

FORMULATION AND EVALUATION OF HERBAL MOISTURIZING LOTIONS: A COMPREHENSIVE REVIEW**Shivani^{1*} and Rashmi Sharma²**

¹Department of Pharmacy, Saraswathi College of Pharmacy, Anwarpur, Hapur 245304 (U.P) India.

²Assistant Professor, Dept. of Pharmacy, Saraswathi College of Pharmacy, Anwarpur, Hapur 245304 (U.P) India.

Article Received on
16 February 2025,

Revised on 08 March 2025,
Accepted on 28 March 2025

DOI: 10.20959/wjpr20257-36198



***Corresponding Author**
Shivani

Department of Pharmacy,
Saraswathi College of
Pharmacy, Anwarpur, Hapur
245304 (U.P) India.

ABSTRACT

Herbal moisturizer lotions are among the most commonly used cosmetic products, valued for their ability to soften and nourish the skin. They are particularly effective in alleviating symptoms associated with dry skin, such as discomfort, tightness, itching, stinging, and tingling sensations. This review aims to explore existing literature on various aspects of herbal moisturizers, including their historical development, key ingredients, preparation methods, unique properties, applications, and benefits. Herbal moisturizers play a dual role by serving both as skincare products and as therapeutic agents, bridging the gap between consumer cosmetics and dermatological care. They enhance skin health and beauty by addressing hydration needs and maintaining the skin's natural pH balance. The core mechanism of their action involves increasing water content in the stratum corneum, the outermost layer of the skin, thereby promoting smoothness and

hydration. Looking ahead, advancements in moisturizer therapy will focus on tailoring formulations to meet specific dermatological requirements, ensuring a more personalized approach to skincare. This underscores the importance of herbal moisturizers as both cosmetic and therapeutic agents in maintaining skin health and appearance.

KEYWORDS: Moisturizers, emollients, Herbal lotion, Aloe vera, Ashwagandha, Turmeric.

INTRODUCTION

This study focuses on the formulation of herbal moisturizing lotions, referred to as "Products," which are crafted with approved cosmetic ingredients and enhanced with one or more herbal components to deliver unique cosmetic benefits. These products, termed "Herbal Cosmetics," incorporate aromatic herbs and their derivatives into cosmetic formulations, which has gained significant popularity among consumers who prefer natural products. This increasing demand has encouraged the use of natural ingredients and herbal extracts in cosmetic formulations. Herbal moisturizing lotions, as liquid preparations for external application, are typically applied to the skin using absorbent materials like cotton wool or gauze. These lotions provide various local benefits, including cooling, soothing, and protective effects. Their primary function is to enhance the skin's appearance, cleanse it, and maintain its health. They achieve this by removing excess sebum, moisturizing the skin, improving blood circulation, and providing astringent and refreshing effects. Additionally, these lotions may have therapeutic applications, such as reducing inflammation and supporting the skin's natural healing processes. The production of herbal body lotions involves a detailed process, where insoluble materials are finely divided into colloidal particles. This enhances their interaction with inflamed or damaged skin surfaces, providing relief and promoting healing. Several additives are incorporated during formulation to improve properties such as dispersion, cooling, soothing, and protection. These lotions also serve cosmetic purposes, addressing issues like wrinkles, acne, and sebum control. Formulations often include protective agents, sunscreens, and anti-aging compounds to meet specific skin care needs. Herbal formulations stand out due to their use of natural ingredients with minimal side effects compared to chemical alternatives. Ingredients like coconut oil, glycerine, and aloe vera gel are common in these products, offering nourishment, hydration, and protection against dryness, particularly in extreme weather conditions. Aloe vera, a key component, is renowned for its versatile benefits, including its ability to soothe burns, reduce pain, and promote wound healing. When consumed as juice or in food, aloe vera can also help manage conditions like diabetes, gastrointestinal disorders, and mouth diseases, thanks to its anti-inflammatory and antibacterial properties. The therapeutic properties of aloe vera extend to its use in treating skin conditions such as eczema and psoriasis, often in combination with other natural ingredients like licorice root. It is rich in water content, polysaccharides, vitamins, and minerals, making it highly beneficial for both topical and internal use. Aloe vera's gel contains vitamins A, C, and E, along with B-complex vitamins and essential nutrients, further enhancing its value in skincare formulations.

Herbal cosmetics are prepared by blending approved cosmetic bases with herbal compounds to create products that are both effective and natural. These products are developed to meet the increasing consumer demand for eco-friendly and organic options in the cosmetics industry. The use of herbs, which are aromatic or medicinal plants, is central to this trend. Herbs provide diverse benefits, including enhancing flavor and aroma, therapeutic applications, and aesthetic improvements. The distinction between herbs and spices is primarily based on their source: herbs are derived from fresh or dried leaves and flowers, while spices are obtained from seeds, roots, bark, or fruits. Herbal lotions are typically stored in colored fluted bottles to differentiate them from medicinal preparations and are designed to be used with minimal friction on various skin conditions, including inflamed or damaged skin. These products combine the ancient wisdom of Ayurveda with modern cosmetic science, offering consumers a natural, safe, and effective solution for their skincare needs. By leveraging the unique properties of herbal ingredients, these lotions deliver not only cosmetic but also therapeutic benefits, ensuring healthier and more radiant skin.

Literature survey

Prasad et al. (2020) investigated the role of aloe vera in skincare formulations, highlighting its antimicrobial and hydrating properties. Their findings demonstrated that aloe vera not only soothes irritated skin but also promotes moisture retention and speeds up the healing of minor abrasions.

Similarly, Kumar et al. (2019) explored the use of coconut oil in body lotions. Their research showed that coconut oil acts as an effective emollient, preventing transepidermal water loss and improving skin barrier function. Honey, another popular ingredient, was studied by Mehta and Singh (2021), who identified its humectant properties and ability to support skin healing due to its antibacterial activity.

Glycerin's role in herbal formulations has also been extensively researched. According to Sharma et al. (2017), glycerin not only provides anti-aging benefits but also enhances the skin's ability to retain moisture, making it a staple in many formulations.

The evaluation of herbal moisturizing lotions involves assessing their physicochemical and sensory properties. Gupta et al. (2020) developed a framework for evaluating herbal lotions, focusing on parameters such as pH, spreadability, washability, and viscosity. Their study

highlighted the importance of maintaining a neutral pH to ensure compatibility with the skin's natural barrier.

Reddy et al. (2018) explored the role of sensory attributes, including color, odor, and texture, in consumer acceptance of herbal lotions. Their findings suggested that pleasant sensory properties significantly influence product success in the market. These studies underline the need for comprehensive evaluations to ensure the quality and performance of herbal formulations.

Herbal lotions are recognized for their dual role in cosmetic enhancement and therapeutic care. A study by Das et al. (2019) demonstrated the efficacy of turmeric-based lotions in reducing acne and hyperpigmentation. The anti-inflammatory and antimicrobial properties of turmeric were identified as key factors in achieving these results.

Ashwagandha, known for its adaptogenic properties, has also been incorporated into herbal lotions. According to Patel et al. (2021), ashwagandha-based formulations improve skin elasticity and combat oxidative stress, making them suitable for anti-aging applications.

The therapeutic benefits of aloe vera have been extensively researched. A study by Khan and Ali (2020) highlighted its effectiveness in treating burns, eczema, and psoriasis. The research also noted aloe vera's role in improving wound healing due to its anti-inflammatory and antimicrobial properties.

Consumer preferences for natural and eco-friendly products have driven the demand for herbal cosmetics. According to Rajan et al. (2021), the global market for herbal skincare products has grown significantly, reflecting a shift toward sustainable and organic formulations. This trend is supported by increased awareness of the potential side effects of synthetic ingredients.

Despite their advantages, herbal moisturizing lotions face challenges related to standardization and stability. Singh et al. (2020) identified variability in the quality of raw materials as a major obstacle. Their research called for the adoption of advanced extraction and quality control techniques to ensure product consistency.

Future studies are expected to focus on innovative delivery systems to enhance the bioavailability of herbal ingredients. According to Verma and Chopra (2022), nanotechnology

holds promise for improving the efficacy of herbal formulations, particularly in addressing specific dermatological conditions.

The use of natural products in skincare can be traced back centuries, with documented applications in Ayurveda and Traditional Chinese Medicine. According to Shukla et al. (2018), early formulations relied on ingredients like aloe vera and turmeric for their therapeutic and cosmetic benefits. Aloe vera was particularly praised for its hydrating properties, while turmeric was valued for its anti-inflammatory effects. These traditional practices laid the groundwork for modern herbal cosmetics.

Sayantani Chanda, et al (2019) Curcuma longa L., a member of the ginger family (Zingiberaceae), is widely used by traditional healers to treat a number of ailments. Because of its high curcumin concentration, Indian turmeric is very popular compared to other countries. produced from Curcuma longa rhizomes, commonly known as haldi or turmeric. Rhizomes are horizontal subterranean stems that give rise to both roots and shoots. Curcumin, also known as diferuloyl methane, is the most prevalent of the fat-soluble, polyphenolic pigments termed curcuminoids that make up turmeric and give Indian curries their yellow color.^[12]

Sunil Mishra, et al (2023) The body is covered in layers of protective skin. Herbal body lotion made from plants moisturizes and calms. Succulent aloe vera, which soothes, heals, and moisturizes, is frequently used as a treatment. It has been used to treat burns and wounds on the skin for hundreds of years. Goal: By creating a herbal body lotion, this study attempts to evaluate aloe vera's pharmacological properties. Content and Approach: For the creation of the herbal body lotion, aloe vera, honey, glycerin, rose water, and triethanolamine were used. Evaluation parameters were also done to evaluate the formulation.^[13]

Gudade Gayatri Ashok et al (2022) The need for natural materials and natural extracts in cosmetic preparations was sparked by customers' desire for herbal products and the usage of natural herbs and their products for their aromatic value. Lotions are liquid formulations intended for frictionless exterior application. With the aid of an absorbent substance, such cotton wool or gauze soaked in it, they are applied directly to the skin. Different compositions are used in the formulation of menthol lotion, aloe vera lotion, and arrow root powder. The current study's main goal was to create a herbal lotion that would hydrate and nourish the skin.^[14]

Numerous other researchers have studied the herbal preparation and have created new herbal formulations using fresh herbs. There were no negative effects from the herbal lotion composition. In addition to moisturizing skin, the herbal lotion made from aloe vera gel and honey has anti-inflammatory, antibacterial, and antioxidant properties. Regular pH, acid value, and irritancy tests are performed on the manufactured lotion. Due to its moisturizing properties, *Gudade Gayatri Ashok et al (2022)* Aloe vera gel is used to prevent sunburn and acne as well as dry skin in the summer and winter. The herbal lotion is safe to use on skin because it passes all assessment tests and has no negative effects.^[14]

Nikita M. Rathi, et al (2023) Herbal medicine, also known as botanical medicine or herbalism, is the use of herbs for their therapeutic or medical properties. A plant or plant part prized for its fragrant and therapeutic properties is called a herb. The products used to enhance a person's look are known as herbal cosmetics. The goal of the current study was to create a herbal moisturizer with a variety of herbal plants, including neem, cucumber, and aloe vera, as well as glycerin, coconut oil, rose water, vitamin E, and vitamin C. Its effectiveness was assessed based on physical appearance, pH, spreadability, greasiness, irritancy, and other factors. It was intended to be used for moisturizing, nourishing, and curing a variety of skin conditions. Herbal creams provide a number of advantages over synthetic ones. The study provides the.^[15]

Banerjee, D et al (2022) This article is all about the requirement of standardization and the composition of herbal product in day to day life. Composition of herbal products will give ever best effect in our daily life as the composition of any single and individual product. The only motive behind to choose the mixture of herbal product was to bring true upon the effectiveness of these formulation without any side-effects. Comparison include organoleptic and physio-chemical character such as viscosity, pH, spreadability, moisture free body after use.^[16]

Pratiksha Shivaji Salunkhe et al (2024) The herbal cosmetics are those when natural herbs and their products used for their aromatic value in cosmetic preparation among consumers for herbal products triggered the demand for natural products and natural extracts in cosmetics preparations. The Herbal preparation is research by many more researcher and from new herbs obtained new herbal formulation. Herbal lotions have gained popularity in recent years due to their perceived natural and safe properties compared to synthetic skincare products. it

examines the potential benefits of herbal lotions, including hydration, inflammation reduction, and antioxidant protection.^[17]

Sunil Mishra, et al (2018) Protective layers of skin cover the body. Plant-based herbal body lotion soothes and moisturises. Treatments commonly include succulent aloe vera, which heals, reduces pain, and moisturises. For hundreds of years, it has healed skin burns and injuries. Aim: This study aims on the pharmaceutical assessment of Aloe-vera by formulating an herbal Body lotion. Aloe-vera contain antimicrobial and hydrating properties protect skin against microbial degradation and moisture to skin. Conclusion: herbal body lotion is prepared for tropical administration. Aloe vera is used in lotion to provide synergistic effect as well as moisturizing effect on skin. Herbal remedies are experiencing a surge in popularity worldwide. The utilization of aloe vera, honey, Coconut oil, Lemon Oil and glycerin in the formulation of an herbal lotion is an exemplary notion.^[18]

Puja Sahal et al (2021) The purpose of the present research work was to formulated and evaluated herbal cream. The objectives of this research work were to formulate the cream which does not cause any adverse or side effects, with anti microbial properties. Methodology: The present study was to prepare and evaluated the polyherbal cosmetics cream comprising extracts of natural products with Krishna Tulsi as the main active ingredient. Herbal cream sorts out to have nothing of any of these side effects, and helps fairness look to skin. Formulation F2 and F3 shows no edema, redness, irritation and inflammation during irritancy studies.^[19]

MATERIALS AND METHOD

Aloe vera

Aloe vera is a succulent plant known for its wide range of beneficial properties, particularly in skincare. The gel extracted from its leaves contains a high water content and is rich in vitamins, minerals, antioxidants, and amino acids. These components make it an effective moisturizer, soothing and hydrating the skin. Aloe vera is commonly used in herbal moisturizer lotions due to its ability to calm irritation, reduce inflammation, and promote healing. It helps maintain skin hydration without being greasy, making it suitable for all skin types. Additionally, its natural antibacterial properties contribute to preventing infections, making it ideal for soothing sunburns, minor burns, and skin conditions like eczema. When included in herbal lotions, aloe vera enhances the overall efficacy of the product, offering both cosmetic and therapeutic benefits.



Olive Oil

Olive oil, extracted from the fruits of the olive tree (*Olea europaea*), is a natural oil rich in antioxidants, vitamins, and healthy fatty acids. Its primary components include monounsaturated fatty acids like oleic acid, as well as small amounts of polyunsaturated fats. It also contains vitamin E, which is a powerful antioxidant that helps protect the skin from free radical damage and environmental stressors. Olive oil has been used for centuries in traditional medicine and skincare due to its nourishing, moisturizing, and soothing properties.

In herbal moisturizers, olive oil serves as a key ingredient for hydration and skin repair. It creates a protective barrier on the skin, reducing moisture loss and maintaining hydration levels, which is especially beneficial for dry or sensitive skin. The presence of antioxidants like vitamin E and phenolic compounds makes it effective in reducing the signs of aging, such as fine lines and wrinkles, by promoting skin elasticity and firmness. Olive oil also has anti-inflammatory properties, which help calm irritation and redness, making it suitable for use on inflamed or irritated skin. Additionally, olive oil works well as a carrier oil, enhancing the absorption of other active herbal ingredients in moisturizers. Its mild emollient nature leaves the skin feeling soft and smooth without clogging pores, making it suitable for a wide range of skin types. The use of olive oil in herbal moisturizers ensures a blend of deep nourishment, natural hydration, and protection, promoting healthier and more radiant skin.



Turmeric (*Curcuma longa*)

Turmeric, derived from the root of the *Curcuma longa* plant, is a golden-yellow spice widely recognized for its medicinal and cosmetic properties. Its active compound, curcumin, is known for its powerful antioxidant, anti-inflammatory, and antimicrobial effects. Turmeric also contains essential nutrients, such as vitamins, minerals, and phytochemicals, that contribute to its skincare benefits. In traditional systems like Ayurveda, turmeric has been valued for its ability to heal, protect, and enhance the skin. When incorporated into moisturizing lotions, turmeric provides several benefits for the skin. Its antioxidant properties help protect the skin from damage caused by free radicals and environmental pollutants, which can lead to premature aging. The anti-inflammatory effects of turmeric soothe irritated and sensitive skin, making it an excellent choice for addressing redness, inflammation, and conditions such as eczema or acne. Its antimicrobial properties also help in controlling bacteria that can cause skin infections and breakouts.



Ashwagandha (*Withania somnifera*)

Ashwagandha, scientifically known as *Withania somnifera*, is a revered herb in traditional Ayurveda, renowned for its adaptogenic properties, which help the body manage stress. It

contains bioactive compounds such as withanolides, alkaloids, and flavonoids, which contribute to its therapeutic effects. In skincare, ashwagandha is valued for its ability to rejuvenate and protect the skin while promoting overall health and vitality. In herbal moisturizing lotions, ashwagandha serves as a potent ingredient that offers multiple benefits for the skin. Its antioxidant properties help neutralize free radicals, reducing oxidative stress and preventing signs of aging like fine lines and wrinkles. The herb's anti-inflammatory effects soothe irritated or inflamed skin, making it ideal for sensitive or acne-prone skin types. Ashwagandha also enhances skin hydration by supporting the skin's natural barrier function, ensuring moisture retention and promoting a soft, smooth texture. Additionally, it stimulates collagen production, improving skin elasticity and firmness, which helps maintain a youthful appearance. The herb's calming properties work to reduce redness and irritation, contributing to an even, radiant complexion.



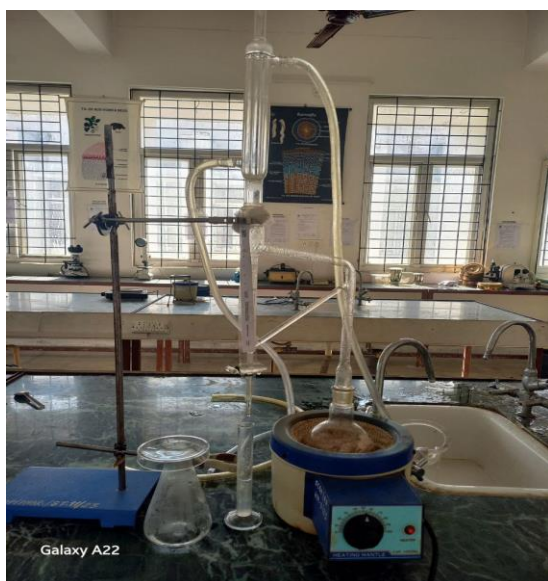
Coconut Oil

Coconut oil, derived from the kernel or meat of mature coconuts (*Cocos nucifera*), is a highly versatile natural oil widely recognized for its nourishing and moisturizing properties. It contains medium-chain fatty acids, particularly lauric acid, caprylic acid, and capric acid, which provide deep hydration and antimicrobial benefits. Rich in vitamins E and K, as well as essential antioxidants, coconut oil helps protect the skin from environmental stressors and promotes overall skin health. In moisturizing lotions, coconut oil is a valuable ingredient due to its ability to penetrate the skin deeply, providing lasting hydration and improving skin texture. Its emollient properties help restore the skin's natural lipid barrier, preventing moisture loss and leaving the skin soft and supple. The oil is particularly beneficial for dry, rough, or flaky skin, as it soothes and nourishes while reducing irritation.



Rose water

Rose water is a fragrant liquid derived from the distillation of rose petals, prized for its soothing, hydrating, and aromatic properties. It has been used for centuries in skincare, cosmetics, and traditional medicine due to its mild nature and numerous benefits. Rose water is rich in antioxidants, which help protect the skin from damage caused by environmental stressors. It also has anti-inflammatory properties, making it ideal for calming irritated or sensitive skin. Its natural astringent qualities help maintain the skin's pH balance, reduce redness, and tighten pores, leaving the skin feeling refreshed and revitalized. In herbal moisturizers, rose water plays a dual role, combining functionality with a touch of luxury. It acts as a natural hydrator, providing moisture to the skin without making it greasy, which is particularly beneficial for individuals with oily or combination skin. Rose water enhances the effectiveness of moisturizers by helping them absorb better into the skin, ensuring long-lasting hydration. It soothes dry and irritated skin, making the product suitable for all skin types, including sensitive skin.



Beeswax

Beeswax is a natural wax produced by honeybees. It is derived from the honeycomb and has a rich composition of esters, fatty acids, and hydrocarbons, making it an excellent emollient. In herbal moisturizers, beeswax acts as a natural thickening agent and provides a protective barrier on the skin, locking in moisture while allowing the skin to breathe. Its anti-inflammatory and antibacterial properties help soothe irritation and support skin healing. Beeswax also enhances the texture of moisturizers, giving them a smooth and creamy consistency.

Glycerine

Glycerine, also known as glycerol, is a clear, odorless, and viscous liquid derived from natural sources such as vegetable oils. It is a powerful humectant, meaning it attracts and retains moisture in the skin, making it an essential ingredient in herbal moisturizer lotions. In these formulations, glycerine helps hydrate the skin by drawing water into the outer layers, improving skin softness and smoothness. Its soothing properties also aid in relieving dryness and irritation, ensuring the skin remains supple and healthy. Additionally, glycerine enhances the lotion's texture, making it lightweight, non-greasy, and easy to apply.

Distilled water

Distilled water is purified water obtained through the process of distillation, where impurities and minerals are removed by boiling the water and condensing the steam back into liquid form. It is a crucial ingredient in herbal moisturizer lotions as it acts as a solvent, helping to dissolve other ingredients and create a smooth and uniform texture. Distilled water hydrates the skin and provides a base for the active herbal components to be effectively absorbed, enhancing the lotion's moisturizing and soothing properties. Its purity ensures that no contaminants interfere with the formulation, making it ideal for sensitive skin.

Formulation of herbal moisturizing lotion**Composition of oil phase**

In lotion formulation, the oil phase consists of ingredients like olive oil, coconut oil, and beeswax. These ingredients are mixed together at 70°C to allow the oils to melt and blend smoothly. Olive oil provides nourishment and moisture, while coconut oil offers hydration and a soothing effect. Beeswax helps to thicken the mixture and create a protective barrier on the skin. Heating the oil phase ensures that all components are fully incorporated, resulting in a stable and effective base for the lotion.

Sr. No.	Ingredient	Quantity
1	Bees wax	5gm
2	Olive oil	3ml
3	Coconut oil	2ml

Composition of aqueous phase

Prepare the water phase (rose water, glycerin, and herbal extracts) separately. Emulsify by slowly adding the water phase to the oil phase with continuous stirring. Cool the mixture and add essential oils or preservatives if needed.

Sr. No.	Ingredient	Quantity
1	Aloe- vera gel	25ml
2	Turmeric extract	15ml
3	Ashwagandha extract	10ml
4	Glycerine	5ml
5	Distilled water	Q.S
6	Rose water	Q.S

Formulation procedure for herbal moisturizing lotion

1. Add measured amount of aloe-vera gel into a mixing bowl.
2. Then add others ingredients such as turmeric extract, ashwagandha extract and glycerine.
3. Now add required amount of distilled water and rose water and mix them vigorously. Aqueous phase was prepared.
4. Weighed 5gm bees wax transferred into a beaker, put on hot plate at 70°C.
5. Measured 3ml olive oil and 2ml coconut oil, poured into beaker with continuous stirring to prepare the oil phase.
6. At the end mix all the phase vigorously and herbal moisturizing lotion was prepared.

Evaluation of herbal moisturizing lotion

Evaluation research involves a structured and methodical process aimed at assessing or appraising an object, program, activity, practice, or system. The primary goal is to generate valuable insights and information that can support and guide decision-making processes effectively.

➤ Organoleptic properties

The organoleptic properties of the herbal lotion, including its color, odor, texture, and physical state, were assessed using visual inspection techniques.

➤ **Homogeneity test**

The homogeneity test for herbal moisturizing lotion ensures that all ingredients are evenly distributed throughout the formulation. This is evaluated by taking small samples from different parts of the batch and examining them for uniform texture, consistency, and appearance without any visible separation or clumping.

➤ **Absorption test**

The absorption test for herbal moisturizing lotion evaluates how effectively the lotion penetrates the skin. A small amount of the lotion is applied to the skin, and the time taken for it to be absorbed without leaving a greasy or sticky residue is observed. This test helps determine the lotion's suitability for different skin types and its overall effectiveness.

➤ **Spread ability test**

The spreadability test evaluates how easily herbal moisturizing lotion can be applied to the skin. This is typically measured by placing a specific amount of lotion between two glass plates and determining the area it spreads under applied weight or pressure. A good spreadability indicates the lotion is easy to apply and evenly distributes over the skin.

A 500 mg sample of lotion was placed between two slides, with a 200 g weight applied to the top slide. After removing the weight, any excess lotion was discarded. The bottom slide was secured to the machine, while the top slide was connected to a non-elastic string with a 100 g weight attached. The time taken for the top slide to detach was recorded.

➤ **Skin irritancy test**

The irritation test was done applying the formulation to the skin on the back of the hand and leaving it for 24 hours. The area was then observed for any signs of irritation, such as redness, swelling, or itching.

➤ **Washability test**

The washability test for herbal moisturizing lotion evaluates how easily the product can be removed from the skin using water. A small amount of lotion is applied to the skin, allowed to sit briefly, and then rinsed with water to observe whether it leaves any residue or washes off completely, ensuring user convenience and product effectiveness.

RESULT AND DISCUSSION

The herbal body lotion was prepared using ingredients like aloe vera gel, turmeric, ashwagandha extract, glycerin, coconut oil, rose water, and bees wax. Aloe vera, known for its antimicrobial and hydrating properties, helps protect the skin from microbial damage while keeping it moisturized. Glycerin contributes to the formulation with its anti-aging benefits.

The lotion underwent evaluation based on various parameters, including physicochemical characteristics, pH, washability, irritancy, homogeneity, viscosity, and smoothness, to ensure its quality and effectiveness. The formulation was found to have a whitish green color, a pleasant odor, and a semi-solid consistency. It exhibited a neutral pH, good washability, and satisfactory overall performance, reflecting the beneficial contributions of its ingredients.



CONCLUSION

Herbal ingredients are more effective than synthetic bases in addressing skin dryness and can serve as a natural alternative in skincare formulations. It is essential for cosmetologists to advocate for natural cosmetic products. These formulations are easily applied to the skin, ensuring efficient absorption while minimizing adverse effects on the skin's surface. The global demand for herbal products underscores the need for innovative herbal formulations, as herbal compounds offer unique and beneficial properties.

This study focused on developing and testing an herbal body lotion. It evaluated both organoleptic properties such as appearance, color, and odor, and physiological attributes like pH, spreadability, washability, and potential for irritation. The primary goal was to create a lotion that provides essential nutrients for maintaining healthy skin.

The findings demonstrate the effectiveness and safety of herbal cosmetics, highlighting their potential to prevent skin issues and offer antioxidant benefits. With the growing use of cosmetics in personal care, incorporating bioactive herbal substances can enhance the skin's biological functions while delivering vital nutrients for overall skin health.

REFERENCES

1. Nikita M. Rathi, Shital V. Sirsat, Surekha S. Tayade, Abhijit S. Khot; Akshay C. Deshmukh Formulation and Standardization of Herbal Lotion, 2022; 4: 7.
2. Dr.Kuntal Das, Nirali Prakashan. A review of herbal lotion, First Edition: February, 2020.
3. Dr. Ashok A Hajare, Dr. Durgacharan A. Bhagvat, Nirali Prakashan, First Edition: June, 2017.
4. Dhanapal Venkatachalam, Samuel Thavamani, Vincy Varghese, Vinod K, Review on herbal cosmetics in skin care, April, 2019.
5. KA Kamalapurkar, SV Malage, YR Kothari, SD Paralkar, Formulation and evaluation of herbal lotion comprising of celosia Argentea Linn. Extract, 8: 4.
6. Ghazanfer SA. Handbook of Arabian Medicinal Plants. Boca Rato: CRC Press, c1994; 263.
7. Heber D. Physicians' Desk Reference for Herbal Medicines. Thomson Health Care, Montvale, c2007; 4: 515-518.
8. Davis RH Aloe Vera: A scientific approach. Vantage Press Inc, New York, c1997; 290–306.
9. Do-Sang L, RyuII, Kap-Sang L, Yang-See S, Seung-Ho C Optimisation in the preparation of aloe vinegar by Acetobactor sp. and inhibitory effect against lipase activity. Hanguk Nongwhahak Hoechi, 1999; 42: 105- 110.
10. Bozzi A, Perrin C, Austin S, Arce Vera F. Quality and authenticity of commercial aloe vera gel powders Food Chem, 2007; 103(1): 22-30.
11. Lawless J, Allen J. Aloe vera-Natural wonder care. Harper Collins Publishers, Hammersmith, c2000; 5- 12.
12. Saudagar RB, Sisodiya MH. Review on Herbal Cosmetics, World Journal of Pharmaceutical Research, 7(7): 573-591.
13. RM Mehta. Pharmaceutics-II, Fourth Edition, Vallabh Prakashan, c2015; 119-120.
14. Loden, M. The clinical benefit of moisturizers. J. Eur. Acad. Dermatol. Venereol, 2005; 19: 672–688.

15. Purnamawati, S.; Indrastuti, N.; Danarti, R.; Saefudin, T. The Role of Moisturizers in Addressing Various Kinds of Dermatitis: A Review. *Clin. Med. Res*, 2017; 15: 75–87.
16. Lodén, M. Prevention or promotion of dryness and eczema by moisturizers? *Expert Rev. Dermatol*, 2008; 3: 667–676.
17. Xu, S.; Kwa, M.; Lohman, M.E.; Evers-Meltzer, R.; Silverberg, J.I. Consumer Preferences, Product Characteristics, and Potentially Allergenic Ingredients in Best-selling Moisturizers. *JAMA Dermatol*, 2017; 153: 1099–1105.
18. Spencer, T.S. Dry skin and skin moisturizers. *Clin. Dermatol*, 1988; 6: 24–28.
19. Sethi, A.; Kaur, T.; Malhotra, S.; Gambhir, M. Moisturizers: The slippery road. *Indian J. Dermatol*, 2016; 61: 279–287.
20. Cheong, W.K. Gentle Cleansing and Moisturizing for Patients with Atopic Dermatitis and Sensitive Skin. *Am. J. Clin. Dermatol*, 2009; 10: 13–17.
21. Manisha Yogesh Sonalkar, Sachin Annasaheb Nitave. Formulation and evaluation of polyherbal cosmetic cream. *World J Pharm Pharm Sci*, 2016; 5: 772-9.
22. T Reynolds, AC Dweck. Aloe vera leaf gel: a review update. *J Ethno Pharmacol*, 1999; 68: 3-37.
23. Priyanka Sharma, Amit C Kharkwal, Harsha Kharkwal, MZ Abdin, Ajit Varma. A review on the pharmacological properties of Aloe Vera. *Int J Pharm Sci Rev Res*, 2014; 29: 31-7.
24. Sharma Pankaj, Tomar Lokeshwar, Bachwani Mukesh, Bansal Vishnu. Review on neem (*Azadirachta indica*): thousand problems one solution. *Int Res J Pharm*, 2011; 2: 97-102.
25. KP Sampath Kumar, Debjit Bhowmik, Biswajit, Chiranjib, Pankaj, KK Tripathi Margret Chandira. Traditional Indian herbal plants Tulsi and its medical importance: a review. *Res Rev: J Pharmacogn Phytochem*, 2010; 2: 103-8.
26. Ashish A, Mohini K, Abhiram R. Preparation and evaluation of polyherbal cosmetic cream. *Der Pharmacia Lettre*, 2013; 5(1): 83-88.
27. Natarajan D, Srinivasan R, Shivakumar MS. *Phyllanthus wightianus* Müll. Arg.: A potential source for natural antimicrobial agents. *Biomed Res Int*, 2014. Article ID 135082 9. <http://dx.doi.org/10.1155/2014/135082>.
28. Minami M, Kita M, Nakaya T, Yamamoto T, Kuriyama H, Imanishi J. The inhibitory effect of essential oils on herpes simplex virus type-1 replication in vitro. *Microbiol. Immunol*, 2003; 47: 681-684. DOI: 10.1111/j.1348-0421.2003.tb03431.x.
29. Kalpesh Chhotalal Ashara. Importance of trituration technique on preparation and evaluation of cold cream. *Inventi Rapid Pharm Tech*, 2013; 1-2: 2012.

30. Sirikudta, W.; Kulthanan, K.; Varothai, S.; Nuchkull, P. Moisturizers for Patients with Atopic Dermatitis: An Overview. *J. Allergy Ther*, 2013; 1-6: 1–6.
31. Nolan, K.; Marmur, E. Moisturizers: Reality and the skin benefits. *Dermatol. Ther*, 2012; 25: 229–233.
32. Bissett, D.L.; McBride, J.F. Skin conditioning with glycerol. *J. Soc. Cosmet. Chem*, 1984; 35: 345–350.
33. Fluhr, J.W.; Gloor, M.; Lehmann, L.; Lazzerini, S.; Distant, F.; Berardesca, E. Glycerol accelerates recovery of barrier function in vivo. *Acta Derm. Venereol*, 1999; 79: 418–421.
34. Aizawa, A.; Ito, A.; Masui, Y.; Ito, M. Case of allergic contact dermatitis due to 1,3-butylene glycol. *J. Dermatol*, 2014; 41: 815–816.
35. Tengamnuay, P.; Pengrungruangwong, K.; Pheansri, I.; Likhitwitayawuid, K. Artocarpus lakoocha heartwood extract as a novel cosmetic ingredient: Evaluation of the in vitro anti-tyrosinase and in vivo skin whitening activities. *Int. J. Cosmet. Sci*, 2006; 28: 269–276.
36. Alikhan, A.; Lachapelle, J.M.; Maibach, H.I. *Textbook of Hand Eczema*; Springer: Berlin/Heidelberg, Germany, 2014; 179.
37. Camargo, F.B., Jr.; Gaspar, L.R.; Campos, P.M.B.G.M. Skin moisturizing effects of panthenol-based formulations. *J. Cosmet. Sci*, 2011; 62: 361–370.
38. Draelos, Z.D. The science behind skin care: Moisturizers. *J. Cosmet. Dermatol*, 2018; 17: 138–144.
39. Draelos, Z.D. Cosmeceuticals. In *Facial Resurfacing*; Wiley-Blackwell: Hoboken, NJ, USA, Cosmetics, 2022; 2010: 138–156.