



Research Paper

Tradition Meets Science: Formulation And Evaluation of Ayurvedic Ubtan

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ABSTRACT

Ubtan is a traditional Ayurvedic cosmetic preparation composed of herbal powders, natural clays, and aromatic oils that collectively function as a gentle skin-cleansing and rejuvenating agent. In the present study, an herbal ubtan was formulated using basil, manjistha, nagarmotha, multani mitti, rice flour, masoor dal, orange peel powder, vitamin E, rose water, jasmine oil, and lavender oil. Each ingredient was selected for its proven dermatological benefits, including antimicrobial, antioxidant, exfoliating, and soothing properties. The formulation was evaluated for organoleptic features, physicochemical parameters, skin irritation potential, spreadability, washability, and short-term stability. Results demonstrated that the ubtan possessed a pleasant fragrance, fine texture, good spreadability, and easy washability, with no signs of skin irritation. Stability testing indicated that the formulation remained unchanged in colour, odour, texture, and smoothness under both room temperature and accelerated conditions. Overall, the prepared ubtan exhibited favorable characteristics for safe and effective cosmetic use, supporting its potential as a natural alternative to synthetic skincare products.

INTRODUCTION

Ubtan is derived from the Sanskrit word "Udvardana," which means "to purify and beautify the skin." Ubtan has been used for ages as a traditional Indian skin-cleansing method. It can be found in a small jar on the kitchen shelf in every Indian home, or some people would rather make it right away by combining sun-dried fruit peels,

lentils, and turmeric—known as the "golden wonder" in Ayurveda—and pounding them together in order to create this miraculous powder that instantly softens and brightens the skin. By thoroughly cleaning the skin, ubtans' anti-bacterial, anti-septic, and anti-inflammatory qualities shield it from a variety of ailments [1]. "Ubtan" is a semisolid powdered preparation that improves the body's shine and removes particles of

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dirt from the skin [2]. It significantly improves the texture and quality of the skin. The user's body is exfoliated by the traditional herbal mixture, which also eliminates layers of dead skin and creates space for new ones. It is thought to have a long-standing drug regulatory philosophy and principles, constructed for the rehabilitation of body, mind, and soul, and has been widely utilized in India and its subcontinents. The majority of individuals deal with allergies, dust, grime, and undesirable skin conditions like pimples, dark patches, rashes, and skin imperfections on a regular basis. There is a lot of evidence that utilizing ubtan could completely prevent skin from many factors that cause infections [3].

Ubtan recipes, which have been used by women for centuries for beauty purposes, include extra ingredients such as rose water, milk, almonds, and yoghurt, which vary based on the occasion and area in India. Ubtans are especially popular for wedding skincare regimes, which include prolonged application of haldi-based pastes to the face and body [4]. Ubtan is a natural, nourishing face mask. A gentle exfoliation with natural substances leaves the skin feeling refreshed. Regular use of ubtan to exfoliate your body and face will result in glowing and spot-free skin. All beauty regimes highlight the significance of properly washing the skin. However, selecting the ideal cleanser might be a nightmare. We can leave all of that behind and rely on Ubtan to remove any filth and pollutants from within [5].

COMPOSITION OF UBTAN

1. Basil



Ocimum basilicum L., a member of the Lamiaceae family, is a fragrant and therapeutic plant that is grown all over the world [6]. Basil's antioxidant, anti-inflammatory, antibacterial, hydrating, and moisturizing properties improve skin health.

Basil suppresses inflammatory mediators and lowers proinflammatory cytokines. These processes support its skin-protective and anti-aging qualities, which make it advantageous for a range of skincare uses [7].

2. Manjistha



Manjistha is a climbing, green plant from the Rubiaceae family, characterized by a red rhizome base and roots. It can reach a height of up to 1.5 meters and features a smooth, four-sided stem [8]. It is also prescribed for treatment of major burns, fractures and dysentery, to improve Complexion and to treat skin diseases and blood born diseases. It can prevent Burning, itching and Other fungal or bacterial infection and promotes skin healing by local action on skin and promotes collagen Formation [9].

3. Nagarmotha



Nagarmotha, scientifically known as *Cyperus rotundus*. Nagarmotha is valued for its diuretic effects, which aid in the elimination of toxins and excess fluids from the body. This diuretic action not only helps in detoxification but also supports kidney function and urinary tract health. [10]. Nagarmotha extracts are incorporated into various Skincare products such as creams, lotions, and serums to address concerns like inflammation, acne, and premature aging. Its natural antioxidant and antimicrobial properties make it an ideal ingredient for promoting healthy, radiant skin [11]. The active compounds, such as α cyperone, coumarins, and flavonoids, help soothe irritated skin, reduce redness, and manage skin disorders like dermatitis and psoriasis [12].

4. Multani Mitti



Multani Mitti, also known as Fuller's Earth, is a mineral-rich clay used in skincare and haircare for its ability to absorb excess oil, cleanse pores, and exfoliate the skin.

Biological Source: It is a natural clay composed mainly of hydrated aluminum silicates with variable amounts of magnesium, calcium, and iron [13]. It is classified as a type of clay, specifically a calcium bentonite or palygorskite, found in mineral-rich regions like Multan, Pakistan [14]. It effectively draws out dirt, sweat, and impurities from the skin pores. Regular use can help even out skin tone, reduce pigmentation, and improve overall skin texture. Due to its astringent and antibacterial properties, multani mitti can be applied to the skin and blended with rose water to help treat acne [15].

5. Rice flour



Rice flour is derived from the plant with the biological name *Oryza sativa*, which belongs to the Poaceae (also known as Gramineae) family [16]. In herbal utne (ubtan), rice flour acts as a gentle exfoliating agent to remove impurities, a thickening base to provide smooth texture to the formulation, a cleansing and oil-absorbing agent that improves skin glow and softness.

Used in Ayurvedic face packs (Ubtan) for glowing skin [17]. Traditionally applied to reduce suntan and blemishes. Known for its anti-inflammatory and anti-irritant effects. Used in formulations for skin whitening, oil control, and anti-aging. Acts as a natural base material or binder in herbal formulations. Used as a diluent or filler in powders and face masks [18].

6. Masoor dal



Masoor dal powder comes from the plant with the biological name *Lens culinaris* (or *Vicia lens*), which belongs to the Fabaceae (pea or legume) family [19]. Masoor dal's exfoliating qualities aid in the removal of blackheads and pimples. Masoor dal's bleaching qualities lighten and level out skin tone. Dark spots, imperfections, and tan lines are also removed by it. In addition, it brightens the skin to provide an even complexion and repairs sun damage [20]. The rich content of vitamins (B, C) and antioxidants helps in managing acne and pimples, reducing signs of aging like wrinkles and fine lines, and promoting skin regeneration. Natural bleaching properties help lighten dark spots, blemishes, and tan, while vitamins like Vitamin C support a brighter, more even skin tone [21]. It reduces the risk of heart disease by lowering blood pressure and cholesterol levels due to the presence of dietary fiber, protein, and antioxidants [22].

7. Orange peel powder



The orange is the fruit of the *Citrus sinensis* species, which is part of the Rutaceae family [23]. Due to its high content of flavonoids, limonoids, and carotenoids, orange peel acts as a powerful skincare ingredient with anti-inflammatory and antioxidant properties. These attributes help guard the skin against oxidative damage and inflammation induced by pollution and UV exposure. The peel is also packed with Vitamin C, a nutrient essential for the production of collagen—the protein that helps maintain the skin's firmness and elasticity. As a result, cosmetic products featuring orange peel extract are often used to minimize the appearance of aging signs, including fine lines and wrinkles [24, 35].

8. Vitamin E



As a crucial fat-soluble antioxidant, Vitamin E has a long history, seeing use in dermatology for more than five decades. This makes it a frequent and important component in many cosmetic formulas. Vitamin E's most abundant sources are olive oil, sunflower oil, almonds, spinach, and whole grains. Vitamin E protects skin from solar-induced damage by scavenging free radicals. Research also indicates that Vitamin E possesses antitumorigenic (cancer-preventing) and protects against light/UV damage [25].

9. Rose water



A genus of beautiful, fragrant ornamental plants within the Rosaceae family, the Rose is currently among the most cultivated ornamental species worldwide. Rose essence's distinctive scent is largely formed by compounds including geraniol, geranyl acetate, nerol, and eugenol [26]. The soothing and antiseptic qualities of rose water help the skin by reducing discoloration and postponing the natural aging process. The use of rose hydrosol significantly improves the skin's condition by regenerating and nourishing it. It also works to maintain elasticity and smoothness while actively combating aging and wrinkle development [27].

10. Jasmin oil



Jasmine essential oil is a high-quality oil extracted from plants in the *Oleaceae* family. Many cosmetic formulations use Jasmine as a key ingredient to provide antifungal, antibacterial, and antioxidant effects [28]. From basic hair and skin care (creams, emulsions, and shampoos) to specialized treatments for dermatitis, skin whitening, and use as an antipruritic (anti-itch) lotion, this ingredient is incorporated into numerous cosmetic products, including perfumes [29].

11. Lavender oil



Lavandula officinalis (also known as *L. angustifolia*) is classified under the Lamiaceae family, which is also referred to as Labiatae. This essential oil, derived from lavender's aerial growth, is a clear, yellow-to-colorless liquid known for its very fresh, herbal, and faintly camphorous aroma [30]. Lavender oil is utilized extensively in cosmetics as a functional ingredient, prized for its therapeutic effects, especially its antimicrobial and anti-inflammatory properties [31].

FORMULATION TABLE

SR NO.	INGREDIENTS	QUANTITY
1.	Basil	3.5gm
2.	Manjistha	3.5 gm
3.	Nagarmotha	3.5gm
4.	Multani Mitti	3.5 gm
5.	Rice flour	3.5gm

6.	Masoor Dal	3.5gm
7.	Orange Peel Powder	3.5gm
8.	Vitamin E	q.s.
9.	Rose Water	q.s.
10.	Jasmine Oil	q.s.
11.	Lavender oil	q.s.

METHOD OF PREPARATION

1. Take Multani mitti in a clean mixing bowl and add rice flour and mix the two ingredients thoroughly.
2. Add manjistha powder and orange peel powder and blend well.
3. Add basil powder, finely powdered masoor dal, nagarmotha powder and mix to obtain a uniform dry blend.
4. Add rose water and vitamin E to the dry ingredients and mix well.
5. Finally add jasmine oil and lavender oil for fragrance and and blend well.
6. Continue mixing until all ingredients are evenly combined and a homogenous ubtan is obtained.
7. Transfer the prepared ubtan into an airtight container for storage.



EVALUATION

ORGANOLEPTIC EVALUATION

It is crucial to assess the physical and chemical properties of organoleptic agents, such as active pharmaceutical ingredients (APIs), before using them since they are susceptible to physical and chemical instability that leads to degradation [32].
 Colour: The ubtan formulation's colour was evaluated visually.

Odour: The formulation's aroma was evaluated by sniffing it.

Texture: The formulation's texture was assessed by sensory evaluation.

SR. NO.	PARAMETER	OBSERVATION
1.	COLOUR	LIGHT BROWN
2.	ODOUR	PLEASANT
3.	APPEARANCE	GOOD
4.	TEXTURE	FINE

PHYSICOCHEMICAL EVALUATION

The pH value was obtained using pH paper [33].

SR. NO.	PARAMETER	OBSERVATION
1.	PH	6.9

IRRITATION TEST ON THE SKIN

SR. NO.	PARAMETER	OBSERVATION
1.	IRRITATION	NO
2.	REDNESS	NO
3.	ITCHING	NO

PERFORMANCE EVALUATION

1. Washability: The degree and simplicity of washing with water were evaluated individually.

2. Spreadability : Spreadability of formulation was evaluated individually.

SR. NO.	PARAMETER	OBSERVATION
1.	WASHABILITY	WASHABLE
2.	SPREADABILITY	GOOD

STABILITY STUDIES:

A pharmaceutical product's stability can be characterised as its capacity to stay within its

physical, chemical, microbiological, toxicological, protective, and informational criteria in a given container or closure system [34].

SR. NO.	PARAMETER	ROOM TEMPERATURE	AT 40 DEGREE
1.	COLOUR	NO CHANGE	NO CHANGE
2.	ODOUR	NO CHANGE	NO CHANGE
3.	PH	6.8	6.7
4.	TEXTURE	FINE	FINE
5.	SMOOTHNESS	SMOOTH	SMOOTH

CONCLUSION

According to the WHO, nearly 80% of people in developing countries rely on traditional medicine for their primary healthcare. Plants play a vital role in traditional herbal medicine, which is

increasingly valued today for being cost-effective, generally safe, non-toxic, and associated with fewer side effects [35]. The formulated herbal ubtan demonstrated excellent cosmetic and functional properties, reaffirming the value of traditional Ayurvedic preparations in modern



skincare. All ingredients contributed synergistically to enhance cleansing, exfoliation, nourishment, and skin protection. Evaluation parameters confirmed that the product was stable, non-irritant, easy to apply, and pleasant in appearance and texture. The absence of adverse reactions highlights its suitability for regular topical use. Based on the findings, this ubtan formulation presents a safe, natural, and effective option for maintaining healthy skin and may serve as a promising base for future cosmetic product development or commercialisation. Further studies involving consumer acceptance or extended stability testing may strengthen its application in the herbal cosmetics sector.

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