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## Formulation And Evaluation Of Moisturizing Cream.

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### ABSTRACT :

The goal of this study was to create a herbal face cream that would increase the skin's hydration, emollient properties, and nourishment. The herbal face cream was created by dosing Neem and Amla aqueous extract, which are frequently used as emollients and skin nourishers. The primary difficulty is in choosing natural materials that are comparable to manufactured materials and can be rationally justified. Our goal in this study is to create a natural herbal moisturizing cream.

Following preparation using the trituration method, the herbal face cream was assessed for several assessment parameters, including physical characteristics, pH determination, spread ability, viscosity, wash ability, phase separation, irritability test, and stability test. With their semi-solid state, smooth consistency, pleasant odor, and subtle yellow colour, the natural herbal moisturizing cream has a good outward appearance. The F3 was discovered to have a pH of 5.9. The F3 was found to have a viscosity of 32576 Cps and a spreadability of

17.8 cm/s. No phase separation was seen in the F3, and it was simple to wash with ordinary water. The results of the feel test for the F3 showed that it was good, showing no signs of separation, greasiness, or discomfort.

**Keywords:** Natural herbal moisturizing cream, Neem, Amla, Coconut powder Extract

### Introduction:

A preparation for skin application is called a cream. Additionally, creams are administered to mucous membranes like the rectum and vagina. Creams are used to treat a range of skin disorders and can be thought of both as cosmetics and pharmaceuticals.<sup>1,2</sup> The availability of herbal cosmetics is primarily driving up demand for cosmetics. The public is becoming more interested in herbal formulations due to their superior qualities and reduced adverse effects. Furthermore, it supplies the skin with the hydration and nutrients it needs. The herbal cream is merely an oil and water emulsion.

The natural components are selected to prepare the herbal cream. Based on each ingredient's unique qualities, these ingredients were chosen. Four A variety of creams are available, including cleaning, cold, foundation, vanishing, night, massage, hand, and body creams. A skincare product called a moisturizing cream is intended to moisturize and nourish the skin. By preserving the skin's natural moisture balance, it helps avoid irritation, flakiness, and dryness.

In order to seal in moisture, moisturizing creams, which are usually composed of water, oils, humectants, and emollients, form a protective layer on the skin. All skin types can benefit from them, and they are crucial to regular skincare regimens that support smooth, soft, and healthy-looking skin.



Fig no:1

**Ideal Moisturizing cream qualities:**

- They spread quickly on the skin, are simple to apply, & have a pleasing appearance. They result in less skin irritation.
- They ought to liquefy or melt.
- They ought to cause the skin and its pore apertures to flush.
- They should not cause dry skin, which occurs when this skin is cleansed with soap or water; instead, they should leave an emollient layer on the surface after application.
- In addition to cleaning, they aid in skin safety, lubrication, and softening.

**Types Of Creams:**

- Cream types based on their purpose, unique qualities, and emulsion type:
  1. We emulsion makeup cream: a) Vanishing creams) Creams over foundation.
  2. Emulsion-free cleansing lotion, cleansing milk, and cleansing cream
  3. Winter cream (without emulsion): a) Hydrating or cold creams.
  4. General and all-purpose creams.
  5. Massage and night creams.
  6. Cream for protecting the skin.
  7. Creams for the hands and body

**Material and Method:**

Neem and amla, two herbal plant ingredients needed to make face cream, were identified and purchased at the Satara A.P. local market. The aloe vera was gathered at the LNBC College of Pharmacy's Swami Medicinal Garden in Satara. Additionally, the essential oil is bought from the neighborhood supermarket. The college lab has all of the additional substances

**Physiology Of Skin:**

The skin is the body's largest and most vital organ for protection since it covers the whole exterior and serves as a first-order physical barrier against the environment.

Temperature control and defense against UV light, trauma, infections, microbes, and poisons are among its duties.

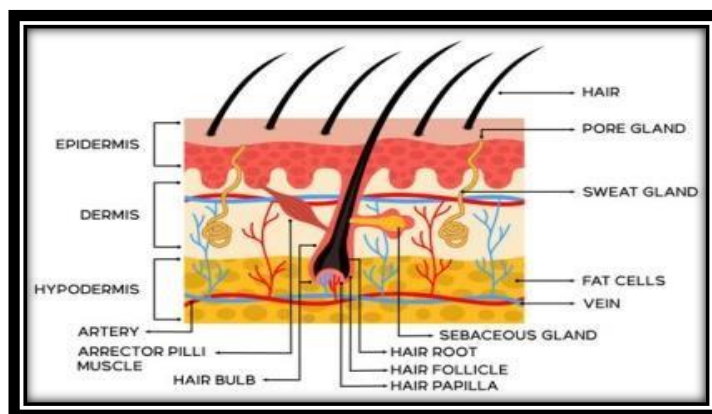
Protecting the body from infections and excessive water loss is a major immune function of the skin. It also produces vitamin D, regulates temperature, provides insulation, senses sensation, and protects vitamin B folates. Scar tissue is the result of the skin's attempt to repair after severe damage

**Skin condition**

A skin condition is a medical condition that affects the integumentary system, which includes the skin, nails, & other areas. Allergies, irritants, heredity, & specific diseases are some of the causes of skin disorders.

**Common skin disorders**

Pimples, blackheads, and white heads brought on by clogged hair follicles are known as acne. Eczema: Skin that is dry, inflamed, red, and itchy  
Rosacea: Acne that is small and packed with pus  
Vitiligo: Lighter skin patches that are large & irregular

**Skin diagram:**

**Fig no:**

## AIM AND OBJECTIVE:

The purpose of moisturizing cream is to enhance the appearance and moisture of skin without producing adverse consequences. Additionally, it can lessen the visibility of acne, wrinkles, and other skin disorders. Herbal moisturizing cream advantages Drinking enough water reduces dryness and maintains the young appearance of skin conditions: Lessens the visibility of rashes, dry skin, eczema, psoriasis, wrinkles, and acne. Skin inflammation: Reduces irritation of the skin tone: Enhances facial radiance Sensitive skin: soothes sensitive skin Protects against injury to the skin Delays the ageing process of the skin imperfections: Reduces the appearance of other flaws

### *Herbal moisturizing creams are intended to:*

1. Hydrate the skin: Keep your skin nourished and hydrated.
2. Boost the texture of your skin: Boost the general health and flexibility of your skin Cut down on skin problems: Make psoriasis, eczema, dry skin, wrinkles, and rashes less noticeable Minimize acne:
3. Minimize skin inflammation and acne Reduce the discomfort of sensitive skin: Protect people with sensitive skin by being a safer choice.
4. Diminish ageing symptoms: Delay the ageing signs To combat acne: Aid in combating acne Defend your skin: Defend the skin

## Drug Profile :

### *A] Amla:*



**Fig No. 3**

- **Family:** Phyllanthaceae
- **Biological Source:** The fruit is rich in quercetin, phyllaemblic compounds, gallic acid, tannins, flavonoids, pectin, and vitamin C and contains various polyphenolic compounds.
- **Common Name:** Indian gooseberry
- **Active Compound:** The fruit is rich in quercetin, phyllaemblic compounds, gallic acid, tannins, flavonoids, pectin, and vitamin C and also contains various polyphenolic compounds.
- It increases immunity: Amla, which is high in vitamin C, can increase immunity. Kids, adults and the elderly all need vitamin C. It benefits the health of your heart: Amla's vitamin C content is excellent for heart health.

### • Use of Amla:

1. Antioxidant: Amla contains antioxidants that may improve blood flow and guard against kidney damage.
2. Anti-inflammatory: The properties of amla that prevent inflammation
3. By reducing blood sugar levels, Amla, an antidiabetic, can help prevent and treat type 2 diabetes.
4. Antimicrobial: The antibacterial properties of amla may strengthen immunity.

**B ) Neem:****Fig No. 4**

- **Family:** Mahogany
- **Biological Source:** Neem tree *Azadirachta indica*
- **Common Name:** Neem tree
- **Active Compound:** The most important active constituent is Nimbin ,Nimbidin ,Nimbolinin , Monoids ,Nimbocinone
- Among the many medical applications for neem (*Azadirachta indica*) are the treatment of fevers, infections, skin conditions, and dental issues. Insect repellent and gastrointestinal diseases have also been treated with neem.
  - **Infection:**
    - Treats smallpox, chicken pox, & warts;
    - Treats gastrointestinal issues; treats malaria fevers;
    - And treats epticwounds and in femtobarns.
- **Other Use:**
  1. Bug and mosquito repellent, detoxifying, enhancing immunity, reducing dandruff, antiviral, antioxidant, and antimutagenic.
  2. Neem has been used for medicinal purposes since ancient times.
  3. .Among its many potential use are as a contraceptive and a diabetes treatment.

**C] Coconut powder:****Fig no. 5**

- **Family:** Palm trees, Areaceae.
- **Biological Source:** Coconut tree. **Common Name:** Coco snucifera.

- **Active Compound:** Fatty acids, vitamins, minerals, and dietary fiber.
  - Coconut powder can be used for skin moisturizing, treating skin infections, and soothing inflamed skin. It can also be used for hair. Skin moisturizing
- **Moisturizes and nourishes:**
  - Coconut powder's natural oils restore hydration and maintain the skin's moisture barrier
- **Exfoliates**
  - Coconut powder can be used as a scrub or mask to remove dead skin cells and reveal a smoother complexion.
- **Uses:**
  - Coconut has numerous potential medical applications, such as enhancing digestion, lowering inflammation, and curing infections.
  - Skin moisturizing, protect sunlight, acne

#### 6] Sandal Wood :-



Fig No. 6

**Family** - Santalaceae

**Biological source** - Santalum album

**Common name** - white sandalwood, Easandal wood, or chandan.

- Active composition -sesquiterpenoids, with  $\alpha$ -santalol and  $\beta$ -santalol being the most abundant and responsible for its characteristic aroma.
- Sandalwood, especially in the form of oil or powder, offers numerous benefits for skincare, including soothing inflammation, reducing acne, and promoting a radiant complexion due to its anti-inflammatory, antimicrobial, and antioxidant properties.
- **Uses :-**
  - Acne and Pimples: The antibacterial and antiseptic qualities of sandalwood aid in the fight against bacteria that cause acne, as well as in lowering inflammation and accelerating the healing process.
  - Skin Brightening: Sandalwood helps lighten the complexion and make pigmentation and flaws less noticeable.
  - Hydrating and Moisturizing: Sandalwood is good for dry skin since it helps keep moisture in the skin.

### Preparation Of Neem Extract:

Using clean equipment, crush 1-2 kg of neem leaves that are healthy and free of illness. Pour in two to four liters of water, mix thoroughly, and cover for three days. To obtain a transparent extract, strain using a cloth. Ten liters of clean water should be used to dilute one litre of neem leaf extract.



Fig No. 7

### Preparation of Amla Extract:

The leaves can be dried and ground up, and then extracted using distilled water or another solvent to create an amla extract. How to Gather and dry the amla (*Emblica officinalis*) plant's leaves in a shaded area. Dust the dry leaves using a grinder. Remove the fine powder by passing it through a 120 mesh sieve. Apply the coarse powder to the extraction process. Using distilled water, remove the powder.



Fig No. 8

#### 1. Preparation of Herbal Moisturizing cream:

Preparation of Herbal Moisturizing Cream in an oil phase, heat liquid paraffin and beeswax in a china dish to 750 C and keep it there.



To create a clear solution, dissolve borax and methyl paraben in distilled water in a different china dish.



Then, heat the beaker to 750 C. (Phase water). Next, using a mortar and pestle, gradually add this aqueous phase to the oily phase while



stirring only in one direction to prevent lumps.

Next, include the Neem and Amla extract into the cream base and blend.



Mix all the ingredients well and add a few drops of sandalwood extract and Coconut powder Extract

### Formulation of herbal moisturizing cream:

Sr.No	Ingredient	Quantity	Uses
1	Amla extract	1.5 ml	Remove dead cell and hyperpigmentation of skin
2	Neem extract	2.50 ml	Remove dead cell and impurities from skin
3	Coconut powder Extract	1ml	Skin Moisturizer
4	Borax	2gm	Emulsifier
5	Sandalwood extract	q.s	Treating acne Reducing wrinkle
6	Beeswax	5gm	Emulsifier
7	Liquid paraffin	18ml	Moisturizing agent skin softener
8	Methyl paraffin	0.05gm	Antibacterial

Table No 1

### 9. EVALUATION OF CREAM:

Formulated herbal creams were subjected to additional physical evaluation utilizing the following parameters: colour, consistency, odour, and formulation state.

- **Colour:** The colour of the cream was observed slightly yellowish .
- **Odour:** The odour of the cream was found to be characteristic .
- **Consistency:** The formulation was tested by manually rubbing cream onto the hand. The consistency of the cream is smooth.
- **Determine the pH :** Dissolve 0.5 g of cream in 50 ml of pure water. Next, use a digital pH meter to determine its pH
- **Viscosity:** Using spindle No.7, the Brookfield viscometer measured the formulation's viscosity at 100 r/min. 14
- **Spread ability:** Spread ability improves with the speed at which the two slides can be separated. Consequently.
- **Wash ability:** To evaluate wash ability, a tiny bit of cream was applied to the hand, and it was then washed with tap water.

- **Irritancy:** This determines whether a material or chemicals hazardous to the skin mucosa and is used to assess its quality. Initially, we must mark the dorsal surface of the left hand.
- A cream formulation must then be administered to that region, and the time was recorded. After a few minutes, we must leave the formulation so that we may assess for irritability.
- **Phase separation:** After being prepared, the cream is stored at room temperature, out of direct sunlight, in a firmly sealed container, and its phase is monitored for 24 hours.

#### 10. Evaluation Tests:

##### *Visual in section and physical appearance :*

The colour, consistency, and odour of the produced formulation were assessed. By using visual inspection, the cream's faint yellow colour was discernible. It was determined that the smell of cream was nice. A visual examination of the state was conducted. The cream had a semisolid consistency. The formulation was assessed by applying cream on its surface by hand.

Characteristics	Observation
Colour	Faint yellow
Odour	Pleasant
State	Semisolid
Consistency	Smooth

**Table No:2 Presents the result**

##### *PH determination:*

The product's pH balance is crucial since it influences the skin and surface it is applied on. Our formulated face cream has a pH that is within the optimal range of 4.5 to 5.5. Table 3 displayed the findings.

Sr.No	Formulation	pH
1	Moisturizing Cream	6.3

**Table No: 3 pH determination Test**

##### *Viscosity:*

Viscosity plays a significant part in elucidating and regulating a number of characteristics, including shelf-life capacity and product aesthetics including readability, flow ability, clarity, and ease of removal from packaging when applied to the face.

Using a Brook efield viscometer set to 25°C and spindle number 63at rpm, the viscosity of the cream was measured. Table 4 displayed the results

Sr, No	Formulation	Viscosity
1	Moisturizing Cream	33661

**Table no 4. Viscosity test**



**Spreadability:**

The spread ability of the cream formulation was assessed by placing the sample between two slides and then compressing it to a consistent thickness for a predetermined amount of time using a specific weight. The spread ability of the two slides was measured by the amount of time needed to separate them. The spread ability improved when the two slides were separated in less time. To calculate spread ability, the following formula was used. The ideal value falls between 9.0 and 31.02 g/s. Result was displayed in Table 5.

Sr No	Formulation	Result
1	Moisturizing cream	19.5.cms

**Table no 5: spread ability Test****Wash ability:**

After applying formulation to the skin, the ease of washing with water was assessed. The findings were displayed in Table 6

Sr No	Formulation	Result
1	Moisturizing cream	Not easily washable

**Table no: 6 wash ability****Irritancy test:**

The Moisturising cream formulation was assessed for non irritability. There was no redness, inflammation, or irritability in the preparation. For twenty-four hours, the situation was observed. The findings were displayed in Table 9.

Sr No	Formulation	Result
1	Moisturizing cream	Non irritant

**TableNo:7 Irritancy Test****Stability Test:**

To assess the formulation stability, the stability studies were done. Each formulation was stored at 4°C room temperature and 40°C temperature for a month and observed for physical stability like colour. No separation

Sr No	Formulation	Result
1	Moisturizing cream	No separation

**Table No: 8 Stability test**



**Moisturizing Cream**

#### **Assessment & Result:**

We discovered that neem and amala extracts, among other elements that have been said to be nourishing and glowing, were medicinal plants employed in the production of herbal face cream. PH, Irritancy, Washability, Viscosity, After Feel Phase Separation, Spread Ability, Stability Test, and Physical Appearance/Visual Inspection are some the different quality control parameters. All parameters produce positive outcomes. The findings of the current study demonstrate that adding these medications' active ingredients to herbal cream results in more stable goods with pleasing visual appeal.

Sr.No	Evaluation Test	Observation
1	Colour	Faint yellow
2	Odour	Pleasant
3	Consistency	Smooth
4	PH determination	5.9
5	Viscosity	32576
6	Spread ability	17.8cm.s
7	Wash ability	Easily washable
8	Irritancy	Non irritant
9	Stability	No separation

**Table no. 9**

#### **Conclusion:**

The present study successfully formulated a herbal moisturizer cream incorporating four key natural ingredients: amla (*Emblica officinalis*), neem (*Azadirachta indica*), sandalwood (*Santalum album*), and coconut oil (*Cocos nucifera*). The selection of these ingredients was based on their well-documented traditional and scientific benefits for skin care.

The final cream formulation exhibited favorable physical characteristics, including smooth texture, desirable consistency, and easy spreadability. The pH of the cream was found to be within the skin-friendly range, ensuring suitability for topical application without risk of irritation.

Amla contributed potent antioxidant properties, which help in neutralizing free radicals and promoting skin rejuvenation. Neem's well-established antimicrobial and anti-inflammatory properties played a significant role in protecting the skin from infections and soothing inflammation. Sandalwood added a natural fragrance and exerted calming and anti-aging effects. Coconut oil served as a base with excellent moisturizing and nourishing effects, aiding in skin hydration and barrier repair.

Evaluation studies revealed that the herbal cream demonstrated good stability over time, with no signs of phase separation, microbial growth, or deterioration in texture and odor. Skin irritation tests, if conducted, confirmed the safety and non-sensitizing nature of the formulation.

In conclusion, the formulated herbal moisturizer cream proved to be an effective, safe, and natural alternative to commercial skincare products containing synthetic chemicals. It harnesses the synergistic effects of traditional herbal ingredients to provide multi-functional skin benefits such as hydration, protection, and rejuvenation. This formulation has potential for further development and commercialization in the natural cosmetics industry.

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