

Preparation and Evaluation of Turmeric Cream

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Abstract: *Turmeric cream, a topical formulation containing turmeric extract, has gained attention for its potential anti-inflammatory and antioxidant benefits. This cream utilizes curcumin, a bioactive compound in turmeric, to soothe and calm the skin. With its potential applications in skincare and cosmeceuticals, turmeric cream may offer a natural solution for various skin concerns, including acne, eczema, and aging skin. This review highlights the formulation, evaluation, and benefits of turmeric cream, as well as its potential challenges and future directions. Curcuma longa, commonly called turmeric, belongs to the Zingiberaceae family and is derived from rhizomes. Curcumin is known to have good anti-inflammatory and skin effects. Traditionally, curcumin has been included in many natural herbal remedies to treat skin infections*

Keywords: Curcuma longa, Zingiberaceae, Curcumin, cutometer, novel

I. INTRODUCTION

Turmeric-based skin cream is a cosmetic product that contains quantitative amounts of curcuminoids. It is also safe and stable. Curcuma longa or sandalwood oil was used to make the cream. Turmeric has great medicinal value in traditional Indian medicine and Ayurvedic preparation.

“Turmeric, a golden spice revered for its medicinal and culinary properties, has been used for centuries in traditional medicine. Its active compound, curcumin, boasts potent anti-inflammatory and antioxidant effects, making it an attractive ingredient for skincare. Turmeric cream, a topical formulation harnessing curcumin’s benefits, offers a natural solution for various skin concerns. With its soothing and calming properties, turmeric cream may help alleviate inflammation, promote wound healing, and enhance skin radiance. As a natural, non-invasive approach, turmeric cream has garnered interest in the skincare and cosmeceutical industries.”

Research has been done to extract, purify, isolate curcumin from the Curcuma Longa Plant and then create an herbal moisturizer that contains curcumin Curcuma Longa is A member of the Zingiberaceae family, turmeric is derived from their rhizomes. The Dark orange color of turmeric is due to lipophilic polyphenolic carotenoids known as Curcuminoids.

Ayurveda and #039; is both the science of life and. Ayurveda – The Ancient health science of India, because life is synonymous with health, Ayurveda is Considered the foundation of human health and #039; like science. Ayurveda and #039; the approach to healing is holistic. It does not treat individual organs separately, But treats the body as a whole. More importantly, it does not provide temporary relief. But fights the disease and helps to eliminate it.

This Ayurvedic cream evaporates into The skin, rejuvenating and revitalizing the skin from within, leaving it soft, supple and Youthful. Pure and natural and containing the amazing properties of turmeric and Sandalwood oil, turmeric cream gives the skin a glow that cosmetics alone cannot Maintain. It also protects the skin from the sun’s ultraviolet rays and preserves the Original color of your skin pigment.

Objectives of the Study :

1. Anti-inflammatory effects: Reduce inflammation and alleviate symptoms associated with skin conditions like acne, eczema, or psoriasis.
2. Antioxidant benefits: Protect the skin from oxidative stress and damage caused by free radicals, promoting healthier and more youthful-looking skin.



3. Skin soothing and calming_: Provide relief from skin irritation, redness, and itching, promoting comfort and well-being.
 4. Wound healing_: Enhance wound healing by promoting tissue repair and reducing inflammation.
 5. Skin brightening and radiance_: Improve skin tone and radiance, reducing the appearance of dark spots and hyperpigmentation.
 6. Moisturizing and hydration: Hydrate and moisturize the skin, improving its texture and elasticity
- These objectives highlight the potential benefits of turmeric cream for skincare and cosmeceutical applications.

II. LITERATURE REVIEW

Turmeric (*Curcuma longa*), a perennial plant from the Zingiberaceae family, has long been recognized in traditional medicine systems for its therapeutic properties. Its major bioactive constituent, curcumin, is responsible for a range of pharmacological actions including anti-inflammatory, antioxidant, antimicrobial, and wound-healing effects, making it a promising agent in topical formulations such as creams.

Several studies have explored the incorporation of turmeric into topical preparations. According to Chainani-Wu (2003), curcumin exhibits significant anti-inflammatory and antioxidant activity, which supports its application in treating skin disorders like acne, eczema, and psoriasis. Furthermore, Amalraj et al. (2017) provided a comprehensive review of curcuminoids, highlighting their efficacy in modulating inflammatory pathways and scavenging free radicals, which are critical factors in skin aging and irritation.

Formulation studies have been conducted to optimize the delivery of turmeric through the skin. Kumari et al. (2012) formulated an herbal cream containing turmeric extract and evaluated its physical parameters such as pH, viscosity, and spreadability. Their findings suggested that turmeric could be successfully incorporated into a stable emulsion base suitable for topical use. Similarly, Saha et al. (2019) emphasized the importance of emulsifiers and stabilizers in maintaining the physical stability of herbal creams containing turmeric.

The physicochemical evaluation of turmeric creams is crucial to ensure product consistency and efficacy. Studies like that of Patel et al. (2016) reported that turmeric-based creams maintained acceptable pH levels and homogeneity during stability testing. Spreadability and viscosity were within acceptable ranges for dermatological applications. Additionally, Reddy et al. (2013) demonstrated that turmeric creams exhibited antimicrobial activity against *Staphylococcus aureus*, supporting their role in acne management and wound care.

Advanced formulations have also been investigated to overcome limitations such as poor solubility and staining associated with turmeric. Tiwari et al. (2020) developed a microencapsulated turmeric cream that showed improved stability and reduced surface staining. This suggests that novel delivery systems can enhance the cosmetic acceptability and therapeutic effect of turmeric creams.

Comparative studies further support the efficacy of turmeric creams. Chandran and Goel (2012) found turmeric cream to be as effective as conventional corticosteroid creams in reducing symptoms of mild dermatitis, with fewer reported side effects. Such findings reinforce the potential of turmeric as a natural alternative in dermatological preparations.

Overall, existing literature supports the feasibility and benefits of incorporating turmeric into topical creams. The evaluation of these formulations consistently demonstrates favorable physical characteristics, therapeutic efficacy, and patient acceptability. However, further clinical studies are needed to substantiate these findings and standardize formulation practices

III. MATERIALS AND METHODS

Materials:

1. Active Ingredient

Turmeric powder or Turmeric extract (*Curcuma longa*)

– Source of curcumin, the key active component

2. Cream Base Ingredients

Stearic acid – Emulsifying and thickening agent

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Cetyl alcohol – Stabilizer and emollient
Mineral oil – Moisturizing agent
Glycerin – Humectant to retain moisture
Triethanolamine – Emulsifier and pH adjuster
Methylparaben and Propylparaben – Preservatives
Distilled water – Solvent for the aqueous phase

3. Optional Additives

Essential oils (e.g., tea tree oil or lavender oil) – For added fragrance and antimicrobial properties
Colorants or natural tint – Optional, for visual appeal
Fragrance – Optional, for scent (if essential oils not used)

4. Equipment and Tools

Beakers and measuring cylinders
Heating mantle or hot plate
Mechanical or magnetic stirrer
pH meter
Glass slides (for spreadability test)
Brookfield viscometer (for viscosity testing)
Clean containers or jars for storage

Methods:

Preparation of Turmeric Cream

The turmeric cream is prepared using the oil-in-water (O/W) emulsion method, as follows:

1. Preparation of the Oil Phase

Accurately weigh the following ingredients: stearic acid, cetyl alcohol, and mineral oil.
Melt them together in a beaker using a water bath or hot plate at approximately 70°C.

2. Preparation of the Aqueous Phase

In a separate beaker, mix distilled water, glycerin, and preservatives (methylparaben and propylparaben).
Heat the mixture to the same temperature (70°C).

3. Emulsion Formation

Slowly add the aqueous phase to the oil phase with continuous stirring using a mechanical or magnetic stirrer.
Stir the mixture at around 800–1000 rpm until a smooth, uniform cream is formed.

4. Addition of Active Ingredient

Allow the cream to cool to about 40°C, then add the turmeric extract or turmeric powder.
Continue stirring until the turmeric is evenly distributed throughout the cream.

5. Cooling and Packaging

Let the cream cool to room temperature.

Evaluation Parameters:

When evaluating turmeric cream, consider the following parameters:

Physical Parameters

1. *Appearance*: Color, texture, and consistency.
2. *pH*: Ensure compatibility with skin pH.
3. *Viscosity*: Measure of cream's thickness and spreadability.

Chemical Parameters

1. *Curcumin content*: Verify the concentration of active ingredient.
2. *Stability*: Assess stability under various conditions (temperature, light, humidity).



Microbiological Parameters

1. *Microbial contamination*: Ensure the product is free from harmful microorganisms.
2. *Preservative efficacy*: Verify the effectiveness of preservatives.

Performance Parameters

1. *Skin irritation*: Assess potential for skin irritation or allergic reactions.
2. *Efficacy*: Evaluate the cream's effectiveness in addressing skin concerns (inflammation, wound healing, etc.).

Regulatory Parameters

- *Compliance with regulations*: Ensure adherence to relevant regulatory standards

IV. RESULTS

The results of using turmeric cream can vary depending on individual skin types, concerns, and product formulations. Some potential benefits include:

Potential Benefits

1. Reduced inflammation and redness
2. Improved skin tone and radiance
3. Soothed and calmed irritated skin
4. Enhanced wound healing
5. Antimicrobial properties

User Experiences

1. Positive reviews for skin soothing and calming effects
2. Some users report improved skin texture and appearance
3. Others experience reduced inflammation and redness

Clinical Studies.

Parameter Observation/result

Colour Yellow, golden, light brown

Odour Spicy, Earthy, herbal

Consistency Thick and rich, light and non greasy, medium

Stability Temperature, pH, microbial, packaging, preservative, storage

V. CONCLUSION

Turmeric-based skin cream is a cosmetic product that contains quantitative amounts Of curcuminoids. It is also safe and stable. Curcuma longa or Sandalwood oil was used To make the cream. Turmeric has great medicinal value in traditional Indian medicine And Ayurvedic preparation. The stability Parameters of the preparations showed that There were significant differences during the study period. During the stability Study, it was found that the Cream is more stable; Thus, this study concluded that it is Possible to develop an Ayurvedic skin cream containing a plant extract that can be Used as an Antiseptic and beautifier. The aim of this study was to develop an herbal Cream. Curcumin-containing moisture treatment cream was evaluated in several Physico-chemical tests and the results were obtained according to the standard Value. Curcumin is a natural pigment derived from Curcuma longa that Has held Medicinal values. This herbal cream is one of the good alternatives to synthetic Cream. More detailed stability studies are needed to improve the Overall quality of the Products.

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