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FORMULATION AND EVALUATION OF HERBAL SCRUB

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Abstract— This research study's major aim is to create a herbal scrub from natural substances. Herbal cosmetic usually contain the plant parts which possess antimicrobial, antioxidant and anti-aging properties. Herbal cosmetics are the safest product to use with no side effects and cosmetics are the product which influences the biological function of skin.

The skin surface needs frequent cleansing to get rid of oil, sebum, other secretions, dead cells, crusts or any makeup that has been applied in order to be healthy and attractive. The scrub comprises various natural components that are safe to use, have fewer adverse effects and have antibacterial, anti-infective, antioxidant, anti-aging, and moisturizing characteristics.

KEYWORDS

Herbal scrub , skincare, exfoliation, natural ingredients, plant-based, safety, efficacy, clinical trials.

Introduction

Cosmetics are defined as the products used for the purposes of cleansing, beautifying, promoting attractiveness or alternating the appearance. Cosmetics are products that are used to improve or alter the way the skin looks, smells, or feels. The word "cosmetics" comes from the Greek word "kosmos," which means "articles intended to be introduced into or applied to the human body or any part of cleansing, beautifying, promoting attractiveness, or alerting appearance [2].

Humans have rough skin and when they don't take sufficient care then the skin turns dark due to over exposure of the sun. 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.

Herbal cosmetics are the products in which natural ingredient are used. The main advantage for using an herbal cosmetic is that it is pure and does not have any side effects on the human body. Herbal cosmetics are prepared by the association of bioactive ingredients and pharmaceutical products. The presence of number of photochemical and botanicals in the herbal products have dual significance, one that they are used as cosmetics for body care and another that photochemical improve the biological functions of human body naturally results in healthy skin. The current trend moves toward the herbalism and use of natural products. Indian herbs are the richest source to be used in cosmetic industries. Herbal cosmetics were gaining tremendous demand in the world market. There is a wide range of herbal cosmetic products used as beauty regime to satisfy the purpose of beautification.

SKIN STRUCTURE AND ANATOMY

The skin is the body's largest and primary protective organ, covering its entire external surface and serving as a first-order physical barrier against the environment. Its functions include temperature regulation and protection against ultraviolet (UV) light, trauma, pathogens, microorganisms, and toxins. The skin also plays a role in immunologic surveillance, sensory perception, control of insensible fluid loss, and homeostasis in general. The skin is also highly adaptive with different thicknesses and specialized functions in different body sites. This article will discuss the anatomy of the skin, including its structure, function, embryology, blood, lymphatic, and nerve supply, surgical, and clinical significance.

The skin is primarily made up of three layers. The upper layer is the epidermis, the layer below the epidermis is the dermis, and the third and deepest layer is the subcutaneous tissue(6).

- The epidermis, the outermost layer of skin, provides a waterproof barrier and contributes to skin tone.
- The dermis, found beneath the epidermis, contains connective tissue, hair follicles, blood vessels, lymphatic vessels, and sweat glands.
- The deeper subcutaneous tissue (hypodermis) is made of fat and connective tissue.

Objective of scrub -

- It is used to exfoliate your skin.
- It assists in removing dead skin cells from the skin's surface
- Lowering the likelihood of clogged pores and acne outbreaks.

Ideal Properties of Scrub:-

An ideal scrub is expected to possess the following properties-

- It should be Nontoxic.
- It should possess small gritty particles.
- It should be Mild abrasive.
- It should be Non irritating.
- It should be Non sticky.
- It should be Able to remove dead skin cells.

Benefits of Scrubbing Skin-

Scrubbing provides people with clean skin free of oil and sweat. Cleansing milk, face wash, and facial cleansers 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

Removes dead skin - Since scrubbing is an exfoliation process, the beads or the granules of the scrub upon cleansing and massaging removes the dead cells of the skin

Removes Dark Patches - It works particularly well on knuckles, elbows, and knees

Disadvantages of scrubbing on skin-

Hard scrubbing motions and hard scrubbing chemicals may cause skin irritation including redness,

inflammation.

Over scrubbing can result in open pores which are exposed to pollution and UV rays at the same time. It also leaves your skin more prone to infections and tanning.

Proper moisturizing post scrubbing leaves your pores open and the dirt settles on them easily. This makes your skin more prone to acne due to bacterial growth in the dirt. And also,



it leaves your skin dry [6].

Herbal Ingredient -

Masoor Dal -

Biological source -

Masoor dal, commonly known as red lentil, is a legume and belongs to the Fabaceae family. The seeds (red lentils) grow inside their dark flat pods. It has a history of cultivation associated with South-East Asia.

Masoor dal exfoliates dead skin cells, giving a healthy glow. After regular usage, the lentil performs as an excellent cleaner, removing blackheads and skin patches. Promotes the skin's tone and moisturizes its scars of lightning and dark patches.

Multani Mitti

Biological source – It consists of hydrous aluminum silicates (clay minerals).



The oil-absorbing properties of multani mitti make it effective against acne and help speed up the healing process.



Orange peel

Biological source-It consists of dried fruits of Citrus sinensis belonging to family Rutaceae.

Orange is a citrus fruit which contains different nutritional source such as vitamin C, calcium, potassium and magnesium. It prevents the skin from free radical damage, skin hydration and oxidative stress.

Neem



Biological source - Neem consists of the fresh or dried leaves and seed oil of Azadirachta indica. It contains antibacterial and antioxidant properties which infiltrate into the skin and get rid of all the dirt and germs. Nearly all parts of the neem tree are useful, and many of its medicinal and cosmetic uses are based on its antibacterial and antifungal properties.

METHOD AND MATERIAL

A) Preparation of Extract:

Preparation of Neem Extract:

Neem extract was prepared by using decoction method. After washing with distilled water, the Neem leaves were dried. These leaves were added to a beaker with distilled water and this mixture was heated using a water bath. The resulting extract was filtered through filter paper.

Preparation of Tulsi Extract:

Tulsi extract was prepared by using decoction method. After washing with distilled water, the Tulsi leaves were dried. These leaves were added to a beaker with distilled water and this

mixture was heated using water bath. The resulting extract was filtered through filter paper.

Preparation of Aloe-vera Gel:

Fresh aloe vera leaves collected and remove the gel manually. Gel was grinded into mixer to get a homogeneous form [10].

Preparation method-

Accurately weight required quantity of multani mitti, rice powder, gram flour, masoordial flour is accurately weighed and added to a beaker and mixed.

Neem extract, Tulsi extract, Aloe vera gel and Rose water is added together then added and mixed in another beaker with continuous stirring.

Methyl paraben and sodium lauryl sulphate added in distilled water in beaker and then added to content.

Then both of content is added to

S. N.	Parameters	Observation
1.	Colour	Brownish
2.	Odour	Pleasant
3.	Consistency	Smooth
4	Homogeneity	No aggregation
5.	Washability	Easily washable
6.	pH	7.1
7.	Viscosity	6960-7100 cps
8.	Spreadability	Easily spread
9.	Skin Irritation	Non Irritant
10.	Microbial growth	No microbial growth

mortal pestle and triturated and khus khus is added. In this triethanolamine is added as neutralizer [11]

EVALUATION PARAMETERS

The formulated herbal scrub will undergo comprehensive evaluation to determine its physical and chemical properties, including pH, viscosity, spreadability, particle size distribution, and microbial load.

1. Organoleptic Characteristics

Colors: The formulation's colors was carefully assessed and observed.

Odour: The fragrance of the product was tested when it was spread on the palm and smelling the perfume.

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.

Homogeneity and texture-

It was tested by pressing a small quantity of the formulated scrub between the thumb and index finger.

Consistency

The consistency was determined manually. It was found to be semisolid and homogeneity with visual observation [12].

pH

pH of 1% aqueous solution of formulation was measured by using a calibrated digital pHmeter and result found 7. It is a neutral in nature.

Result of evaluation test –

RESULTS:

The herbal scrub was prepared using neem extract and tulsi extract and evaluated for different parameters. The herbal scrub F3 formulated in the laboratory compared with various parameters such as appearance, pH, viscosity, spread ability, wash ability, irritability, Extrudability and found to be

satisfied with all required characterization. Thus, the developed formulation can be used as an effective scrub for using it to bear a healthy and glowing skin.

CONCLUSION:

The present study was attempted to prepare a herbal scrub. The prepared scrub was evaluated using various parameters and was found to be satisfied for the application on the skin to make it healthy and glowing without any side effects. The prepared scrub is planned to carry out with in vivo studies for its irritancy. In comparison to other cosmetic products available in the market, natural and herbal cosmetics are easy, safe and effective to use. One of the main reasons of herbal products use is that they can be used for all skin types. The major use of herbal products is for health promotion and therapy for serious skin conditions. However, usage of traditional remedies increases when conventional products is ineffective or may causes harmful effects. The use of herbal face scrub gives effectiveness and healthier skin type. The antioxidant, antiseptic, anti aging effect of neem and tulsi enhance the importance of use of herbal face scrub. The prepared formulation was suitable to skin and was evaluated using various parameters. The formulation has passed all the tests included in evaluation.

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