Review Article

A Review on Formulation and Evaluation of Herbal Face Wash

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Abstract

Herbal face washes have gained significant attention as safe, effective, and environmentally sustainable alternatives to conventional synthetic facial cleansers. These formulations are enriched with plant-based ingredients such as neem (Azadirachta indica), aloe vera (Aloe barbadensis), tulsi (Ocimum sanctum), turmeric (Curcuma longa), tea tree (Melaleuca alternifolia), and mint (Mentha piperita), which exhibit well-documented antimicrobial, antioxidant, anti-inflammatory, soothing, and moisturizing properties. Unlike chemical-based cleansers, herbal face washes provide gentle yet efficient cleansing while maintaining the natural pH and protective barrier of the skin. This review comprehensively highlights the historical evolution of herbal facial cleansing practices, various types of herbal face wash formulations, key formulation components, and commonly employed evaluation parameters. Additionally, the advantages and limitations of herbal face washes are discussed along with recent advancements and future prospects in herbal cosmetic science. The integration of traditional herbal knowledge with modern formulation technology supports the development of safe, effective, and skin-friendly herbal face wash products with growing consumer acceptance.

Keywords: Herbal face wash, herbal cosmetics, neem, aloe vera, mint, antimicrobial activity, antioxidant properties, skin cleansing, natural surfactants, formulation and evaluation

Introduction

Growing Demand for Natural Skincare

In recent years, there has been a significant shift in consumer preference toward natural and herbal cosmetic products due to increasing awareness of the potential adverse effects associated with synthetic chemicals. Conventional facial cleansers often contain harsh surfactants, artificial fragrances, and preservatives that may disrupt the skin barrier, cause irritation, or lead to long-term dermatological issues. As a result, herbal face washes have gained widespread popularity as they provide effective cleansing while preserving the skin's natural oils and moisture balance.

Herbal face washes utilize plant-based ingredients that are generally regarded as safe, biodegradable, and eco-friendly. Their gentle cleansing action makes them particularly suitable for individuals with sensitive, acne-prone, or problem-prone skin. Furthermore, the growing demand for sustainable and cruelty-free cosmetic products has further accelerated the acceptance of herbal formulations in the global skincare market[1,2]

Importance of Herbal Ingredients

Herbal face wash formulations commonly incorporate medicinal plant extracts such as neem (Azadirachta indica), aloe vera (Aloe barbadensis), tulsi (Ocimum sanctum), turmeric (Curcuma longa), tea tree (Melaleuca alternifolia), and mint (Mentha piperita). These herbs are rich in bioactive compounds that exhibit antimicrobial, antioxidant, anti-inflammatory, and soothing properties.

Such natural active ingredients not only cleanse the skin but also play a vital role in controlling acne, reducing excess sebum, alleviating irritation, preventing microbial infections, and maintaining skin hydration. The multifunctional nature of herbal ingredients allows herbal face washes to deliver therapeutic benefits along with cleansing, thereby making them superior to many conventional chemical-based cleansers that offer only superficial cleansing action[3]

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Blend of Traditional Knowledge and Modern Science

Herbal face washes represent an effective integration of traditional herbal knowledge with modern cosmetic science. Ancient medicinal systems such as Ayurveda have long emphasized the use of herbal preparations for skin cleansing and rejuvenation. In contemporary formulations, these traditional herbs are scientifically standardized and incorporated into well-designed cosmetic bases.

Modern herbal face washes employ mild surfactants, natural humectants, pH adjusters, gelling agents, and safe preservatives to ensure formulation stability, microbial safety, and skin compatibility. This scientific enhancement of herbal ingredients results in products that provide efficient cleansing, improved shelf life, and enhanced consumer acceptability while maintaining the holistic benefits of herbal therapy.

HISTORY OF FORMULATIONS OF HERBAL FACE WASH

Early Civilizations and Natural Cleansing Practices (3000–1000 BCE)

The origin of herbal face-cleansing practices can be traced back to ancient civilizations where nature was considered the primary source of healing. Around 3000 BCE, in Ancient Egypt, facial cleansing preparations were developed using crushed herbs, aloe vera gel, honey, and natron clay. Historical records and hieroglyphic manuscripts describe these preparations as essential for maintaining skin purity and youthful appearance.

Similarly, evidence from the Indus Valley Civilization (2600–1900 BCE) suggests the use of herbal pastes prepared from turmeric, neem leaves, and sandalwood. These early formulations served dual purposes by cleansing the skin and protecting it from environmental impurities and microbial infections[4,5]

2.2 Ayurvedic Advancements in India (1500–500 BCE)

The development of Ayurveda during the Vedic period marked a significant advancement in herbal skincare formulations. Classical Ayurvedic texts such as the Charaka Samhita and Sushruta Samhita described various herbal cleansing formulations known as Mukha Prakshalana Yoga. These preparations consisted of neem, tulsi, turmeric, aloe vera, rose, and other medicinal herbs.

One of the most notable formulations of this era was "Ubtan," a traditional herbal mixture containing turmeric, chickpea flour, sandalwood, and medicinal herbs. Ubtan remains a foundational concept for modern herbal face wash formulations due to its cleansing, exfoliating, and skin-brightening properties[6]

Classical Civilizations and Botanical Knowledge (500 BCE–500 CE)

During the Greek and Roman periods, scholars such as Hippocrates and Dioscorides documented the medicinal and cosmetic applications of numerous herbs. Botanical ingredients such as olive oil, rosewater, chamomile, and lavender were widely used for facial cleansing and skin nourishment.

Concurrently, traditional Chinese medicine recognized the skin-purifying effects of green tea, rice water, and ginseng. These herbal practices laid the groundwork for the systematic study and application of botanicals in cosmetic formulations.

Medieval and Early Islamic Contributions (600–1500 CE)

Between 600 and 1500 CE, herbal cleansing practices were further refined through the contributions of Arab and Persian scholars. Rhassoul clay infused with herbal extracts gained popularity in the Middle East and North Africa for facial cleansing and detoxification.

The renowned physician Avicenna described numerous herbal preparations and floral waters, including rose water and lavender water, for skincare applications. During the same period, European apothecaries formulated herbal cleansing pastes using rosemary, sage, mint, and violet[7,8]

Renaissance to Pre-Modern Era (1500–1800 CE)

The Renaissance period witnessed the expansion of global trade routes, enabling the exchange of medicinal plants and cosmetic knowledge across continents. Herbalists documented detailed cosmetic formulations using botanical oils, almond powder, aromatic flowers, and medicinal herbs.

In India, traditional herbal cleansing practices such as Ubtan continued to evolve and were widely used in daily skincare routines and ceremonial rituals[9]

Rise of Modern Cosmetic Science (1800–1950 CE)

The 19th century marked the emergence of modern chemistry and industrial soap production. Although synthetic soaps became widespread, their harsh nature often caused skin irritation, leading to renewed interest in herbal alternatives.

By the early 20th century, herbal gels and glycerin-based cleansing formulations were introduced, combining botanical extracts with early surfactant technology to improve cleansing efficiency and skin compatibility.

Contemporary Herbal Face Wash Formulations (1950–Present)

Post-1950, advancements in phytochemistry, extraction techniques, and cosmetic formulation science revolutionized herbal face wash products. Standardized plant extracts such as neem, aloe vera, tea tree, turmeric, licorice, tulsi, and mint are now incorporated using mild surfactants like coco-glucoside and decyl glucoside.

Modern formulations also include humectants, pH adjusters, natural preservatives, and gelling agents to ensure safety, stability, and enhanced therapeutic efficacy, making herbal face washes suitable for regular use[10]

TYPES OF HERBAL FACE WASH FORMULATIONS

Herbal face washes can be classified based on their physical form, functional purpose, and herbal composition. These formulations combine botanical extracts with mild surfactants to provide effective yet gentle cleansing.

Gel-Based Herbal Face Wash

These are the most commonly used formulations prepared using gelling agents such as carbopol or xanthan gum.

Features:

Transparent or semi-transparent gel consistency

Lightweight and easy to apply

Suitable for oily, acne-prone, and combination skin

Common herbs: Neem, tea tree, tulsi, aloe vera, turmeric

Cream or Lotion-Based Herbal Face Wash

These formulations contain emollients that provide additional moisturization.

Features:

Thick and creamy texture

Ideal for dry and sensitive skin

Nourishes the skin while cleansing

Common herbs: Aloe vera, rose, honey, saffron, almond oil[11]

Foam-Based Herbal Face Wash

Prepared using mild foaming surfactants.

Features:

Quick foaming action

Effectively removes excess oil without over-drying

Common herbs: Lemon, orange peel, green tea, tulsi

Powder-Based Herbal Face Wash (Traditional Ubtan Type)

Features:

Completely natural and preservative-free

Activated by mixing with water or rose water

Common herbs: Turmeric, gram flour, sandalwood, neem powder, multani mitti

Clay-Based Herbal Face Wash

Features:

Deep cleansing and detoxification

Helps tighten pores and control sebum

Common clays/herbs: Multani mitti, kaolin, bentonite, mint[12]

Scrub-Based Herbal Face Wash

Features:

Gentle exfoliation

Improves skin texture

Common exfoliants: Apricot kernel, walnut shell, rice powder, oats

Ayurvedic or Traditional Herbal Formulations

Features:

Based on classical Ayurvedic principles

Suitable for long-term use

Common herbs: Manjistha, lodhra, neem, tulsi, kumkumadi herbs [13-16]

Table 1: Common Herbal Ingredients Used in Herbal Face Wash

Herbal Ingredient	Active Properties	Cosmetic Benefits
Neem	Antibacterial, antifungal	Reduces acne and skin infections
Aloe vera	Moisturizing, soothing	Hydration and skin calming
Turmeric	Anti-inflammatory, antioxidant	Reduces irritation and improves glow
Tulsi	Antimicrobial	Controls excess oil and acne
Mint	Cooling, antimicrobial	Refreshes skin and controls oil

Table 2: Types of Herbal Face Wash Formulations (17,18)

Type	Key Characteristics	Suitable Skin Type
Gel-based	Lightweight, transparent	Oily and acne-prone
Cream-based	Thick and moisturizing	Dry and sensitive
Foam-based	Mild foaming action	Normal to oily
Powder-based	Traditional, water-activated	All skin types
Clay-based	Deep cleansing	Oily skin

Table 3: Evaluation Parameters of Herbal Face Wash (19,20)

Parameter	Purpose
pH	Ensures skin compatibility
Viscosity	Determines consistency and spreadability
Foaming ability	Indicates cleansing efficiency
Skin irritation test	Ensures safety
Stability studies	Determines shelf life
Microbial load	Ensures product safety

Conclusion

Herbal face wash formulations represent a safe, effective, and eco-friendly alternative to synthetic cosmetic products. The use of natural ingredients such as plant extracts (e.g., mint, neem, aloe vera) provides multiple skin benefits including cleansing, antimicrobial action, soothing effects, and nourishment without causing significant side effects.

The formulation process involves systematic steps such as selection of plant materials, extraction, incorporation into suitable bases, and proper evaluation to ensure product quality and stability. Various dosage forms like gels, creams, foams, liquids, and powders offer flexibility in formulation depending on skin type and user preference.

Evaluation parameters—including pH, viscosity, spreadability, foamability, and skin irritation—play a crucial role in determining the safety, efficacy, and acceptability of the final product. Specifically, mint-based herbal face wash demonstrates promising characteristics due to its cooling, antibacterial, and refreshing properties.

Overall, herbal face washes are gaining increasing importance in the cosmetic industry due to growing consumer awareness toward natural and sustainable products. Further research and standardization are essential to enhance their effectiveness, stability, and large-scale commercialization.[17-19]

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