



Formulation and Evaluation of Polyherbal Facial Scrub

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ABSTRACT:

The primary goal of this study was to create a polyherbal face scrub that included *Nigella sativa* (Kalonji) as the primary active ingredient. Natural ingredients are used in herbal cosmetics because they have the ability to prevent wrinkles and acne, as well as to assist regulate oil release from the skin and open pores. The majority of plant components used in herbal remedies and cosmeceuticals include antibacterial, antioxidant, and anti-aging qualities. Because they have no negative side effects and don't alter the biological function of the skin, natural ingredients are the safest and greatest products to use in daily life. The ingredients of this face scrub include Sandalwood, Fuller's earth, As active components, neem, turmeric, green tea, kalonji, liquorice, and aloe vera are employed. The produced face scrub passed all necessary characterizations after being assessed for look, pH, viscosity, spreadability, extrudability, grittiness, stability tests, foamability, washability, and irritation. Therefore, this mixture may be effectively used as a face scrub to maintain skin that is radiant and healthy.

Objective:

1. To prevent the skin from acne, pimples, and premature aging by nourishing, moisturizing, and cleansing it
2. To improve facial shine and aid in controlling oil secretion.

Purpose: To give effectiveness and healthier skin type. Helps to exfoliate the skin,

Conclusions: The scrub was tested for appearance, pH, viscosity, spread ability, washability, and irritation before the active components were added. The created mixture is appropriate for skin that is radiant and healthy. The study illustrates how natural cosmetics may improve skin health and reduce oil production.

Keywords: Facial scrub, antiseptic,,anti-aging,,herbal,,poppy,seeds.

INTRODUCTION:

Cosmetics come in a variety of forms and are used by people throughout to improve their appearance. Many skin conditions are treated using products such as sunscreen, anti-aging, anti-acne, and skin protection (Ashawat et al., 2009). People have been using herbs or herbal cosmetics for beauty, cleaning, and the fight against dark circles, oil, acne, blackheads, and pimples since ancient times. Ayurveda states that blood impurities are a primary cause of skin disorders (Mendhekar et al., 2017 and Dureja et al., 2005). Cosmetic formulations called face scrubs often consist of a cream or gel that has small particles that exfoliate the skin (Ghode et al., 2019 and Chaudhari et al., 2020). By eliminating adhering cells in the stratum corneum and dead skin cells, face scrubs exfoliate, increase blood flow, and accelerate skin turnover (Daudet et al., 2013). Face scrubs exfoliate the face and get rid of debris.

removing dirt and oil from pores helps to keep skin supple and speeds up cell regeneration (Nguyen et al., 2014; Fatima et al., 2018). Ideal characteristics for a face wash include: Non-stick, non-toxic, mildly abrasive gets rid of debris and dead skin. contain tiny, non-irritating grit particles (Talepekaret.al,2016).

Facial and body scrubs are the two types of scrubs that are applied to the skin. The only thing separating these two is how much sugar and oil are put to each. Face scrubs use a lot of oil, which makes them less abrasive. It exfoliates the skin and gets rid of dead skin cells. Any kind of skin can benefit from the usage of scrub. The only component of a scrub that will change depending on the kind of skin is the essential oil. There are three categories for skin types: oily, dry, and sensitive. Regular use of scrubs leaves skin smoother and more radiant as they eliminate dead skin cells, revealing fresh skin cells. A gentle abrasive is one of the main components.

One of the main components in the composition of the face scrub is a mild abrasive agent. Scrubs can be applied to the skin directly or with the use of a little cosmetic pad.

Material and Method

All of the natural ingredients utilized in the study were bought as dried powders from the Paonta Sahib market, which is nearby. The information about the specific plant material utilized in the formulation is provided below.

Aloe Vera (Indian aloe)

Botanical Name : *Aloe barbadensis* Chemical Constituents : Betacarotene, Aloe emodin, Aloin

Cosmetic Uses : Soothe sunburn, moisturize the skin, fights skin aging, reduces acne, lightens blemishes



FullersEarth (Multani mitti)

Botanical Name : Bentonite Clay

Chemical Constituents : Hydrrous aluminium silicates, Calcite

Cosmetic Uses : Oil and impurities absorber, provide fairness and glow, fights acne and pimples, improves skin elasticity



Turmeric (Haldi)

Botanical Name : *Curcuma longa*

Chemical Constituents : Curcuminoids

Cosmetic Uses : Reduce acne and any resulting scars, anti-inflammatory, anti-oxidant, provides glow and lustre



Green Tea (Chai)

Botanical Name : *Camellia sinensis*

Chemical Constituents : Catechin, Theanine, β - carotene

Cosmetic Uses : Antioxidant, anti inflammatory, and antimicrobial, treats acne and oily skin, reduce sebum secretion



gooseberry)

Botanical Name : *Phyllanthus emblica*

Chemical Constituents : Chebulagic acid, Gallic acid, Ellagic acid

Cosmetic Uses : Anti-aging, treats acne, evens skin tone, treats skin pigmentation, removes dead skin, natural hair straightener



Neem (Nim)

Botanical Name : *Azardicachta indica*

Chemical Constituents : Azadirachtin, Nimbin, Gedunin

Cosmetic Uses : Treat dry skin, stimulate collagen production, reduces scar, heal wounds, treat acne, minimize warts



Kalonji (Black caraway)

Botanical Name : *Nigella sativa*

Chemical Constituents : Thymoquinone, Linoleic acid, Palmitic acid

Cosmetic Uses : Anti bacterial, prevent acne, antioxidant, fights hair fall, fights skin infections, clears skin complexion



Liquorice (Mulethi)

Botanical Name : *Glycyrrhiza glabra*

Chemical Constituents : Glycyrrhizin, Liquirtin, Anethole

Cosmetic Uses : Brightens skin, hide sun damage, fade dark scars, treat skin condition, ease inflammation, firm andntightens skin, treat acne



Table 1: Formulation Table

Sr. No.	Name Of Herbal Drug	Quantity
1.	Aloe Vera (Indian aloe)	q.s.
2.	Fullers Earth (Multani mitti)	25%
3.	Turmeric (Haldi)	20%
4.	Green Tea (Chai)	25%
5.	Amla (Indian gooseberry)	10%
6.	Neem (Nim)	q.s
7.	Kalonji (Black caraway)	7%
8.	Liquorice (Mulethi) <i>Glycyrrhiza glabra</i>	10%

Experimental Work

Precisely weighed every powdered herb, including green tea, amla, neem powder, and sandal wood powder; sieved through 120 and combined using a mortar and pestle to create a homogenous concoction.

Accurately weighed liquorice powder, kalonji, turmeric, and fuller's earth, then triturated the ingredients to create a homogenous blend.

To get a consistent medicine powder for face scrub, add the previously produced herbal medication to that combination and triturate it. Aloe vera gel was added as the basis to a mortar and pestle along with all the herbal powders, which were triturated to a paste-like consistency and scented with rose water.



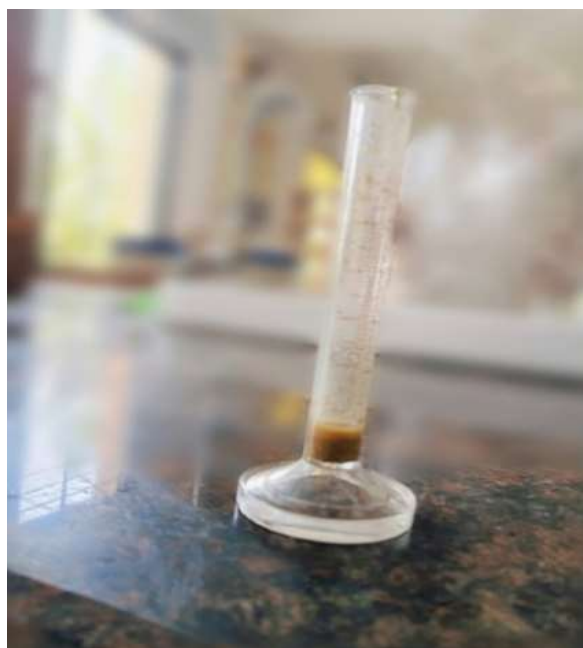
Table 2: Evaluation of Face Scrub

S. No.	Parameters	Observation
1.	Colour	Buff green
2.	Odour	Aromatic and pleasant
3.	Nature	Semisolid
4.	Consistency	Smooth
5.	Homogeneity	No aggregation
6.	pH	6.81±0.1
7.	Extrudability	Easily extruded
8.	Spreadability	5.76cm/sec
9.	Irritability	Non irritant
10.	Washability	Easily washable
11.	Grittiness	Small gritty particles
12.	Foamability	Foam volume 85ml at 5 minutes
13.	Viscosity	1.8670 poise

Methods of Evaluation

Following evaluation parameters were performed to ensure superiority of prepared face scrub;

1. **Physical Appearance:** Physical appearance of formulation was observed visually. In this test colour, odour, nature, and consistency were observed.
2. **Homogeneity:** Homogeneity of the formulation was inspected visually.
3. **pH:** pH of prepared scrub formulation was determined by using digital pH meter.
4. **Extrudability:** Extrudability was determined by the time required by sample to completely extrude from the container, i.e. Sample amount/ time required
5. **Determination of spreadability of scrub:** Small amount of the scrub was placed on the glass slide and another glass slide was placed on the gel. A wooden weight of 20gm was placed on it. The time required for the scrub to spread and the area was measured. The amount and the area of scrub on the glass slide represent the efficiency of spreadability, i.e. $\text{Spreadability} = M \times L/T$
6. **Irritability:** Little quantity of the scrub was applied on the surface of skin and kept for few minutes.
7. **Washability:** Little quantity of scrub was applied over the skin and washed with water.
8. **Grittiness:** Grittiness was checked manually.
9. **Foamability:** Small amount of scrub was shaken with water in a measuring cylinder and the foam was measured.
10. **Viscosity:** Brookfield viscometer was used to measure the viscosity of scrub.
11. **Stability study:** The formulation was stored at different temperature conditions for a period of 56 days and evaluated for parameters like colour, odour, pH, and consistency.



Result and Discussion

The face scrub was created and assessed. Table 2 presents the assessment parameters' grade.

According to stability experiments, the formulation's pH changed somewhat when it was kept at 40°C; at room temperature, no changes were noticed (Table 3).

Table 3: Result of Stability Studies

Parameters	Colour	Odour	pH
Days			
Day 1	Buff green	Aromatic & pleasant	6.81±0.1
Day 7	Buff green	Aromatic & pleasant	6.66±0.2
Day 14	Buff green	Aromatic & pleasant	6.42±0.1
Day 28	Buff green	Aromatic & pleasant	6.38±0.1

Conclusion

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.

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