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A Review on Evaluation of Herbal Face Scrub By Using Ficus Religiosa extract

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ABSTRACT

The demand for herbal cosmetic products has risen significantly due to their safety, natural origin, and suitability for various skin types. Among these preparations, herbal face scrubs are preferred for their ability to cleanse, exfoliate, and rejuvenate the skin without the harsh effects associated with synthetic ingredients. This review discusses the formulation and evaluation of herbal face scrubs containing *Ficus religiosa* extract, rose oil, vitamin E, and coconut-based components, each offering benefits such as antioxidant activity, soothing effects, and improved moisture balance. These scrubs gently remove dead skin cells and impurities, promoting smoother texture and enhancing skin clarity without causing irritation.

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Compared with synthetic exfoliants that may contain parabens, sulfates, or aggressive chemicals, herbal scrubs are biodegradable, environmentally friendly, and better tolerated by the skin. Their multifunctional effects arise from plant-derived compounds such as flavonoids, terpenoids, and phenolics, which contribute to antioxidant, antimicrobial, and anti-inflammatory actions. Recent advancements in cosmetic research, including nano-delivery systems, have further improved the penetration and stability of herbal ingredients, increasing their overall efficacy. By integrating traditional herbal knowledge with modern scientific advancements, herbal face scrubs offer a safe, effective, and sustainable alternative to synthetic exfoliating products.

KEYWORDS

Herbal face scrub; Ficus religiosa; Natural exfoliants; Herbal cosmetics; Phytoconstituents; Moisturizing agents; Antioxidants; Topical formulations; Cosmetic evaluation; Plant-based skincare.

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INTRODUCTION

The use of cosmetics dates back thousand's of years to ancient civilizations and old persons use the jurnal ingredient for their skin care. Ancient civilizations such as Egypt, Greece, India, and China, where people relied on natural ingredients like herbs, minerals, clays, and plant extracts to enhance beauty and protect the skin. These traditional practices formed the foundation of herbal cosmetics, which have now evolved into a significant part of the modern skincare industry. In today's world, there is a growing preference for natural and herbal-based products over synthetic ones due to rising awareness about the harmful effects of chemical ingredients and the increasing focus on sustainable, eco-friendly lifestyles. [1] [4]. Among herbal skincare products, herbal face scrubs have gained special attention for their dual action of exfoliating and nourishing the skin. Exfoliation plays a key role in skincare by removing dead skin cells, unclogging pores, and stimulating blood circulation. This process helps in achieving a smoother, brighter, and more youthful complexion. Unlike synthetic scrubs that often contain harsh chemical abrasives such as microbeads or artificial exfoliants, herbal scrubs are formulated with gentle, plant-based ingredients like rice powder, orange peel, walnut shell, oatmeal, and bark ash. These natural exfoliants cleanse the skin without causing irritation or dryness, making them suitable for all skin types, including sensitive skin. [2] In addition to their cleansing properties, herbal face scrubs are enriched with therapeutic herbs that provide multiple skin benefits. Ingredients like Ficus religiosa (Peepal), neem, aloe vera, turmeric, and sandalwood are known for their anti-inflammatory, antimicrobial, and antioxidant effects. These properties help prevent acne, reduce blemishes, and protect the skin from damage caused by pollution and free radicals. Moreover, the presence of natural oils and vitamins in

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these formulations ensures proper hydration and supports skin regeneration. [2][3]. Herbal formulations not only provide effective skincare but also reflect a holistic approach inspired by ancient systems like Ayurveda and Unani, which emphasize balance and natural healing. The increasing demand for such products in both domestic and global markets highlights the shift toward safer and more sustainable beauty solutions.

This review focuses on the formulation, evaluation parameters, and advantages of herbal face scrubs in comparison to conventional synthetic scrubs. It aims to explore how natural ingredients contribute to skin health, promote environmental sustainability, and offer a safe, effective alternative for modern cosmetic formulations. [2].

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MATERIALS AND METHODS

This review was developed using a structured approach to gather, evaluate, and summarize scientific information related to herbal face scrub formulations. Relevant literature was sourced from online academic databases, including Google Scholar, PubMed, ResearchGate, and science journals focusing on herbal cosmetics and dermatological preparations. Search terms such as “herbal scrub formulation,” “natural exfoliating agents,” *“Ficus religiosa cosmetics*,” and *“plant-based facial scrubs”* were used to identify suitable publications.Articles were screened based on their relevance to herbal ingredients,formulation techniques, and evaluation parameters used for topical cosmetic products. Only peer-reviewed studies and research papers with clear methodological descriptions were included. Non-scientific sources, incomplete reports, and papers lacking formulation details were excluded.Data extracted from the selected literature included ingredient profiles, preparation steps, functional roles of components, and commonly applied quality testing methods. The collected information was organized and compared to highlight similarities, variations, and emerging trends in herbal scrub development. The final synthesis emphasizes the general formulation approaches reported across studies rather than presenting experimental outcomes, aligning the content with the purpose of a review article.

Quality assessment of herbal face scrubs focuses on sensory behavior, safety, stability, and functional exfoliating performance. These tests help determine whether the formulation is suitable for topical application, acceptable to consumers, and retains desirable properties throughout storage. Below are the major evaluation parameters reported in the literature, along with their definitions and relevance in cosmetic formulation.

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1. Organoleptic Properties

Organoleptic evaluation refers to the examination of colour, odour, texture, and overall appearance. These properties provide the first indication of product quality and consumer appeal. Herbal scrubs often exhibit natural colours and characteristic fragrances derived from essential oils and plant constituents. Consistent sensory attributes across batches indicate good formulation uniformity and product stability.

2. pH Compatibility

pH represents the ratio of acidic to alkaline components in the formulation. Maintaining an appropriate pH is crucial to avoid irritation, preserve the natural microbiota of the skin, and ensure compatibility with the slightly acidic skin barrier. Most herbal scrubs show an acceptable range that aligns with normal skin physiology, supporting their safe and comfortable use.

3. Viscosity and Consistency

Viscosity refers to the thickness or flow behavior of the scrub, whereas consistency indicates its structural uniformity. These characteristics influence ease of application and consumer handling. A scrub with balanced viscosity spreads evenly on the skin and holds exfoliating particles without separation. Stable viscosity is also an indicator of proper formulation design and ingredient interaction.

4. Spreadability

Spreadability describes the ability of a formulation to distribute smoothly over the surface of the skin with minimal pressure. In cosmetic scrubs, this property determines user experience, comfort, and efficient exfoliation. Higher

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spreadability ensures uniform distribution of abrasive particles, enhancing cleansing effectiveness and reducing the likelihood of skin abrasiveness.

5. Grittiness / Particle Characteristics

Grittiness is the tactile sensation produced by exfoliating particles present within the scrub. Particle size and shape play a direct role in determining the intensity of exfoliation. Ideal scrubs contain fine, rounded particles that remove dead cells gently without scratching or damaging the epidermis. This parameter is central to user comfort and exfoliation safety.

6. Washability

Washability represents how easily the scrub can be removed from the skin after use. A product with appropriate washability leaves minimal residue and prevents greasy or sticky after-feel. Good wash-off behavior ensures convenience for users and contributes to product satisfaction.

7. Foaming Behavior (if surfactants are included)

Foaming refers to the formation of bubbles during cleansing. Although foam does not directly correlate with cleansing efficacy, it influences consumer perception and the sensory appeal of the product. Mild and stable foam is preferred in herbal scrubs to maintain a natural and gentle cleansing experience.

8. Stability Assessment

Stability describes the ability of a formulation to maintain its physical, chemical, and sensory characteristics over time. A stable product resists changes in colour, odour, consistency, pH, and microbial growth during storage. Stability evaluation is essential for predicting shelf life and formulation reliability.

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9. Safety and Skin Irritation Considerations

Safety evaluation focuses on potential irritancy, sensitization, or adverse reactions caused by herbal ingredients. Since herbal scrubs contain plant-derived compounds, they should be assessed for dermal compatibility to ensure they are suitable for regular and long-term use. Formulations considered safe do not induce redness, itching, or discomfort.

10. Microbial Quality

Microbiological examination ensures that the scrub remains free from harmful microbial contamination. Herbal components, especially those rich in nutrients, may support microbial growth if not protected with suitable preservatives. Acceptable microbial quality is essential to ensure user safety and prevent spoilage.



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RESULTS

1. *Ficus religiosa (Peepal tree)* is chemically rich in bioactive compounds that contribute to its therapeutic and cosmetic value. The bark, leaves and fruits of this species contain multiple classes of phytochemicals including flavonoids, alkaloids, tannins, phenolic acids, terpenoids, glycosides, saponins and sterols, which are associated with antimicrobial, antioxidant, anti-inflammatory and wound-healing activities [5]. Flavonoids such as quercetin, kaempferol and rutin are widely documented in the stem bark and are responsible for free-radical scavenging and protection against oxidative stress, making them beneficial for skin-repairing cosmetics [6]. Tannins and phenolic compounds, including gallic acid and ellagic acid, contribute to astringent and antimicrobial functions, helping in exfoliation, inhibition of microbial colonization and minimizing inflammation of the skin surface [7]. The plant also contains β-sitosterol, lupeol, and other triterpenoids that support anti-inflammatory and healing responses, improving skin texture and regeneration when applied topically [8]. In addition, the presence of vitamins, essential minerals and natural fibers enhances its suitability as a mild abrasive ingredient when used as bark ash in cosmetic scrubs.
2. *Ficus religiosa* exhibits a wide spectrum of pharmacological activities that support its traditional use and modern application in herbal formulations, including cosmetics. The plant demonstrates significant antioxidant potential due to the presence of flavonoids, phenolic acids and tannins, which neutralize reactive oxygen species and protect skin cells from oxidative stress and premature aging [9]. Its anti-inflammatory activity is primarily attributed to phytoconstituents like β-sitosterol, lupeol and quercetin, which modulate inflammatory mediators and reduce local irritation, thereby making it beneficial in formulations

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targeting acne-prone and sensitive skin [10]. The plant also exhibits strong antimicrobial properties against both Gram-positive and Gram-negative bacteria, as well as fungi, owing to the synergistic effects of tannins, glycosides and essential oils present in its bark and leaves [11]. This action supports its traditional use in wound care and promotes its relevance in cosmetic scrubs intended for skin cleansing and microbial control. Additionally, Ficus religiosa shows wound-healing capacity, which is linked to its ability to enhance collagen synthesis, fibroblast activity and epithelial regeneration [12]. These pharmacological benefits directly enhance skin protection, healing and rejuvenation, making *Ficus religiosa* a promising ingredient in herbal cosmetic formulations, particularly exfoliating face scrubs that aim to provide cleansing with therapeutic action.

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DISCUSSION

Consumer interest in herbal cosmetic products has grown rapidly due to the belief that naturally derived ingredients are safer for long-term skin use than synthetic compounds. Herbal formulations are often considered gentle and biocompatible because they typically avoid irritant chemicals such as artificial colours, preservatives, and harsh surfactants that may cause allergic reactions or dryness in sensitive skin [1]. In addition to their mildness, herbal products contain bioactive constituents like tannins, flavonoids, vitamins and essential oils, which offer antioxidant protection, support epidermal repair, and provide therapeutic nourishment rather than only superficial effects [2]. This preference is further influenced by traditional practices such as Ayurveda, where plant-based preparations are historically trusted for skincare, creating cultural familiarity and reinforcing consumer confidence [3]. Another reason for increased popularity is the rising awareness of environmental sustainability; herbal products are often viewed as eco-friendly, biodegradable, and free from microplastic abrasives found in synthetic scrubs, making them more attractive to environmentally conscious consumers [4].

Beyond these properties, increasing endorsement by dermatologists and cosmetic professionals has strengthened consumer belief that herbal cosmetics are suitable for regular use, especially for sensitive or acne-prone skin. Marketing trends also play a significant role; labels such as “100% natural,” “organic,” “chemical-free,” “eco-safe,” and “paraben-free” appeal to health-conscious users and influence purchasing behaviour. Additionally, many herbal cosmetics are relatively affordable

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compared to premium synthetic skincare lines, making them accessible to a wider population. Together, safety perception, therapeutic benefits, cultural acceptance, professional endorsement, marketing influence, affordability and environmental responsibility collectively drive the growing demand for herbal cosmetic products.

CONCLUSION

The review explains that herbal face scrubs are very effective in keeping the skin healthy and glowing. They gently remove dead skin cells, dirt, and excess oil from the face, helping the skin breathe better. Because they are made from natural ingredients like herbs, fruits, and plant extracts, they not only clean the skin but also provide nourishment and freshness without causing harm or irritation. Regular use of these scrubs helps to make the skin smooth, soft, and naturally radiant. They are environmentally sustainable, non-toxic, and suitable for various skin types. The inclusion of herbal ingredients like *Ficus religiosa*, rose oil, and vitamin E enhances skin texture and appearance. Hence, herbal scrubs serve as a promising alternative to synthetic cosmetics, offering both aesthetic and therapeutic benefits. [2]Future advancements in herbal cosmetics can be directed toward nanotechnology-based delivery systems, improved preservation techniques, and sustainability-oriented product design. Research on bioactive compounds from lesser-known plants could lead to the discovery of potent natural ingredients. The combination of traditional herbal knowledge and modern cosmetic science may revolutionize skincare by ensuring efficacy, safety, and environmental compatibility. [4] [5]

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ABBREVIATIONS

(FC) Fecous Religiosa

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Self Funded

CONFLICT OF INTERESTS

Author does not show any conflict.

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