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Benefits of Aloe Vera As A Raw Material For Making *Body Lotion*

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ABSTRACT

Aloe vera is a medicinal plant rich in nutrients and active compounds such as vitamins, enzymes, and antioxidants that benefit skin health. In the cosmetic industry, aloe vera is widely used as a natural ingredient in body lotion formulations due to its moisturizing, soothing, and skin-regenerating properties. This article discusses the benefits of aloe vera as a primary raw material in the production of body lotion, including its ability to hydrate the skin, reduce irritation, and delay signs of aging. Aloe vera-based body lotions are also considered safe and suitable for various skin types, including sensitive skin. With its natural content, aloe vera has great potential as a sustainable and eco-friendly base ingredient for personal care products

ABSTRAK

Lidah buaya (*Aloe vera*) merupakan tanaman herbal yang kaya akan nutrisi dan senyawa aktif seperti vitamin, enzim, dan antioksidan yang bermanfaat untuk kesehatan kulit. Dalam industri kosmetik, lidah buaya banyak digunakan sebagai bahan alami dalam pembuatan *body lotion* karena kemampuannya melembapkan, menyejukkan, serta meregenerasi sel kulit. Artikel ini membahas manfaat lidah buaya sebagai bahan baku utama dalam formulasi *body lotion*, termasuk kemampuannya dalam menghidrasi kulit, mengatasi iritasi, dan memperlambat tanda-tanda penuaan. Penggunaan lidah buaya dalam *body lotion* juga dinilai aman dan cocok untuk berbagai jenis kulit, termasuk kulit sensitif. Dengan kandungan alaminya, lidah buaya berpotensi besar sebagai bahan baku dalam pengembangan produk perawatan tubuh yang ramah lingkungan dan berkelanjutan.

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INTRODUCTION

Aloe vera (Aloe Vera) is a herbal plant that has been utilized for centuries in traditional medicine (1). It is widely recognized for the clear gel contained within its leaves, which possesses various therapeutic properties. Beyond its medicinal use, aloe vera is extensively applied in the fields of beauty and personal care (2). The plant contains a range of bioactive compounds essential for skin health, including vitamins A, C, and E, which function as antioxidants (3). Additionally, aloe vera offers minerals, enzymes, amino acids, and anti-inflammatory agents that support cell regeneration and help maintain skin hydration (4). This composition establishes aloe vera as a promising natural ingredient for skin care applications (5).

In the modern cosmetics industry, aloe vera is often used as a primary ingredient in skincare formulations. One of the most popular products is body lotion (6). Body lotions enriched with aloe vera extract are reported to deliver a refreshing and soothing effect on the skin, while enhancing elasticity and maintaining optimal hydration (7). Due to its natural properties and minimal adverse effects, aloe vera is suitable for all skin types, including sensitive skin (8). Consequently, incorporating aloe vera as a raw material in body lotion production represents an effective and safe approach, aligning with the growing trend of adopting herbal ingredients in the cosmetic industry that promote environmental sustainability.

METHOD

This study employed a literature review approach by collecting five scientific articles indexed in Google Scholar. The data were classified based on their relevance to the topic, namely the benefits of aloe vera in skin care and its application in body lotion formulations. The analysis was conducted descriptively to draw scientifically accountable conclusions.

RESULT AND DISCUSSION

A. Active Compounds in Aloe Vera

1. Vitamins A, C, and E

Vitamins A, C, and E are potent antioxidants found in aloe vera gel. Vitamin A supports skin cell regeneration, repairs damaged tissue, and helps maintain natural skin hydration. Meanwhile, vitamin C plays a crucial role in collagen synthesis, which preserves skin elasticity and firmness. Vitamin C also contributes to skin brightening and reduces hyperpigmentation. Vitamin E protects cell membranes from damage caused by UV exposure and environmental pollutants. The combination of these three vitamins is highly effective in counteracting free radicals, one of the primary causes of premature skin aging (9). Therefore, aloe vera is considered highly suitable as an active ingredient in body lotion formulations, as it naturally promotes skin health and appearance.

2. Enzymes

Aloe vera contains various active enzymes, one of which is bradykinase, known for its ability to reduce skin inflammation. This enzyme works by decreasing swelling and pain, making it particularly beneficial for irritated skin or mild inflammation caused by sun exposure or allergic reactions. In addition to bradykinase, aloe vera also contains enzymes such as amylase and lipase, which aid in breaking down fats and sugars, accelerate wound healing, and support overall skin health. The presence of these

enzymes demonstrates that aloe vera not only provides a refreshing effect but also actively assists in skin healing and protection.

3. Minerals

Aloe vera is rich in essential minerals, including zinc, calcium, magnesium, and chromium. Zinc plays a crucial role in wound healing and possesses anti-inflammatory properties that facilitate the repair of damaged skin. Furthermore, zinc helps regulate sebum production, thereby reducing the risk of acne. Calcium and magnesium strengthen the skin's protective barrier and enhance cellular metabolism. Calcium contributes to the shedding of dead skin cells, while magnesium helps retain moisture and soothes the skin. With its comprehensive mineral profile, aloe vera serves as an ideal natural ingredient in body lotion formulations, nourishing and protecting the skin.

4. Amino Acids and Polysaccharides

The amino acids present in aloe vera support skin regeneration by accelerating the formation of new tissue. They also help maintain skin hydration and improve elasticity, resulting in smoother and more supple skin. Aloe vera contains 20 types of amino acids, including 7 of the 8 essential amino acids that cannot be synthesized by the human body. Polysaccharides such as acemannan are also highly significant due to their antimicrobial properties and ability to accelerate wound healing. These polysaccharides form a protective layer on the skin, help retain hydration, and stimulate the growth of new skin cells (10). Together, amino acids and polysaccharides act synergistically to maintain healthy, hydrated, and well-protected skin against external stressors.

B. Benefits of Aloe Vera in Body Lotion Formulation

1. Skin Moisturization

Aloe vera gel is recognized for its lightweight molecular structure, enabling it to be readily absorbed into the epidermal layer of the skin. Its high water content makes it a highly effective natural moisturizing agent, leaving no sticky residue after application. Therefore, when used as a base ingredient in body lotion, aloe vera is able to optimally maintain skin hydration throughout the day. In addition to providing direct hydration, aloe vera also contains polysaccharides that help retain moisture within skin tissues. This property is particularly important for individuals with dry skin or those living in hot and arid climates. Aloe vera-based body lotions can form a protective layer that locks in water within the skin, keeping it soft and supple for longer periods (11).

2. Cooling and Soothing Effects

Aloe vera contains natural anti-inflammatory compounds such as bradykinase and salicylic acid, which can relieve redness, irritation, and burning sensations on the skin. This property makes aloe vera highly suitable for inclusion in body lotions designed to soothe skin exposed to sunlight or friction from clothing (12). The cooling effect also helps reduce itching caused by mild allergies or sensitive skin. Regular use of body lotion enriched with aloe vera extract can provide a relaxing effect on the skin's surface, making it feel more comfortable and refreshed (13). This characteristic makes it an ideal choice for daily skincare, especially after bathing or engaging in outdoor activities.

3. Skin Cell Regeneration

Aloe vera is rich in enzymes, vitamin C, and vitamin E, which play a vital role in accelerating the regeneration of damaged skin cells. This regeneration process is

essential in maintaining healthy, youthful, and radiant skin. Regular use of an aloe vera–based body lotion can help promote faster healing of minor wounds, reduce the appearance of acne scars, and improve overall skin texture. Furthermore, the amino acids in aloe vera support the synthesis of key proteins such as collagen and elastin, which contribute to skin rejuvenation. Continuous regeneration results in smoother, firmer, and revitalized skin, free from signs of fatigue (14). Thus, aloe vera body lotion serves as a comprehensive skincare solution, not merely as a moisturizer.

4. Natural Anti-Aging Agent

Aloe vera’s antioxidants—vitamins C, E, and beta-carotene—neutralize free radicals that cause skin damage and aging. Aloe vera body lotions help reduce wrinkles and fine lines while maintaining elasticity and firmness. Aloe vera stimulates the production of natural collagen, which in turn strengthens the skin's structure. Regular use can slow visible signs of aging and promote a youthful, radiant complexion (15). This makes aloe vera body lotion a natural, safe anti-aging option for long-term use.

5. Suitable for All Skin Types

Another advantage of aloe vera is its adaptability to various skin types, including dry, oily, combination, and sensitive skin. Aloe vera is non-comedogenic and does not clog pores, making it suitable for acne-prone skin as well. Its natural formulation minimizes the risk of irritation or allergic reactions (16). Additionally, aloe vera offers protective effects against harmful environmental agents. Consequently, aloe vera body lotions can be used safely across different age groups and skin conditions, including children and the elderly. The product delivers maximum benefits without the common side effects often associated with synthetic chemical-based formulations.

C. Opportunities for Innovation in Beauty Products

Public interest in natural-based body care products continues to increase, reflecting a fundamental shift toward prioritizing skin health and avoiding harmful chemicals. Aloe vera stands out as a key natural ingredient, recognized for its safety and effectiveness. These factors create strong opportunities to innovate and develop body lotion products that are functional and environmentally friendly, positioning aloe vera-based products at the forefront of new beauty industry trends (17).

Aloe vera's rich nutrient profile—vitamins, enzymes, minerals, and antioxidants—directly supports its use as a foundation for innovative body lotion lines. By centering innovation on aloe vera, companies can create variants that target different skin needs, ranging from hydration for dry and sensitive skin to anti-aging solutions. Product potential expands by incorporating other natural ingredients, such as olive oil, lavender, or plant-based collagen, thereby broadening its appeal and benefits. Moreover, aloe vera’s ease of cultivation in regions like Indonesia makes it an economically wise and sustainable raw material. This enables businesses, particularly SMEs, to leverage aloe vera-based innovations to reduce costs, add product value, and enhance competitiveness (18).

Global market trends indicate an increasing demand for cosmetics with organic or natural certifications, underscoring the need for innovation in aloe vera-based body lotions. By striving to meet these standards through product development, brands can enhance their competitiveness both locally and internationally (19). Incorporating eco-friendly packaging, clear labeling, and evidence-based claims further differentiates aloe vera offerings. Emphasizing aloe vera as a key innovation lever, businesses can address consumer needs for

healthful and sustainable beauty solutions, drive local economic growth, and execute a promising business strategy for the future in the beauty industry (20, 21).

D. Simple Process of Aloe Vera-Based Body Lotion Production

The production of aloe vera-based body lotion can be carried out through a straightforward process using readily available natural ingredients. This method is highly suitable for home-based entrepreneurs or small-scale industries seeking to produce natural cosmetics with limited capital. The main ingredients required include fresh aloe vera gel, natural oils such as coconut oil or olive oil, beeswax as an emulsifier, and essential oils as natural fragrance agents. The first step involves extracting gel from fresh aloe vera leaves. The gel is then filtered to obtain a pure liquid free of impurities. In a separate step, beeswax and natural oils are gently heated using the double boiler method to ensure they melt and blend evenly without being damaged by direct heat (18).

Once the oil and wax mixture has slightly cooled but remains in a liquid state, the aloe vera gel is gradually incorporated while continuously stirring to achieve a smooth and homogeneous lotion texture. At this stage, essential oils may be added to provide a fresh aroma and enhance the product's aesthetic value. Proper mixing is crucial to obtain a body lotion with the right consistency that can be easily applied to the skin. Packaging also plays an essential role in maintaining product quality. The finished lotion should be stored in clean, sterilized containers, typically bottles or jars with tight lids to prevent contamination and oxidative degradation. Furthermore, the product should be kept away from direct sunlight and stored at a suitable temperature to preserve its active compounds and extend its shelf life.

By applying this simple formulation, consumers can enjoy a natural body lotion that effectively moisturizes and nourishes the skin without concerns over the side effects of synthetic chemicals. Meanwhile, producers have opportunities to further innovate by improving texture, fragrance, and additional functional properties, thereby increasing the market acceptance of aloe vera body lotion and enhancing its competitiveness with other commercial cosmetic products.

CONCLUSION

Aloe vera contains bioactive compounds such as vitamins, enzymes, minerals, and antioxidants that are highly beneficial for skin care. The process of making aloe vera-based body lotion is fairly simple and can be done using natural ingredients that are easy to access. This creates important opportunities for small and medium businesses to develop natural cosmetic products that are both eco-friendly and cost-effective. With proper packaging, product quality can be maintained, which helps ensure customer satisfaction. Overall, aloe vera as a raw material for body lotion not only provides direct benefits to the skin but also supports sustainable innovation in beauty products. Therefore, creating aloe vera-based body lotion has strong potential to satisfy market demands for natural skincare products that are both effective and safe.

For further development, it is recommended that producers of aloe vera-based body lotion conduct more in-depth research on formulations that can enhance product stability and effectiveness, as well as evaluate the long-term safety of its use across different skin types. Additionally, the application of innovative and eco-friendly packaging technologies is crucial for maintaining product quality. At the same time, producers of aloe vera-based body lotion should conduct more detailed research on formulations to improve product stability and effectiveness, and also assess the long-term safety of its use on different skin types.

Additionally, applying innovative and eco-friendly packaging technologies is essential for preserving product quality while meeting consumer demands for sustainable and skin-safe cosmetic products.

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