Soothes irritated skin
- Reduces itching and redness
- Promotes wound healing
- Provides cooling effect
- Improves skin hydration
- Used in creams, lotions, shampoos, soaps, and gels

□ Role of Aloe Vera Gel in Present Formulation

In the present study, aloe vera gel was used as a herbal moisturizing agent in the formulation of moisturizing medicated soap for xerosis.

Xerosis causes dryness, roughness, and irritation of the skin. Aloe vera gel helps reduce these symptoms by improving skin hydration and soothing the affected area.

□ Functions in Soap Formulation

- Provides moisturizing effect
- Helps maintain skin softness
- Gives soothing and cooling action
- Reduces skin irritation
- Improves skin smoothness
- Supports skin repair
- Because of these beneficial properties, aloe vera gel was selected as an important herbal ingredient in the formulation.

□ Advantages of Aloe Vera Gel

- Natural and safe ingredient
- Suitable for dry and sensitive skin
- Non-irritating in nature
- Easily available
- Cost-effective
- Good skin compatibility



2. Shea Butter Soap Base

Shea butter soap base was used as the primary base material for the preparation of the soap. It acts as the main cleansing agent and provides the structure and consistency of the soap. Shea butter is rich in natural fatty acids and moisturizing components that help nourish and protect the skin.

Unlike ordinary soaps, shea butter soap base provides gentle cleansing without excessively removing natural oils from the skin surface. It produces a creamy and smooth lather that helps clean the skin while maintaining softness and hydration.

□ Functions of Shea Butter Soap Base

- Acts as the main soap base.
- Provides cleansing action.
- Produces creamy lather.
- Helps reduce skin dryness.
- Improves skin softness and smoothness.
- Suitable for dry and sensitive skin.

Because of its moisturizing nature, shea butter soap base was selected for the present formulation intended for xerosis management.

3. Glycerin

Glycerin is one of the most commonly used moisturizing agents in skincare and pharmaceutical preparations. It acts as a humectant, which means it attracts moisture from the environment and helps retain water in the outer layer of the skin.

Glycerin improves skin hydration and prevents excessive dryness after washing. It also helps maintain skin elasticity and smoothness. The presence of glycerin in soap reduces the harsh effect commonly associated with ordinary cleansing soaps.

□ Functions of Glycerin

- Acts as a humectant
- Retains moisture in the skin
- Prevents skin dryness
- Improves skin hydration
- Enhances skin softness
- Fig. 4.3
- Reduces roughness and irritation



Due to these properties, glycerin is considered an important ingredient in moisturizing soaps designed for dry skin conditions.

4. Coconut Oil

Coconut oil is a natural oil commonly used in skincare products because of its excellent emollient property. It contains fatty acids that nourish the skin and help restore the natural lipid barrier.

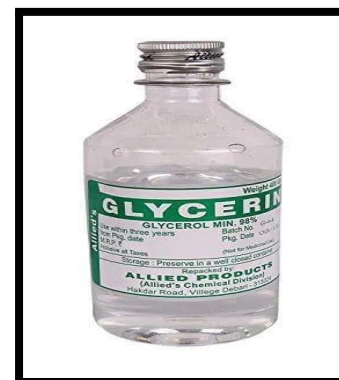
Coconut oil forms a protective layer on the skin surface that reduces moisture loss and improves skin softness. It also helps improve the smoothness and conditioning effect of the soap.

□ Functions of Coconut Oil

- Acts as an emollient
- Nourishes and softens skin
- Prevents moisture loss
- Improves skin smoothness
- Enhances moisturizing effect
- Supports skin barrier protection

The addition of coconut oil helps make the soap more suitable for dry
Fig. 4.4

and rough skin associated with xerosis.



5. Vitamin E Oil

Vitamin E oil is a powerful antioxidant widely used in cosmetic and pharmaceutical products. It helps protect skin cells from oxidative damage caused by environmental exposure such as sunlight and pollution.

Vitamin E oil also helps improve skin repair and maintain healthy skin appearance. It supports skin nourishment and helps reduce dryness and irritation.

□ Functions of Vitamin E Oil

- Acts as an antioxidant
- Protects skin cells
- Helps repair damaged skin
- Improves skin nourishment
- Reduces dryness and irritation
- Maintains healthy skin appearance

The inclusion of vitamin E oil improves the protective and skin-conditioning properties of the soap formulation.



Fig. 4.5

1 5.1 MATERIALS

Ingredients	Quantity	Category	Function
Shea Butter Soap Base	82 g	Soap Base	Cleansing and Moisturizing Base

Glycerin	8 g	Humectant	Retains skin moisture
Aloe Vera Gel	5 g	Herbal Moisturizer	Soothing & Hydrating effect
Coconut Oil	3 g	Emollient	Softens & nourishes skin
Vitamin E Oil	1 g	Antioxidant	Skin protection & repair
Fragrance	q.s.	Additive	Improves odor

5.2 Equipment Used

The following equipment and apparatus were used during preparation :-

- Beaker.
- Measuring cylinder.
- Glass rod.
- Soap molds.
- Spatula.
- Weighing balance.
- Double boiler.
- Thermometer.
- pH paper.

5.3 Method of Preparation

Method used: Melt & Pour Method

The melt-and-pour method was selected because it is simple, safe, economical, and suitable for preparing moisturizing soaps.

Step 1 : Preparation of Soap Base

The shea butter soap base was cut into small cubes using a clean knife. Cutting into smaller pieces helped in faster and uniform melting.



Step 2 : Melting of Soap Base

The soap base was transferred into a clean beaker and melted using double boiler method.

The temperature was controlled properly to avoid overheating because excessive heat may affect the quality of the soap.

Step 3 : Cooling

Fig. 5.1

After complete melting, the soap base was allowed to cool slightly before adding active ingredients.

This step prevents degradation of sensitive ingredients.

Step 4 : Addition of Ingredients

The following ingredients were added slowly with continuous stirring:

- [1] Glycerin.
- [2] Aloe vera gel.
- [3] Coconut oil.
- [4] Vitamin E oil.
- [5] Color.

The mixture was stirred gently to obtain a uniform preparation.

Fig.5.2



Step 5: Addition of Fragrance

Fragrance was added in small quantity to improve the odor and acceptability of the soap.

Step 6: Pouring into Molds

The prepared mixture was poured carefully into soap molds.

Step 7: Removal of Bubbles

The molds were tapped gently to remove bubbles and rubbing alcohol was also sprayed on top to remove bubbles and to obtain smooth soap bars.

Step 8: Cooling and Solidification

The soap was allowed to cool and solidify at room temperature for about 1 to 2 hours.

Step 9: Demolding and Packaging

EVALUATION PARAMETERS



Fig. 5.3



Fig. 5.4

The prepared moisturizing medicated soap was evaluated for different physiochemical and performance parameters.

Sr.no.	Evaluation Parameter	Procedure	Importance	Result
1.	Organoleptic Evaluation	Soap was observed visually for color, odor, appearance, texture, & smoothness.	To check the physical appearance & acceptability of soap.	Soap showed smooth texture, uniform appearance, pleasant odor, creamy green color.
2.	pH Determination	1 g of soap was dissolved in distilled water and pH was measured using pH paper.	To determine whether the soap is skin-friendly and non-irritating.	pH was found to be in the range of 6.5-7.0, which is suitable for skin application.
3.	Foam Height Test	Soap solution was shaken in a measuring cylinder and foam height was observed.	To evaluate foaming and cleansing ability of the soap.	The prepared soap produced satisfactory and stable foam.
4.	Hardness Test	Soap was pressed manually to check hardness and durability.	To determine the strength and long-lasting property of the soap.	Soap showed good hardness & did not break easily during handling.
5.	Washability Test	Soap was washed with water and ease of removal is observed.	To check whether the soap can be easily removed without any residue.	Soap washed off easily with water without leaving any residue.
6.	Skin Irritation Test	Soap was applied on a small area of skin and observed for redness or irritation.	To evaluate safety and skin compatibility.	No redness, itching or irritation was observed after application.
Sr.no.	Evaluation Parameter	Procedure	Importance	Result

8.	Foam Retention Test	Time taken for foam to disappear after shaking soap solution.	To evaluate stability of foam produced by the soap.	Foam remained stable for a satisfactory period of time.
9.	Stability Study	Soap was stored in room temperature & observed for changes in color, odor, texture.	To determine physical stability of the formulation.	No significant change in color, odor, or texture, or appearance was observed during storage.
10.	Spreadability of Lather	Lather formed during washing was observed manually.	To evaluate ease of application and user acceptability.	Soap produced smooth & easily spreadable lather during use.

6.2 Chemical Constituent Test

Sr.no	Chemical Constituent	Test	Observation	Inference
1.	Glycerin	Acrolein Test	Pungent irritating smell produced after heating potassium bisulfate.	Presence of glycerin confirmed.
2.	Aloe Vera Constituent	Foam Test	Stable foam formation observed.	Presence of saponins & polysaccharides.
3.	Coconut Oil	Solubility Test	Oil soluble in organic solvent.	Presence of fatty acids & oils.
4.	Vitamin E Oil	Ferric Chloride Test	Light color change observed.	Presence of tocopherol antioxidant.
5.	Fatty Matter in Soap	Total Fatty Matter (TFM) Test	Fatty content observed.	Confirms soap quality.
6.	Alkali Content	Phenolphthalein Test	Light pink color was observed after addition of phenolphthalein indicator.	Presence of acceptable alkali in the soap.

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V. RESULT

The prepared moisturizing medicated soap was found to possess good physical appearance and acceptable quality characteristics.

- **Physical Appearance**

The soap showed smooth texture, uniform color, and pleasant odor. No cracks or irregularities were observed.

- **pH**

The pH of the formulation was found within acceptable range suitable for skin application.

- **Foamability**

The soap produced adequate foam and showed satisfactory cleansing action.

- **Washability**

The soap washed easily with water and did not leave excessive residue.

- **Moisturizing Effect**

The presence of glycerin, aloe vera extract, coconut oil, and vitamin E oil improved skin softness and hydration after washing.

- **Skin Compatibility**

No visible irritation or redness was observed during skin irritation testing.

VI. Discussion

The results showed that the incorporation of moisturizing ingredients helped reduce skin dryness commonly caused by conventional soaps. Glycerin acted as a humectant and helped retain moisture in the skin, while coconut oil and shea butter improved skin nourishment and softness. Aloe vera gel provided soothing and hydrating effects, and vitamin E oil helped protect the skin from dryness and damage.

The prepared soap showed acceptable pH, good foamability, smooth texture, and easy washability. No irritation was observed during skin application. Overall, the formulation successfully provided gentle cleansing along with moisturization and was found suitable for the management of xerosis.

The soap also produced a creamy lather that improved user acceptability and cleansing efficiency. The moisturizing effect remained noticeable after washing, indicating good skin compatibility. The formulation was easy to prepare using the melt-and-pour method and required simple ingredients. The combination of herbal and moisturizing agents improved the overall quality of the soap. Therefore, the developed formulation may be considered beneficial for dry and sensitive skin conditions.

VII. Conclusion

The present study was successfully carried out to formulate and evaluate a moisturizing medicated soap for the management of xerosis using a shea butter soap base along with glycerin, aloe vera gel, coconut oil, and vitamin E oil. The selected ingredients were incorporated because of their moisturizing, soothing, nourishing, and skin-protective properties.

The prepared soap showed satisfactory physicochemical characteristics such as smooth appearance, pleasant odor, suitable texture, acceptable pH, good foamability, easy washability, and proper hardness. The formulation also showed good skin compatibility without producing irritation during application.

The presence of moisturizing ingredients such as glycerin, aloe vera gel, coconut oil, and vitamin E oil helped maintain skin hydration and reduce dryness after washing. The soap provided gentle cleansing while preserving the natural softness and smoothness of the skin.

The study indicates that the developed moisturizing medicated soap may be beneficial for people suffering from xerosis and dry skin conditions. The formulation is simple, economical, easy to prepare, and suitable for daily use on dry and sensitive skin.

Therefore, it can be concluded that the prepared soap successfully combined cleansing action with moisturizing benefits and may serve as an effective skincare product for the management of xerosis.

VIII. Future Perspectives

1. Advanced clinical studies can be carried out to evaluate the long-term effectiveness of the moisturizing medicated soap in patients suffering from xerosis.
2. Different herbal ingredients such as neem, turmeric, oatmeal, calendula, or essential oils may be incorporated to enhance therapeutic and skin-protective properties.
3. Stability studies can be performed to determine the shelf life and storage conditions of the formulation.
4. The formulation can be modified into different dosage forms such as liquid soap, body wash, facial cleanser, or moisturizing cream.
5. Natural fragrances and colorants may be added to improve appearance and consumer acceptability.
6. Comparative studies can be conducted between herbal moisturizing soaps and commercially available medicated soaps.
7. The formulation may be developed on a commercial scale after proper quality control and standardization studies.
8. Further studies may be performed to evaluate antimicrobial and anti-inflammatory activities of the formulation.
9. Eco-friendly and biodegradable packaging materials may be used for future product development.
10. The prepared formulation may provide a cost-effective and skin-friendly alternative for the management of xerosis and dry skin conditions.

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