

## Formulation and Evaluation of Polyherbal Face Pack: A Research

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### ABSTRACT

The aim of this work is to formulate and evaluate an polyherbal face pack for glowing skin by using natural herbal ingredients. The natural herbal ingredients such turmeric, chandan, orange peel powder, milk powder, neem powder, orange peel, pomegranate powder and rose petals in the form of dried powder. The powder of orange peel, turmeric, pomegranate powder was prepared by shade drying commercially then all powdered natural ingredients were sieved using #120 mesh, weighed accurately and mixed in the uniform formulation and then evaluated for parameters including organoleptic, physical, phytochemical, irritancy along with stability examination.

In this present work, we formulated a herbal face pack which can be easily made with the easily available ingredients. After evaluation, we found good properties for the face packs, free from skin irritation and maintained its consistency even after stability storage conditions. Results of the study scientifically verified that herbal face pack having enough potential to give efficient glowing effect on skin. The overall study is useful to substantiate product claims due its useful benefits on the human beings.

**KEYWORDS:** Herbal face pack, Formulation, Evaluation.

### I. INTRODUCTION

In the ancient era, peoples are aware of the use of plants for the essential needs of a healthy and beautiful skin. Cosmetics are products used to clean, beautify and promote attractive appearance. Skin of the face is the major part of the body, which is a mirror, reflecting the health of an individual. A balanced nutrition containing amino acids, lipids and carbohydrates are required for the skin to keep it clear, glossy and healthy. In ancient times, women were very conscious about their beauty and took special care of their specific skin types. Even

today, people especially in rural areas, and hilly regions go for the natural remedies like plants extracts for various cosmetics purposes like neem, aloe vera, tulsi, orange peel, rose etc. Herbal cosmetics are the products which are used to purify and beautify the skin.

The main advantage of using herbal cosmetic is that it is pure and does not have any side effects on the human body. People have rough skin and when they don't take sufficient care, then the skin turns dark due to overexposure to the sun, other pollutants etc. In this article we have formulated herbal face pack to whiten, lighten and brighten the skin naturally for men and women. This face pack has natural skin lightening property and can be easily prepared at home. Face packs with natural constituents are rich in vital vitamins that are essential for the health and glow of the skin. These substances have been proven to be beneficial for skin in many ways. Natural facial packs are easy to use. They increase the circulation of the blood within the veins of the face, thereby increasing the liveliness of the skin. A good herbal face pack must supply necessary nutrients to the skin, available in the form of free-flowing powder applied facially for the external purpose. It should penetrate deep down the subcutaneous tissues to deliver the required nutrients. Every type of skin is specific for the requirement of skin pack.

Nowadays different types of packs are available in market separately for the oily, normal and dry skin. Face packs are used to increase the fairness and smoothness of the skin. It reduces wrinkles, pimples, acne and dark circles of the skin. Face packs which are recommended for oily skin prone to acne, blackheads, usually control the rate of sebum discharge from sebaceous glands and fight the harmful bacteria present inside acne lesion. The leftover marks of skin can be reduced by incorporation of fine powders of sandalwood, rose-petals and dried orange peels. Herbal face

packs are nowadays being used on a large scale, due to the various benefits of them over chemical based packs.

### AIM AND OBJECTIVE

**AIM:** The main aim is current study is to create an face pack to reduce side effects and improve glowing skin. To develop new formula by reviewing the literature for accurate and precise study.

### OBJECTIVE:

- Polyherbal Face Pack is produce natural effects for skin.
- The present study showed that the main ingredients which have been selected for the formulation of herbal face pack on the basis of conventional wisdom and scientific evidence is Turmeric, Neem, Milk powder, Orange peel, Chandan, Pomegranate powder and Rose petals.
- Face pack take care of skin that provide a improve skin texture.
- Made from herbal ingredients.
- A herbal face pack is totally free from hazardous substances.

### LITERATURE REVIEW

1. Prof. Deshmukh : Worked on herbal face pack for glowing skin by using natural herbal Ingredients. The natural herbal ingredients such as multani mitti, turmeric, sandalwood, saffron, milk powder, rice flour, Orange peel were were purchased from local market in the form of dried powder.
2. Swati S.Lodha : Worked on formulate and evaluate an herbal fuce pack for fo glowing skin by using natural herbal ingredients. The natural herbal ingredients such as Gram Flour Rice flour, charcoal powder, Arjuna Powder, Lemon peel Powder, Nutmeg, milk powder, saffron, Turmeric, Aloe Vera were purchased from local market in the form of dried powder.
3. Vidya Keshav Kakad : Many of the marked products when applied on the skin cause dryness of the skin after its long-term use which results less life of skin problems of acne and redness, Solution for this problem is used of face pack which is consist all herbal ingredients which increase cleansing, softening, moisturizing products to use routine with no side effects. of skin.
4. N. S. Yamani : Cosmetics play a vital role for everyone to have a joyful and sanguine life. We formulated different formulations fl. 12. 13

in gel form for oily skin buy using turmeric, aloe vera, cinnamon, potato starch, charcoal, beet root powder, water. Evaluated by using various porameters such as physical appearance.

### ADVANTAGE OF FACE PACK :

There are many benefits to using a face pack and the advantages vary depending on the ingredients and your skin type. Generally speaking the advantage of using a face pack include...

1. Acne control
2. Glowing skin
3. Less toxicity
4. Nourishment to the skin
5. Made from herbal ingredients
6. Improve skin texture

### MATERIALS AND METHODS

Present research article deals with the formulation and evaluation of herbal face pack for glowing skin by using natural ingredient i.e., turmeric, chandan, neem powder, milk powder, pomegranate powder, orange peel and rose petals. It is in the form of dried powder.

All ingredients authenticated at Botany Department of Padmashri Vikhe Patil College of Arts Science and Commerce Ahilyanagar. The details of the natural ingredient used for the formulation of herbal face pack are mentioned below.

### INGREDIENTS:

#### • Turmeric Powder:

Turmeric has been used in this preparation. It is a very good anti-inflammatory and anti-allergic agent. The phytoconstituents, mainly terpenoids present in it helps to lighten the skin tone. Turmeric delays the signs of aging like wrinkles, improves skin elasticity. It cures pigmentation, uneven skin tone and dull skin.



Fig.1 Turmeric Powder

- **Synonym:** Curcuma domestica
- **Scientific Name:** Curcuma longa
- **Brand Name:** Wild curcuma
- **Family:** Zingiberaceae
- **Origin:** India, Southeast Asia and South China.
- **Chemical Constituents:** Curcuminoids, essential oils, Demethoxycurcumin and Bisdemethoxycurcumin.
- **Uses:**
  - It has been used Anti-inflammatory property.
  - Anti-aging benefit.
  - Effectively reduce the appearance of wrinkles and promotes skin.

• **Milk Powder:**

Milk powder provides smoothness effects and glowing to be particularly area for skin. The advantages of milk powder to the skin are outstanding. It makes the moisturizing and cleansing the skin.



Fig 2: Milk Powder

- 1) It is beneficial for skin ,it provide nourishment for dry, rough skin for the longer duration.
- 2) It provides a brilliant shine to skin .
- 3) This is beneficial in hydrating the face deeply and make skin youthful lustrous and flawless.
- 4) It bleaches the skin to remove dark spot , pigmentation , acne .
- 5) It should be provide natural moisturizer to the face for long period.

• **Neem:**

Neem is anti-inflammatory, antiseptic and highly beneficial for oily and acne prone skin 14. An anti-acne effect is due to antimicrobial, anti-inflammatory and anti-oxidant activities of different chemical constituents.



Fig 3: Neem Powder

- **Synonym:** Margosa
- **Scientific Name:** Melia Indica
- **Family:** Meliaceae
- **Chemical Constituents:** Nimbin , Azadirachtin

• **Uses:**

- 1) It is used as antibacterial.
- 2) It is used for acne treatment.
- 3) It is used for improving skin tone.
- 4) They give the protection against environmental damage.

• **Orange peel:**

Orange peel is a covering of citrus fruit which contains different nutritional source such as vitamin C, calcium, potassium and magnesium. It prevents the skin from free radical damage, skin hydration and oxidative stress. Also it has instant glow property, prevent acne, blemishes, wrinkles and aging.



Fig. 4: Orange peel

- **Chandan Powder:**

Chandan is used for its numerous skin benefits, including its ant-inflammatory and helps to soothe irritated skin, fight acne and promote a clear complexion.



Fig 5: Chandan

- 1) Skin lightening
- 2) Anti aging
- 3) Anti-inflammatory
- 4) Acne treatment

- **Pomegranate Powder:**

Pomegranate powder is used in herbal face pack for thr reduce the apperance fine lines and wrinkles and also reduce the size of pores and at the same time, tightens the skin.



Fig 6: Pomegranate Powder

1. It is used for deep cleansing
2. It is used for the clear the skin and remove the dead skin pots.
3. Helps prevent sagging and wrinkles

4. Brightening: helps revive dull skin and reduce roughness.

5. Dark spot removal: Helps get rid of dark spots and pigmentation.

- **Rose Petals:**

Rose Petals is used for the natural moisturizing, soothing and some properties. It is helps to brighten the complexion, reduce the appearance of dark spots and promote a more youthful.



Fig 7 : Rose Petals

- 1) Skin balancing
- 2) Improve skin tone.
- 3) Rose petals can help prevent premature aging.

## METHODS OF PREPARATION

Equipments:

- 1) Mortar pestle
- 2) Sieve no.100
- 3) Weighing balance
- 4) Spatula

Formulation was prepared with varying concentrations of all ingredients. Concentration of each ingredient was mentioned in Table. The accurate quantity ingredients were weighed and ground into fine powder by using sieve #120. Then the all ingredients were mixed geometrically by serial dilution method for uniform mixing. Then the prepared face pack was packed into a container, labeled and used for further studies.

## Procedure of Face Pack Application

Take prepared face pack powder in a bowl as per the requirement and add rose water to mix. Mix well and apply over the facial skin. Cover the acne and blemishes spots too. Kept as it is for complete drying for 20 to 25 min and then wash with cold water.

### Methods of Evaluation

Following evaluation parameters were performed to ensure superiority of prepared face pack;

### Organoleptic Evaluation

The organoleptic parameters include its nature, color, odor, feel and consistency which were evaluated manually for its physical properties.

### Physical Evaluation

The particle size was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by performing Angle of Repose by funnel method, bulk density and tapped density by Tapping Method.

### Physicochemical Evaluation

Ash content was performed using incinerator, pH was found by using pH meter and loss on drying was also performed.

### Irritancy test

Mark an area (1sq.cm) on the left hand dorsal surface. Definite quantities of prepared face packs were applied to the specified area and time was noted. Irritancy, erythema, edema, was checked if any for regular intervals up to 24 hrs and reported.

### Washability:

Materials Needed:

- Prepared Face Pack.

- Clean water.
- Mild cleanser (optional).
- Soft cloth or cotton pads.
- Stopwatch or timer.
- Volunteers or skin patch models.

### Procedure:

#### 1. Application:

Apply a standard amount (e.g., 1g or a thin uniform layer) of face pack to a defined area of skin. Allow it to dry completely (15–20 minutes, depending on the formulation).

#### 2. Observation After Drying:

Observe and record the texture, hardness, cracking, or tightness.

#### 3. Washing Process:

Using just water, gently attempt to remove the face pack using circular motions with your fingers or a soft cloth. Record the time taken to remove the pack completely. Note the amount of water required (optional). If the face pack is difficult to remove, repeat the process with a mild cleanser and record observations.

### Result Interpretation:

A good washability face pack should come off easily with water, leave minimal to no residue, and not require aggressive scrubbing or soap.

### FORMULA:

| Sr. No. | Ingredients        | Observation |
|---------|--------------------|-------------|
| 1       | Turmeric powder    | 5 gm        |
| 2       | Milk powder        | 5 gm        |
| 3       | Orange peel powder | 5 gm        |
| 4       | Neem powder        | 4 gm        |
| 5       | Chandan powder     | 10 gm       |
| 6       | Pomegranate powder | 5 gm        |
| 7       | Rose petals        | Q.S         |
| 8       | Rose Water         | Q.S         |

**Table 1:** Quantity of Herbal Face Pack

| Sr. No. | Parameter  | Observation   |
|---------|------------|---------------|
| 1       | Appearance | Powder        |
| 2       | Colour     | Pale Brownish |
| 3       | Odor       | Slight        |
| 4       | Texture    | Fine          |
| 5       | Smoothness | Smooth        |

**Table 2:** Organoleptic Properties

| Sr. No. | Parameter | Formula | Observation   |
|---------|-----------|---------|---------------|
| 1       | Irritant  | +       | No Irritation |
| 2       | Erythema  | Nil     | No Irritation |
| 3       | Edema     | Nil     | No Edema      |

**Table 3:** Irritancy Test

| Sr. No. | Parameters | Observations     |
|---------|------------|------------------|
|         |            | Room Temperature |
| 1       | Color      | 35±0.5°C         |
| 2       | Odour      | 40±0.5°C         |
| 3       | pH         | No change        |
| 4       | Texture    | No change        |
| 5       | Smoothness | No change        |

**Table 5:** Parameters

#### BENEFITS AND PRECAUTIONS BENEFITS OF APPLYING FACE PACK

1. Nourishes the skin. Fruit face packs supply essential nutrients to skin.
2. Helps to reduce, acne, pimple, scars and marks depending on its herbal
3. Ingredients.
4. Face packs usually remove dead cells of skin.
5. These face masks provide a soothing and relaxing effect on skin.
6. They help to restore the lost shine and glow of skin in short span of time.
7. Regular use of natural face masks bring glow to skin, improve skin texture and complexion.
8. The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face packs.
9. They help to prevent premature aging of skin.
10. Natural face packs make the skin look young and healthy.

#### PRECAUTIONS WHEN APPLYING FACE PACK

1. Select the face pack according to your skin type. Take opinion of natural therapist or concerned skin expert before applying face pack.
2. The face pack should not be left on face more than 15 to 20 minutes. Keeping for very long time may result in formation of wrinkles, sagging of skin and
3. Apply face pack once in a week. Don't try to peel or scratch the dried face pack. This may harm underlying skin.
4. Spray water (which is at room temperature) on face before removing dried face pack. After removing the mask, roll an ice cube on facial skin. This helps to close open pores and tightens skin. It also tones and soothes the skin.
5. Do not scrub face vigorously. This may result in eruption of pimples and dark spots. Stay

away from heat when you have applied face pack.

## II. RESULT AND DISCUSSION

### Physical parameters:

The different formulation of face pack was prepared and evaluated for physical parameters showed in the Table 5. The flow property parameter showed free flowing properties. The colors of formulations were different due to

variation in composition of contents. Formulation showed as pale brownish. The odor of prepared formulations was good acceptable which is desirable as cosmetic formulations. The particle size of formulations was in the range of  $22.5 \pm 2.85\mu\text{m}$  to  $26.4 \pm 5.44 \mu\text{m}$ . The pH of all formulations lied near to neutral range i.e. in the range of 6 to 7 pH. The ash content and moisture content was within limit.

### Organoleptic Evaluation:

| Sr. No. | Parameter  | Observation   |
|---------|------------|---------------|
| 1       | Colour     | Pale Brownish |
| 2       | Odour      | Pleasant      |
| 3       | Nature     | Powder        |
| 4       | Appearance | Smooth        |
| 5       | Texture    | Fine          |

**Table 1:** Organoleptic Evaluation

Herbal face pack was evaluated for organoleptic parameters showed in the table 1. The colour of formulation was Pale Brownish. The odour of prepared formulations was pleasant and

good acceptable which is desirable to cosmetic formulations. Texture and smoothness was acceptable as per requirement of cosmetic formulations.

### Rheological Evaluation:

| Sr. No. | Parameter       | Observation |
|---------|-----------------|-------------|
| 1       | Tapped Density  | 0.93 g/ml   |
| 2       | Bulk Density    | 0.83 g/ml   |
| 3       | Angle of Repose | 34.21       |
| 4       | Hausner's Ratio | 1.12        |
| 5       | Carr's Index    | 11%         |
| 6       | pH              | 5.5-6.5     |

**Table 2:** Rheological Evaluation

Herbal face pack was evaluated some parameters Tapped Density, Bulk Density, Angle of Repose, Hausner's Ratio, Carr's Index and PH.

Observation of the Rheological Evaluation is Good for Herbal Face Pack.

#### Irritancy Test:

| Sr. No. | Parameter  | Observation |
|---------|------------|-------------|
| 1       | Irritation | NO          |
| 2       | Redness    | NO          |
| 3       | Swelling   | NO          |

**Table 3:** Irritancy Test

The results of irritancy test were shown in Table 3. Irritancy test showed negative results for irritation, redness, swelling as the herbal in their natural form without addition of chemicals were found to be compatible with the skin proteins mild irritation

#### Washability:



**Fig - Application of Face Pack**



**Fig- After Wash**

| Sr.no | Parameter            | Observation      |
|-------|----------------------|------------------|
| 1     | Ease of removal      | Easy             |
| 2     | Time required        | Depends on       |
| 3     | Residue left on skin | None             |
| 4     | Skin feel after wash | Soft and Glowing |

**Table 4:** Washability

#### DISCUSSION

Herbal face pack help to maintain the elasticity of the skin and remove dirt from skin pores. The advantage of herbal cosmetics is their nontoxic nature, reduce the allergic reactions and time tested usefulness of many ingredients. Formulation was creamish yellow in color and had semisolid consistency.

The formulation was found homogenous, easily washable and also had very slightly alkaline pH which were compatible with normal skin physiology. Angle of repose is a characteristic related to inter particulate friction or resistance to the movement between the particles. The flow property has been classified as per limit of Indian

Pharmacopoeia in terms of the angle of repose. The results of all these parameters indicated that the dried powder of combined form possess good flow properties and good packing ability. Consequently, it exhibited good flow properties for formulation to achieve soft, fresh and clean formulation.

#### III. CONCLUSION

Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones. Herbal formulations have growing demand in the world market. Herbal face packs are used to stimulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and remove dirt from skin

pores. It is an our good attempt to formulate the herbal face pack containing natural herbal ingredients such as multani mitti, turmeric, sandal wood, saffron, milk powder, rice flour, orange peel and banana peel.

After evaluation, we found good properties for the face packs, free from skin irritation and maintained its consistency even after stability storage conditions. It has been revealed that herbal face pack having enough potential to give efficient glowing effect on skin. The overall study is useful to substantiate product claims due its useful benefits on the human beings. Herbal ingredients opened the way to formulate cosmetics without any harmful effect. Herbal face packs are considered as sustaining and productive way to advance the appearance of skin.

#### PREPARED FACE PACK:



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