



FOR MULATON AND EVALUATION OF HERBAL FACE PACK

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ABSTRACT: The increasing demand for natural skincare solutions has led to a resurgence in the use of traditional herbal ingredients known for their therapeutic and cosmetic benefits. This article explores the efficacy of a synergistic blend of Multani Mitti (Fuller's Earth), sandalwood powder, neem powder, turmeric, orange peel powder, pomegranate peel powder, and rose water in skincare. These ingredients are renowned for their antimicrobial, anti-inflammatory, antioxidant, and skin-brightening properties. Multani Mitti detoxifies and exfoliates, sandalwood powder soothes and lightens pigmentation. Neem powder combats acne, turmeric provides antiaging benefits, and citrus-based peels (orange and pomegranate) enhance radiance and tighten pores. Rose water acts as a natural toner, balancing pH and hydrating the skin. This study evaluates their combined effects in addressing common skin concerns such as acne, dullness, and excess oil, emphasizing their role in sustainable, chemical-free skincare regimens. The findings highlight the potential of these botanicals as safe, cost-effective alternatives to synthetic cosmetics, aligning with the global shift toward holistic and Ayurvedic wellness practices. 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 skincare, Herbal ingredient, Rose water.

INTRODUCTION:

From the ancient era people are using herbs for cleaning, beautifying and to manage them. Cosmetics are defined as the products used for the purposes of cleansing, beautifying, promoting attractiveness or alternating one's appearance^[1]. According to Ayurveda, skin problems are usually due to impurities in the blood. Toxins that accumulate in the blood from improper diet and lifestyle cause skin related diseases. Various herbs and medicines are prescribed in Ayurveda to purify the blood. The herbal paste applied to the face to treat acne, pimples, scars and pigments is known as "Mukhalepa" in Ayurveda. The process of spreading this mixture of herbs on the face is known as "Mukhalepana"^[2]. 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 over exposure 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. Natural facial packs are easy to use. 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^[3]. face packs combine various herbal ingredients to enhance therapeutic effects while reducing toxicity, making them beneficial for diverse skin conditions^[4]. The herbal face pack's primary goal is to an ordinary/verdant Face pack has safe essential components. They also contain nutrients that are free from risk^[5].

Objective

- 1) Depending on its herbal ingredients, aids in reducing acne, pimples, scars, and marks.
- 2) Face packs typically remove skin's dead cells.
- 3) The skin is soothed and relaxed by these face masks.
- 4) They aid in quickly restoring the skin's lost radiance and glow.
- 5) Regular use of natural face masks improves skin texture and complexion while giving skin aglow.
- 6) The wise application of face packs can effectively counteract the negative effects of pollution.
- 7) They aid in preventing early skin ageing^[6].

Advantages

- Strengthen the musculature.
- Preserve the skin's suppleness.
- Eliminate debris that has become stuck. Increased vascular flow.
- It nourishes the facial epidermis.
- It provides the epidermis with essential nutrition.

Disadvantages

- Some people might find its potent plant odour offensive.
- Can be a little tricky to wash off; has a tingling feeling on the skin that might be a little uncomfortable.
- Has parabens, so it doesn't have all-natural components^[5].

Benefits of applying face pack

- 1) Nourishes the skin fruit face packs supply essential nutrients to skin.
- 2) Helps to reduce acne, pimples, scars and marks depending on its herbal ingredients.
- 3) Usually face packs made of sandalwood and turmeric helps to reduce acne and pimples. Face packs are recommended for acne, pimples, black heads usually control the over discharge of sebum from sebaceous gland and remove the harmful bacteria inside acnes lesion.

- 4) The scars and marks of skin can be reduced by adding fine powder of sandal and orange lentils with acne face pack.
- 5) Face packs usually remove dead cells of skin. These face packs masks provides 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 packs brings glow to skin, improve skin texture and complication^[7].

MATERIAL AND METHOD

1. TURMERIC



Turmeric is mainly used to rejuvenate the skin. It delays the signs of aging like wrinkles and also possesses other properties like antibacterial, antiseptic and anti-inflammatory. It is best source of blood purifier. It is effective in treatment of acne due to its antiseptic and antibacterial properties that fight pimples and breakouts to provide a youthful glow to your skin. It also reduces the oil secretion by the sebaceous glands^[8].

Biological name- *Curcuma longa*.

Biological source-The rhizomes of the plant are the biological source of turmeric.

Family- Zingiberaceae.

Chemical constituents- curcumin, curcuminoids, carbohydrates, proteins, fats, minerals, and vitamins.

Uses

- Luminous skin. Increases healing.
- Reduces the appearance of acne scars. Could cure scabies.
- Antibacterial, antifungal, also adds glow to the skin^[9,10].

2. MULTANI MITTI



Multani Mitti is known as fuller earth widely used substance as a home remedy in any Asian countries for various purpose like it is used as a skin cleansing agent and cleansing for hair, also used to give smoothness of hair. In modern era it is used as bleaching agent and as dust absorbent. Multani mitti helps to skin by different behavior like it removing the blackheads and whiteheads of the skin, effective against sun rays to prevent skin, usable for improving blood circulation, remove complexion and for skin glowing. Fuller earth contain health beneficial nutrients mainly rich in magnesium chloride^[11,12]. Multani mitti is clay made up of primarily Aluminium Silicate with trace amounts of other impurities. The composition varies according to the region from where it is mined. This clay consisting of SiO₂- 47%, Al₂O₃ – 23.3%, Fe₂O₃ – 6.95%, CaO – 2.9%, MgO traces. Multani mitti is non-plastic clay that contains enough water^[13].

3. SANDALWOOD POWDER



Common name- Sandal wood

Scientific name- santalum album

Family-Santalum

Catogary- Anti acne

Sandalwood Has An Anti-Tanning And Anti-Aging Property. It Also Helps Skin In Many Ways Like Toning Effect, Emollient, Antibacterial Properties, Cooling Astringent Property, Soothing And Healing Property^[14,15].

4. ORANGE PEEL POWDER



Common name- orange peel powder

Scientific name- Citrus sinensis

Family– rutaceae

Category- anti acne 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. orange peel is the outer, slightly bumpy skin of the orange fruit, along with some of the white pith beneath it. orange peel is considered a boon for the skin as it treats blackheads, dead cells, acne, and blemishes. it also brightens your face. you can also add milk or curd to get that extra glow or for removing tan^[16,14,15].

Uses

- Prevents skin damage from free radicals.
- Treats flaky, dry, and irritated skin
- Rehydrates skin that needs it.
- Replenishes moisture. Stops oxidative stress in skin cells for healthy, young skin.
- Supports the renewal of tattered cells.
- As a skin whitening agent, it works.
- Eliminates tan. Full of anti-aging qualities^[6].

5. NEEM POWDER



It is widely used to brighten skin colour, reduce fine lines, reduce redness, and reduce acne and blackouts. Neem Oil is also antiaging. The antioxidants in neem oil reduce the production of melanin in the skin and reduce the signs of premature aging. It also helps reduce skin aging and hyperpigmentation^[17,18].

Biological name- *Azadirachata indica*.

Biological source- Almost all part of plant *Azadirachata indica*.

Family- Meliaceae, the mahogany family.

Chemical constituents- Azadirachtin, salannin, nimbolinin, nimbidol, nimbidin, nimbin, and quercetin.

Uses- Neem has an anti-inflammatory property which helps reduces acne.

- Nourishes Skin.
- Treats Fungal Infections.
- Useful in Detoxification.^[19,20]

6. POMEGRANATE PEEL POWDER



May Fight Acne, Pimples and Rashes Pomegranate peel is said to possess antibacterial, antiviral, and anti-inflammatory properties. It can effectively fight skin problems like acne, pimples, and rashes. The peel is rich in antioxidants. It can also help in removing dead skin cells from your face when it is used in the form of a face pack or facial scrub^[21].

ROSE WATER



It is a natural product that has been used for its skincare and aromatic properties.

Biological name- *Rosa rubiginosa*.

Biological source- - *Rosa damascene*.

Family- Rosaceae.

Chemical constituents- Phenethyl alcohol, Geraniol, Beta-citronellol.^[5]

Skincare Benefits-

- Hydration
- Anti-Inflammatory

Anti-aging: Rose water contains antioxidants that help protect the skin from free radical damage contribute to premature aging^[22].

Formulation of herbal face pack

SL NO	Ingredients	F1	F2	F3
1	Pomegranate peel powder	6g	15g	10g
2	Orange peel powder	8g	7g	4g
3	Turmeric powder	2g	2g	3g
4	Neem powder	10g	6g	15g
5	Multani mitti powder	20g	10g	15g
6	Sandalwood powder	4g	10g	3g
7	Rose water	QS	QS	QS

Table 1: Formulation Table of Herbal Face Pack

Method of preparation

- Different ingredients were prepared with different concentrations of all the ingredients named F1 to F4.
- The concentration of each ingredient is listed.
- Sieve the powders to remove the coarse particles and ensure uniformity
- Blend all the ingredients properly using dry mixture
- The prepared facial pack stored in a well closed container.

Procedure of Face Pack Application:

- Take the prepared face pack powder into a bowl as needed and add rose water to mix.
- Mix well and apply on face skin.
- Close acne and spots again.
- It is kept dry for 20 to 25 minutes and then washed with cold water^[16].



Formulated herbal face pack

EVALUATION PARAMETERS

1 Organoleptic Evaluation:

The organoleptic parameters include their nature like colour, appearance, odour, texture that have been manually tested to determine its visual properties.

2 Physicochemical evaluation:

The physicochemical parameters include their pH value, moisture content, loss on drying.

3 General Powder Properties:

It includes tapped density, bulk density, angle of repose, hausner's ratio, Carr's index.

- **Tapped Density:** Tapped density is an increased bulk density attained after mechanically tapping a container containing the powder sample. After observing the initial powder volume or mass, the measuring cylinder or vessel is mechanically tapped for 1 min and volume or mass readings are taken until little further volume or mass change was observed. It was expressed in grams per cubic centimetre (g/cm³).
- **Bulk Density:** Bulk Density is the ratio between the given mass of a powder and its bulk volume. Required amount of the powder is dried and filled in a 50 ml measuring cylinder up to 50 ml mark. Then the cylinder is dropped onto a hard wood surface from a height of 1 inch at 2 second intervals. The volume of the powder is measured. Then the powder is weighed. This is repeated to get average values. The Bulk Density is calculated by using the below given formula.

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

- **Angle of Repose:** It is defined as the maximum angle possible in between the surface of pile of powder to the horizontal flow. It required amount of dried powder is placed in a cylindrical tube open at both

ends is placed on a horizontal surface. Then the funnel should be raised to form a heap. The height and radius of the heap is noted and recorded. For the above method, the angle of repose (θ) Can be calculated by using the formula.

$$\theta = \tan^{-1} (h / r)$$

Where, θ – Angle of repose,

h – Height of the heap,

r – Radius of the base..

- **Washability:** This is the common method for checking the washability of the formulation. The formulation was applied on the skin and then ease and extent of washing with water were checked manually by using 1 liter of water is used to remove all content of the formulation were applied on the surface.

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, erythema, edema, was checked if any for regular intervals up to 24 hrs and reported^[23,24,25,26].

RESULTS AND DISCUSSION

Three formulations of herbal face pack containing variation in their composition were prepared, evaluated and studied its different properties and characteristics.

A. Organoleptic Properties: Appearance, colour, odour, texture, smoothness was observed as shown in Table 2.



SR NO	Organoleptic Properties	Obseravtion		
		F ₁	F ₂	F ₃
1	Nature	Powder	Powder	Powder
2	Colour	Light green	Greenish yellow	Greenish yellow
3	Odour	Pleasant	Pleasant	Pleasant
4	Texture	Fine, Smooth	Fine, Smooth	Fine, Smooth
5	Smoothness	Smooth	Smooth	Smooth

Table 2: Organoleptic Properties of Herbal Face Pack

B. General Powder Characteristics: Various characteristics of formulations like angle of repose, bulk density, tapped density, Carr's index, Hausner's ratio, wash ability, grittiness and nature of face after wash were performed and results are as shown in Table No.4 which are desirable as cosmetics face packs.

Sr. No.	General Powder Characteristics	Observation		
		F ₁	F ₂	F ₃
1	Bulk density	0.39gm/ml	0.385gm/ml	0.375gm/ml
2	Tapped density	0.42gm/ml	0.41gm/ml	0.405gm/ml
3	Angle of repose	30.59 ⁰	30.96 ⁰	30.96 ⁰
6	Washability	Easily Washable	Easily Washable	Easily Washable
7	Grittiness	No	No	No
8	Nature of face after wash	Soft and Clean	Soft and Clean	Soft and Clean

Table 3: General Powder Characteristics of Herbal Face Pack

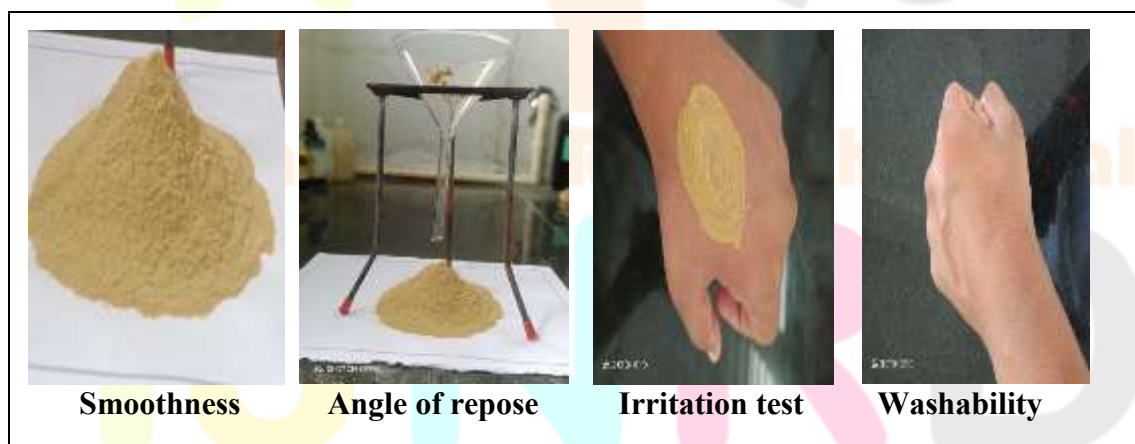
C. Irritancy Test: In all three batches irritancy, erythema, edema was checked. The formulations are safe for the use of the human skin.

Sr no	Parameters	Observation		
		F ₁	F ₂	F ₃
1	Irritant	No	No	No
2	Erythema	No	No	No
3	Edema	No	No	No

Table 4: Irritancy Test of Herbal Face Pack

D. Physicochemical Evaluation: pH, LOD, moisture content of all three batches of formulations were calculated and those calculations are as shown in Table 5.

Sr no	Parameter	Observation		
		F ₁	F ₂	F ₃
1	pH	6	6.2	6
2	Loss on drying	3.2	3	3.3
3	Moisture content	3.55	3.7	3.5

Table 5:**Physicochemical Properties of Herbal Face Pack****Evaluation test for herbal face pack**

CONCLUSION

The formulated herbal face pack, composed of pomegranate peel powder, orange peel powder, neem powder, multani mitti, turmeric, rose water, and sandalwood powder, demonstrates promising potential as a natural and effective skincare formulation. Each ingredient contributes unique therapeutic benefits, including antioxidant, anti-inflammatory, antimicrobial, and skin-brightening properties. The synergistic action of these natural constituents aids in cleansing the skin, reducing acne and pigmentation, regulating sebum production, and enhancing overall skin

texture and appearance without adverse side effects. The absence of synthetic chemicals further reinforces its safety for regular use across various skin types. Future in vitro and in vivo studies, including clinical evaluations, are recommended to validate its efficacy and support its integration into commercial skincare applications.

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Research Through Innovation