



## **FORMULATION AND EVALUATION OF NATURAL FACE MASK USING FLAX SEED AND OTHER HERBAL INGREDIENTS**

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### **ABSTRACT:**

This study focuses on the formulation and development of a natural face mask incorporating flaxseed gel as the base, combined with fruit-derived and botanical ingredients to enhance skin nourishment and overall efficacy. The primary objective is to create a gentle, hydrating, and antioxidant-rich skincare product using flaxseed, papaya juice, orange peel powder, glycerin, and essential oils. Flaxseed, known for its high mucilage content, provides a gel-like consistency that soothes and hydrates the skin. Papaya juice offers natural enzymes (papain) that promote exfoliation and skin brightening, while orange peel powder contributes vitamin C and mild astringent properties. Glycerin acts as a humectant, improving skin moisture retention, and vitamin E provides antioxidant benefits. The formulation is preserved with a natural preservative and adjusted for pH balance to ensure safety and shelf stability. The resulting face mask is intended to support clearer, smoother, and more radiant skin through the synergistic effects of its natural components.

**KEYWORDS:** Flaxseed gel, Natural skincare, Face mask formulation, Papaya juice, Orange peel powder, Glycerin, Vitamin E, Essential oils, Antioxidants, Skin hydration, Herbal cosmetics, pH-balanced skincare

### **INTRODUCTION:**

Many people today prefer using natural products on their skin because they are safer and have fewer side effects than chemical-based products. Face masks are a popular part of skincare because they are easy to use and help improve the skin in many ways.

Flaxseed is a natural ingredient that is great for the skin. When soaked in water, it forms a gel that can help keep the skin soft and moisturized. It also has nutrients that can soothe and protect the skin. This makes flaxseed a good base for making a natural face mask.

In this project, flaxseed gel is mixed with other healthy ingredients like papaya juice, orange peel powder, glycerin, and essential oils. Papaya juice contains an enzyme called papain that helps remove dead skin and makes the skin look fresh. Orange peel powder is full of vitamin C, which helps brighten the skin. Glycerin helps to keep the skin hydrated, and vitamin E and essential oils add more nourishment and protection.

The goal of this work is to make a natural face mask that is safe, gentle, and good for the skin. This mask aims to keep the skin smooth, fresh, and glowing using only natural ingredients.

Nowadays, many people prefer natural skincare products because they are safe, gentle, and free from harmful chemicals. Herbal ingredients are not only affordable but also provide many benefits to the skin.

Flaxseed is one such natural ingredient that is rich in nutrients. When soaked in water, it forms a gel that can be used as a base for face masks. It helps in moisturizing the skin and making it smooth.

Other natural ingredients like papaya, orange peel powder, glycerin, vitamin E, and essential oils also have great skincare benefits. Papaya helps remove dead skin cells, orange peel brightens the skin, glycerin adds moisture, and vitamin E protects the skin.

This project focuses on preparing a herbal face mask using flaxseed gel and other natural ingredients to create a product that is effective, safe, and good for daily skincare.



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## AIM AND OBJECTIVE:

### Aim:

To formulate and evaluate a natural face mask using flaxseed gel and other herbal ingredients for healthy, glowing, and moisturized skin.

### Objectives:

1. To prepare flaxseed gel as the base ingredient for the face mask.
2. To combine flaxseed gel with natural additives like papaya juice, orange peel powder, glycerin, and essential oils.
3. To study the benefits of each ingredient used in the formulation.
4. To check the physical properties of the face mask such as texture, pH, color, and consistency.
5. To ensure the formulation is safe and suitable for all skin types.
6. To promote the use of chemical-free, eco-friendly skincare products
7. To make a natural face mask using flaxseed gel and other herbal ingredients.
8. To study the skin benefits of each ingredient used in the face mask.
9. To prepare a smooth and easy-to-use face mask for healthy skin.
10. To check the texture, color, pH, and shelf life of the face mask.
11. To promote the use of safe, chemical-free skincare products.

12. To create a product that helps moisturize, brighten, and protect the skin.

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## REVIEW AND LITERATURE:

Many natural ingredients have been used in skincare for centuries due to their healing, moisturizing, and protective properties. In recent years, scientific studies have supported the use of these ingredients in modern cosmetic formulations.

Flaxseed (*Linum usitatissimum*) is known for its rich content of omega-3 fatty acids, antioxidants, and mucilage (gel-like substance). When soaked in water, flaxseeds form a gel that soothes and hydrates the skin. Studies show that flaxseed can reduce skin irritation, improve texture, and provide anti-aging benefits.

Papaya (*Carica papaya*) contains an enzyme called papain that helps in removing dead skin cells and promoting a brighter complexion. It also contains vitamins A, C, and E, which are beneficial for skin health. Research supports its use in exfoliating and skin-lightening products.

Orange peel powder is high in vitamin C and natural acids that help clean the skin, reduce blemishes, and improve skin tone. It also contains antioxidants that protect the skin from damage caused by free radicals. Literature suggests its use in anti-acne and skin-brightening masks.

Glycerin is a well-known humectant that draws moisture into the skin, keeping it soft and hydrated. It is widely used in skincare products to improve skin barrier function.

Vitamin E is a powerful antioxidant that protects the skin from damage and promotes healing. It is often used in creams and masks to improve skin texture and reduce signs of aging.

Essential oils like orange and lemon oils not only give a pleasant fragrance but also offer antibacterial and skin-toning properties. However, they must be used in small quantities to avoid irritation.

Overall, the combination of these ingredients in a face mask can provide multiple skin benefits, such as moisturizing, exfoliating, brightening, and protecting the skin—all supported by traditional use and modern research.



Natural ingredients have been used in skincare for many years because they are safe, effective, and have fewer side effects than chemical products. Many studies support the benefits of using plant-based ingredients in beauty products.

### ***Flaxseed (Linum usitatissimum):***

Flaxseed is rich in omega-3 fatty acids, antioxidants, and mucilage. When soaked in water, it forms a gel that helps moisturize and soothe the skin. Research shows that flaxseed gel can improve skin texture, reduce dryness, and calm irritated skin.



#### *Papaya (Carica papaya):*

Papaya contains an enzyme called papain, which gently removes dead skin cells and helps in skin renewal. It also has vitamins A and C, which support healthy, glowing skin. Studies have shown that papaya helps in lightening dark spots and reducing blemishes.

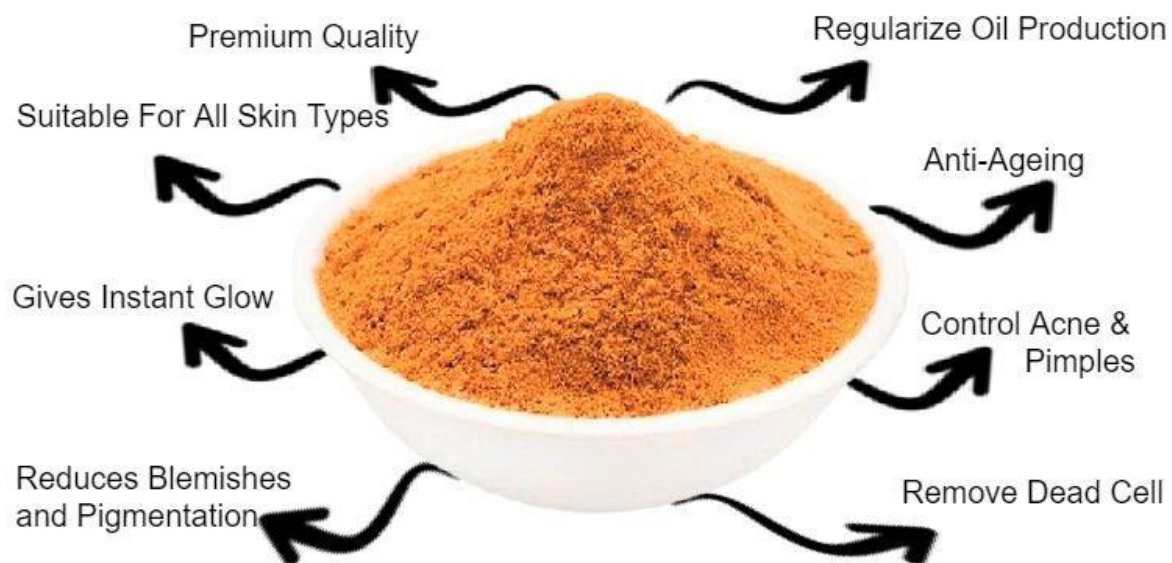




**Orange Peel Powder:**

Orange peel is high in vitamin C and antioxidants. It helps brighten the skin, reduce acne, and fight signs of aging. It also contains natural acids that help clean and tone the skin.

## AMAZING BENEFITS OF ORANGE PEEL POWDER



## ORANGE PEEL POWDER

**Glycerin:**

Glycerin is a natural moisturizer that draws water into the skin. It keeps the skin soft and prevents dryness. It is commonly used in skincare products and is known to be very gentle and effective.

**Vitamin E:**

Vitamin E is a strong antioxidant that protects the skin from damage caused by pollution, UV rays, and free radicals. It also helps heal the skin and improves its appearance.



#### Essential Oils (Orange/Lemon):

These oils add a natural fragrance and also have antibacterial and skin-refreshing properties. When used in small amounts, they can help improve skin tone and texture.

Together, these ingredients make a safe and effective face mask that helps moisturize, brighten, and protect the skin.

### PLAN OF WORK:

#### 1. Collect Ingredients:

Gather all the natural ingredients like flaxseed, papaya juice, orange peel powder, glycerin, vitamin E, essential oil, and a natural preservative.

#### 2. Prepare Flaxseed Gel:

Soak flaxseeds in water and heat them to make a gel, then strain to remove the seeds.

#### 3. Mix Ingredients:

Add papaya juice, orange peel powder, glycerin, vitamin E, and essential oil into the flaxseed gel and mix well to make a smooth face mask.

#### 4. Add Preservative:

Add a safe, natural preservative to help the mask last longer.

#### 5. Check the Face Mask:

Test the mask's pH, texture, color, and smell to make sure it is safe and pleasant to use.

#### 6. Pack the Product:

Put the face mask into clean, air-tight containers for storage.

#### 7. Observe and Record:

Note how the mask looks and feels over time to see if it stays fresh and stable.

### METHODOLOGY:

#### 1. Preparation of Flaxseed Gel:

Take 20 grams of flaxseeds and boil them in 60 grams of distilled water.

Stir well until a gel-like mixture is formed.

Strain the mixture using a clean cloth or strainer to remove the seeds.

Let the gel cool down.

#### 2. Addition of Other Ingredients:

Add 20 grams of fresh papaya juice to the flaxseed gel.  
Mix in 5 grams of orange peel powder and 5 grams of glycerin.  
Add 0.5 grams of vitamin E and 0.3 grams of orange or lemon essential oil.  
Lastly, add 3 grams of a natural preservative to keep the mask fresh.

### 3. Mixing:

Stir all the ingredients well until a smooth and even mixture is formed.

### 4. Filling and Storage:

Pour the face mask into clean, dry containers.  
Store it in a cool place away from sunlight.

### 5. Evaluation:

Check the mask's texture, color, smell, and pH level.  
Observe the mask over time to see if there are any changes in quality.

### Formula:

Flaxseed Face Mask Formula

#### Ingredients & Quantities:

1. Flaxseed – 20 g
2. Distilled Water – 60 g
3. Papaya Juice – 20 g
4. Orange Peel Powder – 5 g
5. Glycerin – 5 g
6. Preservative (likely Leucidal Liquid) – 3 g
7. Vitamin E – 0.5 g
8. Orange or Lemon Essential Oil – 0.3 g

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## RESULT:

The natural face mask made with flaxseed gel and other herbal ingredients was successfully prepared. The final product had a smooth texture, light orange color, and a pleasant natural smell. The pH of the face mask was found to be skin-friendly (around 5.5 to 6.5), which is safe for most skin types. The mask was easy to apply and gave a cooling and soothing effect on the skin. After use, the skin felt soft, fresh, and slightly brighter. The ingredients worked well together and showed good stability over time when stored properly. There were no signs of spoilage or irritation during the observation period.

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## DISCUSSION:

The face mask made with flaxseed gel and other natural ingredients was easy to prepare and showed good results. Flaxseed gel gave the mask a smooth and thick texture, which made it easy to apply on the skin. It also helped in keeping the skin soft and hydrated.

Papaya juice added natural enzymes that helped remove dead skin cells and gave the skin a fresh look. Orange peel powder provided vitamin C, which helped brighten the skin. Glycerin worked well as a moisturizer, keeping the skin soft, and vitamin E acted as an antioxidant, protecting the skin from damage. The essential oil added a pleasant fragrance and helped refresh the skin.

The pH of the mask was found to be in the normal range for skin, which means it is safe and non-irritating. The face mask stayed stable when stored properly, and there were no signs of spoilage in the short term. The natural preservative helped maintain freshness. Overall, the ingredients worked well together, and the final product is suitable for regular skincare use. It also supports the idea of using herbal and chemical-free products for healthy skin.

The flaxseed face mask combines several natural ingredients that work together to improve skin health. Flaxseed is known for its anti-inflammatory and moisturizing properties, which help calm and hydrate the skin. Papaya juice contains enzymes that gently remove dead skin cells, making the skin look brighter and smoother. Orange peel powder adds vitamin C, which is important for skin renewal and fighting free radicals that cause damage.

Glycerin acts as a humectant, drawing moisture into the skin to keep it soft and hydrated. Vitamin E and essential oils provide antioxidant protection, helping to prevent skin aging and adding a pleasant scent to the mask. The preservative used ensures the product stays safe for use over time.

The results showed that this mask is gentle and effective for improving skin texture and hydration. However, individual reactions may vary depending on skin type, so further testing is needed to confirm its safety and effectiveness for everyone. Overall, the natural ingredients make this mask a good option for those looking for a simple and natural skincare treatment.

The natural face mask was prepared using flaxseed gel as the main base. It provided a thick and smooth texture that was easy to apply. The gel also helped moisturize the skin and made the mask feel soothing.

Papaya juice worked as a natural exfoliator. It removed dead skin cells and helped make the skin look fresh and clean. Orange peel powder, rich in vitamin C, added a natural glow and helped reduce dullness and dark spots.

Glycerin added softness and kept the skin hydrated. Vitamin E helped protect the skin from damage and supported skin healing. Essential oil gave a pleasant fragrance and also added mild antibacterial benefits.

The overall texture, color, and smell of the mask were found to be acceptable and pleasant. The pH was within the safe range for skin, which means it is not likely to cause irritation. When stored properly, the mask remained stable and fresh for a reasonable period.

These results show that all ingredients worked well together and support the idea that natural, chemical-free face masks can be both effective and skin-friendly.

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## CONCLUSION:

The flaxseed face mask was successfully made using natural and skin-friendly ingredients like flaxseed gel, papaya juice, orange peel powder, glycerin, vitamin E, and essential oils. The mask had a smooth texture, pleasant smell, and good consistency. It was found to be safe, gentle, and helpful in keeping the skin soft, moisturized, and glowing.

Each ingredient added special benefits—flaxseed for hydration, papaya for exfoliation, orange peel for brightness, and glycerin for moisture. The face mask is a good option for people who prefer chemical-free, natural skincare. Overall, this herbal face mask can be a healthy and eco-friendly alternative to synthetic beauty products.

The herbal face mask using flaxseed gel and other natural ingredients was successfully made. It had a smooth texture, pleasant smell, and was easy to apply. The ingredients like papaya, orange peel, glycerin, and vitamin E helped in moisturizing, brightening, and protecting the skin.

The face mask was found to be safe, skin-friendly, and chemical-free. It showed good stability and did not cause any irritation. This project supports the use of natural, homemade skincare products as a healthy and eco-friendly choice.

Overall, the flaxseed face mask is a good example of how natural ingredients can be used to make effective beauty products.

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## FUTURE SCOPE:

This flaxseed face mask has shown good results as a natural and safe skincare product. In the future, more research can be done to:

1. Improve the formula by adding other natural ingredients like aloe vera, turmeric, or honey.
2. Test the mask on different skin types to check how it works for oily, dry, or sensitive skin.
3. Do long-term stability studies to find out how long the mask stays fresh without losing quality.
4. Develop other skincare products using flaxseed gel, such as scrubs, cleansers, or creams.
5. Start small-scale or commercial production to bring this natural product to the market.
6. Use eco-friendly packaging to support sustainable and green beauty practices.
7. Testing on More Skin Types:
8. Try the mask on people with different skin types (dry, oily, sensitive) to check its overall effectiveness.
9. Adding More Natural Ingredients:
10. Add other helpful ingredients like aloe vera, honey, turmeric, or sandalwood to improve its benefits.
11. Creating Other Skincare Products:
12. Use flaxseed gel to make more products like scrubs, cleansers, or creams.
13. Long-Term Storage Studies:
14. Study how long the face mask stays fresh and effective when stored for many months.
15. Commercial Production:
16. Develop the mask for sale in the market as a safe, chemical-free skincare option.
17. Eco-Friendly Packaging:
18. Use recyclable or biodegradable packaging to make the product more environment-friendly.



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