



FUTURE JOURNAL OF PHARMACEUTICALS AND HEALTH SCIENCES

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Preparation and Characterization of Natural Face Pack

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Article History:

Received on: 15 Jun 2021

Revised on: 01 Jul 2021

Accepted on: 02 Jul 2021

Keywords:

Herbal Products,
Face Pack,
Cosmetics,
Stability Studies

ABSTRACT

Herbal Products have huge demand from few decades as they yield good results without any side effects and provide a soothing effect for longer period of time. Using natural ingredients in a cosmetic formulation thus provides healthy and glowing skin. Currently, due to increase in pollution rate, skin allergic conditions, microbes and external effects human skin have become sensitive and prone to faster aging. Here we have made an attempt to formulate a pack ideal for all skin types. Thus, in the current work, the face packs that can be easily made with the available ingredients showed all the benefits and further optimization studies are necessary on various parameters to identify benefits on humans. The flow properties of natural herbal face pack show accurate results. All the ingredients were mixed homogenously and were evaluated for parameters like organoleptic properties (Appearance, color, odor, texture & smoothness) particle size ranges from $23.5 \pm 2.15 \mu\text{m}$ to $24.4 \pm 5.14 \mu\text{m}$, Ash content ranges from $86 \pm 0.951 \%$ to $94 \pm 0.34 \%$, pH was ranges from 6.51 ± 0.12 to 6.65 ± 0.16 . Loss on drying ranges from 3.18% to 4.12% . Irritancy tests, rheological features and stability. The obtained results showed that the prepared formulation was stable on all parameters. Irritancy test revealed negative. Stability tests showed the inertness of the formulation.



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eISSN: 2583-116X

pISSN:

DOI: <https://doi.org/10.26452/fjphs.v1i3.223>



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cosmetics are the preparation which represent cosmetics that are with active bio-ingredients (Natural), nutraceuticals and pharmaceuticals that are to be applied on our skin. The outermost layer of skin which is exposed to atmosphere is a horny layer i.e. stratum corneum & is made up of keratinized dead cells. These cells are responsible for maintaining the suppleness of the skin, i.e. maintaining the moisture balance and overall appearance [2].

Herbal Cosmetics are Used in an Effective Manner which are Very Much Beneficial like

1. As they are natural, they does not possess any of the harmful effects on the skin
2. They are relatively safe than marketed ones
3. Easily formulated and evaluated depending on their availability
4. From earlier days results are satisfactory [3].

INTRODUCTION

Herbal cosmetics are also known as natural cosmetics. During the civilization era there were no fairness creams nor the cosmetic surgeries. The objective of this work is preparation and characterization of natural face pack. By varying the concentrations in formulations pertaining the ingredients [1]. Herbal

Advantages of Applying a Face Pack

It nourishes the skin. It helps to reduce, pimple, acne, marks and scars based on the ingredients used. Face packs remove dead cells upon the skin. They provide a relaxing and soothing on skin. Face pack also help to restore the lost shine and glow of skin in a short span of time. They help to prevent premature aging of skin [4]. By using natural face masks regularly they bring glow to skin and also improves skin texture along with complexion.

MATERIALS AND METHODS

Multani Mitti was purchased from Creative Research Labs Pvt. Ltd. Gujarat. Turmeric Mother Herbs (P) Ltd, New Delhi. Milk Powder to be acquired from Dodla dairy parlour, Nellore. Sandalwood was received as freely given sampling from Red Sandalwood, Naidupeta. Organ peel, Neem, Nutmeg was purchased from Health and beauty shop, Karnataka. All abundant chemical as well as chemical agent utilized in this study in with analytical grade.

Methodology

Method of Preparation

Weigh the finely powdered ingredients accurately with the aid of sieves, preferably sieve #120 and uniform mixing was done by using serial dilution method [5]. By using self-sealable bags preferably polythene, the face pack was packed, labeled and evaluated further [Table 1].

How to apply a face pack?

Take a bowl and add prepared face pack powder into it as per the required quantity and also add rose water to it and mix until smooth paste is prepared. Apply it to the face and also to the acne region [Figure 1]. Wait for 20-25min until it becomes dry and finally wash the face with cold water [5].

Evaluation of Face Pack

Organoleptic Evaluation

They include odor, nature, color, feel and consistency were evaluated to identify the properties [6].

Physical Evaluation

The Powder Flow Property of the Natural Herbal face pack as follows

Angle of repose: $\theta = \tan^{-1} (h/r)$

Bulk density \rightarrow Weight of powder/ Bulk volume

Tapped density \rightarrow Weight of powder/ Tapped volume

Carr's Index (I) = $(\text{Tapped Density} - \text{Bulk Density}) / (\text{Tapped Density}) \times 100$

Hausner's ratio \rightarrow Tapped density/ Bulk density

Particle Size

Particle size affects several properties like spreadability, grittiness etc., it is determined by sieving method as per I.P. Standard sieves for 10min by mechanical shaking [7].

Ash Content

Weigh 2-4g of the ground air-dried powder that is previously ignited and tared crucible. Spread the powder evenly and ignite it by increasing the heat to 500-600°C gradually until it is white thus indicating the absence of carbon. Cool in a desiccator and weigh [8].

pH

pH of 1% aqueous solution of the preparation was measured using a calibrated digital pH meter at constant temperature [8].

Loss of drying

Weigh approximately 1.5 gms of the powder into a weighed flat and thin porcelain dish, dry in the oven at 100°C or 105°C and two consecutive weights must not differ more than 0.5 mg. Cool it in a desiccator and weigh [9]. Calculate the loss in weight.

Irritancy test

Irritancy test was conducted in order check whether the prepared formulation showed any irritancy, edema or erythema. This test was repeated at regular intervals by applying on the left-hand dorsal surface for about an area of 1sq.cm approx [10].

Stability studies

Stability testing was done by storing the formulation at temperature conditions for the period of one month [11].

The packed glass vials were evaluated for physical parameters (Color, Odor, pH, Consistency and feel) at different temperature conditions ($35 \pm 0.5^{\circ}\text{C}$ to $40 \pm 0.5^{\circ}\text{C}$).

RESULTS AND DISCUSSION

Evaluation of Face Pack

Following evaluations were performed to confirm the ability and superiority of prepared face pack.

Organoleptic Evaluation

Morphological parameters were evaluated and depicted in Table 2. Colour of formulation was Slight yellow.

The odour of formulations was pleasant and acceptable. Texture and smoothness was also acceptable as per requirement of natural Herbal formulations.

Table 1: Formulation of Natural Herbal Face Pack

S.No.	Ingredients	Scientific name	Quantity(100gms)			
			FP 1	FP 2	FP 3	FP 4
1	Multani Mitti	<i>Calcium bentonite</i>	10	20	25	15
2	Turmeric	<i>Curcuma longa</i>	20	15	20	25
3	Milk Powder	-	15	10	15	15
4	Sandal Wood	<i>Santalum alba</i>	20	15	15	20
5	Orange peel	<i>Citrus reticulata</i>	25	17	6	10
6	Neem	<i>Azadirachta indica</i>	3	18	15	10
7	Nutmeg	<i>Myristica fragrans</i>	7	5	4	5

*FP: Face Pack

Table 2: Organoleptic Properties natural herbal face pack

S. No.	Parameters	Observation			
		FP 1	FP 2	FP 3	FP 4
1	Appearance	Free Flowing powder	Free Flowing powder	Free Flowing powder	Free Flowing powder
2	Color	Slight Yellow	Slight yellow	yellow	Slight Yellow
3	Odor	Mild	Mild	Mild	Mild
4	Texture	Fine	Fine	Fine	Fine
5	Smoothness	Smooth	Smooth	Smooth	Smooth

Table 3: Evaluation of flow properties of natural herbal face pack

S.No.	Parameter	FP 1	FP 2	FP 3	FP 4
1	Tapped density (g/cm ³)	1.298	1.173	1.111	1.152
2	Bulk density (g/cm ³)	1.00	1.00	1.09	1.03
3	Hausner's ratio (H)	1.231	1.123	1.023	1.083
4	Angle of repose (θ)	31.520	30.140	31.356	31.908
5	Carr's index (I)	20.82%	21.21%	21.59%	22.32%

Table 4: Physicochemical Evaluation of natural herbal face pack

Sr. No.	Parameters	Observation			
		FP 1	FP 2	FP 3	FP 4
1	Particle size (μm)	24.4 \pm 5.14	23.5 \pm 2.15	24.2 \pm 3.16	24.4 \pm 5.11
2	Ash content	91 \pm 0.182	86 \pm 0.951	94 \pm 0.345	91 \pm 0.319
3	pH	6.51 \pm 0.12	6.61 \pm 0.26	6.65 \pm 0.16	6.61 \pm 0.11
4	Loss on Drying	4.12	3.18	4.11	3.13

Table 5: Irritancy Test of natural herbal face pack

S. No.	Evaluation	Formulations				Observation
		FP 1	FP 2	FP 3	FP 4	
1	Irritant	Present	Absent	Present	Present	Irritation Absent
2	Erythema	Absent	Absent	Absent	Absent	Irritation Absent
3	Edema	Absent	Absent	Absent	Absent	Irritation Absent

Table 6: Parameters of Stability studies of Formulation F2 of natural herbal face pack

S. No.	Parameters	Observations (Formulations FP 2)		
		Room Temperature	35±0.5°C	40±0.5°C
1	Color	No variation	No variation	No variation
2	Odour	No variation	No variation	Slightly variation
3	pH	6.61 ± 0.26	6.61 ± 0.26	7.01 ± 0.29
4	Texture	Soft and fine	Soft and fine	Soft and fine
5	Smoothness	Very Smooth	Very Smooth	Very Smooth

**Figure 1: Packing of Herbal Face Pack****Powder Flow Property**

The prepared face pack was evaluated for flow properties and are given in the Table 3.

Physico chemical Evaluation

Herbal face pack was prepared and evaluated for physicochemical parameters were showed in the Table 4. The pH of formulation was found close to neutral. The ash content and moisture content were found to be within limit. The particle size of prepared formulations was found in the range of 23.5 ± 2.5 μm.

Irritancy Test

The evaluation report of irritancy test was shown in the Table 5. The formulation showed absence of irritation, redness and swelling. The prepared formulation was safe to use on skin.

Stability Studies

The results of stability were shown in Table 6. No change in color, odour, texture and smoothness was observed at mentioned conditions of stability except pH.

CONCLUSION

In the current scenario, people are in search of cure for numerous skin problems without harmful side effects. Natural/ Herbal ingredients proved itself in

formulating the cosmetics without any side effects to the skin. These face packs are preferred for sustaining and effective way to increase the glow and appearance of skin. In the current work, we have made an attempt to formulate the herbal face pack that contains natural ingredients namely multani mitti, turmeric, milk powder, sandalwood, neem orange peel and nutmeg. The prepared herbal formulation was physico-chemically and microbiologically stable, and also possessed characteristics of a standard formulation for applying on skin.

ACKNOWLEDGEMENT

The authors are thankful to the Secretary & Correspondent (Mr. Madhu Sudhan Reddy Sir) & Principal (Dr. P. Venkatesh Sir) of Jagan's Institute of Pharmaceutical Sciences, Jangalakandriga (V), Muthukur (M) Nellore-524 346, SPSR Nellore (Dist) Andhra Pradesh for providing the necessary facilities to carry out this work.

Conflict of interest

The authors attest that they have no conflict of interest in this study.

Funding support

No financial support for the current study.

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Cite this article: Jyoshna M, Surendra Babu S, Shaik Aliya, Syed Shahbaz Ali, Pradeep Kumar M. Preparation and Characterization of Natural Face Pack. *Future J. Pharm. Health. Sci.* 2021; 1(3): 140-144.



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