



# Formulation and Evaluation of Skin care products

**Ruchika D. Raut<sup>1</sup>, Shraddha Sapale<sup>2</sup>, Pranjal Sambare<sup>2</sup>, Parth  
Prajapati<sup>2</sup>, Ankit Rai<sup>2</sup>, Pawan P. Jadhav<sup>2</sup> Harshada Dhangar<sup>3</sup>**

<sup>1,2</sup> Student of Shivajirao S. Jondhale College of Pharmacy, Asangaon Thane

<sup>3</sup> Assistant Professor of Shivajirao S. Jondhale College Of Pharmacy  
Asangaon Thane

## ABSTRACT:-

Skin reflects origin, lifestyle, age and state of health. Skin colour, tone and evenness, pigmentation, as well as skin surface characteristics are signs of skin's health. The cosmetic and pharmaceutical industry offers a vast armamentarium of skin care products and procedures to clean, soothe, restore, reinforce, protect and to treat our skin and hence to keep it in "good condition". Skin care products are readily available in daily life and they play a major role in health and nursing care. Today, modern skin care includes cleansing, soothing, restoring, reinforcing and protecting. With increasing age, the emphasis on skin care is changing. The importance of soothing, restoring, reinforcing increases and cleansing should be executed with particular care. The character of skin care shifts from more cosmetic objectives smooth, healthy looking skin to more therapeutic and preventive objectives soothing, restoring, reinforcing and protecting stressed skin.

We have developed three step basic skin care regimen Face pack

**Key words :-** Skin care, , facepack ,

# FORMULATION AND EVALUATION OF HERBAL FACE PACK.

## INTRODUCTION :-

Since from ancient period of time, people are aware of the use of plants for the healthy, glowing and beautiful skin. Cosmetics are products used to clean, beautify and promote attractive appearance.

[1] 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.

[2] 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. [3] It consists of materials such as amino acids, lipids and carbohydrates etc. So that a balanced nutrition is required for the skin to keep it clear glossy and healthy.<sup>3</sup> In Ayurveda, the herbal paste is called as “mukha lepa” used for as a facial therapy. This herbal paste smeared on face to treat acne, pimple, scars, marks and pigments.

[4] Face pack is the Fine powder which is used for application on Face. These preparations are applied on the face in the form of liquid or pastes and allowed to dry for giving tightening, and cleansing effect to the skin. [5] They are usually left on the skin for ten to twenty five minutes to allow all the water to evaporate, the resulting film thus contracts and hardens and can easily be removed. The warmth and tightening effect produced by application of face pack produces the stimulating sensation of a rejuvenated face, while the colloidal and adsorption clays used in these preparations remove the dirt and grease from the skin of the face. When the applied face pack is eventually removed skin debris and deposited dirt gets removed with it.

Face packs are basically additives delivering some additional benefits. Different types of herbal face packs are used for different types of skin. Herbal face packs are helps to reduce wrinkles, pimples, acne and dark circles. Also increase the fairness and smoothness of skin. It also helps someone to boost their confidence. Ayurveda is the most useful and

successful means for achieving this purpose. These packs are available in various types and forms and 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., multanimitti, turmeric

## **MATERIALS AND METHODS:-**

All the natural materials used in the present study i.e., multanimitti, turmeric, Aloe vera, sandalwood, orange peel, neem and nutmeg were purchased from local market (Dgadu Teli Chandwadkar, Nashik), in a form of dried powder and were authenticated at Botany department of KTHM College, Nashik.

The details of the plant material used for the formulation of face pack are mentioned below;

### **1) Multani Mitti (Calcium bentonite):-**

Multani mitti helps skin by different ways like diminishing pore sizes, removing blackheads and whiteheads fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes and gives a glowing effect to a skin as they contain healthy nutrients. Multani mitti is rich magnesium chloride.



## **2)Turmeric (Curuma longa)**

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



## **3)Sandal wood (Santalum alba)**

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.





#### **4)Orange peel (Citrus reticulate)**

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.



#### **5)Neem (Azadirachta indica)**

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 anti-oxidant activities of different chemical constituents..



## **6)Nutmeg (Myristica fragrans)**

Nutmeg is widely used for its analgesic, anti-inflammatory, antiseptic and anti-bacterial property<sup>14</sup>. It helps in reducing wrinkles, fine lines and other signs of aging. It also helps in reducing acne scars and to make them less noticeable.



### **METHOD OF PREPARATION:-**

Four different formulations were prepared with varying concentrations of all ingredients named as F1 to F4.

Concentration of each ingredient was mentioned in Table 1. The accurate quantity ingredients were weighed and ground into fine powder by using sieve #120. Then the all ingredients were mixed geometrically by serial dilution method for uniform mixing. Then the prepared face pack was packed into a selfsealable polyethylene bag, labeled and used for further studies.

### **PROCEDURE FOR FACE PACK APPLICATION:-**

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

### **METHODS OF EVALUATION:-**

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

## **Organoleptic evaluation:-**

The organoleptic parameters include its nature, color, odor, feel and consistency which were evaluated manually for its physical properties.

## **Physical Evaluation**

The particle size was tested by microscopy method. The flow property of the dried powder of combined form was evaluated by performing Angle of Repose by funnel method, bulk density and tapped density by Tapping Method.

## **Physicochemical Evaluation**

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

## **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.

## **Stability studies**

Stability testing of prepared formulation was conducted for formulation F2 by storing at different temperature conditions for the period of one month. The packed glass vials of formulation stored at different temperature conditions viz., Room temperature, 35°C and 40°C and were evaluated for physical parameters like Color, Odor, pH, Consistency and feel.

## **Determination of Microbial Load**

The prepared formulation was evaluated for Total Viable Count, presence of gram negative pathogens such as E. coli by lab

**Table:- 1 Formulation of face pack (10g each)**

Sr no	Name of ingredient	Scientific name	F1	F2	F3	F4
1	Multani mitti	Calcium Bentonite	2.5	3.0	3.5	3.5
2	Turmeric	Curuma longa	2.0	2.0	1.0	2.0
3	Sandalwood	Santalum alba	2.5	2.5	2.0	2.5
4	Orange peel	Citrus reticulate	1.0	1.2	1.6	0.5
5	Neem	Azadirachta indica	1.3	0.8	1.5	1.0
6	Nutmeg	Myristica fragrans	0.7	0.5	0.4	0.5

**Table 2 :- Organoleptic properties**

Sr no	parameters	Observations			
		F1	F2	F3	F4
1	Appearance	Powder (Free flowing)	Powder (Free flowing)	Powder (Free flowing)	Powder (Free flowing)
2	Colour	Slight yellow	Slight yellow	Greenish yellow	Slight yellow
3	Odour	Slight	Slight	Slight	Slight
4	Texture	Fine	Fine	Fine	Fine
5	Smoothness	Smooth	Smooth	Smooth	Smooth



**Table3:- Physical parameters and physicochemical evaluation**

Sr no	Parameters	Observations			
		F1	F2	F3	F4
1	Particle size	26.4±5.44	22.5±2.85	24.8±4.36	25.2±5.21
2	Ash content	9.3 ± 0.732	8.7 ± 0.859	9.2 ± 0.556	9.5 ± 0.462
3	pH	7.66 ± 0.13	6.65 ± 0.1	6.79± 0.16	6.88± 0.1
4	Loss on drying	0.33	0.30	0.4	0.36

**Table 4 :- Irritancy test**

Sr no	Parameters	formulation				Observation
		F1	F2	F3	F4	
1	Irritant	+	+	NIL	+	No irritation
2	Erythema	NIL	NIL	NIL	NIL	No irritation
3	Edema	NIL	NIL	NIL	NIL	No irritation

**Table 5 :- Parameters of stability studies of Formulation F3**

Sr no	Parameters	Observation (formulation F3)	
		Room temperature	35±0.5°C
1	Colour	No change	No change
2	Odour	No change	No change
3	pH	6.65±0.17	6.65±0.11
4	Texture	Fine	Fine
5	Smoothness	Smooth	Smooth

**Table 6:- Microbial load of Formulation F3**

Test	Observation
Gram negative pathogens, CFU/g(E. coli)	Absent



**Fig :- ASH VALUE PROCEDURE**



**Fig :- BULK DENSITY**



**Fig :- pH TESTING**

## RESULT AND DISCUSSION :-

### 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 colors of formulations were different due to variation in composition of contents. Formulation F1, F2 and F4 were slightly yellow in color and formulation F3 showed as greenish yellow. The odor of prepared formulations was good acceptable which is desirable as cosmetic formulations. The particle size of formulations was in the range of  $22.5 \pm 2.85 \mu\text{m}$  to  $26.4 \pm 5.44 \mu\text{m}$  (Figure 1). The pH of all formulations lied near to neutral range i.e. in the range of 6 to 7 pH.

(Figure 2). The ash content and moisture content was within limit (Table 3).

### Irritancy test :-

The results of irritancy test were shown in Table 4. The formulations F1, F2 and F4 showed mild irritation because of presence of turmeric powder. The formulations which was prepared by lowering the concentration of turmeric i.e. formulations F3 Showed no redness, edema, Inflammation and irritation during irritancy studies. This formulation is safe to use for skin.

**Stability studies :-** no changes were observed at room temperature and at  $35^\circ\text{C}$  (Figure 3). The odour of formulation was slightly changed after one month of stability studies at  $40^\circ\text{C}$  and there was no change in color and odour at other mentioned conditions of stability which were showed in Table 5.

### Determination of Microbial Load :-

The test for presence of gram negative pathogens such as E. coli, absent per gram showed in Table 6. The Formulation F3 was found to be a good in physical parameters, free from skin irritation and maintained its consistency even after stressed storage conditions. It is suggested that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standard cosmeceuticals formulation for skincare.



## **CONCLUSION :-**

In the present scenario, people need cure for various skin problems without side effects. 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. Thus in the present work, It is a very good attempt to formulate the herbal face pack containing naturally available ingredients like multani mitti, turmeric, sandalwood, orange peel, neem and nutmeg. It is suggested that the prepared formulation was physico-chemically and microbiologically stable, and possessed characteristics of a standard cosmeceuticals formulation for skincare.

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