

# Formulation And Evaluation of Multi-Herbal Facial Scrub

Mayur Mali<sup>1</sup>, Shivaji Khedkar<sup>2</sup>, Vaibhav Jadhav<sup>3</sup>

<sup>1,2</sup>Students, Pratibhatai Pawar College of Pharmacy, Wadala Mahadeo

<sup>3</sup>Assistant professor, Pratibhatai Pawar College of Pharmacy, Wadala Mahadeo

## Abstract:

The research aimed to produce an herbal facial scrub. The majority of times, the skin on the face is in regular contact with dirt, pollution, and other contaminants. 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. The primary ingredient in this scrub is chickpea and another important lemon oil which give better performance. Other ingredients such as Aloe vera (Indian aloe) Honey, Neem, Turmeric, Fullers earth (Multani mitti), Tulsi, Methyl paraben, Distilled water, Glycerin etc.

**Keywords:** herbal scrub, cleanser, chickpea, excipients.

## Introduction:

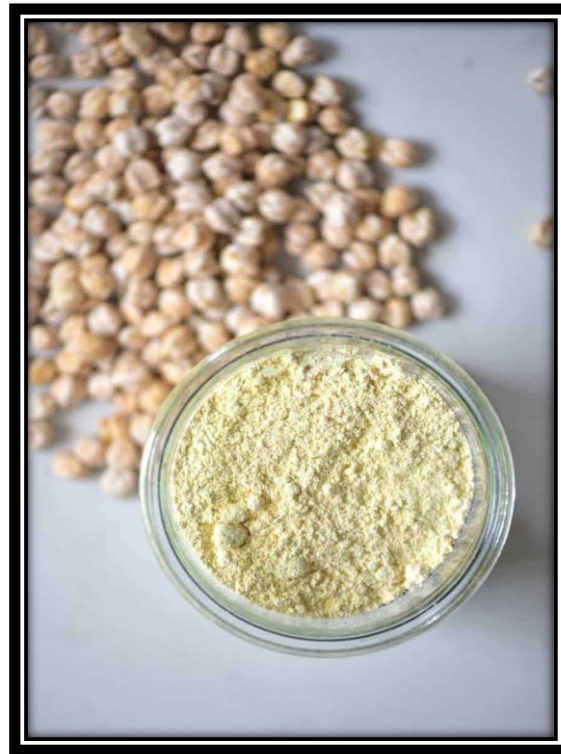
By eliminating superficial dead cells and encouraging the development of cells in the sub-epidermal layer, herbal exfoliating scrub reduces age-related changes and neutralizes the environment's damage. Cleaning the surface technically with a scrub or utilizing herbal products containing anti-aging, vitamins, antioxidants and antiseptics characteristics that assist help depth to cleanse the skin and make it shine and appealing remove these dead skin cells.

### 1. Chickpea:

Chickpeas are rich in magnesium which helps reduce the fine lines and wrinkles on the skin. It helps in balancing out the fatty acids in the body which increases the elasticity of the skin, gets rid of the wrinkles and smoothens out the fine lines. It also prevents premature wrinkles.

**Table 1 :Scientific classification**

<b>Kingdom:</b>	<b><u>Plantae</u></b>
<b>Clade:</b>	<b><u>Tracheophytes</u></b>
<b>Clade:</b>	<b><u>Angiosperms</u></b>
<b>Clade:</b>	<b><u>Eudicots</u></b>
<b>Clade:</b>	<b><u>Rosids</u></b>
<b>Order:</b>	<b><u>Fabales</u></b>
<b>Family:</b>	<b><u>Fabaceae</u></b>
<b>Genus:</b>	<b><u>Cicer</u></b>
<b>Species:</b>	<b><u>C. Arietinum</u></b>
<b>Common name</b>	<b><u>Chana</u></b>



**Fig 1. Chickpea powder**

➤ **Extraction :**

➤ **Preparation and administration of Extract**

Fresh seeds of *Cicer arietinum* was bought from Maharashtra ,Ahmednagar district collected by Mr. Mayur Mali, India.


The seeds were dried at 50 °C (Annapurna et al., 2017). The dried seeds was powdered and extracted overnight by stirring 75% methanol.

Supernatant was collected after centrifuging at 3,000 rpm (Niladri et al., 2007). Rotary evaporator was used to remove the solvent in invacuo (Raphael et al., 2003).

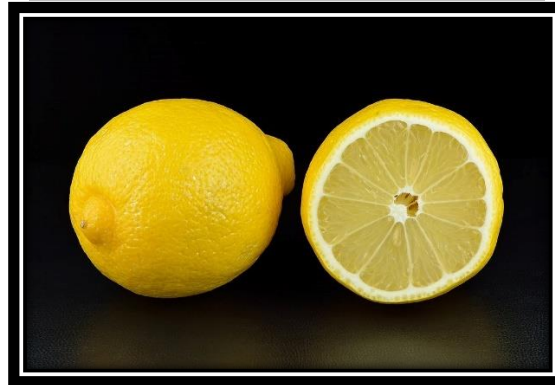
The yield of the extract was 8-10%. The extract was dissolved in minimum quantity of methanol

**2. Lemon**

**Table 2. Scientific classification of lemon**

<b><u>Scientific classification</u></b> 	
<b>Kingdom:</b>	<u>Plantae</u>
<b>Clade:</b>	<u>Tracheophytes</u>
<b>Clade:</b>	<u>Angiosperms</u>
<b>Clade:</b>	<u>Eudicots</u>
<b>Clade:</b>	<u>Rosids</u>
<b>Order:</b>	<u>Sapindales</u>
<b>Family:</b>	<u>Rutaceae</u>

<b>Genus:</b>	<i>Citrus</i>
<b>Species:</b>	<i>C. Limon</i>
<b><u>Binomial name</u></b>	
<i>Citrus limon</i>	



**Fig 2 lemon**

- **Lemon in skin benefits**
- Acne treatment. Lemon juice has astringent qualities due to its acidic level. ...
- Antimicrobial effects. ...
- Skin spot or hair lightening. ...
- Psoriasis and dandruff treatment. ...
- Increased collagen.

### 3. Honey

**Honey** is a sweet and viscous substance made by several bees, the best-known of which are honey bees. Honey is made and stored to nourish bee colonies. Bees produce honey by gathering and then refining the sugary secretions of plants (primarily floral nectar) or the secretions of other insects, like the honeydew of aphids. This refinement takes place both within individual bees, through regurgitation and enzymatic activity, as well as during storage in the hive, through water evaporation that concentrates the honey's sugars until it is thick and viscous.



**Fig 3 : Honey**

- **6 Honey Skin Benefits That May Surprise You**
- Honey Deeply Moisturizes and Hydrates the Skin. ...
- Honey Diminishes the Signs of Premature Aging. ...

- Honey is an Effective Pore Cleanser and Gentle Exfoliator. ...
- Honey Lightens Scars and Hyperpigmentation. ...
- Honey Fights Acne and Breakouts. ...
- Honey Relieves Sunburn

**Table 4:Scientific classification of aloe vera**

<b><u>Scientific classification</u></b>	
<b>Kingdom:</b>	<u>Plantae</u>
<b>Clade:</b>	<u>Tracheophytes</u>
<b>Clade:</b>	<u>Angiosperms</u>
<b>Clade:</b>	<u>Monocots</u>
<b>Order:</b>	<u>Asparagales</u>
<b>Family:</b>	<u>Asphodelaceae</u>
<b>Subfamily:</b>	<u>Asphodeloideae</u>
<b>Genus:</b>	<u>Aloe</u>
<b>Species:</b>	<u>A. Vera</u>
<b><u>Binomial name</u></b>	
<i>Aloe vera</i>	

**4. Aloe vera (indian aloe)**



**Fig 4: aloe vera**


- **Aloe vera uses for skin**
  - 1 Helps soothe sunburn. ...
  - 2 Helps to moisturize the skin. ...
  - 3 Boosts healing of wounds. ...
  - 4 Fights skin-ageing. ...
  - 5 Reduces infection and acne. ...
  - 6 Lightens blemishes on the face. ...

5. Neem



Fig 5. Neem

Table 5 :Scientific classification of neem

<b>Scientific classification</b> 	
<b>Kingdom:</b>	<u>Plantae</u>
<b>Clade:</b>	<u>Tracheophytes</u>
<b>Clade:</b>	<u>Angiosperms</u>
<b>Clade:</b>	<u>Eudicots</u>
<b>Clade:</b>	<u>Rosids</u>
<b>Order:</b>	<u>Sapindales</u>
<b>Family:</b>	<u>Meliaceae</u>
<b>Genus:</b>	<u><i>Azadirachta</i></u>
<b>Species:</b>	<u><i>A. Indica</i></u>
<b><u>Binomial name</u></b>	
<i>Azadirachta indica</i>	

Neem is able to balance oil production, heal wounds, stimulate collagen formation, reduce post-acne scars and minimize skin inflammation. It works as a natural alternative to heal the skin tissue from within and simultaneously reduces hyperpigmentation and scars.

Neem lightens acne scars and even out skin tone & discoloration

6. Turmeric (*Curcuma longa*)



Fig 6 : Turmeric

**Table 6:Scientific classification of turmeric**

<b><u>Scientific classification</u></b>	
<b>Kingdom:</b>	<u>Plantae</u>
<b>Clade:</b>	<u>Tracheophytes</u>
<b>Clade:</b>	<u>Angiosperms</u>
<b>Clade:</b>	<u>Monocots</u>
<b>Clade:</b>	<u>Commelinids</u>
<b>Order:</b>	<u>Zingiberales</u>
<b>Family:</b>	<u>Zingiberaceae</u>
<b>Genus:</b>	<u>Curcuma</u>
<b>Species:</b>	<i>C. Longa</i>
<b><u>Binomial name</u></b>	
<i>Curcuma longa</i>	

Turmeric is mainly used to rejuvenate the skin. It delays the signs of aging like wrinkles and also possesses other properties like antibacterial, antiseptic and anti-inflammatory. It is best source of blood purifier. It is effective in treatment of acne due to its antiseptic and antibacterial properties that fight pimples and breakouts to provide a youthful glow to your skin.

**Turmeric skin benefits**

- Helps brighten dark spots.
- Helps heal skin wounds.
- Helps with some skin conditions.
- Helps reduce blemishes.
- Helps fade skin scars.
- Brings out the glow.
- Anti-aging properties.
- Moisturises dry skin

**7. Multani Mitti (Calcium bentonite)**

Multani mitti helps skin by different ways like diminishing pore sizes, removing blackheads and whiteheads fading freckles, soothing sunburns, cleansing skin, improving blood circulation, complexion, reducing acne and blemishes and gives a glowing effect to a skin

**Fuller's earth** is any clay material that has the capability to decolorize oil or other liquids without the use of harsh chemical treatment.<sup>[1][2]</sup> Fuller's earth typically consists of palygorskite (attapulgite) or bentonite.<sup>[1]</sup>

Modern uses of fuller's earth include as absorbents for oil, grease, and animal waste (cat litter) and as a carrier for pesticides and fertilizers. Minor uses include filtering, clarifying, and decolorizing; active and inactive ingredient in beauty products; and as a filler in paint, plaster, adhesives, and pharmaceuticals.<sup>[1]</sup> It also has a number of uses in the film industry and on stage



**Fig 7: Multani mitti**


- **Multani mitti or fuller's earth is used as a natural cleanser and astringent, offering a host of benefits for the skin, including:**
  - Reducing oil.
  - Fighting acne.
  - Balancing and brightening skin tone.
  - Reducing pigmentation.

**8. Tulsi**



**Fig 8: Tulsi**

**Table 8:Scientific classification of Tulsi**

<b>Scientific classification</b> 	
<b>Kingdom:</b>	<u>Plantae</u>
<b>Clade:</b>	<u>Tracheophytes</u>
<b>Clade:</b>	<u>Angiosperms</u>
<b>Clade:</b>	<u>Eudicots</u>

<b>Clade:</b>	<u>Asterids</u>
<b>Order:</b>	<u>Lamiales</u>
<b>Family:</b>	<u>Lamiaceae</u>
<b>Genus:</b>	<u>Ocimum</u>
<b>Species:</b>	<b><i>O. Tenuiflorum</i></b>
<b>Binomial name</b>	
<b><i>Ocimum tenuiflorum</i></b>	

▪ **Tulsi benefits for skin**

- Fights acne.
- Supports healthy skin aging.
- Reduces pigmentation.
- Soothes skin conditions like eczema.
- Prevents hair loss or thinning.
- Prevents dandruff

➤ **Ideal Properties of herbal Scrub**

- I. An ideal scrub is accepted to possess the following properties.
  - II. It should be
  - III. Non toxic
  - IV. Possess small gritty particles
  - V. Mild abrasive
  - VI. Non irritating
  - VII. Non sticky
- Able to remove dead skin cell

**Why scrub need to use**

1. Skin and play a crucial role in maintaining the strength of the skin's protective barrier
2. Holds moisture, protects the skin from damage and keeps dirt and impurities out

➤ **Data and material:**

**Collection of components:**

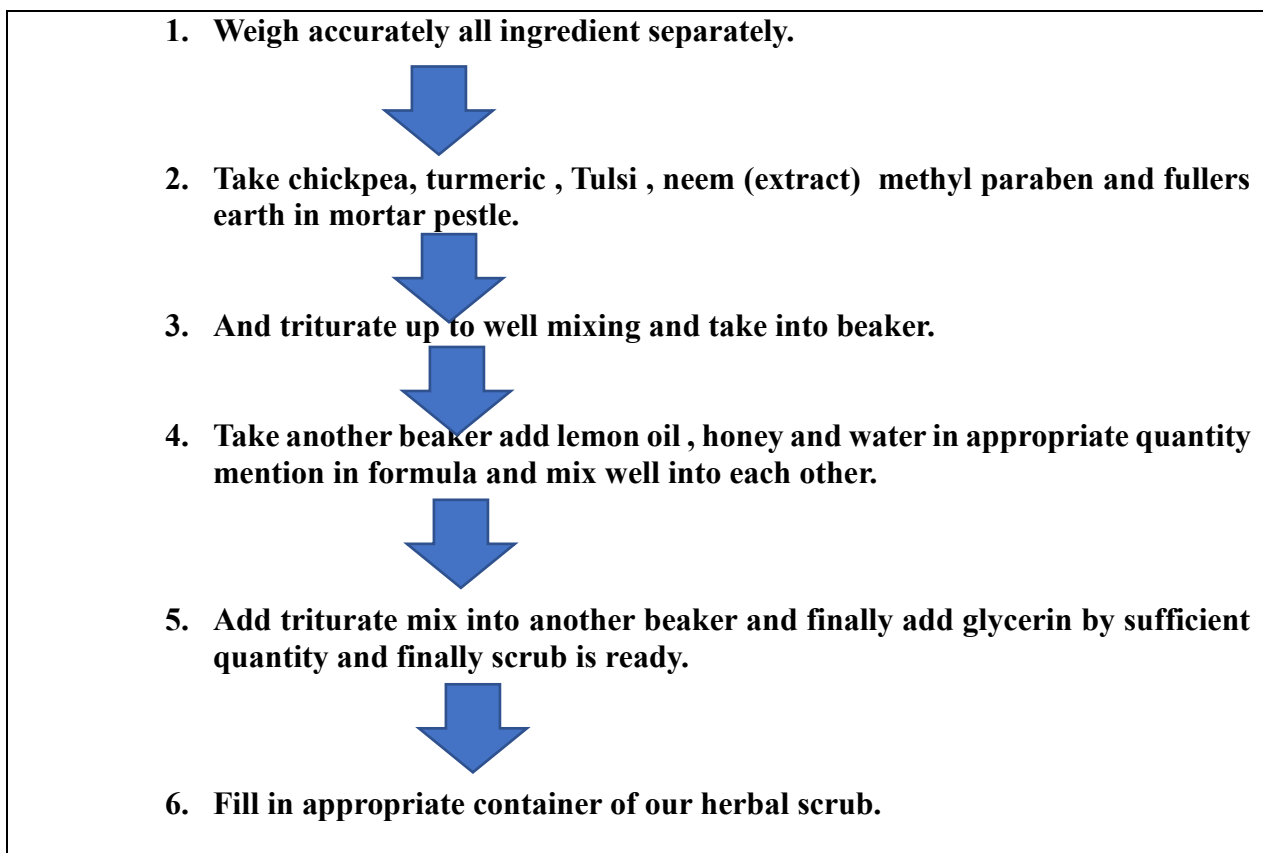
All ingredient are collected and clean separately as per standards.

**Formula:**

Sr.no.	Ingredients of facial scrub	Category	Quantity %)
1.	Chickpea	Oil remover, dust remover, cleansers	25
2.	Lemon oil	Antioxidant	10
3.	Aloe vera (Indian aloe)	Moisturizer	10
4.	Honey	Antiseptic, antioxidant	25
5.	Neem	Skin conditioner, antiseptic.	5
6.	Turmeric	Antiseptic and improves fairness	5
7.	Fullers earth (Multani mitti)	Oil absorber	10
8.	Tulsi	Acne, antimicrobial	5
9.	Methyl paraben	Preservative	1
10.	Distilled water	Vehicle	Qs
11.	Glycerin	Viscosity encasers	Qs
12.	Almond oil	Nutritive and emollient	1.0%



➤ **Formulation of herbal scrub:**



➤ **Evaluation of herbal scrub**

**1. Texture and Homogeneity**

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

**2. Washability**

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

**3. Spreadability**

The spread ability 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

**4. 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.

➤ **Benefits of Scrubbing Skin**

- Scrubbing provides people with clean skin free of grime, 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.
- 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.

➤ **Result**

Parameters		Observation
<b>Organoleptic Evaluation</b>	Nature	Powder
	Color	Yellow
	Taste	Characteristics
	Texture	Fine
	Odor	Pleasant
<b>Physicochemical Evaluation</b>	Ph	5.4
	Total ash	-
	Moisture content	3 %
<b>General Powder Characteristics</b>	Tapped Density	0.38
	Bulk Density	0.28
	Grittiness	No gritty particle
	Nature of Face after wash	Soft, clean and fresh
	Spreadability	Easily spread
	Irritation	No
	Redness	No
	Swelling	No

**Conclusion:**

herbal face scrub was formulated, evaluated for various parameters. The results indicated that the formulation passed the tests. The prepared multi-herbal formulation nourish, moisturize, cleanses, protect the skin against premature aging, acne, and pimples, it clear and fresh the face by cleaning ,the results suggest that the new scrub formulation is safe to use, . The majority of the substances are natural, and there are low chances of adverse effects. It is suitable for all skin types, including dry, oily, and normal

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