

Research Article

Formulation, Development and Evaluation of Herbal Face Pack for Different Skin Problems

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ABSTRACT

The objective of present work is to formulate and evaluate herbal face pack in order to enhance the aesthetic appeal of skin. Five different batches (formulations) with varying concentrations were prepared and evaluated for its physicochemical, organoleptic, stability, irritancy properties. Required ingredients for formulations like orange peel, masoor dal, aloe-vera powder, neem, turmeric & rice flour were collected from local market, aloe-vera collected and dried under sun for 3 days. Kachnar flowers and petals were collected within SMBT Campus. After drying, all the ingredients were mixed in geometrical proportion. Herbs used in this face pack are rich in minerals and vitamins which are essential for maintaining health, tone, texture of skin, and reduce pigmentation. Use of herbal or natural drugs have been regarded as safe as compare to synthetics which contains many toxic chemicals hazardous for skin (if use for longer period of time). In this study it is concluded that all the batches have shown good results however optimization is still necessary to find suitability of this face pack for human use.

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Introduction:

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. Face powders, compacts, cleansers, creams, sunscreens, face pack, etc. are some of the popular cosmetics used on the skin. The "face pack" is the smooth powder used for facial application. A good face pack should provide the skin with the required nutrients. In order to deliver the required nutrients, it should penetrate subcutaneous tissue. In general, face packs are chemical compound mixtures, while some are derived

from natural sources, many of which are synthetic. The products used extensively worldwide to maintain and enhance general appearance are synthetic face packs. Synthetic face packs alone are not responsible for maintaining our skin's attractive look, as it has a lot of chemicals and toxins that can damage the skin. It therefore requires some natural ingredients to be combined to give it a fresh, healthy and long-lasting effect. Herbs are filled with natural vitamins and nutrients, so something incredible is the culmination of some herbs into a face pack. Face packs are basically additives delivering some additional benefits. Different types of herbal face packs are used for different skin types of skin. Herbal face packs help to reduce wrinkles, pimples, acne, and dark circles. Also increase

the fairness and smoothness of skin.

These packs are available in various types and forms and they are 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., orange peel, masoor dal, aloe-vera powder, neem, turmeric & kachnar.^{[1][2][3]}

Materials and Methods:

All the natural materials used in the present study i.e., Masoor dal, Aloe vera, Neem, Turmeric, Rice flour, Rock salt, Orange peel powder were collected from local market and kachnar flower was collected from SMBT campus. The obtained material was authenticated by Rasshatra Department of SMBT Ayurveda College & Hospital, Dhamangaon, Nashik.

TURMERIC (*Curcuma longa*)- Turmeric is mainly used to rejuvenate the skin. It delays the signs of aging like wrinkles and also possess 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.^{[1][2]}

ALOE VERA (*Aloe barbadensis*)- Aloe vera is a great moisturizer intended for a skin. Aloe vera rejuvenates skin, hydrates this and keeps skin layer looking fresh all the time. Aloe vera has anti-microbial property rendering it ideal to deal with acne and pimples. Aloe vera powder contains several nutrients like glycerine, sodium palmate, sodium carbonate, sodium palm kemelate, sorbitol, etc.

NEEM (*Azadirachta indica*)- 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.

ORANGE PEEL (*Citrus reticulata*) - 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.

MASOOR DAL (*Lens culinaris*)- The exfoliative properties of masoor dal help get rid of acne and blackheads. The bleaching properties of masoor dal make skin lighter and even out tone. It also remove tan lines, blemishes and dark spots. It also reverses sun damage and brightens the skin to give an even complexion.

RICE FLOUR (*Oryza sativa*) – Rice flour, a potent skin clearing agent. It also regulates oil production which helps to keep the pores fresh and unclogged. It reduces dark spots, uneven skin tone and excess sebum. It helps to get smooth, polished, flawless skin. It also provide protection against sun.

KACHNAR (*Bauhinia variegata*)- Kachnar helps in wound-healing by inducing the formation of new skin cells due to its anti-inflammatory and antioxidant properties. It helps to manage skin problems such as acne, pimples due to its Sita (cold) and kashaya (astringent) properties.

ROCK SALT- Rock salt cleanse, strengthen and rejuvenate skin. It prevents oiliness, reduce acne, remove clogged dirt and gives radiant skin. It also reduce the symptoms of eczema and dermatitis and make skin soft and smooth.^{[1][2][3]}

FORMULATION OF HERBAL FACE PACK REPARATION

Five different formulation were prepared with varying concentration of all ingredients named as F1 to F5. Concentration of each ingredient was mentioned in Table 1. The accurate quantity ingredients were weighed and ground into fine powder by using sieve #44. Then all the ingredients were mixed geometrically by serial dilution method for uniform mixing. Then the prepared face pack was packed into a self-sealable polyethylene bag, labelled and used for further studies.

Table 1: Composition of Herbal Face Pack.

Sr. No.	Ingredients Name	F1	F2	F3	F4	F5
1.	Masoor Dal	5	7	6	4	3
2.	Aloe Vera	3.6	1.6	0.6	2.6	1.6
3.	Neem	5	2	3	4	6
4.	Turmeric	2	1.2	2	4	3
5.	Rice Flour	0.6	3	2	1	1.6
6.	Kachnar	1.4	0.8	2	0.6	1.4
7.	Rock Salt	0.4	0.4	0.4	0.4	0.4
8.	Orange peel	2	4	4	3.4	3

PROCEDURE OF FACE PACK APPLICATION

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

METHODS OF EVALUATION

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

Organoleptic Evaluation

The organoleptic parameter include its Appearance, Colour, Odour, Texture & Nature of face pack after wash (Table: 2) which were evaluated manually for its physical properties.

Table: 2 Organoleptic Properties

Sr.No.	Parameter	Observation		
		F1	F2	F3
1	Appearance	Not Fine	Not Fine	Fine
2	Colour	Light brown	Slight brown	Slight brown
3	Odour	Unpleasant	Unpleasant	Pleasant
4	Texture	Fine	Not Fine	Fine
5	Smoothness	Rough	Rough	Smooth

Physical Evaluation

The particle size was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by performing Tapped density, Bulk density, Angle of Repose by funnel method, Hausner's ratio, Carr's Index (Table 3).

Table: 3 Physical Evaluation

Sr. no	Parameters	Observation				
		F1	F2	F3	F4	F5
1	Tapped Density (gm/ml)	0.65±0.03	0.64±0.02	0.66±0.03	0.66±0.03	0.62±0.03
2	Bulk Density (gm/ml)	0.48±0.04	0.48±0.04	0.48±0.04	0.48±0.04	0.48±0.04
3	Angle of repose (°)	19.29±0.11	20.10±0.15	20.80±0.2	19.50±0.2	19.29±0.05
4	Hausner's ratio (%)	1.3±0.1	1.3±0.1	1.3±0.1	1.3±0.1	1.2±0.2
5	Carr's index (%)	26±3.05	25±2.08	27±2	27±3	22±2.08

Physicochemical Evaluation

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

Sr. no	Parameters	Observation				
		F1	F2	F3	F4	F5
1	Ash content	70±0.73	65.7±0.85	75±0.55	80±0.43	88±0.65
2	Loss On Drying	3.33±0.13	3±0.15	4±0.1	3.50±0.01	3.67±0.04
3	pH	7.1±0.13	6.8±0.1	7.3±0.16	7.3±0.1	7.1±0.12

Irritancy Test

Mark an area on hands. Definite quantities of prepared face packs were applied to the specified area and time was noted.

Irritancy, Redness, Swelling was checked for regular intervals up to 24 hrs and reported. The photo-irritation (Presence of sun) was checked regular interval of 15 min

Table: 5 Irritancy Test

Sr. no.	Parameter	Observation				
		F1	F2	F3	F4	F5
1	Irritation	Yes	Yes	Yes	No	No
2	Redness	Yes	Yes	No	No	Yes
3	Swelling	Yes	No	Yes	No	Yes

Stability Studies

Stability testing of prepared formulation was conducted for formulation by storing at different temperatures conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions viz., Room temperature and 40°C and were evaluated for physical parameters like Colour, Odour, Ph, Texture, Smoothness.

Table: 6 Stability Study for F4

Sr. no.	Parameter	Observation		
		Room Temperature	35±0.5	40±0.5
1	Colour	No Change	No Change	No Change
2	Odour	No Change	No Change	No Change
3	pH	6.70±0.11	6.65±0.17	6.72±0.21
4	Texture	Fine	Fine	Fine
5	Smoothness	Smooth	Smooth	Smooth

DISCUSSION AND CONCLUSION

In order to improve blood circulation, rejuvenate the muscle and help preserve the elasticity of the skin and eliminate dirt from the skin pores, natural face packs or masks are use. Natural remedies are more acceptable in the belief that they are safer with side effects than the synthetic ones.

In the world economy, herbal formulations are rapidly in demand. The herbal face pack containing various plant powders is a very successful attempt to create it. 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 pack on human use as cosmetic products.

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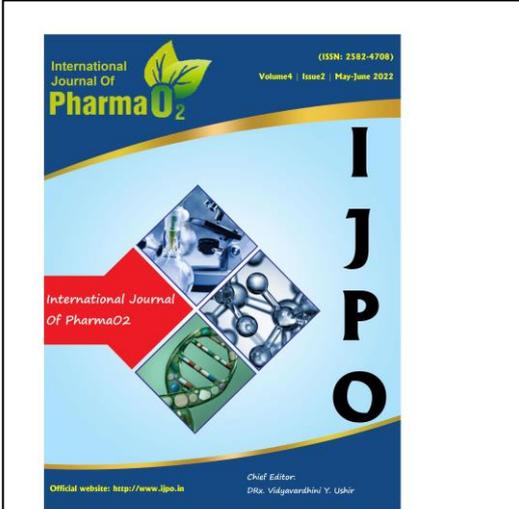
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