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Formulation And Evaluation Of Poly Herbal Fruit Face Mask

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***Abstract*:** Objective: The main objective of the work is to formulate and evaluate poly herbal fruit face mask for cosmetic
Banana, Orange peel, Amla, Tomato, Strawberry and Papaya 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 mask. The powder had passable flow property which is suitable for a face mask. Particle size of the powder was found to be 25-30µm. Antimicrobial evaluation was performed with three organisms Staphylococcus aureus, Staphylococcus epidermidis and Propionibacterium acnes.
Poly herbal face masks are used to stimulate blood circulation, rejuvenates the muscles and help to maintain the elasticity of the skin and remo]ve dirt from skin pores. The advantage of poly herbal cosmetics are non toxic in nature and reduce the allergic reactions. Thus the investigation clearly concluded that the face mask have good properties to human skin.

Keywords:- Face mask, Banana, Papaya, Evaluation, Particle size, Propionibacterium acnes.

INTRODUCTION : Now a days Herbs are widely used as remedial agents because herbs are easily available at less expensive and non toxic so the people have good faith in such remedies. From the ancient time people are using herbs for cleaning, beautifying and to manage them. cosmetics are defined as the beauty products which posses desirable physiological activity such as healing, smoothing appearance, enhancing and conditioning properties.
These days Acne, black head, pimples, dark circle are common among youngsters and person who suffers from it. According to Ayurveda, Skin problems are normally due to impurities in blood. Accumulated toxins in the blood during improper food and lifestyle are causing skin related diseases.
The face masks which are mentioned in ayurveda help women to get rid of wrinkles, dark
circles, pimples and acne. Herbal face masks increase the fairness and smoothness of skin. We can derive the maximum benefits of herbal face masks by using them according to our skin type. These face masks increase skin glow and are best ayurveda treatment to increase fairness. Face masks are one of the oldest and beautiful methods of cleansing skin. There are various kinds of face masks described in Ayurveda which have nourishing, healing, cleaning, astringent and antiseptic properties. We can prepare face mask in home with basic integrants found in house and kitchen.
Face mask is the smooth powder which is used for facial application and a good herbal face mask must supply necessary nutrients to skin and should penetrate the subcutaneous tissues to deliver the required
nutrients. Different types of skin need different types of herbal face packs. Face masks used in ayurveda helps to reduce wrinkles, pimples, acne and dark circles.

BOTANICAL CLASSIFICATION

1. Amla
Scientific name - Phyllanthus emblica Family - phyllanthaceae
2. Banana
Scientific name - musa Family - musaceae
3. Orange
Scientific name - citrus/sinensis Family - Rutaceae
4. Papaya
Scientific name - cariya papaya Family - caricaceae
5. Strawberry

Scientific name - Fragariaceae Family - Fragariaceae

6. Tomato

Scientific name - solanum lycopersicum Family – solanceae

GENERAL DESCRIPTION :-

The main objective of the work is to formulate and evaluate polyherbal fruit face mask.

MATERIALS AND METHODS

Plant Materials

The materials used in the present study were purchased from local market, dried and powdered for further use. The below mentioned are the details of the plant materials used for the formulation of face mask.

a) Emblica officinalis (Amla)

Emblica officinalis belonging to the family Euphorbiaceae holds the reputation of a very good skincare herb. Used externally and internally, it helps to gain glow of the skin and aids to remove pimples, Produce

Colling Effect and Hydrating Effect, also the herb reported as anti bacterial, anti microbial, anti fungal and anti aging agent

b) Musa paradisiaca (Banana)

Musa paradisiaca belonging to the family Musaceae is the most available fruit used externally and internally it help 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 anti aging properties.

C) **Citrus aurantium (Orange)**

Citrus aurantium belonging to the family Rutaceae acts as a natural bleach, It has instant glow

property, prevent acne, blemishes, wrinkles and aging. It showes anti bacterial, anti fungal and antioxidant

D) Carica papaya (Papaya)

Carica papaya belonging to the family Caricaceae works as a good bleaching agent. Experts suggest that papaya can help in removing dead worn-out skin cells and replace it with healthy new cells, thereby lightening the color of our skin.

e) Fragaria vesca (Strawberry)

Fragaria vesca belonging to the family Rosaceae possess a high antioxidant capacity, It shows protective effect on skin cells against UVA induced damage. It reduce acne, wrinkles and has the anti aging, anti oxidant and skin whitening properties

f) Lycopersicon esculatum (Tomato)

Lycopersicon esculatum belonging to the family Solanaceae used a bleaching agent. Herb also acts as anti oxident, antiseptic and anti aging agent. It cures acne and moisturizing effect, works as a repellent

PREPARATION OF POLY HERBAL FRUIT FACE MASK

All the herbal ingredients are in dry form and grinded to make fine powder by using size reduction mill.

I) Weighing

All the required herbal powders for fruit mask preparation were accurately weighed individually by using digital

balance

II) Mixing
All these fine ingredients were mixed thoroughly by mixer to form a homogenous fine powder.
III) Sieving
Then this fine powder was passed through sieve no.40, to get the sufficient quantity of fine powder.
IV) Collection and storage
The powder mixture was collected and store in suitable plastic container and used for doing evaluation parameters

S.No	INGREDIENTS	QUANTITY
1	*Emblica officinalis*	10%
2	*Musa paradisiaca*	10%
3	*Citrus aurantium*	10%
4	*Carica papaya*	10%
5	*Fragaria vesca*	10%
6	*Lycopersicon esculatum*	10%
7	Water	Quantity sufficient

EVALUATION OF POLY HERBAL FRUIT FACE MASK
Prepared formulations of fruit mask powder were subjected to following evaluation parameters.
I) Organoleptic evaluation/visual appearance

Organoleptic evaluation parameters like colour, odour and texture were carried out. Colour and texture was evaluated by vision and touch sensation respectively. For odour evaluation a team of five odour sensitive persons were selected.
II) Physicochemical evaluation

The pH was measured by using digital pH Meter.
III) Moisture content

Moisture content is important for the plant drugs because insufficient drying may lead to possible enzymatic deterioration of active principles. About 2 gm of powder drug was taken in Petri dish placed in Hot air oven and measure the weights for 30 min after cooling the dish upto standard weight

IV) Total ash
Ash value is calculated to determine the inorganic contents which are characteristic for an herb. About 2 gm of powder drug was taken in silicon dish previously ignited and weighed. Temperature was increased by gradually increasing the heat not exceeding to red colour. After complete burning, ash is cooled and weighed.
V) Acid insoluble ash

Acid insoluble ash was calculated by boiling above obtained ash with 25 ml dil. Hcl for 5min, insoluble matter was collected in crucible, washed with hot water, ignited and weighed.
VI) 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.
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.

VII) Particle size
Particle size is a parameter, which affect various properties like spread ability, grittiness etc., particle size was determined by sieving method by using I.P. Standard sieves by mechanical shaking for 10 min.
VIII) Angle of repose

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

IX) Open - ended cylinder method
Required amount of dried powder is placed in a cylindrical tube open at both ends is placed on a horizontal surface. Then the funnel should be raised to form a heap. The height and radius of the heap is noted and recorded. For the above method, the angle of repose (θ) can be calculated by using the formula.
$\theta = \tan^{-1}(h / r)$ Where, θ – Angle of repose, h – Height of the heap, r – Radius of the base

X) Bulk density
Bulk 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 a 50 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 second intervals. The volume of the powder is measured. Then the powder is weighed. This is repeated to get average values. The Bulk Density is calculated by using the below given formula.

$$\text{Bulk Density} = \frac{\text{Mass}}{\text{Volume}}$$

XI) Tapped density
Tapped density is an increased bulk density attained after mechanically tapping a container containing the powder sample. After observing the initial powder volume or mass, the measuring cylinder or vessel is mechanically tapped for 1 min and volume or mass readings are taken until little further volume or mass change was observed. It was expressed in grams per cubic centimeter (g/cm3).

XII) Washability
Formulations was applied on the skin and then ease and extent of washing with water were checked manually.

XIII) Antimicrobial evaluation

Formulation was tested for antibacterial activity against test organisms namely S. aureus, S.
epidermidis and P. acnes using modified agar well diffusion method. Aerobic bacteria: Staphylococcus aureus (MTCC 96), Staphylococcus epidermidis (MTCC 2639) and anaerobic bacteria: Propionibacterium acnes (MTCC 1951) were obtained from the Microbial Type Culture Collection Centre. In this method, nutrient agar plates and reinforced clostridial agar (RCA) were seeded with 100µl of standardized bacterial suspension. After optimization of dose, 200 mg of formulation was mixed with distilled water and poured into the wells. Standard clindamycin (1% w/w) was used as positive control. The plates were then incubated at optimum temperature conditions and antibacterial activity was evaluated by measuring the diameter of zones of inhibition

MEDICINAL PROPERTIES

I) The fruit also contains anti inflammatory and anti-viral properties that may help reduce acne II)Therefore, it relaxes and soothes acne prone skin.
III) Papaya also reduces premature aging.

IV) It makes the skin firm and fades fine lines, scars, and blemishes.

MEDICINAL USES

I) It's a vitamin-enriched fruit that contains vitamin B6, vitamin C, manganese, and copper.

II) Vitamin C destroys free radicals effectively and slows the aging of skin.

III) This natural face mask fades away dark spots, removes blemishes and scars and shows skin whitening effects.

BENEFITS

I) Antioxidants: Most of fruits are rich in vitamin C, which is a great antioxidant.

II) Nutrients: From potassium, magnesium and iron to vitamin B. C and E, fruits like banana and papaya are a hub of multivitamins, giving the skin a healthy boost.

III) Homemade fruit facials immensely boost your skin with natural goodness,making it flawless.

IV) Fruit facials made from fresh fruit pulps also help you do away with the risk of developing problems like blotchiness, acne dullness and zits.

RESULTS & Discussion

The results of evaluation are displayed in Table 2 For 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.
The presence of ash in the dried powder of combined form was evaluated for total ash and acid
insoluble ash values. The yielded was found to be 4.3g total ash and 2.9g acid insoluble ash. And moisture content value was found to be 5%. The moisture content values observation clearly indicated that the powder of combined form was hygroscopic in nature. The acidic or alkaline nature of the dried powder of combined form was determined by preparing 1% dispersion of powder form in distilled water and measuring the pH with pH meter. The pH of 1% dispersion of powder was obtained as 7.21 which indicated that the powder of combined form were slightly alkaline in nature.

Dried powder of combined form was evaluated for particle size, angle of repose, bulk density and
tapped density before being formulated. Values of particle size, angle of repose, bulk density and tapped density obtained for powder of combined form were found to25-30µm, 15°±1°05", 0.486g/cc and 0.408g/cc respectively, have good flow properties. The powder had passable flow property which is suitable for a face pack.And its easily washable with water.

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 mask containing different powders of fruits. Thus in the present work found good properties for the face masks 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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