

Formulation and Evaluation of Antiaging Herbal Face Pack

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Submitted: 20-04-2024

Accepted: 30-04-2024

ABSTRACT: Human skin has grown increasingly delicate and prone to premature aging as a result of rising pollution, allergies, microorganisms, etc. An attempt has been made to create a pack that is perfect for every type of skin

The goal of this project is to formulate and evaluate a herbal face pack that uses natural components to reduce aging of skin. Three distinct mixtures with different amounts of substances such as Pistachio Powder, almond powder, turmeric, orange peel, and moringa powder are assessed for their microbiological load, physio-chemical characteristics, stability, irritancy test, and organoleptic qualities.

Thus using substances that has antiaging properties, we prepared a face pack in the present work. While evaluating the face pack, we have found favorable qualities of the face pack. And the combined dry powder exhibited required flow properties, that are required for the face pack.

KEYWORD: Antiaging, Pistachio, Flow Property, Face Pack, Skin

I. INTRODUCTION

Cosmetics are meant to be applied to the human body in order to cleanse, beautify, decorate, encourage attractiveness, or otherwise change the way skin looks. Skin cosmetics work on the skin's outermost layers, or epidermis, without altering the skin's natural physiological characteristics. These substances are frequently used in different kinds or forms to enhance the appearance of the skin. Cosmetics are typically used to prevent and lessen wrinkles, fine lines, and aging, to treat acne, and to regulate the skin's excessive oil production.[1,2]

Various herbs have been utilized since antiquity for cleaning, adorning, and managing them. The skin of the face is the most important area of the body and reflects an individual's overall health.[3]

The herbal paste used as a facial therapy is known as "mukhalepa" in Ayurveda. This herbal paste is applied to the face to cure pigmentation, scars, markings, and acne.[4]

A face pack is a smooth-textured, fine powder or paste that is applied in a thin layer to the skin of the face and left to dry for a few minutes, leaving behind a film that is readily removed with water. Regular use of face packs exfoliates skin, eliminates dry and dead skin, and, depending on the formulation, has calming, cooling, nourishing, and skin-tightening effects. It also helps to remove oil and dirt from the skin without impairing the skin's natural physiological processes.[5, 6]

In general, an herbal face pack should penetrate the skin's outermost layers and subcutaneous tissues, supplying essential vitamins and nutrients to the skin without actually changing the skin's natural physiology. Depending on the desired effect, a face pack can be made with a number of substances based on the kind of skin. Vitamins like vitamin C or E can be used to enrich the skin. While for antiaging properties Vitamin B3 is used. Additionally, substances that prove to be beneficial to the skin is also used.[7]

This Research Paperwork aimed to formulate and evaluate an antiaging herbal face pack to promote nourishment and tightening of skin by using natural ingredients which are discussed below.

II. METHODOLOGY

1. Collect all ingredients.
2. Accurate quantity of ingredients were weighed and three different formulations were prepared with varying concentration of all ingredients named as F1 to F3
3. All powdered materials were passed through 44-mesh sieve to obtain uniform particle sizes
4. To ensure homogenous and even mixing all powder ingredients were also combined geometrically
5. The Powder prepared is dried in the sunlight and passed through 60-mesh sieve
6. Prepared face pack was packed in tightly closed container and labeled it.

Table 1: Ingredients used in formulation

S.NO.	NAME OF INGREDIENTS	BENEFITS
1	Pistachio Powder	It protects skin from harmful UV rays, prevents from skin diseases and makes skin healthy and more beautiful. Vitamin E present in pistachios is helps fight ageing process of skin and making skin look younger
2	Almond Powder	Almonds have been used for centuries in cosmetics. They enhance the glow and fairness of the skin. It contains large amounts of vitamins E and K, it helps skin regeneration and elasticity.[8]
3	Sandalwood	Anti-aging and anti-tanning properties are found in sandalwood. Additionally, it has numerous benefits for skin, including toning, emollient, antibacterial, cooling, astringent, relaxing, and healing qualities.[9]
4	Orange Peel	Oranges are citrus fruits that are rich in several nutrients, including calcium, magnesium, potassium, and vitamin C. It shields the skin from oxidative stress, free radical damage, and dehydration. Additionally, it prevents wrinkles, blemishes, acne, and aging. It also provides an instant shine.[10]
5	Moringa Powder	Mainly consists of dried stigmas and upper parts of styles of plant known as Crocus sativus, belonging to the family Iridaceae. It is rich in carotenoid glycosides, mainly containing terpenoids. It lightens the skin tone and provides fair and glowing skin.[11,12]
6	Turmeric	Turmeric is typically used to revitalize the skin. It has antibacterial, antimicrobial, and anti-inflammatory effects, as well as the ability to prevent aging indications like wrinkles. It is an excellent source of blood purification. It effectively treats acne with its antiseptic and antibacterial characteristics, reducing blemishes and restoring a young glow to the skin. It also lowers oil output from sebaceous glands.[13,14]
7	Rose Petals	Rose Petals has skin whitening and anti wrinkle activity. The cosmetic antiaging potential of Rose Petals is Valuable. It has a moisturizing and tender effect on skin.[15]
8	Rice Powder	One of the key function of rice powder is bright skin and even skin tone. Rice Powder contains Vitamins A, C, E, flavonoids and phenolic compounds. Also contains ferrulic acid and allantoin which are necessary for skin function and has anti aging effect.[16]
9	Multani Mitti	Multani Mitti is rich in Magnesium Chloride and helps in diminishing pore sizes, soothing sunburns, cleansing skin, reducing acne and giving a glow effect to the skin.

Procedure of Face Pack Application

1. Take the required amount of face in a glass bowl.
2. Now add the water in a bowl to have the thick consistency.
3. Ensure the consistency is smooth or semi-smooth.

4. Apply the mixture evenly to the skin.
5. Cover all the wrinkled parts.
6. Keep the pack on your face for 10 to 20 mins.
7. Let the face pack completely dry.
8. Wash and rinse off the face with cold water.[17]

III.EVALUATION TESTS:

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

Organoleptic Evaluation

It includes nature, odor, color, feel and consistency which were evaluated manually for its physical properties.[17]

Physical Evaluation

The particle size was determined using the sieving approach. The flow properties of dried powder in mixed form were studied using the Angle of Repose funnel method, bulk density, and tapping method.[18]

Physicochemical Evaluation

pH test is performed using pH meter, ash content was checked using muffle Furnace, loss on drying test is also done.[19]

Irritancy Test

Select and Mark 1 sq cm area on the right hand.Face packs were administered to a specific location with precise quantity and timing. Irritation, erythema, and edema were assessed at regular intervals for up to 24 hours and noted.[20]

Stability Studies

Stability Testing is done for formulation F1 by storing at different temperature locations for the period of one month and physical characters are checked.[20]

Determination Of Microbial Load

The prepared formulation was evaluated for Total Viable Count, and presence of gram-negative pathogens such as E. coli, and Salmonella.[21]

IV.RESULT AND DISCUSSION:

Table 2: Formulation Of Face Pack

	Name Of Ingredients	Scientific Name	Quantity of sample for 100 gm		
			F1	F2	F3
1	Pistachio Powder	Pistacia vera	25	30	20
2	Almond Powder	Prunus dulcis	15	15	15
3	Sandalwood	Santalum album	10	10	10
4	Orange Peel	Citrus reticulata	10	10	10
5	Moringa Powder	Moringa oleifera	10	10	10
6	Turmeric	Curcuma aromatica	05	05	10
7	Rose Petals	Rosa indica	05	05	05
8	Rice Powder	Oryza sativa	15	10	15
9	Multani Mitti	Calcium bentonite	05	05	05

Table 3: Organoleptic Properties

Sr No.	Parameters	Observation		
		F1	F2	F3
1	Appearance	Powder(Free Flowing)	Powder(Free Flowing)	Powder(Free Flowing)
2	Color	Olive Green	Green	Olive Green
3	Odor	Slight	Slight	Slight
4	Texture	Moderately Fine	Moderately Course	Moderately Fine
5	Smoothness	Smooth	Sticky Smooth	Smooth

Table 4: Physical Parameter and Physicochemical Evaluation

Sr No.	Parameters	Observation		
		F1	F2	F3
1	Particle Size(μm)	30-35	40-45	30-35
2	Ash Content(gm)	0.20	0.36	0.17
3	pH	6.85	6.73	6.52
4	Loss on drying(gm)	1.2	1.4	0.7
5	Angle Of Repose	34.89	39.86	33.67

Table 5: Irritancy Test

Sr No.	Evaluation	Formulations		
		F1	F2	F3
1	Irritant	Nil	Nil	Mild
2	Erythema	Nil	Nil	Nil
3	Edema	Nil	Nil	Nil

Table 6: Parameters of Stability Studies of Formulation F1

Sr No.	Parameters	Observation(Formulation 1)		
		Room Temp.	35 \pm 0.5C	40 \pm 0.5C
1	Appearance	Powder(Free Flowing)	Powder(Free Flowing)	Powder(Free Flowing)
2	Color	No Change	No Change	No Change
3	Odor	No Change	No Change	No Change
4	Texture	Moderately Fine	Moderately Fine	Moderately Fine
5	Smoothness	Smooth	Smooth	Smooth

Table 7: Microbial Load of Formulation F1

Sr No.	Test	Observation
1	Total viable count(CFU/g)	819
2	Gram Negative Pathogens (CFU/g)	NO

Physical Parameters: Three different formulations of face pack were prepared and evaluated as shown in Table 2. The color of the formulation were slightly different due to variation in the composition of formulation, which is as shown in the table above. The odor of all the formulations were good and acceptable. The particle size is calculated by sieving method and in the range of 35-40 μm .

The pH of all the formulations were lying between 6 to 7, which is calculated by using a calibrated digital pH meter at a constant. The angle of repose has shown that the flow property of the sample is good. The moisture content is determined by using 5gm of powder into a weighed flat and thin porcelain dish. Dry in the oven at 100°C for 10

mins. The loss in weight is usually recorded as moisture.

The total ash value is calculated by taking the 2 gm of powder in a muffle furnace by gradually increasing the heat to 500-600°C until it is white indicating the absence of carbon. Allow the residue to cool and weigh immediately and the ash value is calculated.

Irritancy Test: Formulation F3 showed mild irritancy due to the presence of turmeric powder. Formulation F1 and F2 which were prepared by lowering the amount of turmeric showed no irritation.

Determination of Viable count: Test of the presence of gram-negative pathogens like E.coli

absent per gram and the microbial load showed the total viable count 819CFU/gm.

Stability Test:The stability study is done at 35°C and 40°C for 1 month and showed no significant difference in flow property, color and odor.

V.CONCLUSION AND SUMMARY:

By going through the above results and in general we know that natural remedies are safer and have less side effects than synthetic products. In today's world herbal product are more acceptable. By using herbal substances we can even make product with no side effects. The antiaging face pack produced and selected from three Formulations is F1 and it has cleared all the tests with ideal results. The formulation of antiaging herbal face pack using Pistachio, Almond Powder, Multani Mitti, Turmeric, Sandalwood, Rose Petals is thus a very good attempt to have antiaging properties. Strong flow qualities were shown in the dried form of the blended powders, which made it perfect for a face pack. An organoleptic evaluation revealed the pack's beautiful scent and smoothness. Rheological observation showed the packs' flow characteristics and have free flowing characteristics. And finally it is found that the prepared formulation was physiochemically and microbiologically stable and possessed characteristics of a standard cosmeceuticals formulation of skincare.

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