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Research Article

FORMULATION AND EVALUATION OF HERBAL SCRUB**Dhanshree Dilip Gavali¹, Siddhi Chandrashekhar Gangurde², Gauri Dilip Ghotekar³,
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Article Received: June 2022**Accepted:** July 2022**Published:** August 2022**Abstract:**

For the healthy and nourish skin periodic cleansing requires which removes the dirt, dead skin, sebum other secretion Extends the skin and their appendix by chemical topical application. This is useful for making skin charming and beautiful. Cosmetic plays very important role in everyone's life to make joyful skin. Nowadays herbal cosmeceuticals are in demand due to less or no side effect. Hebal cosmeceutical usually contain plant part which posses antimicrobial, antiaging, antiacne, antioxidant property. The number of research has studied rice benefit namely good nutritional value, resistance to high blood pressure. The problem like blackhead, whiteheads, acne might irritate nowadays here scrubbing become useful. For the healthy skin there is need of cleansing, removing dirt and debris. The current work is based on the formulation and evaluation of herbal facial scrub by using herbal drugs and evaluation is done by using various parameters. Thus prepared formulation use effectively to show the cleansing and glowing action. Using rice flour, lemon juice, Multani mitti, Neem Powder, Haldi, Tulsi, Mint, Carbopol 940, Gram flour, Sodium Benzoate, Sodium Lauryl Sulphate and Water, we Created four different formulation F1, F2, F3 and F4 for scrubbing and whitening. These formulation were then tested for various parameter, including Physical appearance, Homogeneity, Extrudability, Spreadability, Irritability, Washability, Grittiness, Foamability, Viscosity, Stability, Consistency.

KEYWORD: Scrubbing, cleansing, herbal, Antiacne, Whitening.

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INTRODUCTION:

The body's largest organ is the skin. It acts as the body's defence mechanism. Skin acts as a wrapper-like barrier for protection. Maintaining everything below. Skin is a sensory organ that shows a person's health.

Definition of cosmetic: Cosmetics are defined as article meant to be poured, rubbed, sprinkled, sprayed, or injected into the human body for cleansing, beautifying, boosting attractiveness, or altering appearance without harming structure of function under the terms of the food drug and cosmetic act. [1]

Cosmetics are described as products that are used to cleanse, beautify, promote beauty, or alternate one's appearance. Different herbs have been utilised for cleaning, beautifying, and managing them since ancient times. The skin of the face is the largest part of the body and reflects an individual's health. [2]

Cosmeceuticals are a marketer's dream, allowing for the incorporation of an infinite number of active ingredients obtained from a wide range of natural and synthetic sources into skin care products. Vitamins, antioxidants, minerals, herbs, hormones, anti-inflammatories, anti-depressants mood-altering aromas (aromatherapy), and even exotic ingredient like placenta and amniotic fluid have all been utilized in cosmeceuticals. [3]

Natural beauty blessings and cosmetics aid in the presentation and enhancement of a person's beauty and personality. People nowadays prefer natural foods, herbal treatments, and natural healing procedures for a healthy lifestyle. Herbal cosmetics are formulations with phytochemicals from various plant sources that regulate skin function and give essential nutrients for healthy skin. Herbal cosmetics are natural plants and their products that are utilized in cosmetic preparations for their aromatic value. Because there is a widespread assumption that chemical-based cosmetics are harmful, herbal goods have sparked a desire for natural products and natural extracts in cosmetics formulations. [4]

ANATOMY OF SKIN:

The integumentary system is largest organ and composed of skin, hair, nails and glands. Epidermis regenerates with new cells every 28 days. This layer measures the thickness of 0.05 to 0.1mm.

- A) Epidermis
- B) Dermis
- c) Subcutaneous tissue.

A cosmetic product called a facial scrub is used to hydrate, exfoliate, and clean the skin on the face. The three types of skin are sensitive, oily, and dry skin. Those have dry skin should wash their faces with a moisturizer-containing cleanser and then apply moisturizer. Gently scrubbing sensitive skin is recommended. To avoid clogged pores and to keep the skin's oil production in control, oily skin needs a scrub that exfoliates deeply. [5]

There is no specific procedure in the preparation of rice scrub compared to other products; it is a pure natural handcrafted facial scrub, so there is no specific technique. So all we have to do now is combine the various components in a precise and discrete manner until we get a perfect mixture, which we may call a scrub. There are various forms of scrub that we might refer to as alternatives. When dead skin cells accumulate on the surface of your skin, your complexion might become bland. That's where exfoliation, specifically the use of a face scrub, might help. When you remove dead skin cell buildup from the surface of your skin, your complexion can improve. [6]

Scrubbing your skin has many advantages: [7]**For perfectly clear skin:**

Scrubbing remove filth, oil and sweat from your skin. Inreality, cleaning milk, face wash and facial cleanser will not be able to remove all of the dust that has accumulated in yours skins pores. Scrubbing is effective in this situation.

Remove flake from your skin:

Dry patches are caused by flaky skin. It permits the accumulation of dead cell over time. Cleaning your skin can assist you in effectively dealing with flaky skin.

Assist in the removal of dead cells

Your skin will appear dull and weary as a result of dead cells. Use a mild scrub to remove them.

Add Glow to skin

Exfoliation can actually make your skin glow. Exfoliating your skin can actually make it sparkle.

Remove Dark Patches

Use scrub twice a week to get results. It is especially effective on knuckles, elbows and knee

Acne scar removal

Exfoliation aids in the removal of acne scars.

Help in prevent ingrown hair

Scrubbing is the method to preventing ingrown hairs which is a perennial problem.

For a smooth complexion

Smooth skin the key to a more attractive appearance. The scrub will not just improve the appearance of your skin.it will be absolutely smooth as well as soft and nourished.

Improves your skins Texture

Scrubbing your skin will leaves it clean, silky and with a better texture.

- **Pharmacognostic study [8]**

Rice Flour-

Humans consume 95% of the world's rice production, which is a cereal grain that is consumed by half of the world's population, including almost all of East and South East Asia.

Synonyms : Meal of rice , Rice vermicelli

Biological Source: Organic rice that has been thoroughly milled. Rice starch, on the other hand is commonly made by steeping rice in lye. It's a particularly good option for wheat flour, which might upset certain people's digestive systems.

Chemical constituent: protein, rice, starch, ash, lipid

Medicinal Properties: Enhances the health of the nervous system, is naturally anti-inflammatory and gluten-free, is a good source of energy, and has

diuretic and digestive properties that prevent constipation, lower the risk of cancer, prevent obesity, and improve skin health. It is also a good source of protein, which supports heart health and regulates blood sugar and blood pressure.





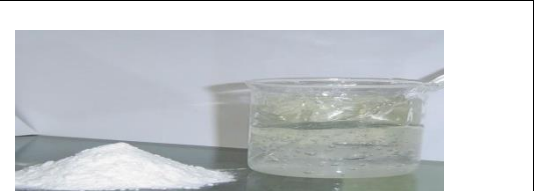

Refreshes and brightens the skin: It brightens the skin texture by removing dead skin cells. Rejuvenates and brightens the skin. It brightens the skin texture by removing dead skin cells.

Collection: Rice flour are collected from local area sidhivinayak store hanumanvadi nashik, Maharashtra.

Purification: Rice flour was collected and dried in shade of room temperature then crushed in grinder mixer manually to form powder material. These powder passes through sieve 60 for getting particles of material in proper size. Abrasive agents used in face scrub are having particle size range between 200-600µm.

Materials- [9] [10]

Sr.no	Ingredients	Biological Source	Image	Use
1	Rice Flour			Exfoliator, Remove dead skin cell, dirt
2	Lemon Juice	Citrus Lemon		Astringent and Antiseptic
3	Multani Mitti	Fuller Earths Clay		Remove blackhead and whitehead

4	Neem Powder	Azadirachta Indica		Antiaging, Humectant
5	Honey	Apis cerena		Moisturizer, Nourish skin
6	Tulsi	Ocimum Tenuiflorum		Antiacne, Clear the skin
7	Mint	Mentha		Cleans pore and slough off any dead skin cell
8	Carbapol 940			Gelling agent, Provide high viscosity
9	Gram Flour			remove all the dead and dirt skin cell from your face

10	Sodium Benzozte			Prevent yeast, mold, fungus from forming
11	Sodium Lauryl Sulphate			Foaming agent and cleansing agent
12	Rose oil			Flavourant, Protect against sun damage

METHOD OF COLLECTION:

1. Collection of Rice Flour-

Fresh rice was gathered from a shop. Rice were washed and dried. To produce the product, these rice are appropriately ground in a grinder and produced a powder after going through sieve number 60.

2. Collection of Neem powder-

Fresh neem leaves were gathered from a local sapkal knowledge hub garden. Neem leaves were washed and dried in the shade for about a 7 days. To produce the product, these leaves are appropriately ground in a grinder and a fine powder after going through sieve number 60.

3. Collection of Mint powder-

Fresh mint leaves were gathered from a local vegetable shop. Mint leaves were washed and dried

in the shade for about 5 days. To produce the product, these leaves are appropriately ground in a grinder and a fine powder after passed through sieve number 60.

4. Collection of Tulsi powder-

Fresh tulsi leaves were gathered from a local sapkal knowledge hub garden. Tulsi leaves were washed and dried in the shade for about a 4-5 days. To produce the product, these leaves are appropriately ground in a grinder and a fine powder after going through sieve number 60.

5. Collection of other ingredient-

Lemon juice, Multani mitti, Honey, gram floor was collected from shop. Carbapol 940, Sodium Benzoate, Sodium laurel sulphate, Rose oil were collected from college laboratory.

Table 1: Composition of developed Formulation-

Sr.no	Ingredient	F1	F2	F3	F4
1.	Rice flour	2.2gm	3gm	2gm	2gm
2.	Lemon juice	4 ml	3ml	4ml	3ml
3.	Multani mitti	2.3gm	2gm	4gm	2.3gm
4.	Neem powder	1gm	2gm	1gm	1gm
5.	Honey	4ml	2ml	3ml	3ml
6.	Tulsi	1gm	1gm	1gm	2gm
7.	Mint	1gm	1gm	0.5gm	1.2gm
8.	Carbapol 940	2gm	2.5gm	2gm	2gm
9.	Gram flour	3.5gm	3gm	3gm	3.5gm
10.	Sodium Benzoate	1gm	1.5gm	1gm	1gm
11.	Sodium Laurel Sulphate	2gm	2gm	1.5gm	2gm
12.	Rose oil	1ml	2ml	2ml	2ml
13.	Water	qs	qs	qs	qs

METHOD OF PREPARATION [11]:**Step 1. Preparation of gel**

In a beaker, soak the specified amount of carbapol 940 with enough water. Using a petri plate, close the beaker. Set aside the beaker for 24 hours. Triethanolamine was added at the end to correct the pH

Step 2. Preparation of active ingredients

Weigh all ingredients as given in formulation table. Mix them uniformly using mortar and pestle.

Step 3. Add prepared gel

The produced gel was added to the active ingredient mixture and mixed. The produced Formulation was

then assessed utilizing several parameters.

Step 4. Using mechanical stirrer, add water to mixture.**Evaluation parameter:**

1. Physical Appearance: Visual observation was made of the formulation's physical appearance. Color, aroma, character, and consistency were all observed during this test.

2. Homogeneity: The homogeneity of the formulation was carefully inspected. To measure pH of the scrub component, digital pH meter was employed. [12]



Fig 1: pH meter

Extrudability: Extrudability was measured by amount of time needed for the sample to entirely extrude from the container or sample amount/time required.

Determination of spreadability of scrub: The scrub was lightly sprinkled on top of the gel. On top of it, a 20g wooden weight was put. Both the length of time the brush took to spread and the area it covered were counted. The extent of the brush and its area on the glass slide demonstrate its spreadability.

i.e., Spreadability= $M \times L/T$

S=Spreadability

m=Weight added on the slide

l=glass slide's length

t=Time taken in seconds

Irritability: A little quantity of scrub was applied to the skin's surface and left on for a few moment.

Wash ability: A small amount of sample scrub placed on skin and pour with water and find washing property.

Grittiness: Grittiness was personally analyzed.

Foam ability: In a measuring cylinder, a small amount of scrub was stirred with and the foam was measured.



Fig 2: Determination of Foam

Viscosity: Brookfield viscometer is used to measure the viscosity.

Stability study: The formulation was stored for 56 days at various temperature and analyzed for colour, odour, pH and consistency.

Consistency: Visual observation was used to confirm it.

Patch test: For the evaluation of hypersensitivity patch test is used and determining the probability of a

certain substance causing an allergic reaction on the skin of a patient. A small portion of skin is reacted to dilute form whose specific effect on skin portion is being researched in a patch test. In a patch test, the formulation effect on the skin takes 2-3 days. Because Polyherbal Scrub is a cosmetic product, we put it patch test on a variety of people. Fair, dark, moderately dark, medium fair, and medium skin types.

RESULTS:

Table 2: Comparative evaluation results of trial formulation

SR. NO	Parameter	Observation
01	Colour	Greyish green
02	Odour	Pleasant
03	Nature	Semisolid gel
04	Homogeneity	Good
05	Ph	5
06	Consistency	Good
07	Viscosity	1429 centipoise
08	Extrudability	Easily extrudible
09	Irritability	Non irritable
10	Wash ability	Easy washing property
11	Grittiness	Small gritty particle
12	Patch test	No side effect
13	Skin sensitivity	No rashes
14	Foamability	250 ml at 5 min



Fig 3: Weighing of Ingredient

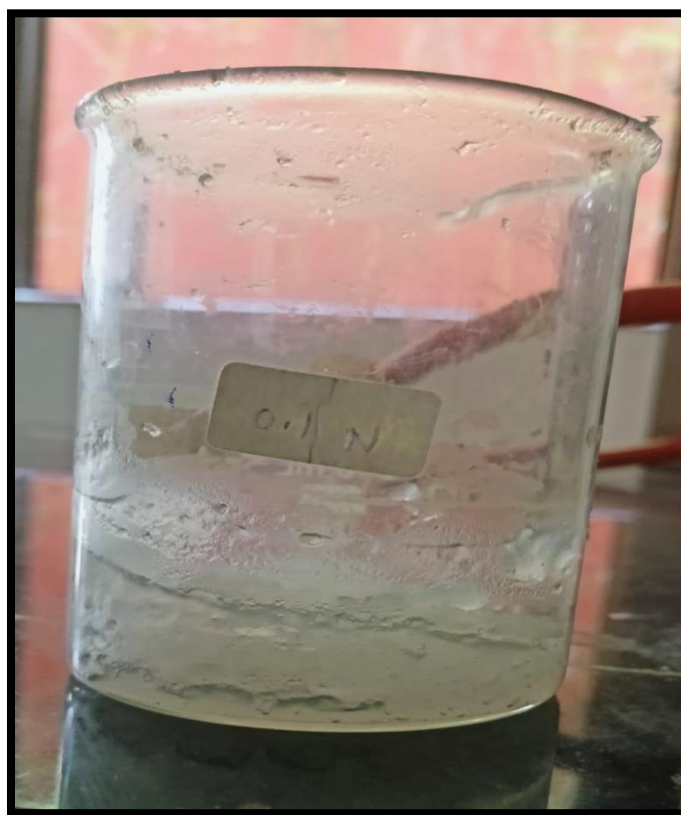


Fig 4: Carbapol Soaked For 24 Hour



Fig 5: Mechanical stirrer



Fig 6: Hand on application with formulation



Fig 7: Hand after washing formulation



Fig 8: Comparison of hand

CONCLUSION:

We discovered that the Face Scrub has good cosmetic properties on human skin. The skin is the body's outermost organ, and it is constantly and directly exposed to pro-oxidants such as UV rays, chemicals, and air pollution. There were no or minor negative effects because all natural chemicals were used. Vitamin C is an essential ingredient whose importance in the skin care industry is expanding. Lemon oil is high in vitamin C, so it softens and smoothes your skin. This face scrub stimulates blood circulation while also reducing dark circles, acne, and scarring. The evaluation of odour, colour, consistency, pH, spreadability, Extrudability, viscosity, wash ability, irritability and grittiness of the formulated sample and found satisfactory. and found to be satisfactory. As a result, the produced product can be used as a scrub to promote a healthy and beautiful skin.

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REFERENCES:

1. Anne W, Allison G. 2001, Anatomy and physiology in health and illness: Churchill living stone; 372
2. Sachin BA, Amol UG, Akash K. Preparation and evaluation of polyherbal facial scrub,2011; 61
3. Peter E, Howard IM. 2005, Cosmeceutical and active cosmetics.Second edition. Arizona: Series editor; 3
4. Martha S, Dumpaty S,Dr.Anoop S. Current Review on Herbal Face Care. Hyderabad-Telangana : International Journal of Pharmaceutical Science Review and Research, 2021; 101
5. Prathyusha J, Yamani NS,Santhosh G,Aravind A, Naresh B. Formulation and Evaluation of Polyherbal Face Scrubber for Oily Skin in Gel Form : International.J.Pharmacy,Science,Drug Research, 2019; 126
6. Vaishnavi RP, Shinde R, Hingane LD. Formulation and Evaluation of Face Scrub from Rice Powder: International Journal of all Research Education and Scientific Method (IJARESM), 2021; 1049
7. Ghadage PK, Mahamuni SS, Kachare DS. Formulation and Evaluation of Herbal Scrub Using Tamarind Peel : International Journal of Research, 2020; 3,4
8. Kokate CK, Purohit AP, Gokhale SB. Pharmacognosy; 116
9. James.AD. Handbook of Medicinal Herbs; 624, 453, 523,381
10. Raymond.CR, Paul.JS, Sian CO. Handbook Of Pharmaceutical Excipients; 111, 662, 687, 301.
11. Pawan NK, Meera M D, Avinash BT. Formulation and Evaluation of Lemon TurmericFacial Scrub: A New Innovation. 2021; 1300
12. Rathod KG, Charushila MJ. Formulation and Evaluation of Face Scrub using Mango seed as Natural Exfoliant; 54