



A REVIEW OF COMPREHENSIVE STUDY HERBAL FACE WASH

Komal B Tahkik^{1*}, Geeta G Takale², Ashwini N Shirsath³, Vikram Sarukh⁴

Student¹⁻³, Assi. Professor⁴

NMSM Abasaheb Kakade College of Pharmacy, Bodhegaon, Ahmednagar.

Abstract

While there are numerous topical herbal treatments available in the market, we suggest creating pure herbal formulations devoid of any artificial component. Literature has reported on the plants. Possessing strong antioxidant, antimicrobial, and anti-inflammatory properties. Face skin is fragile, and conventional soaps cause it to become dry and flaky. Face wash is a mild cleanser that does not irritate the face. Face wash claims to be cleansing, anti-aging, anti-acne, moisturizing, and to improve skin fairness, making it appear healthy and youthful. The herbal face wash composed of hydro alcoholic extracts of turmeric, orange peels, and coffee is extremely beneficial and has no adverse reactions. The plants used in this study have higher antioxidant, antibacterial, and anti-inflammatory effects. All of the natural ingredients utilized in this mixture are readily available in regional markets. Skin is largest a part of the body, and the skin on the face is the most sensitive and necessary for humans to appear attractive. The use of herbal plants in formulation provides both cosmetic and therapeutic properties. Plants used in face washes, such as Aloe vera and Turmeric, have qualities that smooth the skin, remove acne, and promote healing. The herbal formulation was assessed using several parameters such as appearance, color, pH, viscosity, odor, washability, foamability, viscosity. After formulation review is required to determine the safety and efficacy of the formulated product; otherwise, it may produce a variety of side effects. Although natural medicines are thought to be safer and have less adverse effects than synthetic ones, they are more widely accepted. The demand for herbal formulations is rising on the global market.

Keywords: Herbal facewash, Antioxidant, Antimicrobial, Anti-inflammatory properties

Introduction

The Indian herbal medication industry is regarded as one of the world's oldest medical care systems. Its origins can be traced back to ancient India, where the medical usage of herbs was recorded in the Vedas, an ancient sacred literature. Ayurveda and Unani, two ancient medical systems, used herbs and natural products to treat a variety of health issues. (1) The global society is increasingly aware of the benefits of this traditional kind of therapy, which has resulted in a major increase in demand for Indian herbal pharmaceuticals. This industry has grown at a nearly 30% yearly rate, thanks to an increase in demand for herbal remedies, skincare products, and

cosmetics. In recent years, there has been an increase in demand for natural products. (2) The skin is a significant and common organ of the body that plays an important role in defining human personality, particularly the skin on the face, which is sensitive and frequently seen as a representative parameter. An individual's skin state can also be an indicator of their general health. The skin is made up of a variety of elements, including carbohydrates, amino acids, and lipids. (2) A face wash is a skincare fluid that is used to remove makeup, dead skin cells, oil, dirt, and other impurities from the facial skin. It helps in the opening of pores and the prevention of skin disorders such as acne. Cleansers, like toners and moisturizers, can be used as part of skin care. The term cosmetic is derived from the Greek word for "to embellish." Cosmetics are substances that come into contact with the human body's skin, hair, nails, lips, and teeth. It aids in the improvement or modification of the human body's appearance, masks body odor, and protects and conditions the skin. In other terms, cosmetics are externally applied topical products. Cosmetics can also be used to clean and flavor the mucous membranes of the mouth and teeth. Cosmetics are substances that are rubbed, sprayed, or otherwise applied to the human body in order to enhance, purify, beautify, or alter its look. Gentle cosmetics are healthy to the skin and hair. (3) Both natural beauty benefits and cosmetics help in promoting and emphasizing a person's inherent beauty and individuality. For a healthy lifestyle, individuals of days prefer natural foods, herbal remedies, and natural healing techniques. (4) Herbal cosmetics are formulations of phytochemicals derived from various plant sources that impact skin function and supply essential nutrients to promote healthy skin. (5) In the last century and a half, the excessive use of synthetic based items, synthetic chemicals, chemical dyes, and their derived products has posed a health risk to humans, with multiple side effects leading to a variety of disorders. The concept of beauty is not limited to women; males have also become conscious of their appearance. Many face cleansers and fairness cream advertising these days are geared toward guys. Individuals' face skin attractiveness is determined by their health, routine job, habits, situations, and maintenance. The harsh winter conditions induce skin damage such as cracks, wounds, infections, and maceration. Excessive heat exposure dehydrates the skin in the summer, causing wrinkles, blemishes, pigmentation, freckles, and sunburns. The science of Ayurveda had used numerous herbs and floras to manufacture cosmetics for beautifying and protection from external influences. The natural content of phytochemicals has no negative effects on the human body and instead enriches it with nutrients and other important minerals. The new markets are being driven by a fundamental shift in demand for herbal-based medicines as well as growing concern about synthetic-based products.

Face wash

A facial cleanser is a facial care product used to remove make-up, dead skin cells, oil, filth, and other types of pollutants from the skin of the face. It assists in the cleansing of pores and the prevention of skin disorders such as acne. A face cleanser, together with a toner and moisturizer, can be used as part of a skincare management.

Benefit of Face wash

1. Aids in the maintenance of clean and healthy skin.
2. It helps the skin glow.
3. Acne, white heads, black heads, and a fatigued look can result from the combination of dead skin cells and excess oil clogging pores.
4. Regular pore exfoliation prevents all of the above skin problems.

5. The blood circulation is accelerated by exfoliation. It facilitates the shedding of dead skin cells and the renewal of healthy skin cells.
6. Promotes skin regeneration and rejuvenation.
7. Removes dead skin cells, which means your skin wrinkles more slowly.

Disadvantages of Facewash

1. Facial cleanser only cleans the face, it is a safer body wash.
2. Use face wash only twice a day. Using more than twice may cause dry skin.
3. Removes dead skin cells, which means your skin wrinkles more slowly.
4. The biggest drawback is its limited use.

Properties of Facewash

1. The blood circulation is accelerated by exfoliation. It facilitates the shedding of dead skin cells and the renewal of healthy skin cells.
2. Facial pores and oily skin are caused by excessive sebum production by sebaceous glands, which clogs the pores and makes the skin oilier.
3. Cleansers containing plants and herbs are recommended for oily skin since they clear the pores and minimize oil accumulation. These exfoliating cleansers feature anti-inflammatory and antioxidant ingredients that help to repair and nourish damaged skin.
4. Herbal face wash is used to cure acne and pimples because of its therapeutic characteristics. Herbal face cleanser, which contains rich plant-based components like neem, eliminates excess oil without losing nutrients from the skin.
5. It should be highly stable and have a good appearance.
6. When applied to the skin, it should soften.
7. It should spread freely and not drag.
8. It should not have an oily or greasy sensation when applied.
9. Rather than absorption, its physical impact should be that of a skin flush and pore opening.
10. After usage, a thin emollient layer should remain on the skin.



Fig. 1 Marketed Herbal Face wash

Therapeutic agents use in face wash

Antimicrobial agent

In its widest sense, an antibiotic is an agent that inhibits the development and reproduction of bacteria. While both antibiotics and antimicrobials kill bacteria, the words have evolved throughout time to represent distinct things. Antimicrobial agents are currently most typically characterized as agents that are used to sanitize surfaces and eradicate potentially hazardous germs. Example: Aloe vera

Aloe vera (*Aloe barbadensis* miller) is a plant, which belongs to the family of Liliaceae and is mostly succulent with a whorl of elongated, pointed leaves. Medicinal plants of the lily family (Liliaceae), genus *Aloe*, have been used for the treatment of skin diseases for more than 5,000 years. Among more than 360 *Aloe* species, aloe vera has been the most popular in both folk and officinal medicine. Aloe vera extracts are widely used in a variety of over-the-counter and dermatological products. Many studies report the effective use of this plant when applied topically for the treatment of burns, sunburns, inflammatory skin disorders and wounds.

Anti-inflammatory

It is a characteristic of a drug or therapy that lowers inflammation or edema. In contrast to opioids, which influence the central nervous system to inhibit pain communication to the brain, anti-inflammatory medications account for almost half of analgesics, alleviating pain by lowering inflammation. Example: Curcumin

Curcumin, also known as 1,7-bis(4-hydroxy-3-methoxyphenyl)-1, 6-heptadiene-3, 5-dione, has anti-inflammatory, antioxidant, and anti-tumor properties. Curcumin's anti-inflammatory effects are thought to form the basis of its different biological actions, and they play a significant role in the treatment of diseases. Curcumin is generated mostly from the root tuber of *Curcuma aromatica* Salisb and the rhizome of *Curcuma longa* L. (Turmeric) of the Zingiberaceae family. They are traditional Chinese remedies that stimulate blood circulation and eliminate blood stasis and have long been used to treat pain, inflammation, and other ailments in China. Turmeric is a popular spice in India and has been used to cure inflammatory illnesses in Ayurveda. Turmeric is generally utilized as an anti-inflammatory agent in Western herbalism. Curcumin and curcuminoids, the main ingredients in turmeric, have been discovered to be effective medicines over the years. Curcumin, demethoxycurcumin, and bisdemethoxycurcumin are the three curcuminoids. In addition, curcumin-containing dietary supplements are extremely popular, and there are many anti-oxidant and anti-inflammatory curcumin dietary supplements on the market.

Additives used in Facewash

Antioxidants

Antioxidants are synthetic or natural chemicals that can prevent or prolong some forms of cell damage. Many foods, including fruits and vegetables, contain antioxidants. They can also be purchased as dietary supplements. Examples: Lycopene, Vitamin A, Vitamin C, Vitamin E.

Gelling agents

Gelling agents are chemicals that convert water or oil into a gel that is thicker but not rigid. Emulsions that have been thickened using gelling agents will be more mobile and fluid rather than rigid. When force is applied to certain of these gels, they thin (thixotropic) and return to viscosity when the force is withdrawn. These gels

enable the production of thick goods that may be shaken or agitated under high shear for easy bottling or spraying. Example: Agar.

Preservative

The primary reason for using preservatives is to make foods safer by eliminating the influence of biological factors. The greatest threat to consumers is that of food being spoiled, or from becoming toxic by the effect of microorganisms (e.g. bacteria, yeast, moulds) occurring in them. Some of these organisms can secrete poisonous substances (“toxins”), which are dangerous to human health and can even be fatal.

Humectants

Humectants are hygroscopic substances that are used to keep things wet; they are the inverse of desiccant. It is frequently a molecule containing numerous hydrophilic groups, most commonly hydroxyl groups; but, amines and carboxyl groups, occasionally esterified, can also be observed (its propensity to form hydrogen bonds with molecules of water is the most important feature).

They are found in a wide range of items, including food, cosmetics, pharmaceuticals, and insecticides. Humectants attract and retain moisture in the surrounding air by absorption, bringing water vapor into and/or beneath the organism/object's surface.

Example: Coconut oil and Almond oil

Foaming agent

A foaming agent, also known as a surfactant or a blowing agent, is a substance that aids in the creation of foam. When present in modest amounts, a surfactant decreases the surface tension of a liquid (reducing the labor required to form foam) or promotes its colloidal stability by suppressing bubble coalescence. A blowing agent is a gas that contributes to the gaseous component of foam.

Advantages of Herbal Cosmetics over Synthetic cosmetics

Herbal cosmetics are the most recent beauty and fashion trend. These agents are gaining popularity because most women prefer natural products over chemicals for personal care to enhance their beauty because these products supply the body with nutrients, improve health, and provide satisfaction because they are free of synthetic chemicals and have fewer side effects than synthetic cosmetics. The following are some of the benefits of utilizing natural cosmetics that make them preferable to synthetic ones.

1. Compatible with all skin types
2. Wide selection to choose from
3. Fits your budget
4. No Side Effects

Evaluation of Facewash

1. **Colour:** The colour of the face wash formulation was checked visually.
2. **Odour:** The formulation was evaluated for its odour by smelling it.
3. **Consistency:** It was determined manually.
4. **pH:** pH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant temperature.

5. **Spreadability:** Spreadability is determined using spreadability testing equipment. It is made up of a wooden block with a pulley at one end. The spreadability was measured using this method by placing 'slip' and 'Drag' on the ground slide. The gel was sandwiched between the sliding loads of 1 kg held on the slab such that gel spreaded without air bubbles, and excess gel was scraped off. Later, 20 kg of standard weight was placed in a pulley with the assistance of a string tied to a hook, and the time necessary to move to the end was recorded, as well as the measurement of the spreaded gel.
6. **Washability:** Formulation was applied on the skin and then ease and extent of washing with water was checked manually.
7. **Foamability:** Small amount of gel was taken in a beaker containing water. Initial volume was noted, beaker was shaken for 10 times and the final volume was noted.
8. **Viscosity:** About 10 ml of formulated sample was taken in the beaker and checked on digital viscometer and record the observation was recorded.

Conclusion:

The people of seem to have a long history of using a variety of therapeutic herbs in their daily lives. The demand for natural face cosmetics is very significant. Many vitamins, antioxidants, lipids, proteins, hydrocolloids, terpenoids, and other bioactive substances are found in botanicals, which are used in herbal face care products. Nowadays, a lot of people need care and treatment for various skin conditions that don't have any side effects. The development of cosmetics free of harmful chemicals was made possible by the use of herbal ingredients. Herbal face wash and lotions are regarded as a durable and successful method of enhancing the skin of the face. Because natural medicines are thought to be safer and have less adverse effects than synthetic ones, they are more widely accepted. The demand for herbal formulations is rising on the global market.

References:

1. Alexandra R Vaughn, Amy Branum, Raja K Sivamani Effects of Turmeric (*Curcuma longa*) on Skin Health: A Systematic Review of the Clinical Evidence *Phytotherapy Research* 2016, 30 (8), 1243-1264
2. Vishal Prajapati , Shashikant Maury, Dr. Mohd Wasiullah, Piyush Yadav, A Review on Formulation and Evaluation of Herbal Face wash, *International Journal of Pharmaceutical Research and Applications* Volume 8, Issue 3 May-June 2023, pp: 518-523.
3. Nathe Pranjal Sahebrao, Satpute Soniya Sukdev, FORMULATION AND EVALUATION OF HERBAL ANTI-ACNE FACE WASH GEL, *International Journal of Novel Research and Development*, Volume 8, Issue 1 January 2023, pp. 293-305.
4. Kapoor V P, Herbal Cosmetics for Skin and Hair care, *National Botanical Research Institute*.2005; 4(4): 306-313.
5. Larsson, S.C.; Bergkvist, L.; Wolk, A. Vitamin A retinol and carotenoids and the risk of gastric cancer: a prospective cohort study. *Am. J. Clin. Nutr.* 2007; 85(2): 497–503.
6. Ankita Sehgal, Maneesh Banyal, Jyoti Gupta, Swati Joshi; FORMULATION AND EVALUATION OF ANTI-ACNE HERBAL FACEWASH; *International Journal of Advance Research and Innovative Ideas in Education*; Vol-9 Issue-2 2023; pp 1652-1662.

7. Banyal M, Joshi S. Transdermal Patch: An Innovative Technique for Transdermal Drug Delivery System, *International journal of pharmacy and pharmaceutical research*, volume 20, issue 3, 2021 109-131.
8. Singh H.P., Samnhotra N., Gullaiya S., Kaur I., Anti –acne herbal face wash , Formulation , Evaluation and stability study., *World Journal of Pharmaceutical Research* , 2015 ; 4(9); 1261-1273.
9. P.P. sharm “cosmetics-formulation, manufacturing and quality control” by Vandana publication third edition page no. 142.
10. https://storify.com/ASEEM_SOOD/benefitsofherbalfacewash
11. Arbab S, Ullah H, Weiwei W, Wei X, Ahmad SU, Wu L, Zhang J. Comparative study of antimicrobial action of aloe vera and antibiotics against different bacterial isolates from skin infection. *Vet Med Sci*. 2021 Sep;7(5):2061-2067. doi: 10.1002/vms3.488.
12. <https://en.wikipedia.org/wiki>.
13. Norazlina Hashim, Suhaila Abdullah, Lili Shakirah Hassan, Rabiatal Manisah Mohamed, Amri Mohamed, Antimicrobial ability and free-irritation effect of neem-based lotion cosmeceutical for skin care, *Materials Today: Proceedings*, 2023, ISSN 2214-7853, <https://doi.org/10.1016/j.matpr.2023.01.329>.
14. Peng Y, Ao M, Dong B, Jiang Y, Yu L, Chen Z, Hu C, Xu R. Anti-Inflammatory Effects of Curcumin in the Inflammatory Diseases: Status, Limitations and Countermeasures. *Drug Des Devel Ther*. 2021 Nov 2;15:4503-4525. doi: 10.2147/DDDT.S327378.
15. P. K. Mane, Aniket Dangare; HERBAL FACE WASH GEL OF CYNODON DACTYLON HAVING ANTIMICROBIAL, ANTI - INFLAMMATORY ACTION; *Pharmaceutical Resonance* 2020 Vol. 3 - Issue 1; Page no 36-43.
16. Sowmya K.V., Darsika C.X., Grace F., Shanmuganathan S., “Formulation & Evaluation of Poly-herbal Face wash gel”, *World Journal of Pharmacy & Pharmaceutical sciences*, 2015; 4(6): 585-588.
17. Singh H.P., Samnhotra N., Gullaiya S., Kaur I., “Anti-acne synergistic Herbal face wash gel Formulation, Evaluation, & Stability study”, *World Journal of Pharmaceutical Research*, 2015; 4(9): 1261-1273.
18. Kanlayavattanukul M., Lourith N., “Therapeutic agents & herbs in topical applications for acne treatment”, *International Journal of cosmetic Science*, 2011; 33: 289-297.
19. Kapoor V.P., Joshi H., Chaubey M., “Applications of seed gums in pharmaceutical formulations”, *J Med Arom Plant Sci.*, 2000, 22/4A & 23/1A, 42-44.
20. Kubo I., Muroi H., Kubo A., “Naturally occurring anti-acne agents”, *J Nat Prod*, 1994; 57(1): 9-17.