

# PREPARATION AND EVALUATION OF POLYHERBAL FACIAL SCRUB

Khushi kucheriya, Prof.Pankaj Fitwe, Dr.Shivshankar D. Mhaske, Om K. Gosavi

Satyajeet College Of Pharmacy ,Mehkar

## ABSTRACT

This project focuses on the preparation and evaluation of a polyherbal facial scrub using natural ingredients. The scrub was formulated with herbal components like Amla, Cinnamon, Millet, Honey, Sandalwood, Neem, and Turmeric, which are known for their skin-friendly properties such as exfoliation, nourishment, and antibacterial effects. A special focus was given to **Limonia acidissima** due to its high vitamin C content and antioxidant benefits. The scrub was prepared in gel form using Carbopol as a gelling agent, along with other cosmetic ingredients like Methyl Paraben (preservative), Triethanolamine (pH adjuster), and Propylene Glycol (moisturizer). The herbal powders were extracted using the cold maceration method to preserve their natural properties. After preparation, the scrub was evaluated for its physical appearance, pH, spreadability, washability, and stability. The results showed that the scrub had a pleasant appearance, was easy to apply and wash off, and remained stable over time. The study concludes that the polyherbal facial scrub is effective in cleansing, exfoliating, and improving skin texture without causing irritation, making it a safe and natural skincare option.

## 1. INTRODUCTION:

Cosmetics are defined as the products used for the purposes of cleansing, beautifying, promoting attractiveness or alternating the appearance<sup>1</sup>. 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<sup>2, 3</sup>. 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. Only the essential oil used in scrub as Ingredient will vary with the type of skin. Skin is classified Into three types such as dry skin, oily skin, sensitive skin<sup>4</sup>. On Regular use of scrubs, skin becomes glowing and smoother Because dead skin cells are removed thereby exposing new Skin cells. Mild abrasive agent is one of

the key ingredients in Facial scrub formulation. Scrubs can be directly applied on to the skin or can be applied with small cosmetic pad. Gentle Message is recommended on application of the scrub gel which helps to improve blood circulation and increases Oxygen supply to all surface of the skin.

The demand for herbal cosmetics is high nowadays due to its ability to act as cosmetics and Drugs. Skin care products are important factor to improve the confidence in individuals. Women were thought to be the larger consumer of skin care products but in the present Scenario men are equally concern about their look. This concept about the beauty, look and Attractiveness leads to the boom in this field. The cosmeceutical companies produce their Product based on the skin texture like men require special type of products due to the Roughness of their skin than women. The health of an individual is mainly represented by the skin which is the major part of the Body. Lipids, amino acids, carbohydrates are the composition of skin. Skin can be affected by Biological, hormonal, environmental factors. To keep the skin healthy and glossy it should be nourished with balanced diet. Environmental factors such as UV rays, pollution, dust, Climatic changes will intensify the issues related to skin. Environmental causes can be prevented from skin damage by treating with topical application of synthetic or herbal Cosmetics. Cosmetic is a Greek word, which is intended to be applied on the skin to improve the beauty and health of the skin. It can be used for various purposes such as cleansing, Glowing, protecting, moisturizing, softening, whitening etc. Today herbal cosmetics are great in demand due to its ability to nourish the skin with all its necessity without any side effects. Different types of herbal topical application of cosmetics are in the market such as facial Mask, peel off, sunscreen gel, facial scrub etc. <sup>[1]</sup>

### **1.1 Facial scrub:**

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. Only the essential oil used In scrub as ingredient will vary with the type of skin. Skin is classified into three types such As dry skin, oily skin, and sensitive skin. On regular use of scrubs, skin becomes glowing And smoother because dead skin cells are removing thereby exposing new skin cells. Mild Abrasive agent is one of the key ingredients. facial scrub formulation. Scrubs can be directly Applied on to the skin or can be applied with small cosmetic pad. Gentle message is Recommended on application of the scrub gel which helps to improve blood circulation and Increases oxygen supply to all surface of the skin. <sup>[4]</sup>

## 1.2 Ideal Properties of Scrub:

An ideal scrub is accepted to possess the following properties.

It should be:

- Non toxic
- Possess small gritty particles
- Mild abrasive
- Non irritating
- Non sticky
- Able to remove dead skin cells <sup>[3]</sup>

## 1.3 Why scrub?

- In a nutshell, lipids are skin's natural fats.
- They are essential components of skin and play a crucial role in maintaining the strength of the skin's protective barrier, which holds moisture, protects the skin from damage and keeps dirt and impurities out.
- The epidermal lipids of keratinocyte origin play an essential role in the skin's barrier function.
- These lipids provide a barrier against the movement of water and electrolytes as well as a barrier against microorganism invasion.
- The epidermis has a very active synthesis of cholesterol, fatty acids and ceramides. <sup>[6]</sup>

Cosmetics product are mixture of chemical composition obtained from either its natural or Synthetical sources used for cleansing, beautifying, attractiveness Skin indicates the health of Individual[1]. On regular use of scrubs ,skin become glowing, smooth, soft and healthy Because dead cells of skin are removed and exposing new skin cell. Mild abrasive agent is one of the key ingredients in facial scrub formulation. Scrub can be directly applied onto the Skin or can be applied with small cosmetic pad and gently massage is recommended on Application of the scrub which helps to improve blood circulation and increase oxygen supply To all surface of the skin Now day's acne, and pimples are major problem of skin and dry Skin, wrinkle and dark spot are second most problem. Scrub is used to remove all this skin Problem of any type of skin. Herbal and natural ingredients are cleansing formula for any type of skin problem which Exfoliate old and dead skin[6].Orange peel powder is main ingredient of this preparation Which are rich in vitamin C and also anti microbial, anti oxidant properties. Grittiness of Powder helps t o cleans the pores of skin and removes dead skin. Another active ingredients i.e. Multanimitti or fuller's earth used as a natural cleanser and astringent

offering benefits for the skin including reducing oil, fight against acne, balancing and brightening skin tone, reducing pigmentation etc. sandalwood powder having healing properties helps in soothing inflammatory skin, getting rid of scars, it removes skin impurities to give even tone. Turmeric is antioxidant may provide glow and luster to the skin. Honey has antibacterial and antiseptic abilities, it may benefit for oily and acne-prone skin and act as natural humectant, so helps to keep the skin moist. Also hydrating agents like Aloe Vera gel is made up of 80% water, couple with lot of vitamins, nutrient and mineral work to make skin appear really soft and glowing. Glycerin can increase skin hydration, relives dryness, and refresh the skin's surface.

Generally herbal cosmetics are also referred to as natural cosmetics. Herbal cosmetics, referred as products are formulated using various permissible cosmetic ingredients to form the base in which one or more herbal ingredients are used to provide defined cosmetics Benefits only shall be called as herbal cosmetics. The science of Ayurveda had utilized many herbs and floral to make cosmetics for beautification and protection from external affects The natural content of in the botanicals do not cause any side effects on human body; instead enrich the body with nutrients and other Useful minerals. The natural herbs and their products when used for their aromatic value in cosmetics preparation are termed as herbal Cosmetics. The increase demand for the natural products has created new avenues in cosmetics market. Herbal medicines have long history of use and better patient tolerance as well as acceptance medicinal plants has a renewable source which Is due only hope for sustainable supplies of cheaper medicines for the world growing populations. There are a number of herbs that are used for their medicinal and cosmetics properties, Limonia acidissima is one of them. Different Parts of Limonia acidissima are responsible for different medicinal as well as cosmetics properties. Acidissima is a huge source of vitamin C and it contains 4 times vitamin C than any other citrus fruits. Vitamins C help in Immunity Improvement and also protect against common infections and pathogen. L. acidissima contains anti-oxidant like B-carotene which helps defend the skin from Aging and wrinkles. <sup>[6, 8]</sup>

## 2. OBJECTIVE:

- To Prepare a Multipurpose Scrub Incorporated into gel.
- To Study the role of Limonia Fruit to Prevent Wrinkling or Removing dirt, oil. Sebum and reduce the clogged of pore.
- To assess the efficacy & tolerability of face gel to improve the appearance of aging, wrinkle, fine lines, etc.
- To nourish and beautify the skin.
- For A Squeaky Spotless Skin: Scrubbing gives you clear skin, free from dirt, oil, sweat.

- Frees Your Skin from Flakes: Blistered skin looks hideous.
- Helps in Removing Dead Cells.
- Adds Glow to Skin.
- Removes Dark Patches.
- Removes Acne Scars.
- Prevents Ingrown Hair.
- For Smooth Skin.
- Improve the Smoothness of Your Skin.
- Promotes Clear Complexion.
- It should be nontoxic.
- It should possess small gritty particles.
- It should be mild abrasive.
- It should be non-irritating and non-sticky.

### 3. PLAN OF WORK:

#### A. Ingredients:

- i. Amla
- ii. Cinnamon
- iii. Millet
- iv. Honey
- v. Sandalwood
- vi. Neem
- vii. Turmeric

#### B. Chemicals:

- i. Carbopol
- ii. Methyl Paraben
- iii. Triethanolamine

- iv. Propylene Glycol
- v. Sodium Lauryl Sulfate
- vi. Distilled water

**C. Glassware:**

- i. Measuring cylinder
- ii. Beaker
- iii. Dropper
- iv. Pipette
- v. Spatula

**D. Instruments:**

- i. Brookfield viscometer
- ii. PH meter [5, 11]

## 4. MATERIALS AND CHEMICALS:

### I. Amla



Fig.1.7:Amla powder

**Figure no. 1: Amla**

Amla commonly known as Indian gooseberry it belongs to family Euphorbiaceae. The species are native to India and also grows in tropical and Subtropical regions including, Pakistan, China, South East Asia, Sri Lanka, etc Amla has an important position in Ayurveda. It is loaded with antioxidants and vitamin C that helps to reduce dark spots hyper pigmentation and restore natural glow of skin.[29,30]

## II. Cinnamon



**Figure no. 2: Cinnamon**

Cinnamon a spice obtained from the inner bark of several tree species from the genus *Cinnamomum*. Cinnamon is used mainly as an aromatic condiment and flavouring additive in a wide variety of cuisines, sweet and savoury dishes, breakfast cereals, snack foods, bagels, teas, hot chocolate and traditional foods. The aroma and flavor of cinnamon derive from its essential oil and principal component, cinnamaldehyde, as well as numerous other constituents including eugenol.

## III. Millet



**Figure no. 3: Millet**

Millets are a highly varied group of small-seeded grasses, widely grown around the world as cereal crops or grains for fodder and human food. Most species generally referred to as millets belong to the tribe Paniceae, but some millets also belong to various other taxa.

## IV. Honey



**Fig.1.8:Honey**

**Figure no. 4: Honey**

Highly popular and used in cosmetic treatment honey used in preparing hair conditioner and face wash, etc. Honey is the only insect derived natural Product which has therapeutic and cosmetic as well as nutritional values Honey has been used for both as food and in medicines since ancient Times[31]. Honey is one of the most appreciated and valued natural product approximately 300 varieties of honey have been identified although there are many nutritional studies of honey.

## V. Sandalwood



**Figure no. 5: Sandalwood**

Sandalwood is a class of woods from trees in the genus Santalum. The woods are heavy, yellow, and fine-grained, and, unlike many other aromatic woods, they retain their fragrance for decades. Sandalwood oil is extracted from the woods for use. Sandalwood is often cited as one of the most expensive woods in the world. Both the wood and the oil produce a distinctive fragrance that has been highly valued for centuries. Consequently, some species of these slow-growing trees have suffered over-harvesting in the past

## VI. Neem



**Figure no. 6:** *Neem* (*Azadirachta indica*), commonly known as neem, nimtree or Indian lilac, are a tree in the mahogany family *Meliaceae*. It is one of two species in the genus *Azadirachta*. It is native to the northeast of the Indian subcontinent and to Indochina, but is naturalized and grown around the world in tropical and subtropical areas. Its fruits and seeds are the source of neem oil. Neem is a Hindustani noun derived from Sanskrit *nimbi*.

## VII. Turmeric powder



Fig.1.5: Turmeric powder

### Figure no. 7: Turmeric

Turmeric widely used condiment and coloring agent. It is also known as the “golden spice”, “yellow root”. Turmeric shows anti-inflammatory property, A vanishing cream base prepared with turmeric and sandalwood showed anti-inflammatory activities. Turmeric typically mixed with water or honey to a pasty consistency and applied directly to the skin.

## VIII. Methyl Paraben:



Figure no. 8: Methyl Paraben

One of the parabens, is a preservative with the chemical formula  $\text{CH}_3(\text{C}_6\text{H}_4(\text{OH})\text{COO})$ . It is the methyl ester of p-hydroxybenzoic acid.

## IX. Carbopol



Figure no. 9: Carbopol

Carbopol 934 polymer is a white powder, cross-linked polyacrylic acid polymer. It exhibits short flow properties and a creamy sensory profile, and is therefore well suited for use as a rheology modifier in lotions and creams.

## X. Triethanolamine



Figure no. 10: Triethanolamine

**Triethanolamine**, or **TEA**, is an organic compound with the chemical formula  $N(CH_2CH_2OH)_3$ . It is a colorless viscous liquid. It is both a tertiary amine and a triol. A triol is a molecule with three alcohol groups. Approximately 150,000 tones were produced in 1999. It is a colorless compound although samples may appear yellow because of impurities.

## XI. Propylene Glycol



Figure no. 11: Propylene Glycol

Propylene glycol (IUPAC name: propane-1, 2-diol) is a viscous, colorless liquid, which is nearly odorless but possesses a faintly sweet taste. Its chemical formula is  $CH_3CH(OH)CH_2OH$ . Containing two alcohol groups, it is classed as a diol. It is miscible with a broad range of solvents, including water, acetone, and chloroform. In general, glycols are non-irritating and have very low volatility.

## XII. Sodium Lauryl Sulfate

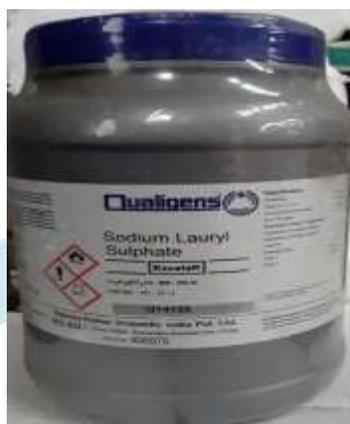


Figure no. 12: Sodium Lauryl Sulfate.

**Sodium Lauryl Sulfate (SLES)**, an accepted contraction of **sodium lauryl ether sulfate (SLES)**, also called sodium alkylethersulfate, is an anionic detergent and surfactant found in many personal care products (soaps, shampoo, toothpaste, etc.) and for industrial uses. SLES is an inexpensive and very effective foaming agent. SLES, sodium lauryl sulfate (SLS), ammonium lauryl sulfate (ALS), and sodium laureth sulfate are surfactants that are used in many cosmetic products for their cleaning and emulsifying properties. It is derived from palm kernel oil or coconut oil. In herbicides, it is used as a surfactant to improve absorption of the herbicidal chemicals and reduces time the product takes to be rain fast, when enough of the herbicidal agent will be absorbed. [10, 12, 13]

### 1. Experimental Work

#### A. Preparation of extract:

The extract was prepared by cold maceration process Green apple, Cinnamon, Millet, Sandalwood, Neem, Turmeric were ground and kept with water for 72hrs. This was dried and stored in desiccators further use.

#### B. Procedure:

Amla powder is obtained from Amla fruit that is *Phyllanthus Emblica* which is grind in the mixer and then powdered is form. This powdered is then sieved into the sieve that is sieve no.44 and big particles are separate out and uniform powdered is obtained.

Cinnamon is obtained from the trees species from the genus *Cinnamomum*, which is grind in the mixer and then powdered is obtained. This powdered is then sieved into sieve no.36 and big particles are separate out and uniform powdered is obtained. The cinnamon particles size is 0.5 micron.

Millet powder is obtained from the millet plant that is *Pennisetum glaucum* which is grind in the mixer and then powdered is form. This powdered is then sieved into the sieve and big particles are separate out and uniform powdered is obtained. The size of millet particles was 0.3 micron.

Honey is obtained from honey comb deposited by bees called *Apis Mellifera* which is a natural source and used as an Antiseptic and Antioxidant in the preparation.

Sandalwood is obtained from the genus known *Santalum Album* which is grind in the mixer and then powdered is form. This powdered is then sieved from sieve and large particles are separate out and uniform powdered is obtained. The particles size was found to be 0.2 micron.

Neem is obtained from the dried leaves of neem of genus *Azadirachta Indica* which is grind in the mixer and then powdered is form. This powdered is then sieved from sieve and large particles are separate out and uniform powdered is obtained. In this way neem powder is obtained.

Turmeric is obtained from the plant extract of curcumin of genus *curcuma longa* which is grind in the mixer and then powdered is form. This powdered is then sieved from sieve and large particles are separate out and uniform powdered is obtained. <sup>[9, 14]</sup>

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### C. Preparation of Gel

Methyl paraben was weighed and dissolved in a beaker containing water. To this carbopol was added and stirred continuously for few minutes until it forms a gel. Sodium lauryl sulfate was weighed, dissolved separately with water and was added into the above gel. Followed by this propylene glycol was added. Drop wise triethanolamine added into gel to neutralize the pH. The active ingredient mixture was then added into the prepared gel and stirred. <sup>[16]</sup>



Figure no. 13: Preparation of Gel.

### D. Cold Maceration:

Cold maceration is essentially a different way of extracting the various compounds from the flesh, skin, pulp, and seeds of the grape into the wine must. Typically conducted at temperatures between four and 15 degrees Celsius between two and 10 days, the low temperature is intended to reduce the effect that spoilage organisms have on the end product. Additionally, instead of focusing on alcoholic extraction, this technique places aqueous extraction, which results in the creation of more complex wines that include more fruity notes and increased intensity in both color and flavor. To expand on this a little bit, we are not going to look at the individual reasons for why cold maceration may be used.

The process of cold maceration or cold soak is where temperatures of the fermenting must are kept low to encourage extraction by water and added sulfur dioxide rather than relying principally on heat and alcohol to act as a solvent.

Cold maceration is a process that is used to extract the flavors and aromas of leaves. It is a gentle method that involves soaking the leaves in a liquid, such as water or alcohol, at a low temperature for an extended period of time. This process allows the flavor and aroma compounds to be extracted without degrading the leaves or altering their structure.

There are several different methods of cold maceration that can be used to extract the flavors and aromas of. One method involves soaking the tobacco leaves in water or propylene glycol (PG) at a low temperature for several weeks or months. This allows the water or PG to extract the flavors and aromas from the leaves without degrading them. Another method involves soaking the leaves in alcohol, such as vodka or rum, at a low temperature for several weeks. This method is often used to extract the flavors and aromas of more delicate leaves, as alcohol is less likely to damage the leaves than water or PG. Cold maceration is often used to create extracts, which are concentrated solutions that contain the flavors and aromas of tobacco. These extracts are often used in the production of products, such as cigarettes, cigars, and e-liquids. They can also be used in the production of food and beverage products, such as liqueurs and ice cream, to add a hint of flavor.

#### **E. Benefits of cold maceration:**

One of the benefits of cold maceration is that it is a gentle process that does not degrade the tobacco leaves. This is in contrast to other methods of extracting flavors and aromas from tobacco, such as heat extraction, which can cause the leaves to break down and lose their structural integrity. Cold maceration also allows for the extraction of a wider range of flavor and aroma compounds from the tobacco, as it does not destroy any of the delicate compounds that are present in the leaves.

In addition to its use in the production of tobacco products and extracts, cold maceration is also used in the production of essential oils. Essential oils are concentrated solutions that contain the flavors and aromas of a variety of plants, including leaves. These oils are often used in the production of perfumes, candles, and other fragranced products. <sup>[7]</sup>

#### **F. Ideal Properties of Scrub**

**An ideal scrub is accepted to possess the following properties:**

1. It should be Non toxic.
2. Possess small gritty particles.
3. Mild abrasive.
4. Non irritating. <sup>[5]</sup>

## G. Advantages of scrub:

1. Healthy, glowing skin, minimize spore, reduces breakout and acne, Hides wrinkles Allows absorption of the products, improve your tan, Maintain body pH..
2. Scrubbing is the removal of dry/ dead skin cells on the surface of the skin and is one of the most Important of skincare routine for face.
3. Scrubbing not only helps many skin problems, it also increases blood circulation, which in turn helps you to achieve healthy and glowing skin.
4. Abrasive scrub cleansers are used for mechanical exfoliation.
- 5.

## H. Disadvantages of scrub:

1. Hard scrubbing motions and hard scrubbing chemicals may cause skin irritation including Redness, inflammation.
2. If you have a sensitive skin one can also have allergic reactions to the chemicals present in the synthetic scrubs as well.
3. Over scrubbing can result in open pores which are exposed to pollution and UV rays at the same time.
4. It also leaves your skin more prone to infections and tanning. <sup>[16, 18]</sup>

**Table No. 1: Difference Between Herbal and Synthetic Product.**

DIFFERENCE BETWEEN HERBAL AND SYNTHETIC PRODUCTS:

Herbal Scrub	Synthetic scrub
Herbal products are completely free from all the harmful chemicals as they are naturally derived.	Synthetic product are maybe slightly harmful chemicals as they are Synthetically derived.
Herbal refer to products that are prepared from plants for their medicinal value	Synthetic refer to product that are prepared from chemicals
safe to use as compared to chemical-based cosmetics.	They may be harmful for sensitive skin
Synthetic refer to product that are prepared from chemicals	More side effect than herbal product
E.g. Plum Green Tea gentle revival face scrub	E.g. Cetaphil Extra gentle daily scrub

**Table No. 2: Formulation chart.**

Sr.No.	Common Name	Category	Quantity (%)
1	Green apple	Anti aging, anti oxidant	2
2	Cinnamon	Antibacterial	2
3	Millet	Improves complexion	3
4	Honey	Antiseptic, Antioxidant	4
5	Sandalwood	Smoothing, cooling effect and improves fairness	1
6	Neem	skin conditioner, antiseptic.	0.5
7	Turmeric	Antiseptic and improves Fairness	0.5
8	Carbopol	Gelling agent	2
9	Methyl Paraben	Preservative	0.1
10	Triethanolamine	Neutraliser	2
11	Propylene Glycol	Moisturiser	2
12	Sodium Lauryl Sulfate	Foaming agent	4
13	Distilled water	Vehicle	Q.S.

## 6. Evaluation Parameters:

The prepared gel was evaluated for appearance, pH, consistency, Spreadability, extrudability, viscosity, irritability, washability, grittiness, foamability.

- **Appearance:** The prepared scrub gel was evaluated for its odor and Color. The color was found to be brown in color and Odor was found to be characteristic.
- **PH:** The PH of the prepared gel was evaluated. Small amount of the gel was applied on the pH paper and found to be 7.0.
- **Consistency:** It was found to be semi solid with visual observation.
- **Spreadability:** Small amount of the gel was placed on the glass slide and another glass slide was placed on the gel. A wooden weight was placed on it .The time required for the gel to spread and the area was measured. The amount and the area of gel on the glass slide represent the efficiency of spreadability.
- **Extrudability:** Small amount of gel was taken into a collapsible ointment Tube. One end closed and the other end kept opened. Slight Pressure was applied on the closed side. The time taken to Extrude and the amount of gel extruded was noted.
- **Viscosity:** Brookfield viscometer was used to measure the viscosity of gel.

- **Grittiness:** Gel was found to have a few gritty particles.
- **Irritability:** Small amount of the gel was applied on the skin and kept for few minutes and found to be non irritant.
- **Washability:** Little quantity of gel was applied over the skin and was Washed with water. It was easily washable
- **Grittiness:** Gel was found to have a few gritty particles.

**Formability:** Small amount of gel was shaken with water in a graduated Measuring cylinder and the foam was measured. [17, 19]

## 7. Observation:

**Table No. 3: Observation Table.**

SR.NO.	PARAMETERS	OBSERVATION
1	colour	Brown
2	Odour	Characteristic
3	Consistency	Good
4	pH	7.0
5	Viscosity	1.4580 poise
6	Spreadability	6.72g.cm/sec
7	Washability	Easily washable
8	Grittiness	Small gritty particles
9	Foam ability	Foam volume 100ml at 5 minutes
10	Irritability	Non irritant
11	Extrudability	Easily extruded

1. The color of the facial scrub was found to be brown in color.
2. The odor of the facial scrub was found to be characteristic and don't show pungent smell.
3. The consistency was found to be good and it is semi solid with visual observation.
4. The PH of the facial scrub was found to be 1.4580 poise and it is found to be neutral in nature.
5. The viscosity of the scrub was found to be 1.4580 poise and it is measured in Brookfield viscometer.

6. The spreadability of the scrub was found to be 6.72g.cm/sec and area of the spreading gel over the applied skin is measured.
7. The prepared gel was applied over the skin and wash. It was found to be easily washable.
8. The gel was found to have few gritty particles present in it which is good property of scrub.
9. The foam of the prepared facial scrub was found to be foam volume 100ml at 5 minutes and the foamability was found to be effective.
10. The prepared scrub was applied over the skin and leave it for few minutes. It was found to be non-irritant in nature.
11. The prepared scrub was placed in collapsible tube and its release time that extrudation period is noted.  
[20]

## 8. Conclusion:

The present study was attempted to prepare a polyherbal scrub. The prepared scrub gel 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 the current study herbal face scrub was formulated, evaluated for various parameters. The Results indicated that the formulation passed the tests. The prepared poly-herbal formulation Nourish, moisturize, cleanses, protect the skin against premature aging, acne, and pimples. Herbal scrub was formulated using simple gel Preparation method. From results it was showed that scrub was soft, easy to spread and applies comfortably to the skin based on Spreadability test., viscosity and pH of formulation was found to be good.

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 reason 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 polyherbal face scrub gives effectiveness and healthier skin type. The antioxidant, antiseptic, anti aging effect of turmeric and amla enhance the importance of use of polyherbal face scrub. The prepared formulation was suitable to skin and was evaluated using various parameters. The formulation has passed all the tes included in evaluation. [18, 14, 13]

Sr. No.	Factors	Dry skin	Normal skin	Oily skin
1	Smoothness	+++	+++	++
2	Effect on acne	++	+++	+
3	Effect on blackheads	+++	+++	++
4	Effect on whiteheads	+++	+++	+++
5	Complexation	++	++	++
6	Effect on dark spots	+++	+++	++
7	Spreadability	+++	+++	++
8	Emollient action	+++	+++	+++
9	Irritation	-	-	-

Good - +; Better - ++; Excellent - +++

**Table No. 4: Conclusion**

## 9. Summary:

The main objective of present study was to prepare a polyherbal scrub incorporated into gel. The use of natural ingredients to fight against acne, Wrinkle and also to control secretion of oil is known as natural or herbal cosmetics. Herbal cosmeceuticals usually contain the plant parts which Possess antimicrobial, antioxidant and anti aging properties. Herbal cosmetics are the safest product to use routine with no side effects and cosmeceuticals are the product which influences the biological function of skin. In this preparation Green apple, cinnamon, Millet, Sandalwood, Neem, Turmeric and honey is used as active ingredients and incorporated into the gel which is prepared with carbopol of different grades. Other Ingredients like propylene glycol, Triethanolamine; methyl parahydroxy benzoate was added along with sodium lauryl sulfate into the gel. The Prepared gel was d for various parameters such as appearance, pH, viscosity, Spreadability, washability, irritability and found to be Satisfied with all required characterizations. Thus, the developed formulation can be used as an effective scrub for using it to bear a healthy and glowing skin.

The main objective of the present study was to prepare polyherbal scrub. Nowadays cosmetic have become an important part in the day to day life for both men & women to lead a happy & confident life. Keeping in the mind that the cosmetic should be free from synthetic chemicals/Drug, so we came on conclusion to prepare & evaluate a polyherbal facial scrub to prevent Acne, Scars, Tanning, Wrinkles, Aging, and Redness. This facial scrub content herb which shows Antioxidants, Antiseptic, Antibacterial, Skin brightener, Diminish permanent marks & Reducing inflammation properties. In this preparation we have used the main ingredient

as Sunflower seeds and other natural ingredients as Charcoal, Fuller's Earth, Coffee, Turmeric, and Rice flour, Gram Flour. Sunflowers seeds are also rich in minerals like calcium, copper, iron, magnesium, manganese, selenium, phosphorous, potassium, sodium and zinc. 128 gm of sunflower seeds contains 89.6 mg calcium, 4.9 mg iron, 165 mg magnesium, 1478 mg phosphorus, 1088 mg potassium, 3.8 mg sodium, 6.8mg zinc, 2.3 mg copper, 2.7 manganese mg and 102 mcg selenium as given by USDA (2008). Sunflower seed oil has been studied for its protective effect on biophysical properties of skin in humans. The prepared scrub was evaluated for various parameter Colour, Odour, Consistency, pH, Viscosity, Spreadability, Washability & Irritability found to be satisfy with all require characterization.

Facial scrub is a cosmetic or a beauty product or a treatment which cleanses and exfoliates the skin of the face or body. Facial scrubs are beneficial to remove dirt, skin cells and sebum or oil, blackheads and whiteheads. It helps to maintain skin appearance. There are three kinds of skin types, oily skin, sensitive skin and dry skin. For a person with dry skin must use the facial scrub, which contains the moisturizing and hydrating ingredients. If the person is having sensitive skin, he or she should use gentle scrub. And the person with oily skin should be using an exfoliation which prevents pimples dullness and breakouts and helps to control oiliness. Depending on the skin types facial scrubs are advised to use twice or thrice a week. But for the newbies, facial scrubs are recommended to use weekly. People with dry or sensitive skin types should only exfoliate one or two times a week. In some conditions, peoples with acne prone skin are recommended to use products containing salicylic acid and dermatologist-grade 4% glycolic and polyhydroxy acid complex. This helps to exfoliate skin and clear acne with giving smoother appearance.



**Figure no. 14: Evaluation Parameters**

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