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Formulation and Development of Natural Face Pack by Using Orange Lentils

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ABSTRACT

Now a days accelerated ageing, atopic dermatitis, acne, and other skin-related issues have made human skin more intelligent. These issues are mostly brought on by increased pollution, allergies, microorganisms, etc. A major issue that affects many people is dull skin and acne. The idea that natural medicines are safer and have fewer negative effects than synthetic ones makes them more acceptable.

The purpose of this work is to create and assess a face pack for dull skin and acne using natural herbal ingredients: orange lentil powder, rose petal powder, sandalwood powder, fuller's earth, aloe-vera powder, and turmeric powder were purchased from a local store. This research paper reports that the substance has good anti-inflammatory, anti-oxidant, and moisturizing properties.

The face pack was developed and evaluated for a number of factors, including color, look, pH, moisture content, wash ability, ash value, and irritancy test, among others. Dead skin cells are removed with herbal face packs, resulting in glowing skin. Additionally, it removes debris and germs that cause breakouts and pimples. After continuous usage, the orange lentil, an active medicinal component, effectively removes blackheads, pigmentation, and acne scars. It also stimulates blood circulation, revitalizes the muscles, and helps to preserve the flexibility of the skin. Thus, using substances that are readily available, we created a natural face pack in the present work. We discovered favorable qualities for the face pack during evaluation. Results of the face pack having enough potential to give efficient glowing effect on skin.

Keywords: Herbal, Face pack, Orange lentils, rose petal powder.

INTRODUCTION

People have known how to employ programs since ancient times to provide their basic needs for healthy, attractive skin. Cosmetics are items that are used to enhance, clean, and beautify one's appearance.[1]

Cosmetics are readily available goods that are applied to the skin to enhance its appearance by washing, beautifying, and encouraging attractiveness. Different herbs have been utilised for managing, cleaning, and adorning them since ancient times. The largest portion of the body that reveals someone's health is their face skin. [2]

Face pack is the smooth powder which is used for facial application. These treatments are applied to the face as a paste or liquid and then allowed to dry and harden into a film, which has the effect of tightening, nourishing, and cleaning the skin. To allow all the water to evaporate, they are typically kept on the skin for 10 to 25 minutes. After that time, the resulting film compresses, hardens, and may be readily removed. When a face pack is applied, the warming and tightening effects stimulate the appearance of a revitalised face. When the face pack is eventually removed, the skin debris and deposited dirt are also eliminated. [3]

Cosmetics are products that are used to clean, beautify, enhance attractiveness, or change someone's appearance. The natural face pack includes some vitamins that are crucial for skin health and radiance. Herbal face packs work by increasing blood flow in the skin's veins, but their effects are typically transient; therefore, for consistent radiance, they should be used two to three times per week. [4]

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.[5]
- 4) The scars and marks of skin can be reduced by adding fine powder of sandal and orange lentils with acne face pack.[6]
- 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.
- 9) The harmful effects of pollution and harsh climates can be effectively combated with judicious use of face packs.[7]
- 10) They help to prevent premature aging of skin.
- 11) Formation of wrinkles, fine lines and aging of skin can be effectively controlled by using natural face packs.
- 12) Natural face packs made the skin look young and healthy.[8]

The split red lentils can work magic on your skin and help you overcome several skin issues. You can consume it regularly for an internal cleanse, or apply it topically to address external skin issues. However, masoor dal face packs are the best ways to pamper your skin. There are several masoor dal benefits for skin, and it is only a matter of finding the right face pack that can help you achieve your skincare goals.

Remember, your skin is your natural barrier, so its health depends on what you feed it. Hence, when using masoor dal, choose organic. Organic red lentils are high on taste and nutrition and do not contain any chemicals or toxins. So make a wise choice.

Masoor Dal Benefits for Skin

Here are a few points on how masoor dal face pack benefits your skin:

- Masoor dal is packed with antioxidants. Thus, it can effectively reduce cell damage caused by free radicals.
- Due to these antioxidants, your skin can now fight signs of ageing, such as fine lines, and wrinkles. Hence, plump and youthful skin is always guaranteed.
- The nutritional content of masoor dal gives natural immunity a boost and impart anti-ageing qualities to the face pack.
- It helps with skin lightening and evens out skin complexion. Some face packs can even help you remove tans and dark spots.
- The B vitamins boost the production of red blood cells, which increases the volume of oxygen delivered to your cells. As a result, you will have soft and glowing skin.[9]

OBJECTIVES

- Helping to reduce signs of aging.
- Main purpose of herbal face packs are to remove dark circles, pimples, scars.
- The benefits of herbal based cosmetics are their nontoxic in nature.
- The face pack supplies vital nourishment to the skin.

LITERATURE REVIEW

- **Somwanshi SB et al. in 2017** is work is to formulate and evaluate a cosmetic herbal face pack for glowing skin by using natural ingredients. With the varying concentrations, four different formulations containing ingredients such as multani mitti, turmeric, aloe vera, sandal wood, orange peel, neem and nutmeg; were prepared named as F1 to F4. All prepared formulations were evaluated by different parameters like organoleptic properties and physico-chemical parameters and stability along with irritancy test and microbial load. Among all formulation, F2 was found to be good in physical parameters, free from skin irritation and maintained its consistency even after stability storage conditions and also having microbiological stability.
- **Telenge-patil PV et al. 2023** this work is to formulate and evaluate a herbal face pack for acne and dull skin from herbal ingredients: orange peel, sandalwood, multani mitti, aloe Vera, turmeric were collected from local market. The ingredient have been reported in this research paper having good anti – inflammatory , anti – oxidants and anti – microbial activity . All the constituents are dried powdered and passed through sieve no.100. 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.

- **Neware PR et al. 2022** this work is to formulate and evaluate a herbal face pack for acne and dull skin from herbal ingredients:- Multani mitti, orange peel, sandalwood, shalmali, neem, turmeric, masoor dal, tomato, rice and sesame seed were collected from local market. The ingredients have been reported in this research paper having good anti-inflammatory, anti-oxidants and antimicrobial activity. All the constituents are dried, powdered and passed through sieve no 10. The face pack were prepared and evaluated for various parameters like colour, appearance, consistency, washability, pH, Bulk density, tapped density, total ash, acid insoluble ash, partial size and antimicrobial activity. Thus in present work, we found good properties of face pack.
- **Kumar R et al. 2021** work focused on preparation of powder based herbal face pack using natural ingredient like orange peel, neem, tulsi, sandalwood, rose oil, etc. Orange peel was used as core ingredient for its ability to reduce acne, wrinkle and also to control excessive secretion of oil is known as natural or herbal cosmetics. Formulation was evaluated for its appearance, spreadability, smoothness, irritability, pH etc. from the results obtained from evaluation parameters, it can be concluded that the prepared face pack can be safely used.
- **Shimpi AA et al. 2022** The purpose of this work is to create and test an herbal face mask for shiny skin using natural ingredients. The Natural Face Pack contains some of the vitamins needed to keep our skin healthy and radiant. The modified structure was tested with different parameters such as organoleptic structures and physico-chemical parameters as well as stability and sensitivity testing and microbial load. The correction was found to be good for physical parameters, no skin irritation and maintained its consistency even after conditions to maintain microbiological stability and stability. Ayurvedic facial pockets help keep wrinkles, acne, acne and dark circles. They also make the skin smoother and smoother. Such ingredients also appear to be beneficial in many ways to our bodies. The natural facial pockets are a little more complex. They help us to take care of the skin and show its fitness through the circulation of blood in the facial veins.

MATERIALS AND METHOD

All the natural materials used in the present study i.e. orange lentils, rose petal, multani mitti, turmeric, aloe-vera, sandalwood were purchased from local market in a form of dried powder from Dagadutaili store, Ravivar Karanja, Nashik.

Orange Lentils :

Family – Fabaceae

Genus – Lens

Uses – A great and natural exfoliators , masoor dal remove dead skin cells resulting in glowing skin. it also scrubs off dirt , germs that result in pimples and breakouts. The lentil also acts as a great cleanser and gets rid of blackheads, pigmentation and acne spots after regular use.[10]

Rose petal powder :

Family – Rosaceae

Genus – Rosa

Uses – The powder of roses helps to soothe the redness on skin and purpose of natural moisturizer.[11]

Fullers Earth :

Uses – Its ability to absorb oil and other impurities , clogged pores and improved skin tone and complexion and soften the skin.[12]

Sandalwood powder :

Family – santalaceae

Genus – santalum

Uses – powder able to sooth inflammatory conditions like eczema , dermatitis and psoriasis , as well as calm irritated skin and flatten breakouts.[13]

Turmeric :

Family – Zingiberaceae

Genus – curcuma L.

Uses – curcuma can help improve the appearance of skin tone irregularities, like blotchiness, redness, and unevenness.[14]

Aloe Vera powder :

Family – Asphodelaceae

Genus – Aloe

Uses – It has cooling properties and moisturizer skin. Boosts the healing of wounds.[15]

EQUIPMENT

- **Mortar pestal**
- **Blender**
- **Sieve Shaker**
- **Weighing balance**

Motar pestal :

A set of two basic tools called a mortar and pestle has been used since the Stone Age to prepare materials and substances by grinding them into a fine paste or powder. utilised in formulas.

Blender :

To create a homogeneous solid-solid admixture, use a blender. A frequent process step in the creation of goods is mixing. Additionally practical for use with a herbal face pack is this outfit.

Sieve shaker :

Sieve shakers are devices designed to encourage particle movement through a stack of sieves, allowing for precise particle separation. According to their size, the particles are retained on the various sieves as they separate, giving information about the typical particle size of your sample. [16]

Weighing balance :

An instrument used to calculate an object's weight or mass is a weighing balance. It is a necessary tool in laboratories, commercial kitchens, and pharmacies and is offered in a wide range with numerous weighing capacities.

Method of preparation:

All of the herbal ingredients are in dry form and were all put through a size reduction mill to make fine powder. Using a digital balance, each herbal powder ingredient needed to prepare a fruit mask was precisely weighed. In the Composition of herbal face pack, the quantity and composition are listed.

- **Mixing:** Using a mixer, all of these fine ingredients were thoroughly combined to create a fine powder.
- **Sieving:** To obtain an adequate amount of fine powder, this fine powder was then run through sieve number 100.
- **Collection & Storing:** The powder mixture was collected, stored in a suitable plastic container, and used for evaluation parameters. [17]

Procedure of face pack application:

- In the first step take the prepared face pack powder in a bowl as per the requirement and add rose water to mix. In the
- Apply the mixture evenly to the facial skin in the second step. Include coverage for acne and blemishes. Keep the pack on your face for 10 to 20 minutes to let it completely dry.
- The third step is to use cold water to wash your face. [18]

Table no. 1: Equipment

Sr.no.	Equipment
1.	Mortar pestle
2.	Blender
3.	Sieve Shaker
4.	Weighing balance

Table no. 2: Materials

Sr.no.	Ingredients	Quantity
1.	Orange Lentils	4.3g
2.	Rose petal powder	1.2g

3.	Fullers Earth	2.0g
4.	Sandalwood powder	1.8g
5.	Turmeric	0.2g
6.	Aloe Vera powder	0.5g

FORMULA

Table no. 2: Formula

Sr. no.	Ingredient	Quantity Given (100 g)	Quantity taken (10 g)	Uses
1.	Orange Lentils	43g	4.3g	A great and natural exfoliators , masoor dal remove dead skin cells resulting in glowing skin. it also scrubs off dirt , germs that result in pimples and breakouts. The lentil also acts as a great cleanser and gets rid of blackheads, pigmentation and acne spots after regular use.
2.	Rose petal powder	12g	1.2g	The powder of roses helps to soothe the redness on skin and purpose of natural moisturizer.
3.	Fullers Earth	20g	2.0g	Its ability to absorb oil and other impurities , clogged pores and improved skin tone and complexion and soften the skin.
4.	Sandalwood powder	18g	1.8g	powder able to sooth inflammatory conditions like eczema, dermatitis and psoriasis , as well as calm irritated skin and flatten breakouts.
5.	Turmeric	2g	0.2g	curcuma can help improve the appearance of skin tone irregularities, like blotchiness, redness, and unevenness.
6.	Aloe Vera powder	5g	0.5g	It has cooling properties and moisturizer skin. Boosts the healing of wounds

FORMULATION

Table no.4: Formulation

Ingredients	F1
Orange Lentils	4.3g
Rose petal powder	1.2g
Fullers Earth	2.0g
Sandalwood powder	1.8g
Turmeric	0.2g
Aloe Vera powder	0.5g

EVALUATION

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

Organoleptic evaluation:

The organoleptic parameters include its nature, colour, odour, feel which were evaluated manually for its physical properties.

Irritancy test:

Mark an area of 1sq.cm on the left hand dorsal surface. A definite quantity of prepared face packs was applied to the specified area and time was noted. Irritancy, Redness, Swelling was checked if any for regular intervals up to 24 hrs and reported.

Determination of moisture content:

Weigh about 1.5gm of the powdered drug into a weighed flat and thin porcelain dish. Dry in the oven at 100 degree C and 105 degree C, until two consecutive weights do not differ by more than 0.5 mg cool in desiccators and weigh. The loss in weight is usually recorded as moisture.

Determination of rheological properties of the prepared pack

Parameters like untapped (Bulk) density, tapped density, angle of repose, Hausner's ratio and Carr's index were observed and calculated for the formulation. Bulk density refers to the adjustment of particles and granules to pack themselves collectively. The Hausner's ratio is calculated as D/D' where D is the tapped density and D' the bulk density, Carr's index helps to measure powder flow from bulk density.

Angle of repose:

It is defined as the maximum angle in between the surface of pile of powder to the horizontal flow. The properties of powder sample is good according to the scale range.

Bulk density flow:

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 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 sec. intervals. The volume of the powder is measured. Then the powder is weighed. This is reported to get average values. The bulk density is calculated by using the below given formula.

Bulk density=Volume/mass.

Tapped density:

Tapped density is an increased bulk density attained after mechanically tapping a container containing the powder volume or mass the measuring cylinder or vessel is mechanically tapped for 1 min and volume or mass reading are taken until little further volume or mass change was observed. It was expressed in g/cm³.

Particle size:

Particle size is a parameter which affect various properties like spread ability, grittiness, etc. Particle size was determined by sieving method. Standard sieves by mechanical shaking for 10 min.

Wash ability:

This is the common method for checking the wash ability of the formulation. The formulation was applied on the skin and then ease and extend of washing with water were checked manually by using 1 litre of water is used to remove all content of the formulations were applied on the surface.

Total Ash value:

Place about 2-4g of the ground air-dried material, accurately weighed, in a previously ignited and tared crucible (usually of platinum or silica). Spread the material in an even layer and ignite it by gradually increasing the heat to 500-600°C until it is white, indicating the absence of carbon. Cool in a desiccator and weigh. If carbon-free ash cannot be obtained in this manner, cool the crucible and moisten the residue with about 2 ml of water or a saturated solution of ammonium nitrate R. Dry on a water-bath, then on a hot-plate and ignite to constant weight. Allow the residue to cool in a suitable desiccator for 30 minutes and then weigh without delay. calculate Ash value using formula as given below

Total ash value = (ash wt.) - (crucible wt.) x 100 / [(crucible and sample wt.) - (crucible wt.)]

Water soluble Ash:

To the crucible containing the total ash, add 25 ml of water and boil for 5 minutes. Collect the insoluble matter in a sintered-glass crucible or on an ashless filter-paper. Wash with hot water and ignite in a crucible for 15 min. at a temperature not exceeding 450 degree C. Subtract the weight of this residue in mg from the weight of total ash. Calculate the content of water-soluble ash in g of air-dried material.

Acid Insoluble Ash:

To the crucible containing the total ash, add 25 ml of hydrochloric acid (~70g/l) TS, cover with a watch-glass and boil gently for 5 min. Rinse the watch-glass with 5 ml of hot water and add this liquid to the crucible. Collect the insoluble matter on an ashless filter-paper and wash with hot water until the filtrate is neutral. Transfer the filter-paper containing the insoluble matter to the original crucible, dry on a hot-plate and ignite to constant weight. Allow the residue to cool in a suitable desiccator for 30 min and then weigh without delay. Calculate the content of acid-insoluble ash in g of air-dried material.[19]

PH:

pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant.

Nature of face after wash:

Nature of face after wash, it feel fresh, clean, and soft it gives even skin tone on skin.

RESULTS & DISCUSSION

The various face pack formulations were created and their physical properties assessed. Free-flowing characteristics were evident in the flow property parameters. Due to variations in the content's composition, formulation colours varied. The formulations were prepared in a good, acceptable order that

is ideal for cosmetic formulations. The formulations had particles that ranged in size from 20 to 30 microns. All formulations had PH values that were close to neutral, or between 6 and 7, as shown. Ash content and moisture content were within acceptable ranges.[20]

Table no.5: Result

Sr.no.	Parameters	Obtained Result	Ideal result
1.	Nature of face after wash	Fresh and soft	Fresh and soft
Organoleptic evaluation			
1.	Nature	Powder	powder
2.	Odour	Pleasant	Pleasant
3.	Colour	Very Light Terracotta	vary
4.	Texture	Fine	Fine
Physical evaluation			
1.	Irritancy	Little bit because presence of turmeric.	No irritancy
2.	Redness	No redness occur.	No redness
3.	Swelling	No swelling occur.	No swelling
Physicochemical evaluation			
1.	Moisture content	0.20 %	<5%
2.	Angle of repose	34.13	Depend on material /vary
3.	Bulk density flow	20g/ml	0.83g/ml
4.	Tapped density	15.5g/ml	0.74g/ml
5.	Particle size	30-35micrometer	25-30micrometer
6.	Wash ability	Easily washable	Easily washable
7.	Total Ash value	17.36 %	10-20g/ml
8.	Water soluble Ash	0.35g	0.1-2g
9.	Acid Insoluble Ash	23.72 %	31.06 %
10.	PH	6.2	5.5-6.5

CONCLUSION & SUMMARY

The idea that natural remedies are safer and have fewer side effects than synthetic ones makes them more acceptable. People today need treatments for a variety of skin issues without side effects. The use of herbal ingredients made it possible to create cosmetics that had no negative side effects. Herbal face packs are regarded as a dependable and effective way to improve skin appearance. The formulation of herbal face packs using readily available ingredients like Multani mitti, Turmeric, Aloe Vera, Sandalwood, Rose Petals, and Orange Lentils is thus a very good attempt in present work. Herbal face packs are used to stimulate blood circulation rejuvenates 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 reduces the allergic reactions and time tested usefulness of may ingredients thus in the present work we found good properties for the face pack and in future further optimization studies are required on this study to find the useful benefits of face packs on human use as cosmetic products.

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