

Formulation and Evaluation of Herbal Face Pack

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Abstract:

The aim of this work is to formulate and evaluate an herbal face pack for glowing skin by using natural herbal ingredients. Everybody wants to get a fair and charming skin. Now a day, acne, black heads, pimples are common among persons who suffer from it. According to Ayurveda, skin problems are normally due to impurity in blood. Herbal face packs are used to simulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and remove dirt from skin pores. 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, an attempt has been made in formulating an ideal face pack suitable for all skin types.

The face pack were prepared and evaluated for various parameters like color, appearance, pH, consistency, wash ability, antimicrobial activity. Herbal face packs or masks are used to stimulate blood circulation, rejuvenates them muscle and help to maintain the elasticity of the skin and removes dirt from skin pores. Thus in the present work, we found good properties for the face pack.

Majority of the cosmetic products available in market are of synthetic origin and causes numerous side effects when used for longer period of time. One of the solutions for this problem is use of herbal cosmetics. Herbal cosmetics are considered safe for routine use with minimal side effects.

Key words: Herbal face pack , neem , Turmeric.

I. Introduction:

Since the ancient era, people 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 cosmetic are the products which are used to purify and beautify the skin.

Cosmetics are intended to be applied over human body for cleansing, beautifying, decorating, promoting attractiveness, and/or altering the appearance of skin. Skin cosmetics act on the epidermis or outermost layers of skin without affecting the normal physiological properties of skin. These agents are incorporated on routine basis in various forms or types to intensify the beauty of skin. Generally cosmetics are used to prevent and reduce fine lines, wrinkles, aging, fight acne and to control excessive oil secretion by skin.^{1,2}

Recently consumers focus towards their appearance has been increasing and so the use of cosmetic products has superiorly boosted. However, excessive use of synthetic cosmetic agents is adversely affecting human skin then it's said benefits thus, the demand for plant based herbal cosmetics is increasing due to its ability to cause less or even no harm and enriches the body with nutrients and other useful minerals. The term herbal cosmetics are based on incorporation of natural extracts from plants and animal origin as active ingredient in cosmetic products.

These agents emphasize more on use of plant based green components which also encourages sustainable living. Since ancient era, phytochemicals or phytoconstituents obtained from natural source are commonly used as active constituents in topical preparations. The advantageous properties of these bioactive phytoconstituents used for manufacturing of topical preparations are likely to poses antioxidant,

antiinflammatory, antimicrobial, antiaging, anticarcinogenic, UV protecting activity.³⁻⁷ Dry and damaged skin is one of the most common conditions marked by scaling, itching, and cracking of skin, faced due to excessive water-loss from skin (dehydration), UV rays damage by sun and excessive screen time, hectic and unhealthy lifestyle, climate change, aging, use of medications or other factors. Such type of skin problem can be effectively overcome by using variety of skin care preparation like: moisturizers, creams, lotions, face pack, face scrub, oils, serums etc.⁸⁻¹⁰

Face pack is fine powder or paste with smooth texture, supposed to be applied on facial skin as a thin layer and allowed to dry for few minutes, leaving behind a film which can be easily washed off with water. Routine application of face pack exfoliates skin, removes dry and dead skin, provides soothing, cooling, moisturizing and nourishing effects, and provides skin tightening, strengthening effects, based on type of formulation, also helps to remove dirt and grease from skin without actually altering the normal physiological functioning of skin.^{5,11} All of these effects help to rejuvenate skin which is an ultimate goal for use of cosmetic preparations. Based on requirement, use and type of different skin type's herbal face packs are used. Herbal face pack containing natural active ingredients helps to reduce acne, redness, pimples, wrinkles, and dark circles. Such preparations may also help to increase fairness while promoting skin nourishing and soothing effects.^{5,12,13}

Generally an herbal face pack should provide necessary nutrients and vitamins to skin while penetrating into subcutaneous tissues and outermost layers of skin without actually altering the normal physiology of skin. Based on different skin type, face pack can be formulated with variety of ingredients depending on desired property for example in order to prepare nourishing and moisturizing face pack different oils like and butters like coconut oil, jojoba oil, almond oil, shea butter, cocoa butter etc. can be used.¹⁴ Vitamins like vitamin C, D and E can be used for enriching skin with required vitamins. Additionally substances prove to be beneficial for skin is also used.¹⁵

Nowadays different types of packs are available 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. They are non-toxic, non-allergic and non-habit forming.

Present research work aimed to formulate and evaluate poly herbal face pack to promote nourishment and glow of skin by using natural materials like multani mitti (Fullers Earth), sandalwood, orange peel, rose petal, hibiscus leaves and neem leaves. The face pack can also be used as scrub to remove dried, dead and flecky skin.

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, 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.
 - 6) These face packs masks provides a soothing and relaxing effect on skin.
 - 7) They help to restore the lost shine and glow of skin in short span of time.
 - 8) Regular use of natural face packs brings glow to skin, improve skin texture and complication. 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) Formation of wrinkles, fine lines and aging of skin can be effectively controlled by using natural face packs.
 - 11) Natural face packs made the skin look young and healthy.[16,17,18,19]
- Face packs which are recommended for acne, pimple, black heads usually control the over discharge of sebum from sebaceous glands and remove the harmful bacteria inside acne lesion. The scars and marks of skin can be reduced by adding fine powder of sandal, rose petals and orange lentils with acne face pack.

Precautions To Be Taken While 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) Enlargement of open pores.
- 4) Apply face pack once in a week. Don't try to peel or scratch the dried face pack. This may harm underlying skin.
- 5) 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.
- 6) 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.
- 7) 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.

II. AIM AND OBJECTIVE

Aim: - Preparation of Herbal Face Pack for Glowing Skin.

Objective:-

- As due to increased pollution, allergy, microbe's etc. human skin has become more sensitive 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.
- To formulate and evaluate a cosmetic preparation poly herbal face pack made from herbal ingredients.
- 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.
- To moisturize, cleanse, tone and rejuvenate your skin. Masks are designed for each skin and age type.

III. LITERATURE REVIEW

- **J. Prathyusha, N. S. Yamani (2019) :-** Cosmetics play a vital role for everyone to have a joyful and sanguine life. In present scenario herbal cosmeceuticals have more demand because they have no side effects. People having oily skin suffer from acne, whiteheads and blackheads quite often so scrubbing become more essential. In our present study

we formulated 3 different formulations F1, F2, F3 in gel form for oily skin by using turmeric, aloe vera, cinnamon, potato starch, activated charcoal powder, honey, green tea, lemon juice, onion, walnut shell, coconut oil, beet root juice powder, sodium lauryl sulphate, water and evaluated by using various parameters such as physical appearance, viscosity, pH, Spreadability, irritability, washability, stability studies and got fruitful results with all the tests.

- **Vidya Keshav Kakad (2022)** Many of the marketed products when applied on the skin cause dryness of skin after its long-term use which results less life of skin problems of acne and redness. Solution for this problem is use of scrub which consist all herbal ingredients which increases cleansing, softening, moisturizing, fairness of skin. The use of natural ingredients to fight against acne, wrinkle and also to control secretion of oil is known as natural or herbal cosmetics. Herbal cosmeceuticals usually contain the plant parts which possess antimicrobial, antioxidant and anti-aging properties. Herbal cosmetics are the safest product to use routine with no side effects and cosmaceuticals are the product which influences the biological function of skin.

- **Millikan, Larry E. Cosmetology (2012)** Exfoliation is the process of removal of removing the old, dead skin cells that cling to the skin's outermost surface. The two types of exfoliation are mechanical and chemical. People's opportunities for seeking dermatological assistance for a myriad of conditions, including acne, rosacea, striae, photodamage, and skin cancers have increased in recent years. Skin exfoliation improves the quality and tone of skin by assisting in the removal of dead skin cells from the surface. Herbal Exfoliant produces soft, supple, re-energized skin and prevents premature skin aging.

- **Chanchal D. and Saraf S. (2009) :-** The main objective of present study was to prepare a polyherbal scrub incorporated into gel. The use of natural ingredients to fight against acne, wrinkle and also to control secretion of oil is known as natural or herbal cosmetics. Herbal cosmeceuticals usually contain the plant parts which possess antimicrobial, antioxidant and anti-aging properties. Herbal cosmetics are the safest product to use routine with no side effects and cosmeceuticals are the product which influences the biological function of skin. In this preparation Green apple, cinnamon, Millet, Sandalwood, Neem, Turmeric and honey is used as active ingredients and incorporated into the gel which is prepared with carbopol of different grades. Other ingredients like propylene glycol, Triethanolamine; methyl parahydroxy benzoate was added along with sodium lauryl sulfate into the gel. The prepared gel

was evaluated for various parameters such as appearance, pH, viscosity, Spreadability, washability, irritability and found to be satisfied with all required

characterizations. Thus, the developed formulation can be used as an effective scrub for using it to bear a healthy and glowing skin.

HERBAL INGREDIENTS PROFILE:

A. Orange Peel:



Fig Orange Peel

Family: Rutaceae.

Biological Source: The orange peel is the fresh or dried outer part of the pericarp of *Citrus aurantium* Linn.

Scientific name: *Citrus reticulata*.

Synonym: Sweet orange.

Chemical constitute: Limonene (90%), Citral(4%), Vitamin C, Pectin, Hesperidine, Aurantimaricin, Aurantimaric acid, Octanol (39%), Decanal (42%), Monoterpene (91%) & contains no less than 2.5% volatile oil.

In the orange peel medicinal parts of the *Citrus aurantium* Linn. There are some main ingredients such as linalool, methyl antranilate, Flavonoids. It is obtained from orange peel extract, which is further fried to powder form. It is rich source of vitamin C and other antioxidants. Vitamin C protects skin from free radical damage and oxidative stress due to harmful UV rays. Also poses instant glow property, acts as skin lightening agent, prevent acne, blemishes, wrinkles, and reduces the signs of aging

and sun tan. Other components of orange peel powder are calcium, potassium, and magnesium, orange. It also contains pectin, cellulose, and hemicelluloses which contribute towards skin cells strengthening and helps in skin hydration. 12,16 other benefits of orange peel extract include unclogging pores, removing blackheads and treating acne. It contains citric acid, which exfoliates.

Uses:

- i. Lighten and brighten skin.
- ii. Cells build up around the pores enhances the shadows and make the pores appear larger.
- iii. Hydrates Dehydrates skin.
- iv. Promotes healthy skin glow. [14]
- v. 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.

A. Rose:



Fig Rose petals

Family: Rosaceae

Biological Source: A rose is either a woody perennial flowering plant of the genus *Rosa*.

Scientific name: *Rosa rubiginosa*

Rose petals are rich in vitamin A, C, K which are beneficial for boosting collagen production in human body. Collagen helps keep your skin supple and firmer. Vitamin C present rose also lightens and brightens skin tone, fades scars, minimizes pores, and reduces hyperpigmentation.¹⁹ Rose petals powder shows antibacterial properties. Also provide

a pleasant aroma and aesthetic feel upon application which is preferred in cosmetics preparation.

Uses:-

- i. Rose water is used for the daily skincare.
- ii. It's also works against to the acne and pimples.
- iii. Dried the rose petals in a small quantity of boiling water cool it.
- iv. It uses 2 glasses daily externally as a face wash pack.

B. Santalum Album Linn:



Fig Indian sandalwood oil

Family: Santalaceae.

Synonym: Sandal, Indian sandalwood oil.

Chemicals constitute: 90% Sesquiterpene alcohols of which 50-60% is the tricyclic alpha-santalol, beta santalol comprises 20-25%.

Majorly contains α -santalol and β -santalol. Sandalwood oil as well as powder is enriched antioxidants, antimicrobial activity that helps to maintain the structure of the skin cells intact.¹⁸ It also reduces dryness and replenishes the moisture, while increasing elasticity of skin. Due to the rich antioxidant component, sandalwood can help prevent wrinkles by fighting free radical formation. Also shows skin protective action and protect skin against environmental damage, helps to maintain skin healthy and cool.

Uses:

i. Anti-tanning property. ii. Anti-aging property. iii. Skin softening effect. iv. Pimple and acne treatment.

v. Clear complexion.

vi. Sandalwood has an anti-tanning and anti-aging property.

vii. It also helps in many ways like toning effect, emollient, antibacterial property, cooling astringent property, soothing and healing property. Santalum Album Linn is the one of the most oldest herbal plants. Santalum Album Linn is also known as the Indian sandalwood Plants. This herbs are the major medical values. Sandalwood as an effective herbs to treat acne vulgaris. In the sandalwood powder paste is the one of the most Important and oldest treatment of acne as well as reducing acne scars. In the market, sandalwood oils are also available for the Treatment of acne. Sandalwood herbs show some anti-inflammatory, antiseptic activity.

C. Calcium bentonite:



Fig. Multani Mitti (Calcium bentonite)

Scientific name: Fuller's Earth.

Synonym: Multani mitti.

Chemicals constitute: Silica, iron oxide, lime, magnesia and water.

It contains bentonite, magnesium, sodium, and calcium which are highly absorbent and offer various skin benefits. Helps to improve appearance of skin in different ways by removing blackheads, whiteheads, fading freckles, minimizes pore size, reduces acne and blemishes and gives a glowing effect to a skin. Fuller's earth powder is also beneficial for soothing sunburns, cleansing skin, improving blood circulation. Additionally it acts as an antiinflammatory agent Calcium bentonite helps skin by different ways like diminishing pore sizes, removing blackheads and

whiteheads fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexation, reducing acne and blemishes and gives a glowing effect to a skin as they contain healthy nutrients. Multani mitti is rich in magnesium chloride.

Uses:

- i. Fight acne and pimples.
- ii. Removes excess sebum and oil, deep cleanses skin removing dirt, sweat and impurities.
- iii. Evens out skin tone and brightens complexion.
- iv. Treats tanning and pigmentation.

D. Neem:



Fig NEEM

Family : Meliaceae.

Biological Source : Neem consists of the fresh or dried leaves and seed of *Azadirachta indica* Juss (*Melia Indica* or *M. azadirachta* Linn). The bark, leaves, and seeds are used for medicinal properties.

Scientific name: *Melia Indica* or *M. azadirachta* Linn

Neem is anti-inflammatory, antiseptic and highly beneficial for oily and acne prone skin. An anti-acne effect is due to antimicrobial, anti-inflammatory and antioxidant activities of different chemical constituents. One of the most common benefits of neem for skin is that it treats acne.

This plant is enriched with antibacterial properties that fight any kind of breakouts and also soothe itchy and irritated skin. For people with acne-prone skin, this herb will come in handy.

Apart from this, another superb benefit of neem for the face is that it can efficiently get rid of blackheads and whiteheads when used regularly. It shrinks large pores and works as an exfoliating agent to pull out impurities and tighten pores. This works wonders in reducing blackheads and whiteheads

Method Of Preparation

Equipments :-

- a) Mortar pestle,
- b) Hot air oven,
- c) Sieve no.100,
- d) Weighing balance,
- e) Spatula

Material:-

Sr . No	Ingredients (In powder form)	Quantity	Scientific Name
1	Orange peel	5 g	Citrus reticulata

2	Neem	5 g	Azadrachta indica
3	Rose petals	QS	Rosa rubiginosa
4	Santalum Album Linn	5 g	Santalum alba
5	Multani mitti	5 g	Calcium Bentonite
6	Rose water	5 g	Rosa Damascena

Table No. 1:- The quantity and compositions

All the powdered ingredients were passed through sieve, with 100 mesh size separately in order to get uniformed sized particles, followed by weighing them accurately. Further all powder ingredients were mixed geometrically to insure uniform and even mixing. Quantity of each ingredient is represented in table 1. The prepared face pack was stored in an airtight container and evaluated by various evaluation parameters.

Formulation Of Herbal Face Pack:

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 Table: 1

Step 2. The herbal drugs such as SantalumAlbumLinn, Orange peel , Neem , were transferred to mortar and pestle and triturated.

Step 3. Herbal drugs are triturated in a separate mortar and pestle to form a uniform fine mixture.



Fig Triturated in a separate mortar and pestle

Step 4. Previously prepared mixture of herbal powders was transferred to the mixture of fine powders and triturated to obtain uniform drug powder of face pack.

Step 5. The powders were passed through sieve no #100



Fig sieve no #100

Step 6. The prepared face pack powder was packed into a self-sealable polyethylene bag labelled and used for further studies.



Fig prepared face pack powder was packed into a self-sealable

Procedure Of Face Pack Application:-

Take prepared face pack powder in a bowl as per the requirement and add rose water. Mix well to form a paste with optimum thickness. It should be applied evenly on the face with the help of a brush. Cover the acne and blemishes spots. Keep as it is for complete dryness for 20-25 minutes. Then it should be washed with cold water.

Method Of Evaluation :

Prepared face pack was evaluated using following parameters to ensure supremacy of prepared face pack:

A. Organoleptic Evaluation:-

The prepared face pack was evaluated for various organoleptic parameters such as; color, odor, appearance, texture and consistency. Color, odor and texture were evaluated visually by touch and sensation respectively.

B. Rheological Evaluation :-

It involved evaluation of powder characteristics. The sample was subjected for evaluation by various physical parameters like angle of repose, bulk density, tapped density and hausner's ratio. ^{5,12}

a) **Angle of Repose:** The required amount of sample was allowed to drop down from the funnel mounted at the height of 6 cm, the height and radius of the heap was recorded for further calculations. Angle of repose (θ) can be calculated by using following formula:

$$\text{Angle of repose } (\theta) = \tan$$

Where, θ - Angle of repose h - Height of the heap r - Radius of the base

b) **Bulk Density:** It is calculated by the ratio of given mass of powder and its bulk volume. Determined by transferring 25 gm of accurately weighed amount of powder sample to the graduated cylinder.

$$\text{Bulk density}(\rho_b) = \frac{M}{V}$$

Where,

ρ_b - Bulk density
M - Weight of powder
V - Volume of powder

c) **Tapped density:** It is measured by transferring a known quantity (10 gm) of powder sample into a graduated cylinder. The initial volume of sample in measuring cylinder was recorded and it was placed on tapped density determining apparatus to give subsequent tapping to the measuring cylinder containing sample continuously for a period of 10-15 min. Tapped density was determined as ratio of mass

of powder and tapped volume which is calculated by following formula:

$$\text{Tapped density } (\rho_t) = \frac{M}{V_t}$$

Where,

ρ_t - Tapped density M - Weight of powder
 V_t - Minimum volume occupy by tapping

d) **Housner's ratio:** The flowability of powders can be determined by housners ratio. It basically the ratio of tapped density to the bulk density of the powder.

e) **Percent Compressibility:** Also known as Carr's index is also used for measuring the powder flow property. It is directly related to the relative flow rate of cohesiveness and particle size. Following equation is used to determine percentage compressibility index: $\rho_t - \rho_b$

$$\% \text{ compressibility} = \frac{\rho_t - \rho_b}{\rho_b} \times 100$$

Where,

ρ_t - Tapped density
 ρ_b - Bulk density

f) **Particle size:** Particle size was performed by microscopic method as per standard procedure. Particle size analysis is an important parameter, which directly affect various properties of powder namely; spreadability, grittiness, etc. ¹²

C. Physicochemical Evaluation

Physicochemical evaluation included parameters like moisture content, pH and ash values.

a) **pH:** The pH of the preparation was determined by using digital pH meter. The pH meter was initially calibrated at different pH using suitable buffer solution. A 10 % (w/v) dispersion of the preparation was prepared in distill water and pH was determined directly without any further dilutions. ⁵

b) **Moisture content:** For plant based products moisture content and loss on drying (LOD) are important parameters. Insufficient drying of these agents may lead to enzymatic degradation of active principles. Moisture content of the preparation was determined by LOD method. 3 gm of sample was weighed accurately and placed in previously weighed petri plate (W_1). Weight of petri dish containing sample was recorded (W_2). Petri dish was placed in hot air oven at 100-108° C until constant weight of sample was obtained. ¹²

c) **Ash value:** Ash value is generally the residues remaining after complete incineration of the powdered sample. It is used identity or purity of the

drug. Principally a very high ash value is representative of adulteration, contamination, substitution during preparation of the product. Ash values can be determined as follows:^{5,12,23}

i. **Total Ash value:** Total ash value is used for determining low grade, exhausted products and also important for identifying excess of sandy, earthy matter with drug. About 2-4 gm the powdered sample was placed in a previously ignited and tarred crucible. The material was evenly spread on the crucible and ignited by gradually increasing the heat until it a white powder i.e. free from carbon was obtained. Followed by cooling the sample in desiccator and weight of sample was recorded. Percentage total ash was calculated with reference to the air-dried sample.

ii. **Acid insoluble Ash value:** It is used to determine the earthy matter. Add 25 ml of hydrochloric acid to the crucible containing total ash and covered it with watch glass. The mixture was boiled gently for 5 minutes. Further watch glass was rinsed with 5 ml of hot water and added into the crucible. The insoluble matter was collected on an ash-less filter paper and washed with hot water until it became neutral. The filter paper containing the insoluble matter was transferred to the original crucible, dried on a hot plate and ignited to constant weight and subjected for cooling in desiccator for 30 minutes followed by weighing the sample. Percentage of acid insoluble ash was calculated in reference to air-dried sample.

iii. **Water soluble ash value:** It is the difference in weight between total ash and residue after treatment of total ash with water. It is used to determine whether the material is exhausted by water or not. To the crucible containing total ash, 25 ml water was added and boiled for 5 minutes. The insoluble matter was collected on an ash-less filter paper. Followed by washing with hot water and subjected for ignition for 15 minutes at temperature not exceeding 450° C. the sample was cooled,

weighed and percentage of water soluble ash was calculated in reference to air dried sample.

D. IRRITANCY TEST:

The prepared face pack was applied to the previously marked area of a 1 square cm was marked on the left-hand dorsal surface and time was recorded. Skin was then observed for irritancy, erythema and edema (if any), for regular intervals up to 24 hrs. ⁵

E. WASHABILITY:

Formulation was evaluated for its ability to get washed off. Face pack was applied on the skin and then ease and extent of washing with normal tap water were checked manually.⁵

F. Microbial assay: The antibacterial activities of all four formulation were daetermined by modified agar well diffusion method. In this method, nutrient agar plates were seeded with 0.2 ml of 24 hrs broth culture of Escherichia coli and Staphylococcus aureus. The agar plates were allowed to solidify. The plates were incubated at 37 degree C for 24 hrs. The antibacterial activities were evaluated by measuring the zones of inhibition.

IV. RESULT AND DISCUSSION:

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

Physical parameters:- The different formulation of face pack was prepared and evaluated for physical parameters showed in the Table 2. The flow property parameter showed free flowing properties. The ash content and moisture content was within limit (Table 3).

A. Organoleptic evaluation-

Herbal face pack was evaluated for organoleptic parameters showed in the Table 2. The colour of prepared formulation was brown. The odour of prepared formulation was pleasant and good acceptable which is desirable to cosmetic formulations.

Sr .No	Parameters	Observations
1	Colour	Brown
2	Odour	Pleasant
3	Appearance	Smooth
4	Texture	Fine
5	Smoothness	Smooth

Table 2: Organoleptic Evaluation

B. Rheological Evaluation

Herbal face pack was evaluated for powder property. showed in Table 3. Rheological findings justified the flow properties of herbal face pack. It was found to be free flowing and non- sticky in nature

Sr No	Parameters	Observations
1	Bulk Density	0.34g/ml
2	Tapped Density	0.42 g/ml
3	Angle of repose	21.3
4	Hausners Ratio	1.36
5	Carrs index	17.8%
6	Particle size	55.1

Table 3: Rheological Evaluation

Observation: Rheological findings justified the flow properties of the face pack as it was found to be free flowing and nonsticky in nature. The results proved that the formulation was stable in all aspects.

C. Physiochemical evaluation:

Herbal face pack was evaluated for physiochemical parameters showed in Table 4. The pH of the formulation was found to be free flowing and non-sticky agent .The moisture content was within limit. The aqueous extract of the herbal face pack was evaluated for the presence of different phytoconstituents as per the standard procedures.

Sr . NO	Parameters	Observations
1	PH	6
2	Moisture content	12%
3	Water soluble extractive value	15%
4	Alcohol soluble extractive value	14%
5	Total ash value	2.069%
6	Acid insoluble ash value	0.891%

Table 4: Physiochemical evaluation

Observation: Moisture content value clearly indicated that the formulation was hygroscopic in nature. Extractive values and ash values were found within the limits. pH was found neutral to suit the requirements of all skin types.

D. Irritancy test-

The prepared herbal face was subjected for irritancy test and the results are showed in Table 5. The herbal face pack formulation doesn't showed any sigh of irritation, redness and swelling during irritancy studies.

Sr.No	Parameters	Observations
1	Irritation	No
2	Redness	No
3	Swelling	No
4	Photo irritation	No irritation, no redness, no swelling

Table 5: Irritancy test

Observation: Irritancy test showed negative results for irritancy, redness, swelling and photo irritancy, as the herbals in their natural form without addition of chemicals were found to be compatible with the skin proteins.

E. Stability studies:

The prepared herbal face pack was subjected for stability studies and the results are showed in Table 6. No change in colour, odour, texture, smoothness and pH was observed.

Sr No	Parameters	Room temperature	40°
1	Colour	No change	No chnage
2	Odour	No change	No chnage
3	Texture	Fine	Fine
4	Smoothness	Smooth	Smooth
5	PH	6	6

Table 6: Stability testing

Observation: Stability tests performed at different temperatures over a period of one month revealed the inert nature of the face pack in the terms of color, odor, appearance, texture and pH.

V. DISCUSSION

The results obtained from various evaluations properties indicated that the prepared face pack was smooth and fine in texture with pale yellow color and had pleasant smell. Flow properties indicated good flowability of the powders. Irritancy test did not showed any signs of redness, rashes, and swelling. While the pH of the formulation was 6. Which is close to skin pH, indicating that the face pack is suitable for application on skin. Formulation can be easily washed off from skin with no signs of stains on skin.

VI. Conclusion:

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 stick in nature. Formulation was stable on all aspects, with no Irritancy. Stability tests revealed the inert nature of the pack. 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 used to stimulate blood circulation, rejuvenate the muscles and help to maintain the elasticity of the skin and emove 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.

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