



# HERBAL ALCHEMY: CRAFTING AN ORGANIC SYMPHONY OF SKIN CARE WITH NATURE'S REMEDIES

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## ABSTRACT

This research paper presents a comprehensive study on the formulation of an organic natural scrubber with body wash, utilizing a blend of herbal drugs renowned for their therapeutic properties. The formulation integrates a harmonious combination of Neem leaves powder, Arjuna bark powder, Sandalwood powder, Multani mitti, Wheat cover powder, Orange peel powder, Honey, Distilled water, Gelatin powder, Lemon juice, Tulsi leaves powder, Turmeric powder, and Shikakai powder.

The synergistic effects of these herbal ingredients are explored to create a holistic skincare solution that not only cleanses but also rejuvenates the skin. Through meticulous experimentation and formulation, this research paper presents a novel approach to skincare, leveraging the power of herbal remedies to create an organic, effective, and environmentally friendly scrubber with body wash. The findings of this study contribute to the growing body of knowledge<sup>[1]</sup> in natural skincare formulations, offering consumers a safer and more sustainable alternative to conventional products.

**KEYWORDS:** Scrub gel, softening, cleansing, moisturizing, fairness.

## 1. INTRODUCTION:<sup>[1,2]</sup>

In recent years, there has been a growing shift towards natural and organic skincare products, driven by consumer awareness of the potential risks associated with synthetic chemicals and a desire for more sustainable alternatives. Herbal remedies have long been valued for their therapeutic properties, offering a gentle and holistic approach to skincare. In line with this trend, this research paper explores the preparation and formulation of an organic natural scrubber with body wash, utilizing a blend of herbal drugs renowned for their beneficial effects on the skin.

The formulation of skincare products is a complex process that requires careful consideration of various factors, including the choice of ingredients, their compatibility, and their individual therapeutic properties. In this study, we focus on a selection of herbal ingredients known for their effectiveness in promoting skin health and vitality. These include Neem leaves powder, Arjuna bark powder, Sandalwood powder, Multani mitti, Wheat cover powder, Orange peel powder, Honey, Distilled water, Gelatin powder, Lemon juice, Tulsi leaves powder, Turmeric powder, and Shikakai powder.

Each of these ingredients has been chosen for its unique contribution to the formulation. Neem leaves powder, for example, is renowned for its antibacterial and anti-inflammatory properties, making it an ideal ingredient for cleansing and purifying the skin. Similarly, Arjuna bark powder offers antioxidant benefits, helping to protect the skin from environmental damage and premature aging.

Sandalwood powder and Multani mitti provide soothing and cooling effects, while Wheat cover powder and Orange peel powder act as natural exfoliants, gently removing dead skin cells and promoting cell renewal. Honey, with its humectant properties, helps to moisturize and hydrate the skin, while Distilled water serves as a solvent for the herbal ingredients, ensuring their proper dispersion within the formulation.



Gelatin powder plays a crucial role in binding the ingredients together, resulting in a smooth and consistent texture. Lemon juice contributes natural brightening effects, Tulsi leaves powder offers antibacterial and antifungal properties, and Turmeric powder enhances the skin's radiance and vitality. Finally, Shikakai powder adds cleansing and conditioning benefits, leaving the skin soft and supple. By combining these herbal ingredients in a carefully formulated blend, we aim to create a holistic skincare solution that not only cleanses and purifies the skin but also nourishes and rejuvenates it from within. This research contributes to the growing body of knowledge in natural skincare formulations, offering consumers a safer, more sustainable, and more effective alternative to conventional products.

### Objective

- They allow your skin to absorb moisturizer better. By doing dead skin cell buildup, any moisturizer applied afterward will soak into the skin more thoroughly.<sup>[2]</sup>
- They unclog pores and prevent ingrown hairs.<sup>[2]</sup>
- They leave your skin smoother and more even.

### Ingredient

1. Neem leaves powder
2. Arjuna bark powder
3. Sandalwood powder
4. Multani mitti
5. Wheat cover powder
6. Orange peel powder
7. Honey
8. Distilled water
9. Gelatin powder
10. Lemon juice
11. Tulsi leaves Powder
12. Turmeric powder
13. Shikakai Powder

### Procedure

1. Dissolve to the gelatin powder in to distilled water with the help of water bath
2. Then add the all ingredients into the gelatin powder solution.
3. Then add to the preservatives lemon juice at the end of formulation

### FORMULATION TABLE OF HERBAL SCRUB GEL<sup>[3,4]</sup>

Sr. No.	Crude Drug	Quantity	Category
1.	Wheat cover powder	1.5 gm	Provides Nourishment
2.	Neem leaves powder	1.5 gm	Antioxidant, Remove blackheads
3.	Tulsi leaves powder	1 gm	Antioxidant, Anti Inflammatory
4.	Turmeric powder	1.5 gm	Antioxidant, Glowing skin
5.	Orange powder	1.5 gm	Treat pimples
6.	Sandalwood powder	1.5 gm	Soothe sunburn
7.	Multani mitti	1.5 gm	Remove blackheads
8.	Honey	1 gm	Good for wrinkles and aging
9.	Arjuna bark powder	1.5 gm	Reducing tanning & pigmentation
10.	Gelatin	3 gm	Gelling agent
11.	Lemmon juice	1 gm	Preservative
12.	Shikakai Powder	Q.S	Foaming Agent
13.	Distilled water	Q.S	Vehicle



## Material & Ingredients Profile:<sup>[5]</sup>

### 1. Wheat cover powder



**Synonyms:** Wheat bran, Wheat husk, Wheat germ powder

**Biological Source:** Wheat cover powder is obtained from the outer layers of the wheat kernel, known as bran. Bran is the hard, outer shell of the wheat grain, which is removed during the milling process to produce refined flour. The bran is then ground into a fine powder to create wheat cover powder.

#### Organoleptic Characteristics

- Color: Light brown to medium brown
- Odor: Nutty or slightly earthy
- Taste: Mild, slightly nutty

#### Chemical Constituents

Wheat cover powder is rich in various nutrients and bioactive compounds, including:

- Dietary fiber (cellulose, hemicellulose)
- Protein
- Vitamins (especially B vitamins such as thiamine, riboflavin, niacin, and folate)
- Minerals (such as magnesium, phosphorus, zinc, and iron)
- Antioxidants (phenolic compounds, flavonoids)

**Uses:** Provides Nourishment, Protects Against Sun Damage, Fights Acne.

### 2. NEEM LEAVES POWDER



**Synonyms:** Azadirachta indica powder, Indian Lilac powder

**Biological Source:** Neem leaves powder is derived from the leaves of the neem tree, scientifically known as *Azadirachta indica*. The neem tree is native to the Indian subcontinent and is widely cultivated in tropical and subtropical regions around the world for its medicinal properties.

#### Organoleptic Characteristics

- Color: Dark green to brownish-green
- Odor: Strong, pungent, slightly bitter
- Taste: Bitter

#### Chemical Constituents

Neem leaves powder contains various bioactive compounds, including:

- Nimbin



- Nimbidin
  - Azadirachtin
  - Quercetin
  - Beta-sitosterol
  - Tannins
  - Flavonoids
  - Carotenoids
  - Essential oils (such as limonene, citronellal)
- Uses:** Skin toner, Lightens skin blemishes, Remove blackheads

### 3. TULSI LEAVES POWDER



**Synonyms:** Holy Basil powder, Ocimum sanctum powder

**Biological Source:** Tulsi leaves powder is derived from the leaves of the holy basil plant, scientifically known as *Ocimum sanctum*. Tulsi, or holy basil, is an aromatic herb native to the Indian subcontinent and is revered for its medicinal properties in Ayurvedic medicine.

#### Organoleptic Characteristics

- Color: Dark green
- Odor: Aromatic, herbal
- Taste: Strong, slightly spicy, with hints of sweetness

#### Chemical Constituents

Tulsi leaves powder contains a variety of bioactive compounds, including:

- Eugenol
- Rosmarinic acid
- Ursolic acid
- Apigenin
- Luteolin
- Beta-sitosterol
- Vitamins (such as vitamin C, vitamin A, and vitamin K)
- Minerals (such as calcium, magnesium, and potassium)
- Essential oils (such as eugenol, eucalyptol, and limonene)

### 4. TURMERIC POWDER





**Synonyms:** Curcumin powder, Indian saffron powder

**Biological Source:** Turmeric powder is derived from the rhizomes of the turmeric plant, scientifically known as *Curcuma longa*. Turmeric is a flowering plant native to South Asia and is cultivated primarily for its rhizomes, which are used as a spice and medicinal herb.

**Organoleptic Characteristics**

- Color: Bright yellow to orange-yellow
- Odor: Earthy, aromatic
- Taste: Warm, slightly bitter

**Chemical Constituents**

Turmeric powder contains various bioactive compounds, the most notable of which is curcumin. Other constituents include:

- Curcuminoids (curcumin, demethoxycurcumin, bisdemethoxycurcumin)
- Turmerones
- Zingiberene
- Camphor
- Curcuminoids (curcumin, demethoxycurcumin, bisdemethoxycurcumin)
- Essential oils (such as turmerone, atlantone, and zingiberene)

**Uses:** Reduce acne, Glowing skin, Lightens skin.

## 5. ORANGE PEEL POWDER



**Synonyms:** Citrus sinensis peel powder, Orange zest powder

**Biological Source:** Orange peel powder is derived from the outer layer of the fruit of the orange tree, scientifically known as *Citrus sinensis*. Oranges are a citrus fruit native to Asia but are now cultivated in many parts of the world for their delicious fruit and aromatic peel.

**Organoleptic Characteristics:**

- Color: Light orange to deep orange
- Odor: Citrusy, fresh
- Taste: Bitter, slightly sweet

**Chemical Constituents:**

Orange peel powder contains a variety of bioactive compounds, including:

- Flavonoids (such as hesperidin, naringin, and quercetin)
- Limonene
- Citral
- Pectin
- Vitamin C



- Fiber
- Essential oils

**Uses:** Reduce skin marks, skin spots, Help to skin whitening, Treat pimples, acne

## 6. SANDALWOOD POWDER



**Synonyms:** Santalum album powder, Chandan powder

**Biological Source:** Sandalwood powder is derived from the heartwood of the sandalwood tree, known scientifically as *Santalum album*. Sandalwood trees are slow-growing evergreen trees native to the Indian subcontinent and are also found in parts of Australia and Indonesia.

### Organoleptic Characteristics

- Color: Pale yellow to deep brown
- Odor: Woody, sweet, exotic
- Taste: Typically not consumed orally; taste is not commonly described

### Chemical Constituents

Sandalwood powder contains several bioactive compounds, including:

- Santalols (alpha-santalol, beta-santalol)
- Santalenes
- Terpenes
- Flavonoids
- Tannins
- Aldehydes
- Ketones

**Uses:** Soothe sunburn, Remove suntan, Reduce signs of aging skin.

## 7. MULTANI MITTI



**Synonyms:** Fuller's Earth, Multani clay



**Biological Source:** Multani Mitti, also known as Fuller's Earth, is a type of clay that is formed from the decomposition of volcanic ash over thousands of years. It is found in various regions around the world, with significant deposits located in Multan, Pakistan, from which it derives its name.

#### **Organoleptic Characteristics**

- Color: Light beige to pale yellow when dry; turns darker when wet
- Odor: Earthy, slightly mineral-like
- Taste: Not applicable (not consumed orally)

#### **Chemical Constituents**

Multani Mitti mainly consists of various minerals and compounds, including:

- Aluminum silicate
- Bentonite
- Montmorillonite
- Kaolinite
- Quartz
- Magnesium
- Calcium
- Iron oxides

**Uses:** Good for wrinkles and aging, Prevent acne, Remove dirt from pores

## **8. HONEY**



**Synonyms:** Nectar, Bee honey

**Biological Source:** Honey is a natural sweet substance produced by honeybees from the nectar of flowers. It is primarily sourced from the honeycombs within beehives, where bees collect, transform, and store the nectar.

#### **Organoleptic Characteristics**

- Color: Honey's color can vary widely depending on the floral source, ranging from light golden to dark amber.
- Odor: Sweet, floral aroma
- Taste: Sweet, with varying degrees of floral, fruity, or herbal undertones depending on the floral source.

#### **Chemical Constituents**

Honey is composed mainly of sugars, primarily glucose and fructose, but also contains a variety of other compounds, including:

- Water
- Vitamins (such as B vitamins and vitamin C)
- Minerals (such as potassium, calcium, and magnesium)
- Enzymes (such as invertase, diastase, and glucose oxidase)
- Organic acids (such as gluconic acid and citric acid)



- Antioxidants (such as flavonoids and phenolic acids)

#### Uses

1. **Skincare:** Honey is valued for its moisturizing, antimicrobial, and antioxidant properties, making it a popular ingredient in skincare products. It helps to hydrate and soothe the skin, reduce inflammation, and promote healing. In the context of the organic natural scrubber with body wash, honey serves as a nourishing and revitalizing ingredient, leaving the skin soft, smooth, and radiant.
2. **Wound Healing:** Honey has been used for centuries as a natural remedy for wound healing.<sup>[6]</sup> Its antimicrobial properties help prevent infection, while its high sugar content creates a protective barrier that promotes healing. Honey can be applied topically to minor cuts, burns, and abrasions to accelerate the healing process.
3. **Haircare:** Honey can also benefit hair health. It helps to moisturize and condition the hair, improve scalp health, and add shine and softness. Honey can be incorporated into hair masks, conditioners, and hair rinses to nourish and strengthen the hair.
4. **Nutritional Supplement:** Honey is a natural sweetener that provides carbohydrates and energy. It is often used as a healthier alternative to refined sugar in cooking, baking, and beverages. Raw honey, in particular, retains more of its natural nutrients and enzymes.
5. **Immune Support:** Some studies suggest that honey may have immune-boosting properties due to its antioxidant content and antimicrobial activity. Consuming honey regularly may help support the immune system and promote overall health and well-being.

#### 9. ARJUNA BARK POWDER<sup>[7]</sup>



**Synonyms:** Terminalia arjuna powder

**Biological Source:** Arjuna bark powder is derived from the bark of the Arjuna tree, scientifically known as Terminalia arjuna. The Arjuna tree is a deciduous tree native to the Indian subcontinent and is commonly found in the forests of India.

#### Organoleptic Characteristics

- Color: Light to dark brown
- Odor: Woody, slightly astringent
- Taste: Bitter

#### Chemical Constituents

Arjuna bark powder contains various bioactive compounds, including:

- Triterpenoids (such as arjunic acid, arjunolic acid)
- Flavonoids (such as quercetin, kaempferol)
- Tannins
- Glycosides
- Saponins
- Minerals (such as calcium, magnesium, zinc)

**Uses:** Cardiovascular Health, Anti-oxidant, wound healing, anti-inflammatory.





## Discrimination process of Drugs

### 1. Collection of Orange peel powder

Fresh orange were collected from college botany garden. The orange were washed well using tap water.<sup>[8]</sup> The peel is separated, then the pulp of orange was separated and cutting them into small pieces then it was dried in shade for a period of 3-4 days. The dried samples were grinded properly grinder to obtain the powdered form. Pass through sieve no. 60.

### 2. Collection of Neem leaves powder

Fresh neem leaves were collected from college campus. Fresh neem leaves were dried in shade for 4-5 days. These leaves are grinded properly using mixture to obtain and pass through sieve no. 60.

### 3. Collection of Tulsi leaves powder

Fresh tulsi leaves were collected from college campus. They were dried in shade for 3-5 days. Then grinded properly to form powder. Pass through sieve no. 60.

### 4. Collection of Wheat cover powder

Wheat was soaked in the water for 3-4 days then crushed, squeezed and separated the covers and pass through sieve no. 60.

5. Other ingredients like turmeric, multani mitti, sandalwood, honey were collected from local market.

## Mechanism of Action and Pharmacology of the Formulation:

### Mechanism of Action:

1. Neem Leaves Powder : Neem contains compounds like nimbin and nimbidin, which exhibit antibacterial and antifungal properties. These compounds target and inhibit the growth of bacteria and fungi on the skin, helping to cleanse and purify it.<sup>[9]</sup>

2. Arjuna Bark Powder : Arjuna bark contains antioxidants like flavonoids and triterpenoids, which scavenge free radicals and reduce oxidative stress in the skin. This helps to prevent damage to skin cells and promotes skin health.<sup>[10]</sup>

3. Sandalwood Powder : Sandalwood contains santalols, which possess anti-inflammatory and astringent properties. These compounds soothe irritated skin and help to reduce redness and inflammation.

4. Multani Mitti : Multani mitti acts as an absorbent and exfoliant. It absorbs excess oil and impurities from the skin, unclogs pores, and removes dead skin cells, leaving the skin refreshed and rejuvenated.

5. Wheat Cover Powder : Wheat cover powder contains moisturizing agents like proteins and polysaccharides, which help to hydrate and soften the skin. It also supports the skin's natural barrier function, protecting it from environmental damage.

6. Orange Peel Powder : Orange peel contains vitamin C and citric acid, which brighten the skin and promote collagen production. It also acts as a gentle exfoliant, removing dead skin cells and promoting cell turnover.<sup>[11]</sup>

7. Honey : Honey is a natural humectant, meaning it attracts and retains moisture in the skin. It also has antimicrobial properties, which help to cleanse and soothe the skin.

8. Distilled Water : Distilled water serves as a solvent, helping to dissolve and disperse the other ingredients in the formulation. It also hydrates the skin and acts as a carrier for the active ingredients.

9. Gelatin Powder : Gelatin helps to thicken the formulation and improve its texture. It also forms a film on the skin, helping to lock in moisture and protect the skin from external aggressors.

10. Lemon Juice : Lemon juice contains citric acid, which acts as an astringent and helps to tone the skin. It also has antibacterial properties, which help to cleanse and purify the skin.

11. Tulsi Leaves Powder : Tulsi leaves contain eugenol and other volatile oils, which have antimicrobial and anti-inflammatory properties. They help to cleanse the skin and reduce inflammation.

12. Turmeric Powder : Turmeric contains curcumin, which has antioxidant and anti-inflammatory properties. It helps to protect the skin from free radical damage and reduce inflammation.

13. Shikakai Powder : Shikakai contains saponins, which have cleansing and foaming properties. It helps to cleanse the scalp and hair, removing dirt, oil, and impurities.

### Pharmacokinetics

- Topical Application : The active compounds in the formulation are absorbed through the skin, where they exert their effects locally. Minimal systemic absorption occurs, reducing the risk of systemic side effects.



- **Metabolism** : Metabolism of the active compounds may occur in the skin or liver, where they are broken down into metabolites that are eventually excreted from the body.

- **Excretion**: Metabolites of the active compounds are primarily excreted through urine and feces, although the exact excretion pathway may vary depending on the specific compounds and their metabolism.<sup>[12]</sup>

### Pathophysiology

- The formulation works by combining the pharmacological properties of each ingredient to address various skin concerns such as cleansing, moisturizing, soothing, and rejuvenating.

- Neem leaves powder and Arjuna bark powder target bacteria and free radicals, reducing inflammation and protecting the skin from oxidative damage.

- Sandalwood powder and Multani mitti cleanse and exfoliate the skin, removing impurities and dead skin cells, while also soothing and toning the skin.

- Wheat cover powder and Honey moisturize and hydrate the skin, supporting the skin's barrier function and preventing moisture loss.

- Orange peel powder, Lemon juice, Tulsi leaves powder, Turmeric powder, and Shikakai powder provide additional benefits such as brightening the skin, promoting collagen production, and cleansing the scalp and hair.

Overall, the formulation works synergistically to promote healthier, nourished, and rejuvenated skin, addressing various skin concerns with natural and herbal ingredients.<sup>[13]</sup>

### EVALUATION

To evaluate the quality of prepared formulation, several quality tests were performed.

Sr.no.	Evaluation parameter	Observation / Inference
1	Colour	Yellowish green
2	Odour	Pleasant
3	Consistency	Good
4	Ph	4.2 Ph
5	Washability	Easily removed by washing with water.
6	Sensitivity	No any irritation.
7	Spreadability	Easily spread through the body.

### RESULT

The research paper demonstrates the formulation of an organic natural scrubber for body wash using herbal ingredients, the combined use of these herbal ingredients in the organic natural scrubber with body wash formulation results in a holistic approach to skincare, addressing various skin concerns such as cleansing, exfoliating, moisturizing, and nourishing. The formulation is designed to promote healthier and radiant-looking skin, while also offering therapeutic benefits for overall well-being.

### COCLUSION

The scrub gel was prepared by using various crude drug powders and with the help of gelatin powder as polymer and then evaluated by various parameters which report prepared formulation have good consistency better result and does not have side effects. From the given study, it can be concluded that prepared herbal Formulation exhibited satisfactory result.

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