



Formulation And Evaluation Of Herbal Face Wash For Cleaning Pores And Hydration Of Skin

¹Mr. Pratik Bhagvant Shirnath ,

²Mr. Pratik Shrikrushna Kokane , ³Mr. Suyash Manoharrao adhau

⁴Mr. Satish Damodhar Dukre , ⁵Dr. Avinash Shesharao Jiddewar

¹Student, ²Student, ³Student, ⁴Assistant Professor, ⁵Principal

¹Navasanjeevan Shikshan Mandal's College of Pharmacy, Darwha, Yavatmal

Abstract: Face is sensitive part of our body so care of face is one of the important task for human beings. There are several preparations are available for face care, from which face wash plays important role for improving appearance as well as for treating several facial skin conditions. Face washes prepared by herbal ingredients are better than the synthetic ingredients to avoid skin irritation and other side effects. In the present work an attempt was made to formulate & evaluate face wash with antioxidant, antibacterial and antiseptic properties which are necessary to keep the skin, smooth and attractive. Herbal Face wash is made from, neem leaves, Tulsi extract, orange peel extract for anti-acne activity and to improve the skin and enhance beauty. Face wash improves circulation and cleanse the entire face. Prepared face wash evaluated for colour, Odour, Consistency, PH, spread ability, Wash ability, Grittiness, Foamability.

Keywords: *Prosopis juliflora, invasive species, ecological impact, sustainable management, economic potential.*

I. INTRODUCTION

Herbal face wash

Skin is the major part of body and face skin is the one of the sensitive and representative parameter human personality. The health of an individual it is composite of material such as carbohydrates, amino acids, lipids etc. Face wash is a cleansing product specifically formulated for the face. It is designed to remove dirt, oil, makeup, and other impurities from the skin surface, helping to keep the skin clean and refreshed. Face washes come in various formulas, such as gel, foam, cream, or liquid, and often contain ingredients like gentle surfactants, moisturizers, and sometimes exfoliants or acne-preventing ingredients, depending on the specific needs of different skin types. The herbal face wash is gaining popularity in the skincare industry due to its natural ingredients and beneficial properties. This abstract explores the efficacy and advantages of herbal face wash over conventional face wash products. Herbal face washes are formulated with plant-based ingredients such as aloe vera, neem, turmeric, tea tree oil, and green tea among others, which offer various skincare benefits. [1] These ingredients possess anti-inflammatory, antimicrobial, antioxidant, and soothing properties, making them suitable for all skin types, including sensitive and acne-prone skin. Herbal face washes are gentle on the skin, effectively removing impurities without stripping away the natural oils. They help balance the skin's pH level, reduce inflammation, prevent breakouts, and promote overall skin health. Additionally, herbal face washes are eco-friendly and cruelty-free, appealing to the health of an individual it is composite of material such as carbohydrates, amino acids, lipids etc. Cosmetics are developed to reduce wrinkles, fight acne and to control oil secretion [2]

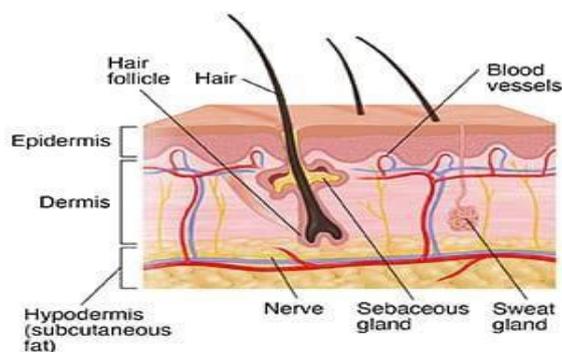


Figure: -1

The idea that natural medicines are safer and have fewer negative effects than synthetic ones make them more acceptable. Herbal formulations have significant demand in the globe market. The current research work focuses aqueous extracts of neem leaves (*Azedarach indica*), turmeric (*Curcuma longa*), aloe vera, lemon juice, peppermint oil, xantham gum and rose water were developed and evaluated as a natural anti-acne face wash. Although there are several topical herbal treatments for acne on the market, we suggest making a pure herbal formulation without the use of any synthetic ingredients [3]

2. Herbal Material Used for Herbal Facewash

Cosmetics substances used to enhance, cleanse, and promote attractiveness. Facewash has evolved to address various skin concerns, including acne and aging. Herbal cosmetics, utilizing plant-based products, offer aesthetically pleasing physiological effects such as skin healing and smoothening. Their mild and non-toxic nature, along with natural ingredients like oils and extracts, contribute to their benefits. They are rich in nutrients, environmentally friendly, and economically viable, making them a preferred choice for consumers seeking natural alternatives. The skin's multi-layered structure, including the epidermis, dermis, and hypodermis, plays a crucial role in protecting against external threats, regulating body temperature, and preserving moisture. Face wash products serve therapeutic purposes, including antimicrobial, anti-inflammatory, anti-acne, and antioxidant properties. Herbal face wash products, derived from various botanical families, contribute to their therapeutic and aesthetic properties. The integration of various herbs such as Aloe vera, Rosemary, Buckwheat seeds, Betel-nut palm, Calendula, Babchi, Burdock root, Chia, Sacha inchi, and Jojoba oil into face wash formulation [4]

2.1 Matereal :

Sr no	NAME OF DRUG	BIOLOGICAL NAME FAMILY/ CHEMICAL NAME	USES
1	 <p>Tulsi</p>	<p>1. Tulsi (<i>ocimum sanctum</i>) Chemical Name: <i>Ocimum sanctum</i> Family: Lamiaceae</p>	<p>It purifies the blood from toxins and prevents appearance of acne and pimples</p>
2	 <p>Turmeric</p>	<p>Turmeric (<i>Curcuma longa</i>) Family:- Zingiberaceae Chemical Name:- <i>Curcuma longa</i></p>	<p>The anti-inflammatory qualities can target your pores and calm the skin. Turmeric is also known to reduce scarring. The medicinal use of turmeric, its importance as a beauty ingredient, and how to make turmeric powder. Turmeric otherwise</p>

			called Curcumin is an ancient herb which many have used in curry powder, used in skin infection ,cosmatic skin care[5]
3	 <p style="text-align: center;">Jeera</p>	<p>Shahi jeera : Scientific Name : Bunium perfsicum</p>	<p>Antiseptic Properties like reduced the skin infection Cooling Effect: It can provide a cooling sensation, which can be particularly refreshing and soothing. Anti-inflammatory</p>
4	 <p style="text-align: center;">Lemon juice</p>	<p>5.Lemon juice: Chemical Name : Citric acid Family : Rutaceace</p>	<p>To reduce blurring or lack of definition of the skin. Due to the treatment of roots and murals, it is also effective. As a natural pH adjuster in cosmetics</p>
5	 <p style="text-align: center;">Nutmeg seed</p>	<p>Nutmeg seed :(Myristica fragrance) Family: Myristica fragrance</p>	<p>Antibacterial, anti-inflammatory, antiseptic, bactericide</p>
6	 <p style="text-align: center;">Xanthan Gum</p>	<p>Xanthan Gum: Family: Santhomonas</p>	<p>Pure carbohydrate culture is also known as corn sugar gum, which is made by fermentation. It is used as a stabilizer and a non-toxic thickener</p>
7	 <p style="text-align: center;">Liquorice root</p>	<p>Liquorice root: (Glycyrrhiza glabra) Family : Febaceae</p>	<p>Give precious property to precious skin. Very resuscitation and nutritional qualities are the attributes</p>

8	 <p>Orange peel extract</p>	<p>Orange peel extract: Chemical Name : Flavanone glycoside</p>	<p>Anti-oxidants, anti-inflammatory, antimicrobial The acidic properties of orange acid can maintain the natural balance of the skin oil and harden the skin by eliminating the excessive absorption of oil and dead skin cells.</p>
9	 <p>Honey</p>	<p>Honey : Chemical Formula : C₆H₁₂O₆ Chemical name : Fructose</p>	<p>The sand, lotion and light lotion give you bodily fluids like an elephant and a nourishing substance used as a liquid-looking agent</p>
10	 <p>Rose water</p>	<p>Rose water : Rosa Damascena Water</p>	<p>Used as solvent; it also has antibacterial and antiseptic properties which eventually cure acne</p>
11	 <p>Walnut</p>	<p>Walnut: Family : Juglandaceae Chemical name : ferulic acid , Vanillic acid</p>	<p>Scraping Granule Scraping Action helps in the disinfection of soft oils and cleans dead skin cells and debris.</p>
12	 <p>Neem</p>	<p>Neem Botanical Name : Azadirachta indica A. Juss. Family : Mahogany</p>	<p>Neem has special importance in various traditional systems of medicine in India and is known to be the “Panacea for all diseases.” All parts of the neem tree—leaves, flowers, seeds, fruits, roots and bark—have been used traditionally for the treatment of inflammation, infections, fever, skin diseases and dental disorders. The current chapter deals with the application of neem products in</p>

			treatment of skin diseases.[6][7]
13	 <p style="text-align: center;">Aloe vera</p>	<p>Aloe vera :</p> <p>Family : Asphodelaceae Aloe juice, Ghrita-kumari (Sanskrit) Common Name: Aloe vera, Aloe gel,</p>	<p>Some researchers claim that Aloe vera has both antibacterial and anti-inflammatory properties. The growth of normal human cells was promoted by the in vitro exposure to fresh Aloe leaves and used in face wash ,cosmatic industry [8]</p>

3. Methods Used for Obtaining Plant Extract

1. Extraction of aloe vera

Mature, healthy and fresh aloe vera leaves were collected and washed with distilled water. Then after proper drying of leaves in hot air oven, the outer part of the leaves was dissected longitudinally using a sterile knife. Then the aloe vera gel that is the colourless parenchymatous tissue was removed using the sterile knife. Then it is filtrated using muslin cloth to remove the Fibers and impurities. Then the filtrate or the filter product which is a clear aloe vera gel was used in the preparation.[9]

2. Extraction of turmeric

Conventional extraction using Soxhlet: The rhizomes of turmeric were dried in oven at 105°C for 3 hours. Dried rhizomes were triturated using mortar and screened through a sieve with mesh 80 to obtain uniform powder with particle size of 0.18 mm. The turmeric powder was stored in refrigerator to prevent moisture uptake, the Soxhlet extraction, as the reference method, was pre-formed as follows: 15 g ground turmeric powder was weighed and embedded in a thimble and put in the Soxhlet apparatus which was gradually filled with acetone as the extraction solvent. The extraction experiment was carried out at 60°C within 8h. Upon completion of the extraction, the acetone was separated from the extract using rotary evaporator under vacuum at 35°C. The residue was dried and weighed. In all extraction experiments acetone was used as the extraction solvent due to its high solubilization capacity[10]

3. Extraction of neem powder

The fully matured neem (*azadirachta indica*) leaves were collected and washed under distilled water within three times to remove complete dirt. Then the leaves were air dried for 10 days, then the dried leaves were collected and ground into a powder and stored into airtight bottles.[11]

4. Methods Of Preparation:

The plant materials *Curcuma longa*, *Aloe vera*, *Rosa centifolia*, and *Citrus sinensis* were authenticated, and their extracts have been prepared using Soxhlet Apparatus and the resulting essential oil was analyzed for its physical properties. The foaming face wash was then prepared by using the herbal extracts with excipients that were free from sulfates, parabens, silicone, and petroleum products. Two formulations, A1 and A2, have been prepared and their physicochemical studies were performed. The presence and efficacy of *Curcuma longa* in the suppression of *Propionibacterium acnes* were assessed by analytical methods and anti-microbial techniques, respectively. Skin irritation studies were conducted using Wistar rats by the scoring method. Accelerated stability studies were also performed for 60 days [12]

5. Evaluation of formulation:

1. Colour - The colour of the face wash gel was visually analyzed.
2. Odour- The formulation was evaluated for its odour by smelling it.
3. Consistency- It was determined manually.
4. Viscosity- Viscosity of the gel was determined using Brookfield viscometer. The values obtained for the sample and for water were noted down.[13]
5. Washability: The formulation has been used on the skin and then easily verified after washing with water.
6. PH: Using a digital pH meter calibrated at constant temperature, the pH of 1% of the hy dro transpiration is calculated [14]
7. Spreadability: Spredabiliti indicate the limit of the area in which the gel spreadeasily on the skin or the affected part. The biological availability of the functionality to create a gel also depends on the value of the extension.[15] [16] By slides spelabiliti two seconds, put the second slide to slide out of jail, it shows below a certain weight. Reduce the time needed to separate the two slides, a good spreadability. Two standard sizes of standard glass were taken. Herbal gel was designed in one of the slides. The other was placed on top of the slide gel, like a gel sandwich between the two slides on the 6-centimeter slide on the slide. The weight of 100 gms was placed in the upper slide so that the gel between the two slides were pressed evenly with a thin layer. The weight was eliminated and eliminated much more than the prisons that adhere to the slides. In the position, two slides are placed without interruption, thus remaining in such a way that, in this way, the weight of the body built in the upper slide is like a free dream. A weight of 20 gm was built in the upper slide. The time needed for the previous slide is to go to a distance of 6 cm 7, separated from the next slide by the weight of the weight. This experiment was performed three times in the average time taken to gel and commercialize gels and calculate three times[17] [18]

Spreadability was calculated by using the following formula

$$S=M \times L / T$$

Where, S-Spread ability

M-Weight tied to the upper slide (20gm). L-Length of the glass (6.5cm).

T-Time in sec.

8. 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. Foamability was also analysed by applying onto skin with contact with water. 14

9. Grittiness: The product was checked for the presence of any gritty particles by apply

Advantages of face wash:

- It helps to remove dead skin cells that helps new skin cells replace old one.
- It helps to keep skin fresh and healthy.
- It makes the skin to look radiant.
- The mixture of dead skin cells and excessive oil clog pores, which can lead to acne white heads, blackheads and total weary appearance. Exfoliating the pores regularly, avoids all the above skin problems.
- Removing dead skin cells that means your skin will develop wrinkles at aslower space
- Face washes may be used to impart cleansing, anti-wrinkle, anti-acne, moisturising, and skin fairness properties.
- Skin lightening substances are thought to work by preventing the development of melanin in melanocytes, therefore reducing the amount of melanin, on the metabolism and production of melanin in the

skin. Due to their low toxicity to melanocytes, ingredients that suppress the development of melanin, such as propanediol, evodia rutaecarpa fruit extract, arbutin, kojic acid, and vitamin C and its derivatives, are used in whitening cosmetics[19].

7. Types of face wash :

- Cream based face wash
- Gel based face wash
- Liquid based face wash
- Face wash in powder

8. Conclusion:

An herbal face wash was successfully formulated using a combination of [list of herbs used]. The formulation was evaluated for various parameters, including [list of parameters evaluated, e.g., color, odor, pH, spreadability, washability, foam ability, etc.]. The results indicate that the formulated face wash is safe, effective, and welltolerated. The herbal face wash has the potential to be a safe and effective alternative to commercial face washes. Specific Conclusions If the face wash was effective in treating a specific skin condition (e.g., acne, oily skin, etc.):

The herbal face wash was found to be effective in [treating/improving] The active ingredients in the formulation, contribute to the observed benefits. If the face wash was well-tolerated by all participants: No adverse effects were reported by any of the participants during the evaluation

period.The herbal face wash is well-tolerated by a wide range of skin types. If the face wash had a positive impact on skin health:The herbal face wash was found to improve the overall health and appearance of the skin.The formulation may help to [list of specific benefits, e.g., reduce acne, control oil production, hydrate the skin, etc.].

REFERENCES

- [1] Reshmi KS, TC Sreya, Gogula Bhargava
- [2] Reshmi KS, TC Sreya, Gogula Bhargava
- [3] Ankita Sehgal, Maneesh Banyal, Jyoti Gupta, Swati Joshi
- [4] Hiral S Popaniya, Payal N Vaja, Chintankumar J Tank, Hetal Suva, Dhruvi Rathod Asian Journal of Pharmaceutical Research 14 (3), 319-325, 2024
- [5] Aman Kumar, Sunita Ahlawat, Sumita Kumari, Lovkesh Bhat International Journal of Pharmaceutical and Phytopahrmacological Research 13 (2), 18-24, 2023
- [6] Bhushan P Pimple, Sachin L Badole, Farid Mena Bioactive Dietary Factors and Plant Extracts in Dermatology, 459-469, 2012
- [7] Bhushan P Pimple, Sachin L Badole, Farid Mena Bioactive Dietary Factors and Plant Extracts in Dermatology, 459-469, 2012
- [8] .Ronald M Shelton International journal of dermatology 30 (10), 1991
- [9] Pallavi T. Madavi et.al., preparation and evaluation of herbal face wash. IJCRT 2023
- [10] Foozie Sahne et.al., extraction of bio active compound curcumin from turmeric via different routes: A comprehensive study. PJBT 2016; 13(3): 173-180.
- [11] Seeta Udaya Kumar et.al., Extracted Compounds from Neem Leaves as Antimicrobial Agent on the Physio-Chemical Properties of Seaweed-BasedBiopolymer Films. MDPI 2020;
- [12] Niharika Lal, Maharabi Rana, Bhanu PS Sagar, Navneet VermaDrug Delivery Letters 11 (4), 335-346, 2021
- [13] M Kanlayavattanakul N Lourith Therapeutic agents & herbs in topical applications for acne treatmentInt J Cosmetic Sci201133428997
- [14] Dureja H, Kaushik D, Gupata M, Kumar V, Lather V, “Cosmeceuticals: An Emerging Concept”, Indian Journal of Pharmacology. 2005; 37 (3): 155-159.
- [15] Rasheed A, Reddy G, Mohanalakshmi S, Kumar CK, “Formulation and Comparative evaluation of Poly-herbal anti-acne face wash gel”, Pharmaceutical Biology. 2011; 49 (8): 771-774.
- [16] Rashmi MS, “Topical Gel: A review”, Pharm Rev. 2008; 1-3.
- [17] Aburijat T, Natsheh FM, “Plants used in cosmetics”, Phytother Res. 2003; 17: 987-1000.

- [18] Ashawat MS, Banchhor M, “Herbal Cosmetics: Trends in skin care formulation” *Pharmacognosy Rev.* 2009; 3 (5): 82-89.
- [19] HG Vogel Drug Discovery and evaluation, *Pharmacological assays* 3rd
- [20] PK Mane A Dangare Herbal Face Wash Gel of *Cynodon Dactylon* Having
- [21] HP Singh N Samnhotra S Gullaiya I Kaur Anti-acne synergistic Herbal face wash gel Formulation, Evaluation, & Stability study” *World J Pharm Res* 2015; 4(9): 1261-73
- [22] Arnav Golbal Export