

## Formulation and Evaluation of Polyherbal Face Pack

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**ABSTRACT:** 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. The objective of this work is to formulate and evaluate a cosmetic preparation polyherbal face pack made from herbal ingredients such as orange peel powder, neem powder, chandan powder, aloe vera powder, turmeric powder, fullers earth, tulsi powder and liquorice powder were procured from the local market in dried, powdered and then passed through sieve no 44, mixed thoroughly prepared and evaluated for its organoleptic, physico-chemical and microscopical characters. The dried powder of combined form had passable flow property which is suitable for a face pack.

Herbal face packs or masks are used to stimulate blood circulation, rejuvenates and help to maintain the elasticity of the skin and remove dirt from skin pores. It is a very good attempt to establish the herbal face pack containing different powders of plants. The advantage of herbal cosmetics is their non-toxic nature, reduce the allergic reactions and time tested usefulness of many ingredients. Thus in the present work, we found good properties of the face packs and further optimization studies are required on this study to find the useful benefits of face packs on human, use as cosmetic product.[1]

**Keywords:** Herbal, Sandalwood, Turmeric, Neem.

### I. INTRODUCTION

Skin is a very sensitive and outer most layer of the human body which is exposed to environmental factors hence, it is very essential to protect the skin. There are various cosmetics available in market for skin care and have wide variety of cosmetics intended for facial application.[23] Cosmetics are defined as products that are used to cleanse, adorn, or enhance one's appearance. Encourage or switch up your appearance. Herbs have been used to clean, beautify, and treat them since ancient times. "Mukhalepa," or herbal pastes, are a popular in

India. They were used as facial therapy in Ayurveda. This herbal paste smeared on the face is used to treat acne, pimples, rash, stains, and pigments. A face pack is a smooth powder that is applied to the face. Herbal face packs are less expensive and have fewer side effects when it comes to achieving naturally fair skin. The current study looks at how to make a herbal face pack for glowing skin at home with natural ingredients like Multani mitti, turmeric, aloe vera, sandalwood, orange peel powder and tulsi powder. Herbal face packs are required for various skin types. Smooth, healthy, and silky skin can be achieved the homemade natural face packs and masks. The herbal paste used to treat acne, pimples, wounds,

stains, and pigments is known as "mukhalepa" in Ayurveda. Mukhalepana is the application of a herbal mixture to the face. This treatment is now known as facial therapy. A face pack is a smooth powder that is applied to the face.[1]

Cosmetics are used to protect the skin and to provide safety and comfort, but their main purpose is as a beauty product to make the face and skin attractive. There are base makeup products and decorative makeup products; the former formulations are used to hide imperfections such as stains and wrinkles, to adjust skin tone, and to add firmness or translucence to make the skin look beautiful. The latter are used to color and decorate the body or for contouring to create a more healthy-looking or attractive impression. Everybody wants to get fair and charming skin. Now a day, Acne, black head, pimples, dark circle are common among youngsters and person who suffers from it. Cosmetics are commercially available products that are used to improve the appearance of the skin by action of cleansing, beautifying, promoting attractiveness. From the ancient time, different herbs are used for cleaning, beautifying and to manage them. Face skin is the major part of the body, which indicates the health of an individual. It consists of materials such as

amino acids, lipids and carbohydrates etc. So that a balanced nutrition is required for the skin to keep it clear glossy and healthy.[22]

### 1.1 Ayurvedic Concept of Skin

Ayurveda, the science of life, was elucidated in India over 6,000 years ago. It was the first record of scientific medicine in the history of the world. The word "Ayurveda" literally means knowledge (Veda) of life (Ayu). The aim of Ayurveda, therefore, is to improve the quality of life and increase the life span (longevity). Over 600 plants are described in original Ayurvedic compendia like Charaka and Sushruta Samhita. In these texts, plants are classified into groups based on their effects. In Ayurveda, Charaka has described twak (skin) in six layers named as udakadara (bahyatwak), astrikdhara, Sidhma (dermatitis) and Kilas Kushta (leucoderma), Dadru Kushta (ringworm), Alaji (boil) and Vidradhi (abscess). Sushruta has described the seven layers of skin as avabhasini, lohita, shweta, tamra, vedini, rohini and mamsadhara. When this layer is in balance, the skin looks young and supple (soft to touch radiant look). According to Ayurveda, Twak (skin) is a Matruja Avyaya i.e., derived from mother or having maternal origin. It is the mirror of an individual's health. Ayurvedic concepts of skin diseases are based on the tridoshas i.e., Vata, Pitta and Kapha. Imbalance in any one dosha leads to various types of skin i.e., Vata skin, Pitta skin, Kapha skin and Combination skin. [22]

- Vata skin: - Is dry, thin, fine pored, delicate and cool to touch. It easily gets dehydrated, and is very vulnerable to the influence of dry weather. It tends to develop wrinkles earlier than the other skin types.
- Pitta skin: - Is fair, soft, warm and medium thickness. It tends to be more prone to freckles and moles than the other skin types. It is photosensitive and has least tolerance to sun and is most likely to accumulate sun damage over the years.
- Kapha skin: - Is thick, oily, soft and cool to touch; tends to develop wrinkles much later in life than Vata or Pitta type but because of its thickness and oiliness, is more prone to accumulate ama (toxins) under the skin. It has dull complexion, enlarged pores, excessive oil, blackheads, and pimples, moist types of eczema and water retention.
- Combination skin: - Is combination of two types of skin; Vata-Pitta skin which is both dry and sensitive, Kapha-Pitta skin is oily and

sensitive and Vata-Kapha skin is generally dry with some oily zones.

### 1.2 Herbal Face Pack

In ayurveda, the herbal paste is called as "mukha lepa" used for as a facial therapy. This herbal paste smeared on face to treat acne, pimple, scars, marks and pigments. Face pack is the smooth powder which is used for facial application. These preparations are applied on the face in the form of liquid or pastes and allowed to dry and set to form film giving tightening, strengthening and cleansing effect to the skin. They are usually left on the skin for ten to twenty-five minutes to allow all the water to evaporate, the resulting film thus contracts and hardens and can easily be removed. The warmth and tightening effect produced by application of face pack produces the stimulating sensation of a rejuvenated face, while the colloidal and adsorption clays used in these preparations remove the dirt and grease from the skin of the face. When the applied face pack is eventually removed skin debris and deposited dirt gets removed with it. Face packs are basically additives delivering some additional benefits. Different types of herbal face packs are used for different types of skin. Herbal face packs are helps to reduce wrinkles, pimples, acne and dark circles. Also increase the fairness and smoothness of skin. It also helps someone to boost their confidence. Ayurveda is the most useful and successful means for achieving this purpose.

These packs are available in various types and forms and broadly classified into the following categories:

1. Plastic masks: Wax based, latex based, or vinyl based
2. Hydrocolloid masks: Gel masks (ready to use)
3. Argillaceous masks: Clay based or earth based (ready to use or dry powder) Present research article deals with the formulation and evaluation of cosmetic herbal face pack for glowing skin at home by using natural materials i.e., multani mitti, turmeric, Aloe vera, sandalwood, orange peel, neem, tulsi, liquorice and rosewater.

### 1.3 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 ingredients.
3. Face packs usually remove dead cells of skin.
4. These face masks provide a soothing and relaxing effect on skin.

5. They help to restore the lost shine and glow of skin in short span of time.
6. Regular use of natural face masks bring glow to skin, improve skin texture and complexion.
7. The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face packs.
8. They help to prevent premature aging of skin.
9. Formation of wrinkles, fine lines and sagging of skin can be effectively controlled by using natural face packs.
10. Natural face packs make the skin look young and healthy.[2]

## II. LITERATURE REVIEW

- 1. Avhad S. A et al., (2022)** - A face pack is a smooth powder that is applied to the face. Herbal face packs are less expensive and have less side effects when it comes to achieving naturally fair skin. Herbal face packs are required for various skin types. Smooth, healthy, and silky skin can be achieved the homemade natural face packs.
- 2. Bhutkar K. G. et al., (2019)** - According to Ayurveda, Skin problems are normally due to impurities in blood. Accumulated toxins in the blood during improper food and lifestyle are causing skin related diseases. Various herbs, medicines are described in Ayurveda for blood purification. The herbal paste which is applied on face to treat acne, pimple, scars, marks and pigments are known as "mukha lepa" in ayurveda.
- 3. Somwanshi S. B. et al., (2017)** - Face pack is the smooth powder which is used for facial application. These preparations are applied on the face in the form of liquid or pastes and allowed to dry and set to form film giving tightening, strengthening and cleansing effect to the skin. It is Suggested that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standard cosmeceuticals formulation for skincare.
- 4. Maske A. O. et al., (2019)** - 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.
- 5. Rubina S. K. et al., (2017)** - Cosmetics are products created for skin hair care for the purpose of cleansing, beautifying and enhancing the attractive features. Skin care is not a modern trend. In fact, people in every civilization used cosmetics to protect and embellish their skin – which naturally leads us to conclude that this is a primordial need.
- 6. Rokade P. et al., (2017)** - Natural face pack are less complicated and pretty simple to use. They help us in looking after skin and also prove its worthiness by increasing the circulation of the blood within the veins of the face.
- 7. Aswale A. E. et al., (2022)** - Herbal face packs are considered as sustaining and productive way to advance the appearance of skin. The flow property of this face pack is fair because angle of repose, Carr's index and haursner's ratio are in Standard limits.
- 8. Bhatt. B. et al., (2018)** - Natural remedies are more acceptable in the belief that they are safer with fewer side effects than the synthetic ones.
- 9. Sindhu. R. K. et al., (2018)** - Thus in the present work, we found good results Of herbal face packs as give glowing, smoothing, Antibacterial, anti-acne & anti wrinkle effect on skin. This face pack is found to be beneficial, economical and passed all evaluation parameter.
- 10. Yadav N. et al., (2015)** - It is a very good attempt to establish the herbal face Pack containing different powder of plants. Thus in the present Work, we found good properties for the face packs and further Optimization studies are required on this study to find the useful Benefits of face packs on human use as cosmetic product.
- 11. Londhe S. S. et al., (2020)** - Herbal face packs are considered as Sustaining and productive way to advance the appearance of skin. Thus in the present work, Herbal formulations Have growing demand in the world market.
- 12. Neware P. R. et al., (2022)** - In the 21th century, the demand for herbal formulation has Been increased day to day. So we try to establish the herbal face Pack containing the natural ingredient of plants. Thus in Present work we found good properties of herbal face pack And further optimization studies are required on this study To find useful benefits of herbal face pack on human.
- 13. Ramtekkar B. et al., (2021)** - The advantage of Herbal cosmetics is their nontoxic nature, reduction of allergic reactions, and time-tested usefulness of many ingredients. This face pack is beneficial, economical, and passed all evaluation parameters.
- 14. Ramakrishna. et al., (2014)** - The dried powders of combined pack showed good flow property which is suitable for a face pack. Organoleptic evaluation Showed that the pack is

smooth & pleasant odour. Rheological findings justified the flow properties of the pack as it was found To be free flowing & non sticky in nature. Formulation was stable on all aspects, with no Irritancy. Stability tests revealed the Inert nature of the pack.

**15. Pal R. S. et al., (2017)** - In this work, we found excellent properties of the face packs and further studies are needed to be performed to ascertain more useful benefits of face packs as cosmetics. Natural remedies are accepted nowadays with open hands as they are safer with fewer side effects.

### III. SCOPE OF STUDY

**Aim :** The aim of the present study was to prepare and evaluate poly herbal face pack. **Objective :**

- To prepare and evaluate poly herbal face pack for cosmetic purpose.
- To evaluate powder characteristics of prepare poly herbal face pack.
- As due to increased pollution, allergy, microbes etc, human skin has become moresensitive and prone to faster aging. An attempt has Been made to synthesize a pack ideal for all skin types. After the synthesis, all the parameters have been calculated in order to meet Up the quality standards.

### IV. 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., multani mitti, turmeric, sandalwood, liquorice, neem, aloevera, tulsi, and orange peel. They were purchased from local market in the form of dried powder.[3]

Ingredients of formulations :



Fig 1: Multani Mitti

#### 4.1 Multani Mitti (Calcium Bentonite)

Multani mitti helps skin by different ways like diminishing pore sizes, removing blackheads and whiteheads fading freckles, reduce sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes and

gives a glowing effect to a skin as they contain healthy nutrients. Multani mitti is rich magnesium chloride.

The most important characteristic of an multani mitti is its cooling activity.[23]



Fig 2: Turmeric

#### 4.2 Turmeric (*Curuma longa*)

Family: Zin giberaceae

Use: Antiseptic

Turmeric has been used in this preparation due to its blood purifying property and helps in wound healing, because of its antiseptic action. It cures the skin diseases occurring due to blood impurities. It is a very good anti-inflammatory and anti-allergic agent. The phyto-constituents, 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.

The major purpose of turmeric is to revitalize the skin. In addition to having antibacterial, antimicrobial, and antiinflammatory qualities, it delays the appearance of wrinkles. Due to its antiseptic & anti-bacterial characteristics, which combat zits & breakouts to give your skin a youthful look, it is useful in treating acne. Additionally, it lessens sebaceous gland's production of oil. [24]



Fig 3: Liquorice

#### 4.3 Liquorice powder (*Glycyrrhiza glabra*)

Family: Leguminosae

Licorice is one of the most used herbal plants in foods, in medicinal forms, and substantially researched on a worldwide scale. It was used as traditional and complementary medicine against innumerable ailments including allergies, liver toxicity, gastric ulcer, lung diseases, skin disorders, oral health problems including tooth decay, and inflammation. Biological activity has been observed to be portrayed by active compounds of licorice including triterpene, flavonoids, and saponins. In recent years, licorice has been widely researched to discover its benefits, constituents, and its mechanism of action.[5] Liquorice contains compounds such as liquiritin and licochalcone which inhibit the production of tyrosinase in turn inhibiting the production of dark spots.[5] Licorice root contains numerous bioactive natural products, many of which are potent cosmeceutical ingredients. At the heart of liquorice's sun protection capabilities lies a compound known as glycyrrhizin, which is abundant within its root. Glycyrrhizin has been found to exhibit natural UV (ultraviolet) radiation-blocking properties. When applied topically, glycyrrhizin creates a protective shield on the skin's surface. This shield operates by either deflecting or absorbing a portion of the incoming UV radiation, thus mitigating its potential to penetrate and harm the underlying skin layers. In the annals of Ayurvedic medicine, the traditional healthcare system of India, liquorice found a prominent role. Here, it was employed as a skin tonic and recognized for its potent anti-inflammatory attributes. Moreover, Ayurvedic practitioners utilized liquorice to treat an array of skin conditions, indirectly shielding individuals from sun-induced skin damage. [25]



Fig 4: Sandalwood

#### 4.4 Sandalwood powder (Santalum album)

Family: Santalaceae

Sandalwood has been utilized for a variety of purposes throughout history, with its

integration into foods, cosmetics, and pharmaceutical products. It's now being increasingly recognized for effects on wrinkle skin. Sandalwood is used in various skin disorders especially skin ageing, skin appearance, wrinkle skin and topical skin applications. Thus, it focuses on the therapeutic benefits of sandalwood according to their antioxidant and anti-inflammatory action.[6]

Sandalwood is one of the significant and widely utilized plants in the cosmetic and perfume industry. Excluding cosmetic and perfume industrial utilization, sandalwood also has an extensive array of therapeutic properties and should be regarded as one of the most significant medicinal

plants. Many researchers, worldwide have been focusing on the Sandalwood plant, which has been studied elaborately, although there are many aspects left to be explored to understand the complete benefits of sandalwood for humankind.[26]

Sandalwood has a wide range of medicinal characteristics that make it the best and most dependable home remedy for face and all forms of skin disorders such as eczema, psoriasis, and ringworm rash therapy.

**Anti-tanning Property :** Sandalwood paste has anti-tanning properties and is one of the greatest clear skin cures for easing harsh sunburns and clear skin tanning. Sandalwood's natural oils naturally cleanse the skin's complexion and give it a healthy glow.

**Anti-aging Property:** The toning effect of sandalwood aids in the shrinking of skin pores, resulting in an even skin texture and the prevention of sagging and ageing skin. It tightens drooping skin tissues, giving the skin a supple and youthful appearance.

**Skin Softening Action:** One of the most effective sandalwood powder benefits is that it ensures baby smooth skin. Sandalwood can be used alone or combined with other natural oils and massaged into the skin for the finest results.[27]



Fig 5: Aloe vera

#### 4.5 Aloe vera powder (*Aloe barbadensis miller*)

Family: Asphodelaceae

The plant Aloe vera is used in Ayurvedic, Homoeopathic and Allopathic streams of medicine, and not only tribal community but also most of the people for food and medicine. The plant leaves contains numerous vitamins, minerals, enzymes, amino acids, natural sugars and other bioactive compounds with emollient, purgative, antimicrobial, anti inflammatory, antioxidant, antifungal, antiseptic and cosmetic values for health care. This plant has potential to cure sunburns, burns and minor cuts, and even skin cancer. The external use in cosmetic primarily acts as skin healer and prevents injury of epithelial tissues, cures acne and gives a youthful glow to skin.[7]

Aloe vera is a phenomenal skin lotion. Aloe vera saturates, revives & keeps up with skin's energetic appearance. Because of its enemy of microbial properties, aloe vera is phenomenal for treating skin inflammation & pimples. [24]



Fig 6: Tulsi

#### 4.6 Tulsi powder (*Ocimum tenuiflorum*)

Family: Lamiaceae

*Ocimum gratissimum*, common name tulsi, is considered as a sacred plant and worshiped in India. It belongs to family Lamiaceae. It is a valuable medicinal plant which has numbers of pharmacological properties. While there are limited

quality studies on tulsi, some research indicates that tulsi may offer several benefits for skin and hair, including that it: fights acne, supports healthy skin aging, reduces pigmentation, soothes skin conditions like eczema. Tulsi is antibacterial, prevents skin damage and brightens the complexion.



Fig 7: Neem

#### 4.7 Neem powder (*Azadirachta indica*)

Family: Meliaceae

Neem is anti-inflammatory, antiseptic and highly beneficial for oily and acne prone skin. An anti acne effect is due to anti-microbial, anti-inflammatory and anti-oxidant activities of different chemical constituents.[7] The phytochemical components of neem were reported to include carotenoids, phenolic acids, and flavonoids that might provide high antioxidant activity, leading to potential activities in skin anti-aging. Neem's benefits for skin care stem from its being antifungal and antibacterial. This helps it cleanse the skin cells of irritants and dead skin cells that may have otherwise formed pus and inflamed the facial skin. Commonly known as acne, these red-colored protrusions on the facial skin may become painful if not treated early. Also counted among the neem benefits of skincare is how it effectively removes acne and pimple marks to help you have a clear and blemish-free appearance.



Fig 8: Orange peel

#### 4.8 Orange peel powder (*Citrus sinensis*)

Family: Rutaceae

Orange is a 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.[9] Orange peels contain citric acid that helps lighten and brighten the skin organically. It can help remove tan and give your skin a youthful radiance. Also, the bleaching effect of the powder will help

reduce any pigmentation, dark spots or scars caused due to skin infections. Orange peels are rich in antioxidants that help in hydrating dull and dehydrated skin. The antioxidants in orange peels help combat toxic free radicals, thus preventing oxidative stress on skin cells. Also, these vital nutrients help fight early signs of ageing like wrinkles, fine lines, dark spots, sagging skin, etc. It makes your skin vibrant and healthy..

**Formula**

Sr. No.	Name of Ingredients	Scientific Name	F1 (gm)
1	Multani Mitti	Calcium bentonite	25
2	Turmeric	Curcuma longa	4
3	Aloevera	Aloe barbadensis	16
4	Sandalwood	Santalum alba	25
5	Orange peel	Citrus reticulate	10
6	Neem	Azadirachta indica	5
7	Tulsi	Ocimum Tenuiflorum	10
8	Liquorice	Glycyrrhiza glabra	5

**Methods of preparation**



Fig. 9: Trituration

**Procedure**

Step 1:- All the required herbal powders for the face pack preparation were accurately weighed individually by using digital Balance. The quantity and compositions are listed in formula.  
 Step 2:- The herbal drugs such as sandalwood powder, neem powder, multani mitti were transferred to mortar and pestle and trituated.

Step 3:- Herbal drugs such as turmeric, sandalwood, liquorice powder, tulsi powder, Orange peel powder were trituated in a separate mortar and pestle to form a uniform fine Mixture.  
 Step 4:- Previously prepared mixture of herbal powders was transferred to the mixture of fine powders and trituated to obtain uniform drug powder of face pack.  
 Step 5:- The powders were passed through sieve no 44.  
 Step 6:- The prepared face pack powder was packed into a self-sealable polyethylene bag, labelled and used for further studies.

**V. EVALUATION OF FACE PACK**

**Method of Evaluation :**

**5.1 Organoleptic evaluation**

The organoleptic parameters include its appearance, colour, odour, texture, washability, which were evaluated manually for its physical properties.

## 5.2 Physicochemical evaluation

Physicochemical parameters were determined, including the determination of Moisture content, pH.

### Determination of moisture content

Moisture content is important for the plant drugs because insufficient drying may lead to Possible enzymatic deterioration of the active principles.

- Moisture content was determined by (LOD). Weigh accurately 3gms of the powder drug and take in a weighed petri dish and placed in hot air oven at 100-108°C. It was weighed until constant weight was obtained.

### Determination of pH

It is the measurement of acidity or alkalinity of the product measured on a scale of 0-14. pH of Formulated face pack in rose water was found.

## 5.3 Rheological evaluation

It gives an overall idea about the visco elastic flow behavior of the product. Physical Parameters like angle of repose, tapped density, bulk density, Hausner's ratio and Carr's index were observed and calculated for the formulation.

### Angle of repose

The angle of repose or critical angle of repose, of a granular material is the steepest angle of descent or dip Relative to the horizontal plane to which a material can be piled without stumping. It is important for the design of processing, Storage and conveying systems of particulate materials. It is also useful to quantify the flow properties of powder because it Influences cohesion among the different particles. The fixed funnel cone method Employs the calculation of height (H) above a paper that is placed on a horizontal surface. The formulated pack was carefully Poured through the funnel till the peak of the conical heap just touched the tip of the funnel. Here,, R" denotes the radius of the Conical heap. The equation for calculating angle of repose(a) is,

$$A = \tan^{-1} H/R$$

### Tapped density

The tapped density is an increased bulk density attained after mechanically tapping a graduated measuring Cylinder containing powder sample. The tap density of a powder can be used to predict both flow properties and its Compressibility. The volume of packaging can be determined in a graduated cylinder. 25gms of weighed formulation powder Was taken and slowly added to the cylinder with the aid of a funnel. The

initial volume was observed firstly and the sample was Then tapped until no further volume reduction occurred. The value obtained after tapping was noted. The equation for calculating the tapped density is,

$$\text{Tapped Density} = \text{Mass} / \text{Volume}$$

### Bulk density

The bulk density value includes the volume of all the pores within the powder sample. The term bulk density Refers to method used to indicate a packaging of particles or granules. 25gms of weighed powder was taken and slowly poured Into the graduated cylinder. The volume occupied by the powder was noted. The formula for calculating bulk density is,

$$D = M/V$$

Where,

D = bulk density,

M = mass of particles,

V = total volume occupied by them.

### Hausner's ratio

Hausner's ratio is related to interparticle friction and as such can be used to predict the powder flow Properties. The equation for measuring the Hausner's ratio is,

$$\text{Hausner's ratio} = \text{tapped density} / \text{bulk density}$$

### Carr's index

Carr's index is another indirect method of measuring the powder flow from bulk density. It is directly related to The relative flow rate cohesiveness and particle size. It is simple, fast and popular method of presiding powder flow characters. The equation for measuring it is,

$$\% \text{ compressibility} = \frac{\text{tapped density} - \text{bulk density}}{\text{tapped density}}$$

## 5.4 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, erythematic, edema, was checked if any for regular intervals up to 24 hrs and reported.

## 5.5 Stability Studies

Stability testing of prepared formulation was conducted by storing at different temperature



conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions like, room temperature and

were evaluated for physical parameters like color, odour, pH, consistency and feel.

**Evaluation Parameters for formulation :**

**1:- Organoleptic property**

Sr. No	Parameter	Observation
1	Appearance	Powder
2	Colour	Dark yellow Brown
3	Odour	Pleasant
4	Texture	Fine
5	Smoothness	Smooth

**2:- Rheological property**

Sr. No	Parameter	Observation
1	Tapped density	0.66 g/ml
2	Angle of Repose	26.56 °
3	Hausner Ratio	1.5
4	Carr's index	33 %
5	Bulk Density	0.44 g/ml

**3:- Physicochemical property**

Sr. No	Parameter	Observation
1	PH	7.5
2	Moisture Content	6%
3	Irritancy Test	No
4	Irritation	No
5	Redness	No
6	Swelling	No

## VI. APPLICATION AND PRECAUTION

### 6.1 Application of Face Pack on Skin

Take prepared face pack powder in a bowl as per the requirement and add rose water to mix. The pack should be applied daily on wet face, forming a paste of it in water or rose water with optimum thickness. Mix well and apply over the facial skin. It should be applied evenly on the face with the help of a brush. It should be left for 15 minutes for complete drying. Then it should be removed with the help of a wet sponge or wash with cold water.[22]



Fig 10: Application of face pack on skin

### 6.2 Precautions to be Taken While Applying Face Pack–

1. The face pack is used according to your skin type.
2. Consulted to the skin expert before use of any natural therapy on face.
3. When you apply face pack on face then the face should be completely dried.
4. 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 enlargement of open pores.
5. Apply face pack once in a week. Don't try to peel or scratch the dried face pack. This may harm underlying skin.
6. Spray water (which is at room temperature) on face before removing dried face pack.
7. After removing the mask, roll an ice cube on facial skin. This helps to close open pore and tightens skin. It also tones and soothes the skin.
8. 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.
9. Avoid applying face pack near "eye zone". The skin around eye is very delicate. The process of removing face pack may damage skin around eyes.[2]

## Formulation



Fig 11: Herbal face pack.

## VII. RESULT AND DISCUSSION

- This prepared formulation of face pack is morphologically yellowish in colour, pleasant in odour, smooth in appearance and fine in texture.
- This prepared formulation is stable at 40°C, This passed the stability test. · pH is neutral so it suits all skin types .
- All evaluation tests like morphological, stability studies, washability, physicochemical,

phytochemical evaluation test result are in limits.

### VIII. CONCLUSION

The dried powders of combined pack showed good property which is suitable for a face pack. Organoleptic evaluation showed that the pack is smooth & pleasant odour. Rheological findings justified the flow properties of the pack as it was found. to be free flowing & non sticky in nature. Formulation was no Irritancy. Further optimisation studies are required on its various parameters to find its useful benefits on the Human beings.

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 considered as sustaining and productive way to advance the appearance of skin. 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 a good attempt to formulate the herbal face pack containing natural herbal ingredients such as multani mitti, turmeric, sandal wood, liquorice, aloe vera powder, neem, orange peel and Tulsi powder. 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.

### REFERENCE

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