

Formulation and Evaluation of skin care Anti-microbial Herbal scrub

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Date of Submission: 28-04-2024

Date of Acceptance: 08-05-2024

ABSTRACT:

The investigation was to develop a herbal face scrub. Utilizing natural materials to make a face scrub is an excellent approach to maintain healthy skin without exposing it to harsh chemicals. Coffee does, in fact, have a lot of antioxidants and exfoliating properties. Furthermore, nutmeg has antimicrobial qualities. However, masoor dal and rice flour can provide some light exfoliation. The addition of glycerine may help to calm and moisturize the skin. Remember that all skincare products should be patch tested on a small area of the body to ensure there are no unfavourable side effects before using. Moreover, before beginning any new skincare routine, it is recommended that you consult a physician. Customary, especially in cases where it is highly significant. Creating a herbal scrub with natural elements blended into a gel was the primary goal of the research study. Cosmetics are a major factor in today's lives for both men and women when it comes to beautifying and changing the appearance of skin.

KEYWORDS: Polyherbal, Antioxidant, Anti-Microbial, Anti-inflammatory, Skin Exfoliate

I. INTRODUCTION:

Facial scrub is work as an exfoliator. Exfoliating pieces that when massaged work off across the skin help smooth the skin by physically lifting dry, dead skin cells. Exfoliating scrubs can help to really smooth your skin and clear pigmentation. Facial scrub is the cosmetic product which cleanses, exfoliates the skin of the face and gives healthy complexion. Skin having three types: dry, oily, sensitive. For dry skin use scrub which contain hydrating agent and moisturizing agents. For oily skin type use exfoliates deeply to prevent the pores clogging and maintain the skin oil balance. For sensitive skin use gentles scrub. We can use the facial scrub twice a week. An ideal scrub is having the properties like it should be non toxic, possess small gritty particles, mild abrasive,

non irritating, non sticky, able to remove dead skin cells.

Cleansing, beautifying, promoting attractiveness or Alternating the appearance. 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. Cosmetics are available as various Forms and each has its own role to play on the skin. Skin Becomes dull, non glowing due to various causes and these Can effectively be overcome with the application of scrubs.

There are two types of scrub being used on the skin such as Facial scrub and body scrub. These two differ only with the Ratios of oil and sugar added in each. Usage of oil is high in Facial scrub due to which it is less abrasive. It removes the Dead skin cell and exfoliates the skin. Scrub can be used on any type of skin.

[2, 3].IDEAL PROPERTIES OF HERBAL SCRUB:

1. Removing the dead skin cells, dirt and impurities from the skin.
2. It should contain moisturizing agent which help to hydrate the skin.
3. It nourishes the skin.
4. It is an anti-inflammatory.
5. It must be Non-toxic, non- irritating, on sticky and capable of removing dead skin cells.
6. It should be easily removed oil on face
7. It should not cause any side effects or irritation or Dryness of the skin and Eye.
8. It should have anti- microbial and anti - oxidant effect.

[1, 2].BENEFITS OF SCRUBBING SKIN :

Benefits of Scrubbing Skin

- Scrubbing provides people with clean skin free of grime, oil, and sweat. Cleansing milk, face wash, and facial cleans-ers are incapable of removing all of the

dust accumulated in the skin’s pores. This is completed through scrubbing.

- Frees Skin from Flakes: Dry spots are caused by irritated skin. It allows for the accumulation of dead cells over time. Scrubbing the face can assist in dealing with irritated skin efficiently.
- Dead cells make skin look pale and old, so it is essential to get rid of them. Using a mild scrub, remove them.
- Exfoliation can give skin a healthy glow.
- Removes Dark Patches: Use the scrub twice a week for best results. It works particularly well on knuckles, elbows, and knees.
- Get Removal of Acne Scars: Exfoliation can assist get rid of acne scars.
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1. Scrubbing leaves people's skin clean, clear of perspiration, oil, and filth. Not all of the dust that has gathered in the pores of the skin can be removed by face wash, facial cleansers, or cleansing milk. This is finished by scrubbing.
 2. Releases Skin from Flakes: Irritated skin is the root cause of dry spots. Over time, it permits the buildup of dead cells. One effective way to manage inflamed skin is to scrub the face.
 3. Dead cells must be removed because they give the skin an aged, pallid appearance. Remove them with a light scrub.
 4. Skin can have a healthy glow after exfoliation.
 5. Get Rid of Dark Patches: For optimal effects, use the scrub twice a week. It is especially effective on knees, elbows, and knuckles.
 6. Get Removal of Acne Scars: Exfoliation can assist get rid of acne scars.

Table no. 1 Composition Of Herbal Scrub:

Sr.No	Name of ingredient	Quantity	Categories
1.	Rice	4gm	Antiaging effect
2.	Nutmeg	3gm	Natural exfoliant
3.	Lentil	4gm	Helps to brighten the skin, antioxidant
4.	Multanimitti	3gm	Cleanser, Anti-acne
5.	Carbopol 934	1gm	Gelling agent
6.	Salicylic acid	0.025	Anti-acne
7.	Triethanolamine	2ml	pH stabilizer
8.	Sodium Benzoate	2gm	Prolong Shelf life
9.	Sodium lauryl sulphate	0.5	Foaming agent
10.	Orange water	q.s	Flavouring agent

II. MATERIALS AND METHOD:-

Material:

1. Rice Flour powder:
It works on sign of aging take care of sun damage. It offers a cooling effect to the skin and relieve the inflammation caused due to scars and severe acne. It is an extremely potent scrub and can be used to treat most common skin cancers.



FIG NO. 1 RICE FLOUR

2. Nutmeg powder:

Nutmeg is also natural exfoliant which means to helping the removal of dead skin cells .

Improve skin texture and promote skin renewal.

Nutmeg is well known for its anti-inflammatory, anti-microbial, anti-oxidant, antiseptic, anti-bacterial properties.

It also helps to reduce Pigmentations



FIG NO. 2 NUTMEG

3. Lentil powder:

It is a boost skin radiance, Be it Pigmentations, rough skin, acne, aging, sign or a stradfast beach tan.

It has a high protein content that includes all of the necessary amino acid.

It helps to make all skin better categories.

A. Preparation of Gel:-

Firstly, weigh Salicylic acid and dissolved it in distilled water



Carbopol 934 was weighed separately in second beaker and dissolved in water, vigorously stirred for a few minutes until gel formation



Triethanolamine, Sodium benzoate and SLS was added to the gel.

B. Rice flour powder:-

Take the fresh rice and clean it and rest in water for one night.

Then dry it and grind it in mixerto get fine powder.

C. Lentil masoor dal powder :-

Take the Lentil peel and clean it properly. Grind it in mixer grinder for few minutes.



FIG NO. 3 LENTIL

4. Multanimitti:

Multanimitti could be useful at home treatment for acne, pimples and head acne scar.

It gets rid of extra oil from skin and keep zits away.

It is used as remove oil from the skin.



FIG NO. 4 MULTANI MITTI

Chemicals :-

1. Carbopol 934
2. Salicylic acid
3. Triethanolamine
4. Sodium Benzoate
5. Sodium luryalsulphate
6. Orange water

D. Nutmeg powder:-

Take the 2 Nutmeg and triturated it in mortar and pestal to formfine powder.

Preparation of Scrub Gel :-

Nutmeg powder, Lentil masoor dal powder and rice flour powder was taken in mortar

↓
Mix homogeneously

↓
Add prepared gel into it to get uniform consistency of scrub

↓
Finally, add orange water in it



FIG NO. 5 FORMULATION F1, F2, F3



[5- 10].Evaluation Parameters:

A. Organoleptic Characteristics

- 1. Color:** The formulation's color was carefully assessed and observed.
- 2. Odour:** The fragrance of the product was tested when it was spread on the palm and smelling the perfume.
- 3. Consistency:** The consistency of the formulation and particles were used to evaluate the texture and homogeneity of the preparation on the skin, such as grittiness, greasiness and stiffness effect. Nature provided a semi-solid preparation.
- 4. Texture and Homogeneity:** To see the uniform, a less amount of the prepared scrub was rubbed between the thumb and index finger.

B. Washability: The test was performed on the skin, with the mixture being used on the skin and then washed with pure water.

C. pH: A pH of a 1% aqueous formulation solution was measured with a pH meter.

D. Spreadability: The spreadability of the formulations was evaluated by placing 1 g of material between two horizontal glass plates (10 cm, 20 cm) and measuring the spreading diameter. A standard weight of 20 gm was put on the upper glass plate. Visual inspection was used to check the spreading quality.

E. Skin Irritation: A less amount of the mixture was placed on the dorsal area of the hand and left for a sometimes before being discovered

[1, 8].F. Antimicrobial Evaluation:

Examined the formulation for antimicrobial activity against gram positive test organisms such as Staphylococcus aureus. In this procedure, 100 micro litre standardised bacterial suspension was planted on nutritional agar plates. 200 mg of the formulation was combined with distilled water and placed into the wells once the dosage was optimised. The diameter of Zones of Inhibition (mm), was measured under standard circumstances to assess antibacterial activity.

Test micro-organisms:

Bacterial strains like Gram-positive Staphylococcus aureus were employed in this experiment. A nutritious agar medium was used to maintain the cultures. The bacterial cultures were further preserved by routinely sub culturing them on the slants of the same medium.

Preparation of Microbial suspension:

A test strain of bacteria was cultivated for 18 to 24 hours at 37°C in nutritional broth.

Aseptically transferring a loopful of inoculum from the stock culture, which was maintained at 4°C, served as the inoculum for the formulation's antibacterial assay to create the bacterial suspension.

Screening of antimicrobial activity:

Weighed 2.5gm of Nutrient agar was transferred in a 250ml of conical flask and 100ml of purified water and some amount of heat is applied to dissolve it completely. Sterilized for 15 min at 121°C at 15 lb pressure in autoclave for about 20 min. Then cooled it at room temperature and the bacterial strain (Staphylococcus aureus and Escherichia coli) was dispersed in the medium and then the agar media was poured it in to the petridish and allowed it cool it for some time at room temperature until it forms solidifies at room temperature and then the wells were created in each petridish with the help of sterile bore and stick formulation(F1,F2,F3, marketed) were placed in the bores and incubated the petri plates for 72 h at 37°C in incubators. Then the zone of inhibition was observed and calculated the radius of the zone of inhibition.

III. RESULTS AND DISCUSSION:

A. Organoleptic Characteristics

1. Colour: The color of the formulation was visually tested and found to be brown.

2. Odour: The odour of the mixture was tested by spreading the solution on the hand and smelling it.

3. Consistency: The consistency of the formulation and particles were used to evaluate the texture and homogeneity of the preparation on the skin, such as grittiness, greasiness and stiffness effect.

4. Homogeneity and Texture: To see the uniform, a less amount of the prepared scrub was rubbed between the thumb and index finger.

B. Washability: This evaluation was done directly on the skin, with the preparation being applied to the skin and then washed away with plain water and now skin is free from impurities.

C. pH: A pH was determine using pH meterfor 1% aqueous formulation solution.

D. Spreadability: The spreadability of the formulations was evaluated by placing 1 g of material between two parallel glass plates (10 cm, 20 cm) and measuring the spreading diameter. A standard weight of 20 gm was placed on the upper glass plate. Visual examination was used to check the spreading quality.

E. Skin Irritation: A less amount of the mixture was applied to the dorsal area of the hand for some times and found to be edema, non-irritating, with no redness or other adverse effects.

Table no. 2 Result and Discussion:

Sr.No	Parameter	Standard	F1	F2	F3
1	Colour	-	Creamy brown	Creamy brown	Creamy brown
2	Odour	-	Characteristics	Characteristics	Characteristics
3	Consistency	Good /smooth / rough	Rough	Good	Good
4	Spreadability	Easily	Easily	Easily	Easily
5	Wash ability	Washable	Washable	Washable	Washable
6	Foamability	Good	Good	Good	Good
7	pH	5.7 – 7.0	6.29	6.30	6.30
8	Grittiness	Presence of small gritty particle	Presence of small gritty particle	Presence of small gritty particle	Presence of small gritty particle
9	Irritability	Non – irritant	Non – irritant	Non - irritant	Non - irritant

Table no. 3 Zone of inhibition (mm)

Formulation code	Zone of inhibition S. aureus(mm)
F1	18
F2	17
F3	17
Standard	19

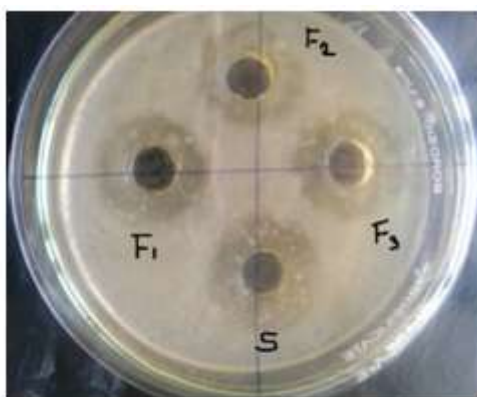


FIG NO. 6 ZONE OF INHIBITION

IV. CONCLUSION:

We prepared and assessed the herbal gel scrub. It was discovered that the herbal face scrub prepared in the lab was compared with number of factors including appearance colour, odor, consistency, pH, Spreadability, wash ability, Grittiness, Irritability and antimicrobial test. Consequently, the prepared mixture works well as scrub for applying on the skin. The presence of rice flour, lentil powder, nutmeg powder and multanimitti which act as lighten skin tone, minimize darkspot and has exfoliating properties. Dust and oil particle cleansing respectively. Exfoliating agent which were previously used to remove Dead skin cells and make the skin healthy. The overall goal of current study was prepare a gel like herbal scrub by using an appropriate base. To ensure that there were no side effect, it was discovered that the prepared herbal gel scrub was suitable for applying on the skin to give it a healthy, radiant appearance. The scrub gel which also enhance oxygen delivery to all surfaces and help to improve blood circulation of the skin.

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