



Formulation And Evaluation Of Herbal Turmeric Glow Cream

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ABSTRACT:-

The focus of beauty treatments is changing. Now people are looking at products because they think they are safe and do not have many bad effects. This study is about making and testing a herbal cream. We used Turmeric as the ingredient. Turmeric has a power called Curcumin. This power helps to reduce swelling keep the skin safe from damage kill germs and protect the skin. We made this cream by mixing oil and water. We added some helpers to make sure the cream gets into the skin and stays good. Then we tested the cream to see how it looks, feels and smells. We also checked the level, how easily it spreads if it is all mixed up and if it irritates the skin. The results show that the cream made with Turmeric is good and safe for the skin. It does not. It works well. This study shows that using Ayurvedic ideas with new technology can help us make skincare products that are safe work well and are good, for the environment. We can use Turmeric and other herbs to make skincare products that people will like. That will keep their skin healthy. The Turmeric cream is an example of this.

Keywords: Turmeric, Herbal Formulation, Topical Cream, Cosmetic Preparation, Skin Protection

INTRODUCTION:-

CREAMS :-

Creams are semisolid dosage forms that are administered topically to the skin, on the eye's surface, or applied rectally, vaginally, or through the nose for medical, preventive, or cosmetic purposes.^[1] Face cream is used topically to achieve a softening and cleansing effect. Skin creams possess two main purposes: they protect the skin from environmental pollutants and provide skin with a calming effect.^[2,3] There are different kinds of cream, namely hand and body massage, vanishing, night, cleansing, cold, and foundation creams.^[4]

The skin is the body's largest organ, composed of water, protein, fats, and minerals. It acts as a shield, protecting us from microbes and regulating internal heat levels. Nerves in the skin help detect sensations like hot and cold. The skin is made up of three layers: the epidermis, dermis, and hypodermis. Keratin, a protein found in skin cells, helps maintain the structure of the skin by binding cells together to form a durable framework.^[5]

Creams are classified based on their function, properties, and type of emulsion:

1. Makeup Creams (o/w emulsion):
 - Vanishing cream
 - Foundation cream.
2. Cleansing Products (w/o emulsion):
 - Cleansing cream
 - Cleansing lotion
3. Winter Creams (w/o emulsion):
 - Cold cream
 - Moisturizing cream
4. Multipurpose Creams:
 - All-purpose cream
 - General cream
5. Hand and Body Care Products

IDEAL PROPERTIES OF CREAM:-

1. Improved Spreadability and Ease of Application
2. Enhanced Appearance
3. Melting or Liquefying Texture
4. Pore Refining and Flushing Action
5. Emollient Film Formation
6. Prevention of Dryness
7. Softening, Lubricating, and Protecting Properties ^[6]

ADVANTAGES OF CREAMS:-

Ease of Application: Creams are typically smooth and spreadable, making them easy to apply to the skin without causing discomfort or leaving a greasy residue.

Targeted Delivery: Creams allow for precise delivery of active ingredients to specific areas of the skin, making them effective for treating localized conditions such as eczema, acne, and psoriasis.

Moisturizing Properties: Many creams contain moisturizing agents such as glycerin or hyaluronic acid, which help hydrate the skin and improve its texture and appearance.

Versatility: Cream formulations can accommodate a wide range of active ingredients, allowing for customization to meet specific skincare needs or treatment goals.

Stability: Properly formulated creams can have a stable shelf life, maintaining their efficacy over time. They are less prone to oxidation or degradation compared to other formulations like gels or lotions ^[6]

DISADVANTAGES OF CREAMS:-

Occlusive Nature: Although creams are effective at hydrating the skin, their occlusive properties can occasionally result in pore congestion and acne flare-ups, especially for those with oily or acne-prone skin.

Greasy Residue: Some creams may leave a greasy or sticky residue on the skin, which can feel uncomfortable, especially in hot and humid climates. This may deter individuals from using them regularly.

Potential Sensitivity: Certain ingredients commonly found in creams, such as fragrances, preservatives, and emulsifiers, can cause allergic reactions or skin sensitivities in some individuals, necessitating careful ingredient selection. ^[6]

HERBAL CREAM :-

Medicinal and pharmaceutical chemistry is a Branch of chemistry pharmacological Concerned with the design synthesis of development of pharmaceutical medication Turmeric (*Curcuma longa*) has been widely used in traditional medicine and skincare due To its active compound, Curcumin, which possesses anti-inflammatory, antioxidant, Antimicrobial, and wound-healing properties. A multipurpose turmeric cream can serve as a Moisturizer, antibacterial agent, skin brightener, and anti-aging cream.

This research focuses on the stepwise formulation and evaluation of turmeric-based cream, ensuring its Effectiveness, stability, and skin compatibility. Herbal cosmetics are categorized according to their dosage forms, such as creams, powders, soaps, and solutions, as well as by the specific body part or organ they are intended for, including products for the skin, hair, nails, and teeth.etc ^[7]

Herbal cream: The herbal cream is essentially an emulsion made of water and oil, incorporating a blend of natural components like Turmeric, Aloe Vera, And Neem, selected for their unique characteristics. ^[8]

Anatomy of Skin: The skin, recognized as the largest organ in the human body, functions as a protective barrier that distinguishes the internal body from the external environment. It plays a crucial role in regulating body temperature, enabling sensory perception, and significantly enhancing immune defense. ^[9]

Herbal creams are cosmetic products formulated with a combination of synthetic ingredients as a base, along with one or more herbal ingredients to provide cosmetic benefits. These creams offer various advantages, such as healing, smoothing, conditioning, and enhancing appearance, due to the beneficial properties of herbal ingredients. These properties include anti-aging effects, antioxidant activity, and more. ^[5]

Now a days the demand of herbal cosmetics are increasing day by day. Herbal formulations are receiving more concentration in public because of their high-quality properties and less side effects. Additionally, it also provides the skin with necessary nutrients.1 The poly herbal cosmetic formulations are receiving recognition all over the world, as they give the enhanced feeling of purity, protection and effectiveness. A large quantity of creams is existing in the market under the make of natural, protected, organic, and herbal. Most of the creams at present existing in the bazaar use the synthetic polymers, emulsifiers, perfuming agents, pigments, surfactants and thickeners to form the base. There is wide need to substitute toxic synthetic agent from base using natural agents. ^[10]

The use of Herbal product as cosmetic is as prevent in modern era as it was in ancient times. Herbal cosmetics are mostly preferred because of their less or nil side effects when compared to synthetic products and shows enhanced effect upon application. These herbal cosmetics used as beauty product help in enhancing and conditioning properties of skin. ^[11]

The Ayurvedic system of medicines was one of the treatments of management of various disease and diseased state. ^[12] The herb extract by these system shows a number of properties like Anti-inflammatory, Anti-bacterial, Anti-septic, emollient, and sometimes also shows Anti-cancer properties. ^[13] Cream is a

topical preparation used for application to the skin where it gets absorbed through the various layer of the skin and it can also apply on the body part such as face, hands, legs, skin etc ^[14]

TYPES OF HERBAL CREAMS:-

They fall into two categories:

Oil-in-water (O/W) Creams: Creams that consist of small oil droplets distributed in a continuous phase are referred to as oil-in-water (O/W) creams. Whereas, an emulsion containing oil droplets dispersed across the aqueous phase is referred to as an oil-in-water (O/W) emulsion. ^[15].

Water-in-oil (W/O) Creams: creams consisting of water combined with oil in a continuous phase, are referred to as water in-oil (W/O) creams. The emulsion is considered to be water-in-oil (W/O) type when the dispersed phase is water and the dispersion medium is oil. ^[16]

HISTORY OF HERBAL CREAMS:-

Herbal creams have a long and rich history, deeply rooted in ancient medicinal practices that relied on natural plant ingredients to treat various ailments. The use of herbs in topical preparations dates back thousands of years, with evidence of this practice found in ancient cultures such as Egypt, China, India, Greece, and Rome.

The Egyptians were among the first to create topical ointments and creams using herbal extracts. They blended herbs like aloe vera and different plant oils to make salves that helped heal skin wounds, burns, and infections. Even Cleopatra was known for her skincare routines, which included herbal ingredients.

In India, the Ayurvedic system, which dates back over 5,000 years, is one of the oldest and most comprehensive natural healing systems. Ayurvedic practitioners created herbal creams using ingredients like turmeric, sandalwood, neem, tulsi and mint. These preparations were used for wound healing, soothing skin inflammation, and treating various diseases.

Cosmetics are products commonly used to beautify and purify the skin. The term "cosmetics" originates from the Greek word "kosméticos," meaning "to adorn." Herbal cosmetics are a type of product specifically designed to enhance and beautify human appearance while nourishing and moisturizing the skin. ^[5].

PLANT PROFILE:-

Turmeric:



Figure No.1.Curcuma Longa

Botanical Name: Curcuma longa and Curcuma aromatic.

Family: Zingiberaceae

Synonyms: Haldi, manjal, Indian saffron curcuma

Biological Source: It is a dried rhizomes of Curcuma Longa

Geographical Source: Turmeric thrives in rainy tropical areas such as the Indian subcontinent and Southeast Asias

Chemical Constituents: Turmeric powder is about 60-70% carbohydrates 6-13% water, 6-8% proteins, 5-10% fat, 3-7% dietary mineral, 3-7% essential oils, 2-7% dietary fibre, 1-6% curcuminoids. Phytoconstituents of turmeric include diarylheptanoids, a class including numerous curcuminoids – curcumin, demethoxycurcumin, and bisdemethoxycurcumin

Medicinal uses of Turmeric : When applied topically to aseptic and septic wounds, it seems to have good promise as a wound healing powder. Additionally, it is used to prevent, treat, or manage psoriasis as well as other skin disorders such acne, burns, eczema, UV damage to the skin, and early ageing. These qualities could provide the skin brightness and shine. Additionally, turmeric may benefit your skin by enhancing its natural brightness.^[17].

Liquorice:



Figure No.2.Liquorice

Botanical Name: Glycyrrhiza glabra Linn.

Family: : Leguminosae

Synonyms: Glycyrrhiza Glabra Linn, Mulethi, Jethi Madh

Biological Source: Liquorice consists of subterranean peeled and unpeeled stolons, roots and subterranean stems of Glycyrrhiza glabra Linn, and other species of Glycyrrhiza,

Geographical Source: Liquorice is grown in the sub-Himalayan tracts and Baluchistan. It is cultivated on a large scale in Spain, Sicily and England.

Chemical Constituents

A number of components have been isolated from the roots of Glycyrrhiza glabra, including a water-soluble, biologically active complex that accounts for 40-50% of total dry material weight.

This complex is composed of triterpene, saponin, flavonoids, polysaccharides, pectins, simple sugars, amino acids, mineral salts, bitters, gums, mucilage (rhizome), protein, resins, starches, sterols, volatile oils, tannins [18]

Medicinal uses of Liquorice

It is used in psoriasis, skin rash, hyperpigmentation. Liquorice is known for its antiviral, antibacterial, anti-inflammatory, antispasmodic, antioxidant, antidepressant, demulcent and expectorant activity. The plant not only calms or smooths skin, but also actively restores, heals and protects the skin [19]

Aloe Vera:



Figure No.3. Aloe Vera

Synonym - Aloe

Botanical Name: : Aloe barbadensis miller

Family: Asphodelaceae (Liliaceae)

Synonyms: Aloe, Musabbar, Kumari

Biological Source: Aloe is the dried juice collected by incision, from the bases of the leaves of various species of Aloe.

Geographical Source: Aloes is indigenous to eastern and southern Africa and grown in Cape colony, Zanzibar and islands of Socotra. It is also cultivated in Caribbean islands, Europe and many parts of India including North West Himalayan region. Aloe species are mostly inhabitants of arid climates, and are widely distributed in Africa, India, and other arid areas. [20]

Chemical Constituents :

In General active ingredients of Aloe vera and their properties contain 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids, and amino acids. [21] In addition, Aloe vera contains products of the isoprenoid pathway, such as carotenoids, steroids, terpenes, and phytosterols, and some essential amino acids/nonessential amino acids and enzymes, such as bradykinase, carboxypeptidase, cyclooxygenase and carboxypeptidase. The plant is a rich source of many natural health-promoting substances including Vitamins/Minerals: Vit C, A, E, and B vitamins, B-carotene, Zinc, Calcium, Copper, Magnesium, Manganese, and Phosphorous [22,23]

Medicinal uses of Aloe-Vera

Aloe vera is a medicinal plant with antioxidant and antibacterial properties. Aloe vera benefits can include reducing dental plaque, accelerating wound healing, improving skin barrier function, and managing blood sugar. Aloe vera, or *Aloe barbadensis*, is a thick, short-stemmed plant that stores water in its leaves. ^[20]

LITERATURE SURVEY:-

Arti S et al (2025) Turmeric (*Curcuma longa*), a widely used medicinal herb, is renowned for its potent anti-inflammatory, antimicrobial, and antioxidant properties, primarily due to its active compound Curcumin. ^[24]

S.S.Gawai1 et al (2025) The present study aims to formulate and evaluate a topical cream containing turmeric (*Curcuma longa*) extract, renowned for its natural anti-inflammatory, antimicrobial, and antioxidant properties. These findings suggest that turmeric-based cream can serve as an effective herbal topical preparation for skin care applications. ^[25]

Akash. B. et al (2023) Turmeric (*curcuma longa*) is a flowering plant in the ginger family that has long been used medicinally for its potential anti-inflammatory properties. The most active ingredient is turmeric, which has been studied extensively, but very few moisturizing conditioners contain turmeric and The objective of this review was to formulate and evaluate an Ayurvedic skin cream containing crude drugs containing *Curcuma Longa* (turmeric) extracts. Comparative standardization was performed for one marketed formulation and one in-house formulation. The demand for herbal cosmetics is increasing on the world market and are priceless gifts of nature. ^[26]

Chandrashekhar B. Badwaik et al (2022) Aloe vera gel contains no Anthraquinone Which are Responsible for the strong laxative affects of aloes. However, total leaf extract may contain Anthraquinone. Aloe vera contains 75 potentially active constituents like Vitamines, Enzymes, Minerals, Sugars, Saponis, Amino acids. ^[27]

Shinde Prajakta et al (2020) The purpose of the present research work was to formulate and evaluate vanishing herbal cream. Herbal creams offer several advantages over other creams. The majority of existing creams which has prepared from drugs of synthetic origin and give extras fairness to face, but it has several side effects such as itching or several allergic reactions. Herbal creams do not have any of these side effects, without side effects it gives the fairness look to skin. Method carried out to prepare herbal cream was very simple ^[28]

Vikas Chanderet al (2019) Herbal cosmetics are the preparations used to improve the individual appearance. The aim of the present study was to prepare the herbal cream for the use of moistening, nourishing and cure of various disease of the skin. Different crude drugs like *Aloe barbadensis* (*Aloe Vera* leaves), *Azadirachta indica* (*Neem-leaves*), *Curcuma longa* (*Turmeric-rhizomes*) and *Emblica officinali* (*Amla*) are used to formulate the cream. The selection of ingredients based on the different medicinal properties of the agents. The cream is subjected to various evaluation parameters. ^[29]

Saha R et al (2017) Formulated a topical gel using curcumin and evaluated it for wound healing properties in experimental rats. Their findings confirmed faster wound contraction and epithelialization, thereby justifying the inclusion of turmeric in herbal formulations aimed at healing. ^[30]

Kumar V et al (2016) Worked on the formulation of an oil-in-water emulsion-based cream containing turmeric extract. They observed improved texture, stability, and patient acceptability. The cream maintained its integrity under various storage conditions, making it suitable for longterm use. ^[31]

Sidhu P et al (2015) Investigated the preservative potential of turmeric extract in herbal cosmetics. They concluded that turmeric not only provided therapeutic benefits but also functioned as a natural preservative, extending shelf-life and reducing microbial growth in formulations. ^[32]

Prajapati P et al (2014) Formulated an herbal cream containing turmeric and aloe vera. The cream was evaluated for antimicrobial activity, stability, and irritation. It showed no skin irritation and possessed broad-spectrum antibacterial activity, proving the efficacy and safety of turmeric-based topical creams. [33]

Sharma P et al (2013) Conducted a study to evaluate the antimicrobial potential of turmeric extract against *Staphylococcus aureus* and *Escherichia coli*. The results showed significant antibacterial activity, supporting its traditional use in treating wounds and skin infections. The antioxidant properties also suggested its role in protecting the skin from oxidative damage. [34]

AIMS AND OBJECTIVES:-

Aim: Formulation and evaluation of herbal cream with turmeric extract to investigate its advantages as a safe topical formulation capable to preserve healthy skin and gently address skin problems like acne and hyper pigmented

Objectives:

- To select suitable herbal ingredients with proven skin-healing properties.
- To formulate a topical cream using natural extracts for acne management.
- To ensure proper compatibility of all ingredients used in the formulation.
- To develop a cream with good consistency, smooth texture, and uniformity.
- To evaluate the physical appearance such as color, odor, and homogeneity
- To determine the pH of the formulation and ensure it is suitable for skin application.
- To study the spreadability of the cream for easy application on the skin.
- To assess the washability of the cream after application.
- To perform irritancy testing to confirm safety on human skin.
- To evaluate the stability of the formulation under different conditions.
- To study the moisturizing and soothing effect of the cream on skin [35]

METHODOLOGY MATERIAL AND METHODS:-

Ingredients of Herbal Cream:

Turmeric (*Curcuma longa*):

Turmeric, part of the Zingiberaceae family, is best known as a spice used in Asian cuisine, especially in curry and mustard. It is also traditionally used in Indian communities as a topical burn treatment. The active compound, curcumin (diferuloylmethane), has significant anti-inflammatory properties and promotes wound healing and antioxidant benefits. Turmeric paste is applied as an antiseptic and for skin nourishment.

Benefits Of Turmeric For Health:

1. Natural anti-inflammatory properties
2. Strong antioxidant effects
3. Enhanced skin health
4. Acne treatment
5. Support for wound healing
6. Antimicrobial Properties. [5]

Liquorice :

Licorice or Liquorice is the dried peeled or unpeeled roots and stolons of *Glycyrrhiza glabra* Linn, Family: Fabaceae. The biologically active compound of licorice, glycyrrhizic acid, is being used as a plant-based medicine for many diseased conditions due to its neuroprotective, anti-inflammatory, antiviral, and anti-carcinogenic properties [36]. Many clinical studies have provided scientific evidence regarding the pharmacological properties of licorice against many disease conditions. Various studies concluded that licorice treats glucose intolerance and improves insulin sensitivity [37]. It is also suggested that licorice stresses adipose tissue formation, enhances energy expenditure, and possesses anti-cancer as well as antimicrobial effects [38]. Licorice has numerous health benefits which include its anti-obesity, anti-diabetic, antidepressant, anti-cancerous, hepatoprotective, anti-allergic, and many other beneficial effects. In addition to the major active compound glycyrrhizic acid, licorice also contains adequate amounts of saponins, isoflavonoids, flavonoids, chalcones, and triterpenes. [39]

Benefits Of Liquorice For Health:

1. Antioxidant activity
2. Anti-tussive & expectorant activity
3. Skin lightening and skin tightening activity
4. Anti-bacterial Anti-fungal activity Activity [40]

Aloe Vera:

Aloe vera is known as the "Lily of the Desert" or the "Plant of Immortality," aloe vera is a versatile ingredient for skincare. It is recommended for treating sunburn, minor burns, wrinkles, insect bites, skin irritations, minor cuts, and abrasions. Research highlights that aloe vera gel possesses remarkable healing properties, effectively treating wounds, ulcers, and burns by creating a protective layer over the affected area. Additionally, it clears blemishes, shields the skin against infections, and reduces wrinkles. Aloe vera is also beneficial for dry skin prone to inflammation, providing a bacteriostatic effect.

Benefits Of Aloe Vera For Health :

Aloe vera is particularly useful for facial skin care due to its:

1. Anti-inflammatory properties that alleviate pain, swelling, and soreness of wounds or injuries
2. Cooling effect on rashes or sunburn.
3. Ability to maintain skin health, imparting a natural shine.
4. Rich moisturizing properties, aiding in dead cell removal. [5]

Beeswax:

Beeswax is widely used in herbal cosmetics for its medicinal and nutritional benefits. It serves as an emulsifier, emollient, film former, and perfuming agent. Suitable for all skin types, beeswax forms a protective barrier on the skin. Natural Ingredients for Skin care. [5]

Rose Water:

Rose water has been a staple in beauty products for thousands of years. It helps improve skin complexion and reduces redness. With its anti-inflammatory properties, rose water can soothe skin irritation and puffiness, leaving the skin feeling refreshed and rejuvenated [5]

Glycerin:

Glycerin is a clear, odorless, colorless liquid derived from vegetable oils. It is known for its hydrating properties; glycerin has long been popular in skincare due to its ability to:

1. Aid in long-lasting hydration. Improve skin elasticity. help repair the skin's protective barrier by forming a moisture layer.
2. These natural ingredients offer multiple benefits and can be valuable additions to skincare routines aimed at enhancing skin health and appearance. ^[5]

Equipment: Beaker, measuring cylinder, glass rod, mortar and pestle, funnel, stand, conical flasks, glass rod, pear of tune, china dish, mixer.

Instrumentation: Hot plate, weighing balance. Chemicals: Methyl paraben, beeswax, borax, distilled water, mixing solvent, isopropyl alcohol, rose water, liquid paraffin. ^[41]

Collection And Extraction Of Plant :

1. Collection Of Turmeric (Curcuma Long) Rhizomes:

Turmeric rhizomes are collected from **herbal garden of Nandurbar** .

Extraction of Powdered Turmeric (Curcuma long) Rhizomes :

Preparation of turmeric extract: Take 5 g of turmeric powder in 50 ml of distilled water and shake in a 250 ml beaker heated in a water bath at 80°C to 100°C for 5 to 10 minutes. It is then filtered and turmeric extract is obtained. ^[42].



Figure No.4.Extraction of Turmeric

2. Collection Of Liquorice:

Liquorice are collected from **herbal garden of Nandurbar**

Extraction Of Powdered Liquorice :

Preparation of Liquorice extract Take 5 g of Liquorice powder in 50 ml of distilled water and shake in a 250 ml beaker heated in a water bath at 80°C to 100°C for 5 to 10 minutes. It is then filtered and turmeric extract is obtained ^[43]



Figure No.5.Extraction of Liquorice

3. Collection Of Aloe Vera:

Aloe Vera are collected from **herbal garden of Nandurbar**

Extraction of Aloe Vera gel :

To obtain an Aloe Vera extract, first harvest an Aloe Vera leaf and clean it thoroughly. Next, dry the leaf in a heated oven and then slice it lengthwise. Extract the semi-solid gel from the Aloe Vera, ensuring that all fibers and impurities are removed. ^[44]

FORMULATION OF HERBAL CREAM:-**Table No: 1. Formulation Table**

Sr.No	Ingredients	F1	F2	Role
1	Turmeric Extraction	3.3	2.6	Skin Lighting Agent / Anti-Inflammatory
2	LiquoriceExtraction	3.3	2.6	Non-Toxic Agent For Skin Lightening
3	Aloe Vera Gel	4.1	3.2	Moisturizer
4	Liquid Paraffin	16	12.8	Lock Moisture
5	Beeswax	8.3	6.6	Stiffening Agent
6	Borax	4.1	3.28	Emulsifying Agent
7	Methyl Paraben	1.6	1.2	Preservatives
8	Rose Water	QS	QS	Fragrance /Reduce Skin Redness
9	Distilled Water	QS	QS	Vehicle & Solvent

Procedure :-

1. Oily Phase: Take the liquid paraffin and hee wax in a borosilicate glass breaker at 75°C and maintain that heating temperatures (Oil phase)

2. Aqueous Phase : In other beaker, dissolve borax and methyl paraben in distilled water by maintaining temperatures 75°C with water bath.

3. Stir the solution with glass rod until all solid particles get dissolve .

4. Then gently add heated aqueous phase in heated oily phase with continue stirring.

5. After mixing both phases, immediately add turmeric extract and add Liquorice extract into it with continues mixing by glass rod until it forms a smooth cream.

6. When cream is formed, then add rose oil as fragrance.

7. Put this cream on the slab and add few drops of distilled water if necessary and mix the cream in a geometric manner on the slab to give a smooth texture to the cream and to mix all the ingredients properly.

8. This method is called as slab technique or extemporaneous method of preparation of

EVALUATION TEST :-**1. Physical Parameters :****Table No: 2. Physical Parameters**

Sr. No	Parameters	F1C	F2C
1	Color	Yellow	Faint Yellow
2	Order	Pleasant	Pleasant
3	Texture	Smooth	Smooth
4	State	Semi solid	Semi solid

2. Irritancy Test :

Locate a 1cm section on the dorsal side of the left hand. Then, apply the cream to this section and permit it to act. After a period of up to 24 hours, evaluate any indications of irritation, erythema, or edema, and record any observations. ^[45]

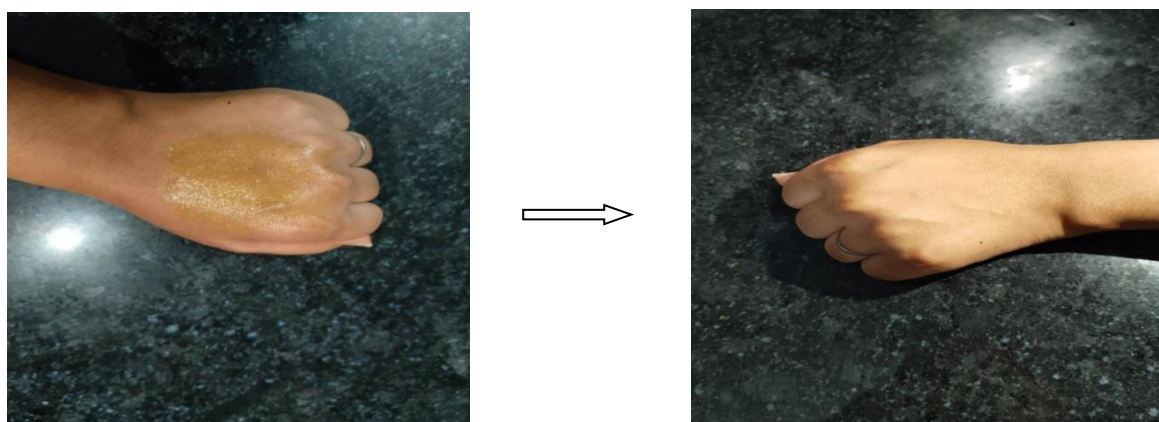


Figure No.6.Irritancy Test

3. Washability test :

The Washability Test was performed by applying the complete quantity of the cream to the hand and then rinsing it off with tap water. All formulations were easily available. ^[46]

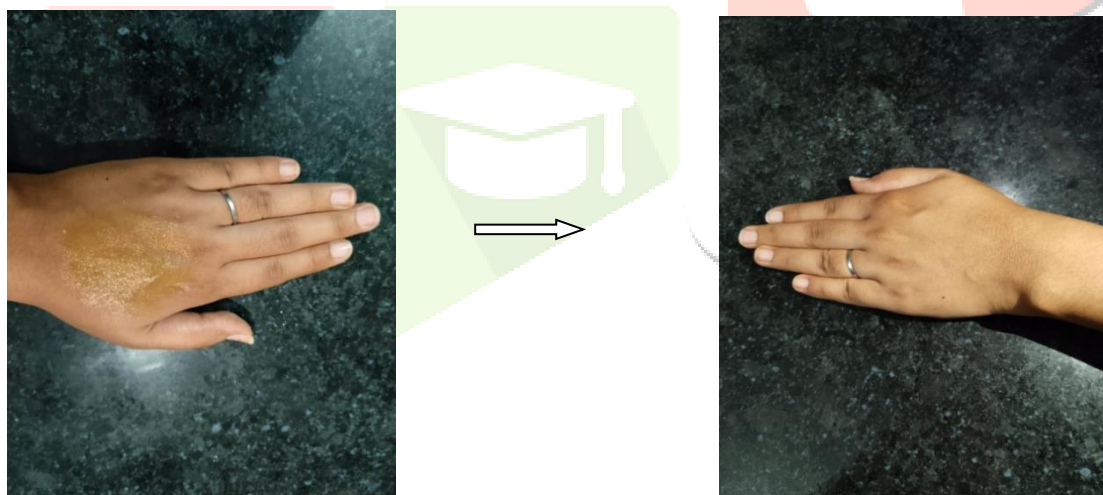


Figure No.7.Washability Test

4. Spreadability Test :

Spread ability may be expressed by the extent of the area to which the topical application spread when applied to the affected part on the skin. The therapeutics efficiency of the formulation also depends upon its spreading value.

The spread ability (s) can be calculated using formula. $S = m * L/T$

Where, S = Spread ability

M= weight tied to upper glass slide-length moved on a glass slide

T = time taken

The determination was carried out in triplicate and average of three reading was recorded. [47]



Figure No.8.Spreadability Test

5. pH meter :

The calibration of the pH meter involved dissolving 1 gram of cream in 20 milliliters of distilled water, followed by measuring the pH using a digital pH meter. [48]



Figure No .9. ph Test

6. Phase separation Test :

The prepared cream must be kept in a container at room temperature, shielded from direct sunlight, and observed for a period of 24 hours ^[49]

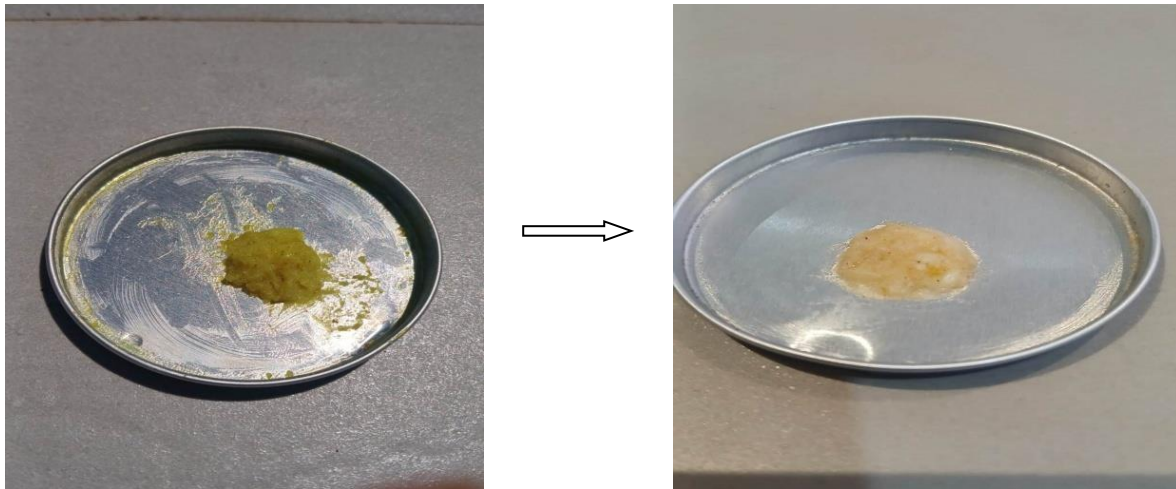


Figure No .10. Phase Separation Test

RESULTS AND DISCUSSION:-

1. Physical Parameters :

Table No: 3. Physical Parameters

Sr. No	Parameters	F1C	F2C
1	Color	Yellow	Faint Yellow
2	Order	Pleasant	Pleasant
3	Texture	Smooth	Smooth
4	State	Semi solid	Semi solid

2. Irritancy Test :

Table No: 4. Irritancy Test

Sr.No	Parameters	Irritancy Test	Edema
1	F1C	Nil	Nil
2	F2C	Nil	Nil

3. Washability Test :**Table No: 5. Washability Test**

Sr. No	Formulation	Washability
1	F1C	Easily Washability
2	F1C	Easily Washability

4. Phase Separation Test :**Table No: 6. Phase Separation Test**

Sr. No	Formulation	Phase separation
1	F1C	No phase separation
2	F2C	No phase separation

7. pH Test :**Table No:7. pH Test**

Sr. No	Formulation	pH test
1	F1C	5.3
2	F2C	5

6. Phase Separation Test :**Table No: 8. Phase Separation Test**

Sr. No	Formulation	Phase separation
1	F1C	No phase separation
2	F2C	No phase separation

The three cream formulations, F1C and F2C were really good in terms of how they looked their pH and how thick they were. We did not see any separation of the ingredients in these creams. The creams, F1C and F2C did not cause any redness or irritation when we tested them for a time. They were also very easy to wash off. The three creams, F1C and F2C stayed the same when we kept them at different temperatures. When we tested the cream we found that the yellow color was spread evenly over it which shows that it is a good quality cream. This cream is made with oil and water mixed together. It is easy to put on the skin and it does not leave any sticky marks. We can easily wash it off with water. We do these stability tests to see how long the cream will last. We check things, like how it looks its color, smell, feel and texture to see if it is still good.

CONCUSSION :-

The herbal skin formulation for wound healing that we made is really good. Meets the important standards for medicines. This cream has Turmeric, Neem and Aloe Vera in it which are all good for the skin. Each of these herbs does something to help the skin. We found out that the creams called F1C F2C and F3C are safe to use on the skin and do not go bad when they are at room temperature. So we can say that F1C is better than F2C and F3C at helping the skin. This study shows that herbs can be really good for making medicines. A lot of people want to buy these creams because they are good for their skin. The good things in these creams help the skin work and give it the food it needs to be healthy. Our cream is easy to put on the skin. Does not separate or change consistency. This herbal cream is really good for the skin. Has a lot of good things in it and it does not have a lot of bad chemicals in it so it helps keep the skin safe. The best part is that it is not expensive to make because it is made with things. We think that making cosmetics with herbs is an idea and it helps keep the skin safe. We did a lot of tests. Found out that this cream is better than creams that are not natural at keeping the skin safe from damage. We will do research to see how all the different herbs, in the cream work together.

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