

A Review article on Formulation and Evaluation of Herbal Scrub

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Abstract : Today, cosmetics play a significant role in daily life for both men and women who want to live happy and confident lives. In order to avoid acne, scars, tanning, wrinkles, ageing, and redness, we prepared and evaluated a herbal facial scrub. This was done with the idea that cosmetics should not contain synthetic chemicals or drugs. This herbal scrub comprises ingredients that have anti-inflammatory, antiseptic, antibacterial, skin-brightening, and anti-permanent mark qualities. The scrub is used to exfoliate the skin, get rid of blackheads and whiteheads, lessen acne, and give the skin a healthy glow. The scrub is evaluated using a variety of criteria, including pH, color, consistency, homogeneity, spreadability, irritation, and others. On dry and normal skin, it demonstrated great action.

Keywords: *skin, acne, scars, antioxidant, antiseptic, anti-inflammatory*

Introduction: Typically, natural cosmetics and herbal cosmetics are used interchangeably. Herbal cosmetics are products that are made using a base of different cosmetic elements that are legal to use, but only when one or more herbal substances are added to provide specific cosmetic benefits. The natural components of the botanicals do not have any negative effects on human health; rather, they feed the body with nutrients and other beneficial minerals. The science of Ayurveda used various herbs and flowers to manufacture cosmetics for beautification and protection from external influences. Herbal cosmetics are defined as items made from natural herbs that are utilised in the creation of cosmetics. New opportunities in the cosmetics industry have been opened up by the rising demand for natural goods. Herbal medications have a long history of use and are more readily accepted by patients. There is only chance for sustainable supply of less expensive medications for the expanding populations of the world if medicinal plants are used.⁽¹⁾ Using a granular powder and an exfoliating instrument, scrubbing removes dead skin cells from the surface of your skin. The typical formulation of a face scrub is a cream or gel with minute exfoliating particles. Even though a face scrub is an additional step in addition to the usual cleanser-toner-moisturizer routine, it sometimes goes unnoticed.⁽²⁾

There are two ways to exfoliate the skin.

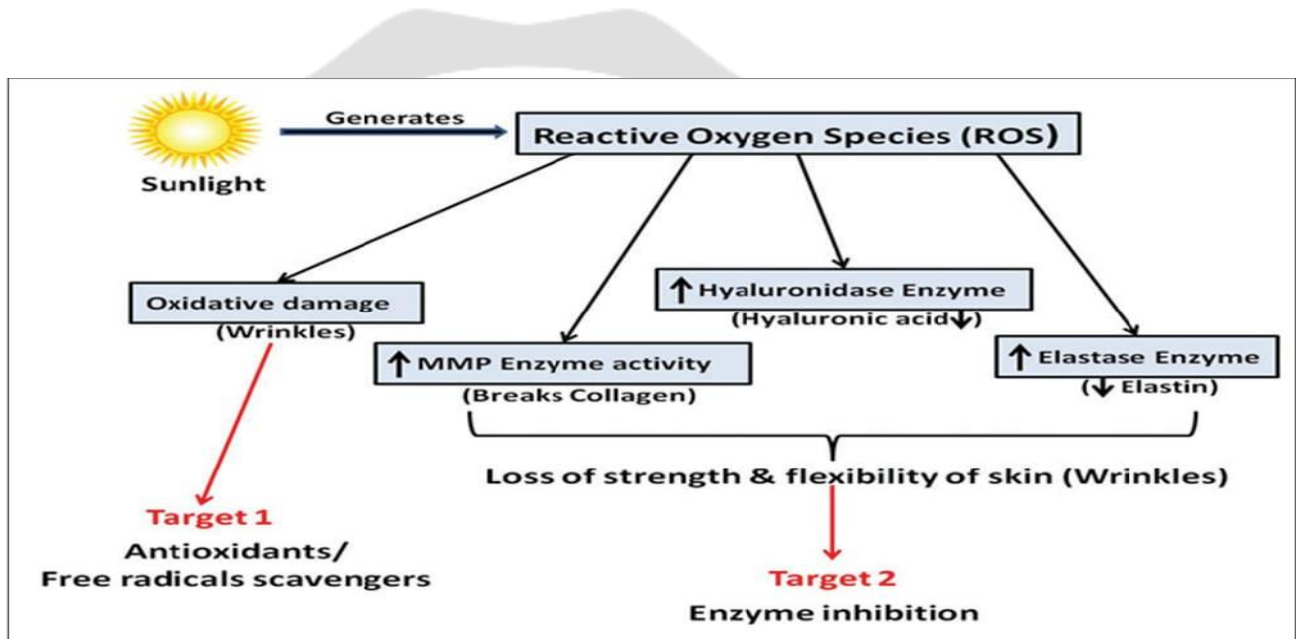
- Physical exfoliation: The use of abrasive materials that are applied to the skin and gently rubbed into it with the hands.
- Chemical exfoliation: This method penetrates the top layer of skin to completely remove dead cells by chemically dissolving the initial adhesion keeping together dead (keratinized) skin cells.⁽¹⁾

Scrub Definition⁽⁴⁾

A facial scrub is a cosmetic, a beauty product, or a procedure used to exfoliate and clean the skin on the face and body. Blackheads, whiteheads, sebum, and skin cells can all be removed with the help of facial scrubs. It supports keeping skin looking good.

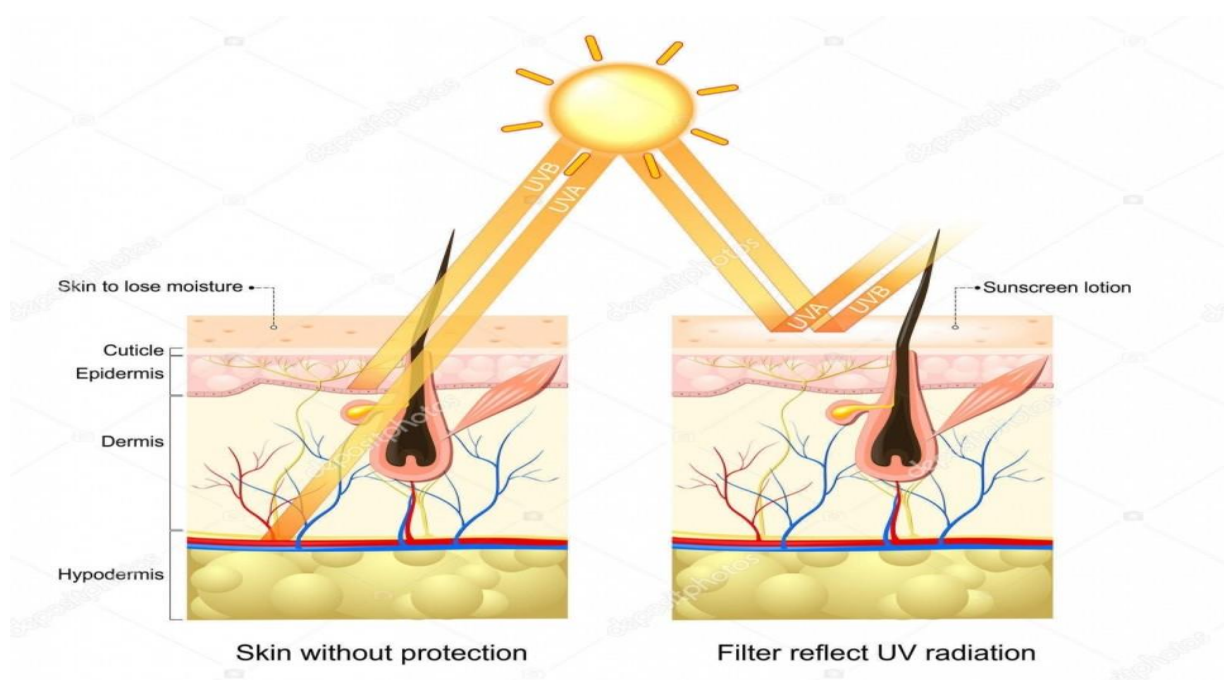
Wrinkles and ageing⁽³⁾

Wrinkles and ageing are common. People's skin becomes thinner, drier, and less elastic as they age, making it less able to protect itself from harm. As a result, the skin develops lines, creases, and wrinkles. The collagen and elastin fibers in the skin are damaged by UV radiation. The skin's connective tissue is made up of these fibers. They support the skin and are situated below the skin's surface. When this layer is destroyed, the skin loses strength and flexibility. Wrinkles start to appear as the skin begins to age.



Diagrammatic representation of molecular mechanisms of skin aging



Fruits that are high in vitamins and antioxidants, such as B-carotene and lycopene, protect the skin from acne, ageing, wrinkles, and skin dis-coloration. Astringent qualities aid in skin tightening and toning. To stop wrinkles and skin ageing, vitamins and antioxidants like B-carotene boost the creation of collagen and elastin.







● Fig-02 Mechanism of action of ageing

● List of Herbal Drugs:

1. Wood Apple Shell
2. Cucumber Peel
3. Sandalwood Powder
4. Fenugreek Powder
5. Coffee
6. Honey

Sr. No.	Ingredients	Synonyms	Biological Source	Family	Chemical Constituents	Uses	Photo of Ingredients
1.	Wood Apple Shell	Kavat, Kauth	It consists of fruit (shell) of <i>Limonia Acidissima</i>	<i>Rutaceae</i>	Coumarins, Lignans, Alkaloids	Cure skin infection	
2.	Cucumber Peel	Gherkins, Baby pickles	It consists of cultivated plant of <i>Curcumis Sativus</i>	<i>Cucurbitaceae</i>	Palmitic acid, 6-9% stearic acid, 14-20% oleic acid	Reduces skin inflammation. Treats sunburn. Prevents acne.	

3.	Sandalwood Powder	Yellow sandalwood, Chandan	It consists of heartwood of stems and roots of <i>Santalum album Linn.</i>	<i>Santalaceae</i>	Santene, Teresantalol	Removes scarring. Soothes the skin. Anti-tanning.	
4.	Fenugreek Powder	Methi	It consists of seeds of <i>Trigonella foenum-gracum.</i>	<i>Fabaceae</i>	Carbohydrates, proteins, lipids, alkaloids, flavonoids, fibers	Reduce blemishes and dark circle. Cure acne.	
5.	Coffee	Coffee bean, Coffee seed	It is the dried ripe seed of <i>Coffea Arabica Linne</i> or <i>C.liberica Hiern</i>	<i>Rubiaceae</i>	2-3%caffeine, 3-5%tannins, 13%proteins and 10-15%fixed oil	Help to exfoliate the surface of skin.	
6.	Honey	Madh, Madhu	Honey is a sweet substance stored in honeycombs by different bee species like <i>Apis Mellifera</i> , <i>Apis Indica</i> , etc.	<i>Apidae</i>	80-85% carbohydrates, 15-17% water, 0.3%proteins	For moisturize dull skin.	

- **Method of Preparation:**

1. Methyl paraben was measured, weighed, and dissolved in water in a beaker.
2. Carbopol was then added, and the mixture was continually agitated for a few minutes, until a gel formed.
3. Weighed sodium lauryl sulphate was separately dissolved in water and then added to the mentioned gel.
4. Propylene glycol was added after this.
5. To balance the PH, add triethanolamine to the gel drop by drop.
6. The produced gel was then filled with the active component combination, which was then mixed in.

- **Formula:**

Ingredients	F1	F2	F3	Category
Wood Apple Shell	0.5gm	1gm	2gm	Anti-oxidant
Cucumber Peel Powder	1.5gm	1gm	1gm	Skin Whitener
Sandalwood Powder	0.5gm	1gm	1gm	Smoothing effect
Fenugreek Seed	1.4gm	1.5gm	1gm	Skin Cleanser
Coffee	0.66gm	0.5gm	0.2gm	Scrubbing Agent
Honey	2ml	3ml	2ml	Antiseptic
Carbopol	0.66gm	0.66gm	0.66gm	Gelling Agent

Methyl Paraben	0.1gm	0.1gm	0.1gm	Preservative
Sodium Lauryl Sulphate	1.33gm	1.33gm	1.33gm	Foaming Agent
Propylene Glycol	0.66gm	0.66gm	0.66gm	Moisturizer
Triethanolamine	0.66gm	0.66gm	0.66gm	Neutrizer
Rose water	Q.S	Q.S	Q.S	Vehicle

Parameters for Evaluation:

- Colour: A visual inspection of the face scrub's colour is possible.
- Odour: The scrub's odour is assessed by inhaling its aroma.
- pH: Using pH paper, it is possible to determine the product's pH.
- Consistency: Consistency can be manually assessed.
- Spreadability: $S = m \times l / t$
 $S =$ Spreadability $m =$ Weight placed on slide $l =$ Length of the glass slide $t =$ Time taken in seconds
- Extrudability: Small amount of scrub can be taken into a collapsible ointment tube. One end closed and the other end kept opened. Slight pressure can be applied on the closed side. The time taken to extrude and the amount of scrub extruded can be noted.
- Viscosity: Brookfield viscometer is used to measure the viscosity of scrub
- Washability: Formulations can be applied on the skin easily remove by washing with water is checked manually Grittiness The product can checked for the presence of any gritty particles by applying it on the skin.
- Stability Studies: The stability of the formulation can be tested by filling the scrub in plastic containers and placing it in. humidity chamber at 45°C and 75% relative humidity. The stability of the formulation can be inspected for 3 months at interval of one month.

Result and Conclusion:

Sr.No.	Parameters	F1	F2	F3
1.	Colour	Brown	Dark Brown	Yellowish Brown
2.	Odour	Rose type	Rose type and pleasant	Rose type and Pleasant
3.	pH	5	6.5	5.5
4.	Irritability	Non-Irritant	Non-Irritant	Non-Irritant
5.	Stability	Stable	Stable	Stable
6.	Consistency	Semisolid	Semisolid	Semisolid
7.	Spreadability	Easily Spread	Easily Spread	Easily Spread
8.	Viscosity	1.429cp	1.572cp	1.409cp
9.	Extrudability	Easily Extrudable	Easily Extrudable	Easily Extrudable
10.	Foamability	100ml in 5 min	100ml in 5 min	100ml in 5 min
11.	Washability	Easily Washable	Easily Washable	Easily Washable
12.	Grittiness	Presence of small gritty particles	Presence of small gritty particles	Presence of small gritty particles

- Formulation F1,F2,F3 was tested using various evaluation parameter. Spredability, viscosity, pH and consistency of F2 formulation was found very good when compared to F1 and F3.
- The present study was attempted to prepare a herbal 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 market for herbal cosmetics is rising quickly since they are utilised mostly for beauty purposes, making them the most significant component of modern life today. Herbal face scrub has some advantages than synthetic scrub, like being less expensive, toxic, and having less or no side effects. The herbal cosmetics are therefore the most significant replacement for synthetic cosmetics, according to the research.

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