

# Formulation and Evaluation of Herbal Exfoliating Scrub

**Manish kumar Das<sup>1</sup> Rajkumar Vishwakarma<sup>2</sup>, Harshita Jain<sup>3</sup>,  
Nitin Nama<sup>4</sup>**

<sup>1,2</sup> UG Scholar, Career Point School of Pharmacy, Career Point University, Kota, India

<sup>3</sup> Associate Professor, Career Point School of Pharmacy, Career Point University, Kota, India

<sup>4</sup> Assistant Professor, Career Point School of Pharmacy, Career Point University, Kota, India

**Abstract-**Herbal face scrubs are an utmost choice among those who prefer natural and organic skincare products. They are made of phytochemical ingredients and are free from harmful side effects chemicals, making them safe for all skin types. These face scrubs are designed to gently desquamate skin, removing dead skin cells, dirt, and impurities from the surface of the skin. This helps to reveal fresh, smooth, and glowing skin. Herbal face scrubs typically contain a commingle of herbs, fruits, and other natural ingredients that offer a range of benefits for the skin. Some of the most common herbs used in these face scrubs include neem, turmeric, rose, sandalwood. These herbs have anti-inflammatory, anti-bacterial, and antioxidant properties that help to soothe and protect the skin from damage caused by environmental factors.

The desquamate particles in herbal face scrubs can vary depending on the product. Some scrubs use natural particles such as masoor dal, walnut shell powder to gently buff away dead skin cells.

**Keywords:** neem, antioxidants properties, walnut shell powder.

## LINTRODUCTION

Herbal face scrubs are skincare products that are designed to exfoliate and rejuvenate the skin on the face using natural and organic ingredients. Unlike synthetic scrubs, which can contain harsh chemicals that can damage the skin, herbal face scrubs are made from plant-based ingredients that are gentle and nourishing.

Herbal face scrubs typically contain a mixture of finely ground herbs, such as chamomile, lavender, and rose, along with natural exfoliants, such as sugar or salt. These ingredients work together to gently remove dead skin cells and unclog pores, leaving the skin looking and feeling smoother and more radiant. In addition to exfoliating the skin, herbal face scrubs can also provide a range of other benefits, depending on the specific ingredients used. For example, some herbal face scrubs may contain ingredients that are rich in antioxidants, which can help to protect the skin against environmental stressors and reduce the signs of aging. Other herbal face

scrubs may contain ingredients that are soothing and calming, making them ideal for those with sensitive or acne-prone skin. (3,14)

Overall, herbal face scrubs offer a natural and effective way to care for the skin on your face, leaving it looking and feeling healthy and refreshed.

### **1.1 Advantages of Herbal Scrubs:**

1. **Gentle and Nourishing:** Herbal scrubs are made from natural and organic ingredients that are gentle on the skin and do not contain harsh chemicals or synthetic fragrances that can damage the skin.
2. **Effective Exfoliation:** Herbal scrubs contain natural exfoliants such as sugar or salt that gently remove dead skin cells, unclog pores, and promote cell renewal, leaving the skin looking brighter and smoother.
3. **Moisturizing:** Herbal scrubs contain natural oils and humectants that help to hydrate and nourish the skin, leaving it feeling soft, supple, and moisturized. (2,10)
4. **Suitable for All Skin Types:** Herbal scrubs are generally safe and suitable for all skin types, including sensitive skin, as they do not contain harsh chemicals that can irritate the skin.
5. **Environmentally Friendly:** Herbal scrubs are made from natural and biodegradable ingredients, making them a more environmentally friendly option than synthetic scrubs.

### **1.2 Disadvantages of Herbal Scrubs:**

1. **Can be Expensive:** Herbal scrubs made with high-quality, natural ingredients can be more expensive than synthetic scrubs, which can make them less accessible to some people.
2. **May not be as Effective as Synthetic Scrubs:** While herbal scrubs can be effective at exfoliating the skin and promoting cell renewal, they may not be as effective as synthetic scrubs that contain stronger exfoliants.
3. **May Cause Irritation:** Although herbal scrubs are generally safe for most skin types, some people may experience irritation or allergic reactions to certain ingredients. It is important to patch test the product before use to ensure that it is suitable for your skin.
4. **Short Shelf Life:** Herbal scrubs made with natural ingredients may have a shorter shelf life than synthetic scrubs, which can contain preservatives that extend their shelf life. This means that herbal scrubs may need to be used up more quickly to avoid spoilage

### **1.3 EXFOLIANTS:**

Exfoliants are ingredients or substances that help to remove dead skin cells from the surface of the skin. There are two types of exfoliants: physical exfoliants and chemical exfoliants.

1. **Physical Exfoliants:** Physical exfoliants work by physically scrubbing away dead skin cells using abrasive particles or tools. Some common physical exfoliants include:
  - Sugar or salt scrubs
  - Ground coffee or rice
  - Facial brushes or sponges
  - Microbeads (although these are now banned in many countries due to environmental concerns)
2. **Chemical Exfoliants:** Chemical exfoliants work by breaking down the bonds between dead skin cells, allowing them to be easily removed from the skin. Some common chemical exfoliants include:
  - Alpha-hydroxy acids (AHAs) such as glycolic acid and lactic acid
  - Beta-hydroxy acids (BHAs) such as salicylic acid
  - Enzymes such as papain (found in papaya) and bromelain (found in pineapple)(5,6)

Both physical and chemical exfoliants can be effective at removing dead skin cells and promoting cell renewal. However, it is important to use exfoliants correctly and in moderation to avoid over-exfoliation, which can cause irritation and damage to the skin. It is also important to choose an exfoliant that is suitable for your skin type and concerns, as some exfoliants may be too harsh for sensitive skin or may exacerbate certain skin conditions such as acne.

### 1.3.1 Properties of exfoliants:

Exfoliants are products that are designed to remove dead skin cells and impurities from the skin, leaving it smoother and brighter. The ideal properties of exfoliants depend on the type of exfoliant and the skin type they are intended for, but in general, the following are some key properties to look for:

- **Effective:** An ideal exfoliant should be effective at removing dead skin cells and impurities without being too harsh or abrasive. It should provide noticeable results without causing any damage to the skin.
- **Gentle:** While exfoliation is important for maintaining healthy skin, it should not be too aggressive, as this can cause irritation, inflammation, and even damage to the skin. Therefore, an ideal exfoliant should be gentle enough to avoid causing any harm.

- **Safe:** An ideal exfoliant should be safe to use and not contain any harmful ingredients. It should be free from synthetic fragrances, preservatives, and other potentially harmful chemicals.
- **Hydrating:** Exfoliation can sometimes leave the skin feeling dry and dehydrated, so an ideal exfoliant should be hydrating and moisturizing, to counteract any dryness and leave the skin feeling soft and supple.
- **Non-comedogenic:** An ideal exfoliant should be non-comedogenic, meaning it should not clog the pores or cause acne breakouts. It should be suitable for all skin types, including sensitive and acne-prone skin.
- **Natural:** An ideal exfoliant should be made from natural, organic, or sustainable ingredients, to minimize the environmental impact and provide the best possible benefits for the skin.
- **Customizable:** An ideal exfoliant should be customizable, to suit individual skin types and concerns. It should be available in different formulations, strengths, and textures, to provide a personalized experience and optimal results. (7)

## II. OBJECTIVES

The aim of a herbal face scrub is to exfoliate and remove dead skin cells from the face, leaving it smooth and rejuvenated. Herbal face scrubs are made from natural ingredients such as herbs, grains, and fruits that have gentle exfoliating properties. They are designed to gently remove impurities, unclog pores, and stimulate blood flow to the face, promoting a healthy and radiant complexion. Additionally, herbal face scrubs can provide nourishment and hydration to the skin, helping to improve its texture and tone. Overall, the aim of a herbal face scrub is to improve the appearance and health of the skin by removing dead skin cells and providing essential nutrients.(8,5)

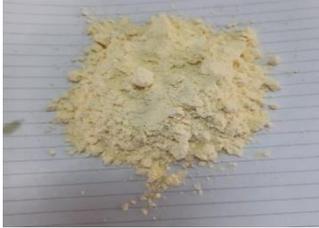
## III. MATERIALS AND METHODOLOGY:

1. **Walnut shell powder:** - It is a common ingredient in herbal face scrubs because it has exfoliating properties that can help remove dead skin cells and impurities from the skin's surface.



**Fig no. 1 Walnut shell powder**

- Besan:** -It contains natural enzymes that can help to remove dead skin cells, unclog pores, and improve skin texture. It is also rich in proteins and minerals that can help to nourish and revitalize the skin.



**Fig no. 2 Besan**

- Masoor dal:** - It is also known as red lentil, is another common ingredient in herbal face scrubs due to its gentle exfoliating properties and ability to brighten the skin.



**Fig no. 3 Masoor Dal**

- Sandalwood powder:** - It is a popular ingredient in herbal face scrubs due to its soothing and antimicrobial properties. Sandalwood has been used for centuries in Ayurvedic medicine for its skin-healing and anti-inflammatory properties and also act as antimicrobial.



**Fig no.4 Sandalwood powder**

- Rose petal powder:** - It is a popular ingredient in herbal face scrubs due to its gentle exfoliating properties and ability to soothe and hydrate the skin. Rose petals are rich in antioxidants and vitamin C, which can help to protect the skin from damage and promote collagen production. Rose petal powder also contains natural oils that can help to moisturize and nourish the skin.



**Fig no. 5 Rose petal powder**

6. **Multani mitti:** - It is also known as fuller's earth, is a popular ingredient in herbal face scrubs due to its ability to absorb excess oil and impurities from the skin's surface.



**Fig no. 6 Multani mitti**

7. **Coffee powder:** - It is a popular ingredient in herbal face scrubs due to its natural exfoliating properties and ability to brighten and tighten the skin. It contains caffeine, which can help to stimulate blood flow and reduce inflammation, resulting in a more even skin tone and a reduction in the appearance of fine lines and wrinkles. Coffee powder is also rich in antioxidants that can help to protect the skin from damage caused by free radicals.



**Fig no. 7 Coffee powder**

8. **Neem powder:** - It is a popular ingredient in herbal face scrubs due to its antibacterial and antifungal properties, making it a great choice for those with acne-prone skin.



**Fig no. 8 Neem Powder**

**9. Orange peel powder:** - It is a popular ingredient in herbal face scrubs due to its natural exfoliating and brightening properties. Orange peel is rich in vitamin C and antioxidants, which can help to protect the skin from damage and promote collagen production. Orange peel powder also contains natural oils that can help to moisturize and nourish the skin.



**Fig no. 9 Orange peel powder**

**10. Rice powder :** - It is a natural exfoliant that can help to remove dead skin cells and impurities from the surface of your skin. It contains a variety of nutrients that are beneficial for the skin, including antioxidants, vitamins, and minerals. (9)



**Fig no. 10 Rice powder**

**Table no.1 Herbal Scrub Formulation: -**

Ingredients	Quantity(F1)	Quantity(F2)	Quantity(F3)
	10gm (100%)	10gm (100%)	10gm (100%)
Walnut shell powder	2.5 gm (25%)	2 gm (20%)	3 gm (30%)
Rice powder	2 gm (20%)	3 gm (25%)	2.5gm (25%)
Masoor dal	3 gm (25%)	2.5 gm (25%)	2 gm (20%)
Orange peel powder	0.6 gm (6%)	0.6 gm (6%)	0.6 gm (6%)
Neem powder	0.5 gm (5%)	0.5 gm (5%)	0.5 gm (5%)
Sandal wood powder	0.3 gm (3%)	0.3 gm (3%)	0.3 gm (3%)
Besan powder	0.3 gm (3%)	0.3 gm (3%)	0.3 gm (3%)

Rose peel powder	0.2 gm (2%)	0.2gm (2%)	0.2 gm (2%)
Coffee powder	0.2 gm (2%)	0.2 gm (2%)	0.2 gm (2%)
Multani mitti	0.4 gm (4%)	0.4 gm (4%)	0.4 gm (4%)
	TOTAL: - 10 gm	TOTAL: - 10gm	TOTAL: - 10gm
	TOTAL: - 100%	TOTAL: - 100%	TOTAL: -100%

#### **METHOD OF PREPERATION:**

- ✓ Firstly, shade dry the arrange peel neem leaves & rose petal for some day.
- ✓ Then powder the ingredients including walnut shell rice, masoordal, orange peel,neem, rose petal etc.
- ✓ Then keep the ingredients into hot air oven to remove moisture content.
- ✓ Then after grinding weight all the row material passes the walnut shell powder & masoor dal powder through sieve no.22 to get coarse particles.
- ✓ Then mix all the powder together.
- ✓ Keep store in the zip lock to prevent it from moisture. (13,12)

#### **IV. RESULT&IMPLEMENTATION:**

##### **PARAMETER AND EVALUATION:**

Herbal face scrubs are skincare products made from natural ingredients that help exfoliate and cleanse the skin. The parameters and evolution of herbal face scrubs can vary depending on the brand, formulation, and specific ingredients used. However, I can provide you with some general information about their parameters and how they have evolved over time.

##### **Ingredients:**

Herbal face scrubs typically include a combination of natural ingredients such as plant extracts, herbs, grains, fruits, and clays. These ingredients provide gentle exfoliation, remove dead skin cells, unclog pores, and promote a healthy complexion. Some common ingredients found in herbal face scrubs include oatmeal, rice bran, sugar, coffee grounds, almond powder, neem, tulsi (holy basil), turmeric, rose petals, aloe vera, and various essential oils.

##### **Texture and Granularity:**

The texture and granularity of herbal face scrubs have evolved to offer a range of options suitable for different skin types. Some scrubs have a fine texture, suitable for sensitive or delicate skin, while others have a coarser texture for more intense exfoliation. The granules in

these scrubs help remove dead skin cells and impurities from the skin's surface. (14)

**Table no.2**

<b>Sample</b>	<b>Texture</b>	<b>Granularity</b>
<b>Formulation 1</b>	<b>Gritty</b>	<b>Fine particles</b>
<b>formulation 2</b>	<b>Grainy</b>	<b>Medium-sized particles</b>
<b>formulation 3</b>	<b>Gritty</b>	<b>Coarse particles</b>

**Moisturizing Properties:**

Traditional herbal face scrubs were often quite dry and required the addition of water or other liquids for application. However, modern formulations have evolved to incorporate moisturizing elements, such as plant-based oils and butters, to prevent excessive drying of the skin during exfoliation. This evolution ensures that the skin remains hydrated and nourished even after scrubbing.

**Table no. 3**

<b>Sample</b>	<b>Hydration Level</b>	<b>Moisturizing Effect</b>
<b>Formulation 1</b>	<b>High</b>	<b>Excellent</b>
<b>Formulation 2</b>	<b>Medium</b>	<b>Good</b>
<b>Formulation 3</b>	<b>Low</b>	<b>Fair</b>

**Customization:**

With the increasing demand for personalized skincare, herbal face scrubs have evolved to offer customization options. Some brands provide DIY (do-it-yourself) kits that allow users to mix and match ingredients according to their skin type and concerns. This customization allows individuals to tailor the scrub to their specific needs and preferences.

**Environmental Considerations:**

As sustainability and eco-friendliness become more important, there is a growing emphasis on creating herbal face scrubs with biodegradable and environmentally friendly ingredients. Brands are opting for natural exfoliants like finely ground nut shells or fruit seeds instead of plastic microbeads, which have been recognized as harmful to the environment. (13)

### Packaging:

In recent years, there has been a shift towards sustainable packaging for herbal face scrubs. Brands are using recyclable materials, minimizing excess packaging, and opting for eco-friendly alternatives to plastic containers.

It's important to note that the parameters and evolution of herbal face scrubs can vary among different brands and product lines. Therefore, it's always recommended to read the product labels or consult with the manufacturer to understand the specific parameters of the herbal face scrub you are interested in. (14)

**Table no. 4**

Sample	Material	Recyclable	Sustainable Sourcing	Eco-Friendly	Practicality
Sample 1	Glass jar	Yes	Yes	Yes	Convenient and reusable
Sample 2	Plastic tub	Partially	No	No	Convenient, but not eco-friendly
Sample 3	Paper pouch	Yes	Yes	Yes	Lightweight and space-saving

## V. CONCLUSION

After careful analysis and consideration, it can be concluded that herbal exfoliating scrubs offer numerous benefits for skincare routines. These scrubs typically consist of natural ingredients derived from plants, making them a popular choice for those seeking a more organic approach to skincare. One of the main advantages of herbal exfoliating scrubs is their ability to gently remove dead skin cells and unclog pores. The natural exfoliating agents present in these scrubs, such as ground herbs, seeds, or fruit extracts, work effectively to slough off the outer layer of the skin, revealing a smoother and more radiant complexion underneath. This process can help improve the overall texture and tone of the skin, making it look healthier and more youthful.

## VI. REFERENCES:

1. Shoba rani R; Hiremath. Text book of Industrial pharmacy, Drug delivery systems & Cosmetics & Herbal drug technology: Universities press (India) Ltd; 2nd Edition.
2. Okereke JN, Udebuani AC, Ezeji EU, Obasi KO, Nnoli MC. Possible Health Implications Associated with Cosmetics: A Review, Sci J Public Health 2015; 3(5-1):58-63.
3. Kokate C.K., Purohit A.P., Gokhale S.B., "Pharmacognosy" Nirali Prakashan, 52nd edition. Page no. 19.1-19.2, 14.21, 14.91, and 14.132
4. Glaser DA, Anti-ageing products and cosmeceuticals. Facial Plast Surg, Clin N Am, 2004; 12(4): 363-372.
5. S. S. Londhe, M. G. Bhosale, Dr. A. A Joshi, Geeta Sapkale. Formulation and Evaluation of Polyherbal Facial Scrub. International Journal for Scientific Research & Development| Vol. 7, Issue 11, 2020 | ISSN (online): 2321-0613.
6. J. Prathyusha, N. S. Yamani, G. Santhosh, A. Aravind, B. Naresh. Formulation and Evaluation of Polyherbal Face Scrubber for Oily Skin in Gel Form. International Journal of Pharmaceutical Sciences and Drug Research 2019; 11(4): 126-128
7. Pandey Shivanand, Meshya Nilam, D. Viral, Herbs Play an Important Role in the Field of Cosmetics, International Journal of Pharm Tech Research, 2010; 2(1): 632- 639.
8. V P Kapoor, Herbal cosmetics for skin and hair care, Indian Journal of Natural Products and Resources (IJNPR) [Formerly Natural Product Radiance (NPR)], 2005; 4(4): 306-314.
9. Draelos ZD, Botanical antioxidants, Cosmetic Dermatol, 2003; 16(10): 41-42.
10. Rousseaux CG and Schachter H, Regulatory issues concerning the safety, efficacy and quality of herbal remedies. Birth Defects Res. B, Dev Reprod Toxicol, 2003; 68(6): 505-51.
11. Finnin, B.C.and T.M. Morgan, Transdermal penetration. Pharm Sci. 1999; 88 (10):955-958.
12. Fuizz and C. Richard, 2012.Transdermal delivery system. US Patent 5736154.
13. Guy RH, 1996. Current Status and future prospects of Transdermal Drug Delivery, Pharma Res, 13, 1765-1769.
14. Parashar Bharat, Sharma Pankaj, Kabra Atul, Sharma Pankaj. Formulation and evaluation of polyherbal face cream. International pharmaceutical sciencia| july-september 2013 | vol. 3 | issue 3.
15. Dureja H, Kaushik D, Gupata M, Kumar V, Lather V. Cosmeceuticals: An Emerging Concept. Indian Journal of Pharmacology. 2005; 37 (3): 155-159.