

Formulation and Evaluation of Multipurpose Herbal Scrub

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Abstract: *The main aim of this work is to formulate and evaluate herbal face scrub for glowing skin by using natural herbal ingredients. The natural herbal ingredients such as Apple wood and Apple wood outer shell and Pulp. The powder of apple wood was prepared by shade drying commercially, all powdered natural ingredients were sieved using 18,20 mesh, weighed accurately and mixed geometrically for uniform formulation and then evaluated for parameters including, morphological, physicochemical physical, Phytochemical, irritancy along with stability examination. The advantage of herbal face scrub is of non-toxic nature; reduce the allergic reactions, time-tested usefulness of many ingredients. In the present work we found good properties for the face Scrub and further optimization studies are required on this study to find the useful benefits of face scrub on human use. Thus in the present work, we formulated a herbal face scrub which can be easily made with easily available ingredients.*

Keywords: Scrub, Natural, Herbal, Formulation Evaluation

I. INTRODUCTION

Many marketed skincare products, when used over the long term, can lead to dryness, acne, and redness. To address these concerns, some turn to herbal scrubs. These scrubs promise to cleanse, soften, moisturize, and even enhance the fairness of the skin. However, it's crucial to approach skincare with caution. While herbal ingredients can offer benefits, excessive scrubbing or reliance solely on these products may damage the skin's natural barrier, exacerbating issues. Moreover, the pursuit of fair skin can perpetuate harmful beauty standards. Rather than solely focusing on fairness, prioritize overall skin health and embrace diverse beauty standards. Consulting with a dermatologist can provide personalized skincare recommendations and ensure optimal skin care practices. Remember, true beauty transcends skin tone, emphasizing confidence and self-care practices for a genuinely radiant appearance. Problems including dark circles, blackheads, and pimples have grown more common among young people and those who experience them in recent decades. Many people look for skincare product solutions, frequently choosing cosmeceuticals or herbal cosmetics. Because of their low risk of adverse effects and perceived safety, herbal cosmetics are highly valued. These products are a gentler substitute for traditional skincare products since they usually contain natural substances that are recognised for their skin-nourishing qualities. Conversely, cosmeceuticals are a combination of medicine and cosmetics intended to affect the skin's biological processes. With formulas that are supported by science, they frequently include active compounds like vitamins, peptides, or antioxidants that address certain skincare issues. While cosmeceuticals and herbal cosmetics both have advantages, it's important to select products carefully depending on the needs and preferences of your particular skin type. Speaking with a dermatologist may help you choose the best skincare routine to treat issues like dark circles, zits, and blackheads while minimising risk and guaranteeing the best possible outcomes. In fact, many choose herbal products over chemical-based cosmetics because of their natural origins and perceived safety. Herbal goods, which are derived from plants and other natural sources, frequently include advantageous chemicals with both medical and cosmetic qualities. Because of their many medicinal benefits, many herbs have been utilised for ages in traditional medicine and beauty routines. Natural face scrubs and masks created at home are well-liked since they give skin a mild exfoliation and nutrition. In order to produce smoother, more luminous skin, these DIY treatments frequently include natural items such as fruits, oils, and crushed herbs. In specifically, Ayurvedic face washes use the principles of the ancient Indian medical system known as Ayurveda to treat common skin issues

including dark circles, wrinkles, and acne. Herbs are chosen in Ayurveda according to their unique qualities and impacts on the body and skin. For instance, turmeric is useful for treating acne and lowering inflammation because of its well-known anti-inflammatory and antibacterial qualities. In a similar vein, neem's antibacterial qualities can aid in battling microorganisms that cause acne and encourage cleaner skin. Although there are numerous advantages for the skin from using herbal products and DIY cures, it's important to be aware of individual sensitivities and allergies. To get the intended effects, consistency and appropriate application methods are also essential. Seeking advice from a skincare expert or Ayurvedic practitioner can offer tailored suggestions and direction for successfully implementing herbal skincare into your regimen. In fact, using natural face washes might help the skin become more smooth and fair. Essential vitamins and nutrients that feed the skin and improve its general health and look are frequently found in these washes. Antioxidant vitamins, such as vitamin C, vitamin E, and vitamin A, help shield the skin from damage from environmental stresses and free radicals, resulting in a more vibrant, lighter complexion. The state of one's skin, both physically and mentally, is influenced by a number of variables, including skincare routines, daily routines, lifestyle choices, and environmental influences. For skin to remain healthy and vibrant, a balanced diet, consistent exercise, enough hydration, enough sleep, and stress management are crucial. Skincare regimens customised for certain skin types and issues can also enhance the resilience and attractiveness of the skin. Cosmetics are defined under the Drugs and Cosmetics Act as items meant to be applied to the human body in order to cleanse, beautify, enhance attractiveness, or change appearance. A vast array of goods, such as skincare, cosmetics, perfumes, and haircare items, are included in this broad term. Cosmetics are made up of several components that work together to give certain advantages including moisturising, cleaning, and enhancing the look of the skin, hair, and nails. Ultimately, it's critical to prioritise skincare routines that promote the health and welfare of the skin while taking into account individual requirements and preferences, whether using natural face washes or other cosmetic items. Regulations and rules pertaining to cosmetic items can also assist consumers in making well-informed decisions and guarantee the efficacy and safety of the products. Licenced cosmetic manufacturers are not covered by drug licences. Scrubs are designed to keep the skin looking and feeling good by removing debris, oil, dead skin cells, crusts, and makeup residue from the skin. Because they are inexpensive and effective, herbal face washes made with natural components have become quite popular in today's culture. They have been successful in changing how skin looks on both men and women. Herbal face scrubs are recognised to have natural substances that have the power to enhance skin health without having any side effects. For this reason, herbal compounds are increasingly being included in a lot of cosmetic goods. These organic ingredients have several advantages, from mild exfoliating to skin nourishment and revitalization. Furthermore, those who are looking for skincare options that complement their tastes for sustainable and natural goods frequently favour them. In conclusion, the efficacious cleansing and skin-improving properties of herbal face scrubs have led to their growing popularity. Their natural and safe substitute for traditional cosmetics meets the increasing need for skincare products that put sustainability and health first.

Limonia acidissima:



Synonym: monkey fruit, apple wood, Limonia acidissima

Biological Source: It consists of whole part of plant Limonia acidissima L. belong to family Rutaceae.

Chemical name: Thanakha Tree, Wood Apple.

Kingdom : Plantae

Sub-Kingdom : Tracheobionta

Division : Magnoliophyta

Class : Magnoliopsida

Sub Class : Rosidae

Order : Sapindales

Genus : Limonia L.

Orange peel



Common Name: Santare k chilke.

Synonym: Orange Cortex.

Biological Source: It is consists of Dried or fresh outer part of the pericarp of the ripe or nearly ripe fruits of Citrus aurantium Linn belonging to family Rutaceae.

Chemical Constituent: It contain the Citric acid, Catechine, Caffeic Acid , Vitamin C.

USES: ✓ Reduces inflammation, shrinks pores.

removes blackheads and whiteheads.

Orange peel helps to lighten and brighten the skin.

It unclog blocked skin pores and getting rid of blackheads

Honey

Common Name : Apis cerana indica.

Synonym: Madhu.



Biological Source: Honey is a sugar secretion deposited in honey comb by the bees, *Apis mellifera*, *Apis dorsata* and other of *Apis* belonging to family Apidae.

Chemical Constituent: It Contains Glucose, Fructose, Carbohydrates, Maltose.

Uses:

- Honey is a vehicle for Ayurvedic Formulation.
- Currently it is in preparation of creams, lotions and facescrub.
- Honey is used as an anti-inflammatory, antioxidant and antibacterial agent.
- Honey for skin lightening and brightening.
- Fights Acne & Pimples.
- Hydrates the skin.
- Brightens Skin Complexion

TABLE 1- INGREDIENT PROFILE.

Sr. No.	Ingredients	Biological source	Family	Uses
1	L acidissima Inner shell.	whole part of plant <i>Limonia acidissima</i> L	Rutaceae.	Anti-aging Anti-oxidant Anti-wrinkles
2	L acidissima Outer shell	whole part of plant <i>Limonia acidissima</i> L	Rutaceae	Exfoliate skin
3	Orange peel powder	Dried or fresh outer part of pericarp of the ripe fruit in <i>Citrus aurantium</i> Linn	Rutaceae.	Toning
4	Honey	Honey is a sugar secretion deposited in honey comb by the bees, <i>Apis mellifera</i>	Apidaceae	Natural moisturizer for skin
5	Carbopol	-	-	Gelling agent
6	Triethanolamine	-	-	Neutralizer
7	Propylene glycol	-	-	Moisturizer
8	Methyl paraben	-	-	Preservative
9	Sodium Lauryl Sulphate	-	-	Foaming agent
10	Rose water	-	-	Perfume
11	Distilled Water	-	-	Vehicle

COLLECTION

All the chemicals reagents used in this experiment were of analytical grade purchase from H.G CHEMICALS, the *Limonia acidissima*, Orange Peel, Honey, were collected from in and around Junnar, Pune Maharashtra, India.

Preparation:

The Fresh Fruit apple wood and orange peel was collected from the local market, Fruit was dried in shade dry, after drying make a separate powder with the help of grinder.

Passed through the sieve no 18 & 20, kept in well close container.

The gel is prepared first the required quantity of water was taken in beaker.

The weighed quantity of propylene glycol and sodium lauryl sulfate was added and dissolved.

A weighed quantity of Carbopol 940 was added little by little in a homogenizer until uniform gel was obtained.

To this, extract apple wood powder in that include outer shell and inner shell of powder as well as orange peel powder, also added then it well triturated.

And at last, triethanolamine was added to adjust the PH^{1,2}



Table 2. Formulation table

Sr. No.	Ingredients	F1	F2
1	L acidissima Inner shell	5 gm	5 gm
2	L acidissima Outer shell	2 gm	2 gm
3	Orange peel powder	-	1.75 gm
4	Propylene glycol	2 gm	1 gm
5	Carbopol	3 gm	3 gm
6	Triethanolamine	2 gm	2 gm
7	Honey	-	1 gm
8	Methyl paraben	0.15 gm	0.15gm
9	Sodium Lauryl Sulphate	2 gm	2 gm
10	Rose water	-	0.75 gm
11	Distilled Water	3.85gm	1.25gm

Table 3. formulation analysis ³

Trials	Observation
F1	Preserved but not good smell.
F2	preserved with all condition.

Evaluation Parameter:

The prepared herbal scrub was evaluated for Appearance, PH, consistency, spreadability, irritability, washability, grittiness, foamability, viscosity.

1) **Appearance** : The prepared scrub was evaluated for its colour and odour.

- 2) **PH** :PH of the scrub was determine using a digital pH meter,the pH value of the scrub was 7.4,which are consider acceptable to avoid the risk of Irritation on application to the skin.
- 3) **Consistency**: It was found to be solid visual observation.
- 4) **Spreadability**: It is important parameter,it is use to identify the spreadability by the gel on the skin .
- 5) **Irritability**: Small amount of scrub was applied on the skin and kept for few minutes, to be non irritant.
- 6) **Washability**: The scrub was applied over the skin and was washed with water. Formulation on applied on skin was easily removed by washing with Water tested manually.
- 7) **Grittiness**: This test is checked for the presence of any gritty particle by applying it on the skin.
- 8) **Foamability**: Small amount of scrub was shaken with water, in measuring cylinder and the foam was measure.
- 9) **Viscosity**: Brookfeild viscometer was use to measure the viscosity of scrub^{4,5}

Evaluation Test:

Organoleptic Evaluation: the organoleptic parameter include it nature, colour, odour, appearance, texture, smoothness which are evaluated manually for it physical property, herbal face scrub was evaluated for organoleptic parameter⁶.

Sr. No.	Parameter	Observation
1	Colour	Sticky Brown
2	Odour	Aromatic
3	Appearance	Rough
4	Texture	Fine
5	Smoothness	Lightly smooth
6	Consistency	Good

Phytochemical Evaluation:

Sr. No	Parameter	Observation
1	PH	7.4
2	Irritability	Non irritant
3	Grittiness	Gritty particles
4	Washability	Easily washable
5	Foamability	Easily Foamable
6	Redness	No redness
7	Swelling	No swelling

Stability Testing:

Stability testing of prepared formulation was conducted for formulation by storing at different temperature condition for the period of 1 month. The packed glass vials of formulations stored at a different condition room temperature 20 and 25 degree Cand where evaluated for physical parameter like colour, odour, consistency, pH.⁷

Sr. No.	Parameter	Room Temperature	Refrigerator
1	Colour	No changes	No changes
2	Odour	No changes	No changes
3	Texture	Fine	Fine
4	Smoothness	Smooth	Smooth

Result : Multifunctional Scrub was made and assessed. It contains fruit pulp from *L. acidissima*, which has anti-aging, anti-wrinkle, and antioxidant properties that tighten, lighten, and brighten the skin. Additionally, it includes fruit powder from the outer shell, which releases pollutants that clog pores and function as a natural exfoliant on the skin's surface. By exerting pressure, they may exfoliate the skin without causing scratches on its surface. To create an appropriate herbal scrub, foundation ingredients such foaming agent, preservative, gelling agent, and neutralizer were chosen and added to the extract. Evaluation criteria including pH, consistency, colour, and odour were examined.

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