

## Formulation and evaluation of poly herbal fruit face pack

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### ABSTRACT

The work's main goal is to create and test a poly herbal fruit face pack for cosmetic purposes. Fig, Banana peel, Orange peel, Strawberry were purchased from the local market and dried, powdered, sieved through sieve no 40, mixed geometrically and packed in air tight container for further use. The powders was evaluated and formulate poly herbal fruit face pack. The powders had passable flow property which is suitable for a face mask. Poly herbal face pack are used to stimulate blood circulation, rejuvenates the muscle and help to maintain the elasticity of the skin and remove dirt from skin pores. Poly herbal cosmetics have the advantage of being non-toxic and reducing allergic reactions.

**Keywords:** Fig, Banana peel, orange peel, strawberry, sieved.

### 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 that are used to clean, beautify, and enhance one's look.<sup>[1]</sup> The skin of the face is the largest area of the body and acts as a mirror, reflecting an individual's health. To keep the skin bright, shiny, and healthy, it requires a well-balanced diet rich in amino acids, lipids, and carbs. Women in ancient times were particularly concerned with their appearance and took great care of their skin types.<sup>[2]</sup> 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 cosmetics are cosmetics that are intended to cleanse and beautify the skin. The primary benefit of utilising herbal cosmetics is that they are natural and have no negative effects on the human body. Men's skin is tough, and when they don't take proper care of it, it darkens due to overexposure to the sun, other pollutants, and other factors.<sup>[3]</sup> In this article, we've created a DIY face pack for men and women to naturally whiten, lighten, and brighten their complexion. This face pack has natural skin

lightening property and can be easily prepared at home.<sup>[4]</sup> Face packs made with natural ingredients are high in vitamins that are crucial for skin health and radiance. These compounds have been shown to be advantageous to the skin in a variety of ways. Natural face packs are simple to apply. They improve blood circulation in the veins of the face, giving the skin a more youthful appearance.<sup>[5]</sup> A good herbal face pack should provide essential nutrients to the skin in the form of a free-flowing powder that can be applied to the face for external use. To give the needed nutrients, it should penetrate deep into the subcutaneous tissues. Every type of skin is specific for the requirement of skin pack. Different types of packs are now available for oily, normal, and dry skin types. Face packs are used to improve the skin's fairness and smoothness. It helps to get rid of wrinkles, pimples, acne, and dark bags under the eyes.<sup>[6]</sup> Face packs which are recommended for oily skin prone to acne, blackheads, usually control the rate of sebum secretion from the sebaceous glands and battle the microorganisms that cause acne. Fine powders of sandalwood, rose petals, and dried orange peels can be used to eliminate skin's remaining markings. Herbal face packs are nowadays being used on a large scale, due to the various benefits of them over chemical based packs. They're non-toxic, non-allergic, and don't build a habit. They are completely natural and have a longer shelf life. There are no preservatives in them. They're simple to make and store for a longer period of time. The current study focuses on the formulation and characterisation of a cosmetic herbal face pack manufactured using natural ingredients.

### II. MATERIALS AND METHOD

All of the natural materials that were employed in this investigation, i.e. Fig, Banana peel, orange peel and Strawberry were purchased from local market. The following are the specifics of the plant material utilised in the formulation of the face pack:

### 1) Fig

The fig is the edible fruit of *Ficus carica*, a species of small tree in the flowering plant family Moraceae. Native to the Mediterranean and western Asia, it has been cultivated since ancient times and is now widely grown throughout the world, both for its fruit and as an ornamental plant.<sup>[7][8]</sup> *Ficus carica* is the type species of the genus *Ficus*, containing over 800 tropical and subtropical plant. [9][10]



The nutrients and vitamins found in figs help balance sebum production, skin melanin, prevent epidermal water loss and more. This increase hydration and keeps the skin free from wrinkles and premature aging. By stimulating collagen formation when applied topically, figs can help to minimise the look of wrinkles.

#### Benefits of fig

- 1) Figs are a high-quality source of vitamin C.
- 2) By stimulating collagen formation when applied topically, figs can help to minimise the look of wrinkles.
- 3) Anti-wart qualities are discovered in the latex of fig trees.
- 4) Another benefit of eating figs is that they contain a high amount of vitamin C. It aids in the lightening of sun spots, scars, and hyperpigmentation, resulting in skin that is bright and even-toned.

#### Scientific classification of fig

Kingdom: Plantae  
Clade: Tracheophytes  
Clade: Angiosperms  
Clade: Eudicots  
Clade: Rosids  
Order: Rosales  
Family: Moraceae  
Genus: *Ficus*  
Subgenus: *F. subg. Ficus*

Species: *F. carica*

#### Synonymy

*Caprificus insectifera* Gasp.  
*Caprificus leucocarpa* Gasp.  
*Caprificus oblongata* Gasp.  
*Caprificus pedunculata* (Miq.) Gasp.  
*Caprificus rugosa* (Miq.) Gasp.  
*Caprificus sphaerocarpa* Gasp.  
*Ficus albescens* Miq.  
*Ficus burdigalensis* Poit. & Turpin

### 2) Banana peel

*Musa paradisiaca* belonging to the family Musaceae is the most available fruit used externally and internally it helps to smoothen the skin, lighten the skin. It has the property of Exfoliation and is used as Sun Burn Aid. Also this herb perform anti bacterial, Anti-Acne and aging properties. *Musa* is one of two or three genera that belong to the Musaceae family. The genus includes flowering plants producing edible bananas and plantains. *Musa* is a genus of plants with around 70 species and a wide range of uses.



#### Benefits of banana

- 1) Plagiarized Bananas have a good amount of vitamin C.
- 2) Manganese in bananas is good for your skin potassium in banana is good for your heart health and blood pressure.
- 3) Bananas can aid digestion and help beat gastrointestinal issues.

#### Scientific classification of banana

Kingdom: Plantae  
(unranked): Angiosperms  
(unranked): Monocots (unranked):  
Commelinids Order: Zingiberales  
Family: Moraceae  
Genus: *Musa*

### Synonyms

Musa paradisiacasapientum.

Edible banana.

Edible fruit.

Musa acuminata.

### 3) Orange peel

Citrus aurantium belonging to the family Rutaceae acts as a natural bleach, It has instant glow property, prevent acne, blemishes, wrinkles and aging. Antibacterial, antifungal, and antioxidant properties have been discovered in it.<sup>[11]</sup> Oranges are round, orange- colored citrus fruits that grow on trees. Originally from China, these nutrient-dense powerhouses are now produced in warm areas all over the world.



### Benefits of orange peel

- 1) It helps to keep acne at bay. Oranges are high in citric acid, which helps to treat acne.
- 2) Removes Blackheads.
- 3) Controls Skin Ageing.
- 4) Fights Against Breakouts.
- 5) Assists in the lightening of the skin.

Kingdom: Plantae

Clade: Tracheophytes

Clade: Angiosperms

Clade: Eudicots Clade: Rosids

Order: Spindles

Family: Rutaceae

Genus: Citrus

Species: C. × sinensis

### Synonyms

Musa paradisiacasapientum.

Edible banana.

Edible fruit.

Musa acuminata.

### 4) Strawberry

Rosaceae members have a strong antioxidant capacity, and they protect skin cells from UVA-induced damage. It reduces acne, wrinkles and has the anti-aging, anti-oxidant and skin-whitening properties. The garden strawberry is a commonly farmed hybrid species of the genus *Fragaria*, also known as strawberries, which are cultivated for their fruit all over the world. The fruit's distinctive aroma, bright red colour, juicy texture, and sweetness are all highly regarded. The garden strawberry (*Fragaria ananassa*; *Fragaria ananassa*) is a popular hybrid species of the genus *Fragaria*,<sup>[11]</sup> collectively known as the strawberries, which are cultivated worldwide for their fruit. The fruit's distinctive aroma, bright red colour, juicy texture, and sweetness are all highly regarded. It's eaten in enormous amounts, either fresh or in prepared meals like jam, juice, pies, ice cream, milkshakes, and chocolates.



### Benefits of strawberry

- 1) Strawberries contain alpha hydroxy acids, which help to eliminate dead skin cells and cleanse the skin.
- 2) The vitamin C in strawberries can also contribute to keeping skin healthy and vibrant, working as a toner to soothe irritated skin.

Kingdom: Plantae

Clade: Tracheophytes

Clade: Angiosperms

Clade: Eudicots

Clade: Rosids

Order: Rosales

Family: Rosaceae

Genus: *Fragaria*

### Preparation of poly herbal face pack

The aroma, bright red colour, juicy texture, and sweetness of the fruit are all well-known. It is eaten in great amounts, either fresh or in prepared meals like jam, juice, pies, ice cream, milkshakes, and chocolates.



Formulated Polyherbal fruit Face Pack

COMPOSITION OF POLY HERBAL FRUIT FACE PACK :-

S.No	INGREDIENTS	QUANTITY
1	Fig	20%
2	Banana	15%
3	Orange	15%
4	Strawberry	15%
5	Honey	30%
6	Saffron	05%
7	Water	Quantity Sufficient

**Mixing**

All of these fine elements were completely combined in a mixer to make a fine powder that was homogeneous.

**Sieving**

Then this fine powder was passed through sieve no.40, to get the sufficient quantity of fine powder.

**Collection and storage**

The powder mixture was collected and store in suitable plastic container and used for Doing evaluation parameters.

**Organoleptic evaluation/visual appearance:**

Color, aroma, and texture were used to evaluate organoleptic parameters.

Vision and tactile feeling were used to assess colour and texture, respectively. A group of five scent sensitive people was chosen for the odour evaluation.

**Washability test:-**

“This is the common method for checking the washability of the formulation. The formulation were applied on the skin and then ease and extent of washing with water were checked manually by using 1 liter of water is used to remove all content of the formulation were applied on the surface”.[12]

**Spreadability:-**

It is the term in which product spread on the area and it should be good spreadability with smoothness or free from the grittiness of the particle.

**Colour:-**

The colour of powder should be near to the skin tone to provide a covering of blemishes of skin, without it’s visibility.

**Odour:-**

By smelling the product

**Irritancy test:-**

Mark an area (1sq.cm) on the left hand dorsal surface. Definite quantities of prepared face pack 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.[13]

**General powder evaluation:-**

General powder characteristics includes evaluation of those parameters which are going to affect the external properties (like flow properties, appearance, packaging criteria etc.) Of the preparation, Characteristics evaluated under this section are particle size, angle of repose, bulk density and tapped density.

**Angle of repose:-**

It is defined as the maximum angle possible in between the surface of pile of powder to the horizontal flow.

**Particle size:** Particle size is a parameter that affects a variety of attributes such as spread ability, grittiness, and so on. Particle size was assessed using the sieving method with I.P. Standard sieves and mechanical shaking for 10 minutes. **PH:-**

pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant.[14]

**Preservative:-**

Preservative provides protection against microbiological contamination. Most system contains preservatives, including paraben, Phenoxyethanol, Benzoates.[14] including paraben, Phenoxyethanol, Benzoates.[15]

**III. RESULT:-**

**Evaluation Parameter For Pre-Formulation :-**

Sr. No	Evaluation parameters	Observation
<b>Organoleptic evaluation</b>		
1	Nature (appearance)	Powder
2	Colour	Brouwnish Red
3	Odour	Slight
4	Test	Characteristic
5	Texture	Fine
6	Particle size	26-31mm
7	Angle of repose	16°±1°5"

**Evaluation Parameter For Formulation :-**

Physiochemical evaluation		
1	pH	7.35
2	Washability	Easily washable
3	Grittiness	No gritty particle were form when mix with water
4	Nature of face after wash	Soft and fresh, clean form
5	Irritancy	No irritant to skin

#### IV. DISCUSSION:-

Organoleptic and physico-chemical and general powder evaluation. The study of nature, Color, odour, taste, texture, ash values, moisture content and pH of dried powders of Combined form under investigation provided the important feature of organoleptic and Physicochemical evaluation. Face pack work by penetrating deep into your pores and Gently removing the dead cells in the outermost layer of your skin, along with any Impurities sitting over it. Removing dirt, bacteria, debris, and overall impurity is essential To have balanced, toned, healthier skin.

#### V. CONCLUSION:-

Herbal formulations are more acceptable in the belief that they are safer with fewer side Effects than the synthetic ones. Herbs have growing demand in the world market. It is a Very good attempt to establish the poly herbal fruit face pack containing different Powders of fruits. Thus in the present work found good properties for the face packs on Human use as cosmetic product. Formulation showed good antimicrobial activity when Compared to clindamycin and the results of formulation was very nearer compared to Standard drug which clearly indicates that the prepared formulation is best suits for skin as cosmetic.

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