



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

PREPARATION AND EVALUATION OF HERBAL FACE WASH

Pallavi T. Madavi¹ Yogita S. Patle² Yash G. Baishnab³ Payal khandait⁴ Updesh Lade⁵

Students^{1,2,3}, Assistant Professor of Pharmaceutics⁴, Principal⁵

Chhatrapati Shivaji College Of Pharmacy (D.Pharmacy – B.pharmcay) Deori, Gondia.

Abstract— Herbal formulations have enlarging demand in the world market as a source of food, cosmetics, and medicinal purposes. The aim of this study is to formulate and evaluate the herbal face wash gel. There are three forms of herbal face wash i.e., gel, cream and liquid-based face wash. We have studied on gel-based herbal face wash. Ingredients required in this formulation are extracted by the hydro alcoholic extraction method. Turmeric (*Curcuma longa*), Aloe Vera (*Aloe barbadense* Linn), Lemon (*Citrus Limon*) source of vitamin C, Neem (*Azadirachta indica*) are very helpful and do not have any side effects. All herbal ingredients are easily available in the surrounding area.

All the plants that have been used in this article have better antioxidant, antimicrobial, and anti-inflammatory properties. There are a number of formulations available on the market with different variety of active pharmaceutical ingredients for the treatment of acne and others skin problems especially for face. Changing environmental conditions and many pollutants, especially UV rays, are harmful for the human body. They're damaging our skin, so cosmetics are part of taking care of the skin and body parts. As we know that face is sensitive part of body³ The Neem has more medicinal properties, leaves and their chemical constituents have been demonstrated to exhibit anti-inflammatory, antihyperglycemic, antiulcer, anti- malaria, antifungal, antibacterial, antimutagenic, and anti-carcinogenic properties¹⁰. This is a study to evaluate the dermal safety and efficacy of the herbal formulation. There was a remarkable decreasing in the oiliness of the facial skin and an associated minimization of arising facial problems. Few subjects also noticed improvements in skin complexion.

The present work deals with Preparation of Extracts, preparation & evaluation of the herbal face wash. It is essential to evaluate the formulation to check their efficiency and effectiveness by using above parameters color, Oduor, appearance, consistency, Washability, pH & Spread ability. Formulation showed no lumps along with easy Washability, good Spread ability and neutral ph.

Keywords: - Herbal face wash, Hydro alcoholic, Turmeric, Acne vulgaris, UV rays, anti-inflammatory, anti-carcinogenic.

Introduction: -

Definition: A face wash is a type of facial cleanser That is specifically designed to remove makeup, Dirt, oil, dead skin cells, and other impurities from the skin of the face. A face wash can also be used to get rid of them, but its effectiveness might not be 100%.

Cosmeceuticals are the future generations of skin Care. The term cosmetic derived from Greek word 'Cosmetics' which mean pertaining to cosmetics or Beautifying substance or preparation².

The word 'cosmesis' (Gr. Kosmesia) used for two things: the preservation Restoration or bestowing of body beauty, the surgical Correction of disfigured physical effect. Acne, or acne vulgaris, is a skin problem that starts When oil and dead skin cells clog skin pores. It is also Blackheads, blemishes, whiteheads, pimples, or zits. Severe Acne can mean pimple that cover the face, neck, chest, and back. Or it can be bigger, solid, red lumps that are painful (cysts). Acne occurs most commonly during adolescence, Affecting an estimated 80–90% of teenagers. Lower rates Is reported in some rural societies. It usually gets better After the teen years. Some women who never had acne Growing up will have it as an adult, often right before their Menstrual -periods. About 4% continue to have difficulties into their forties⁵.

Skin is made up of following three layers-

1. Epidermis
2. Dermis
3. Subcutaneous (hypodermis)
4. The skin and its Accessory structures make up integumentary System, which provides the body with overall Protection. The skin is made of multiple layers of cells and tissues, which are held to underlying structures by connective tissue. The deeper layer of skin is a well vascularized (has numerous blood vessels). It also has numerous sensory, and autonomic and sympathetic nerve fibers ensuring communication to and from the brain¹.

The skin is the largest organ of the body, accounting for 15% of the total adult body weight performs many vital functions, including protection Against external physical, chemical, and biologic assailants, as well as prevention of water loss from the body and a role in thermoregulation. Herbs have been selected on the basis of a traditional and scientific justification with modern uses⁸.

The Skin is continuous, with the mucous membranes the body's surface. To keep skin healthy, clear and glossy, a balanced nutrition is required. Apart From the balanced nutrition, hormonal changes especially during the puberty in both sexes cause many changes in the body. Acne vulgaris is a common skin condition with substantial cutaneous and psychological disease burden.

In which face wash mainly content Turmeric, Aloe Vera, Neem.

Forms of Face Wash: -

1. Gel based face wash
2. Cream based face wash
3. Liquid based face wash.



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- **These different types of face wash available in the market include.**

1. Oily skin face wash.
2. Dry skin face was.
3. Normal skin face features of the face wash.

- **Function of the face wash:**

- Oily skin requires cleansers with herbs and botanicals, which will clean the pores and reduce oil buildup.
- It should be stable and have a good appearance.
- During application, it should not have an oily or greasy feel.
- After the evaporation of water, the cream residue should not become viscous.
- It should spread easily without dragging.

Properties of Face wash: -

- *It should soften when applied to the skin.
- * It should be stable and look good appearance.
- *It should spread easily without dragging.
- *After evaporation of the water, the creamy residue must not become viscous.
- *There must be no greasy feeling during application.
- *Should leave a fine emollient film on the skin after use.
- *Its physical action should be to flush the skin and open the pores rather than to absorb.

Uses of face wash: -

1. To remove impurities, germs and makeup for every day.
2. Anti-aging.
3. It helps other product to penetrate properly into the skin.
4. For cleansing the skin. Es of face wash:
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12. For cleansing the skin.
13. Stimulates their generation of the s skin cells and their renewal.

Material and Method:



1. Turmeric Rhizome

Botanical name: - *Curcuma Longa*

Family: - Zingiberaceae

Uses: - Antibacterial, antifungal and it protects the skin from Many skin infections and also adds glow to the face.

Turmeric is also Known to reduce scarring.

Vitamin, enzyme, minerals, sugars, lignin, saponin, salicylic acid and amino acid are the chemical constituents.

The rhizomes are used fresh or boiled in water and dried, after which they are ground into a deep orange-yellow powder commonly Used as a coloring and flavoring agent in many Asian cuisines, especially for curries, as well as for dyeing, characteristics imparted by the principal Turmeric constituent, curcuminin.

2. Aloe Vera

Botanical name: - *Aloe berbadensis* Linn (Aloe Vera)

Family: Liliaceae

Uses: It is used as a moisturizing agent.

Recently, the anti-fungal properties of aloe Vera leaves were investigated by Casian.

Aloe Vera is a stemless or very short-stemmed succulent plant growing to 60–100 cm (24–39in) tall, spreading by offsets.

Vitamins, enzymes, minerals, sugars, lignin, saponin, salicylic acid, and amino acids are chemical constituents.

The principal active composition of aloe is aloin Aloe Vera gel improves skin integrity.

3. Lemon juice

Biological name: - Citrus Limon

Family: - Rutaceae

Uses: - To lighten skin and reduce blemish marks on the skin.

It having also quite effective for treating acne and pimples on face. It acts as a natural PH adjuster in cosmetics.

Also having good properties to relieve constipation and best source of vitamin 'C'.

4. Neem



Botanical Name: - *Azadirachta indica*

Family: - *Meliaceae*

Uses: - Antibacterial, anti-fungal, anti-inflammatory, antiseptic, Antihistamine as well as germ-killing qualities and highly beneficial for oily and acne prone skin.

Antihistamine as well as germ-killing qualities.

Treatment on Eczema, Ringworm infection, scabies, psoriasis.

Constituents are flavonoids, Alkaloids, Azadirone, nimbin, nimbidin, terpenoid, steroids.

A moderate sized to fairly large evergreen tree, attaining a height of 12-15m with stout trunk and spreading branches, occurring Throughout the country up to an elevation of 900m. Its fruits and seeds are the source of Neem oil.



Various Additives used in Facewash^{1/8}

1. Humectant: - Humectants are substances That have a natural ability to attract and Retain moisture, making them ideal ingredients for face wash products. By helping to maintain the skin's natural moisture balance, humectants can help prevent dryness, flakiness, and other common skin issues.

2. Preservatives: - Preservatives are substances Used to prevent the growth of Microorganisms in various products, such as food, cosmetics, and pharmaceuticals. Methyl Paraben and propyl paraben are among the Preservatives that can be associated with This potential danger.

3. Gelling Agent: A gelling agent is a substance that can increase the viscosity of a liquid without substantially Gelling agents are ingredients that will turn your water, or oil, phase into a gel, which is thickened out without stiffness.

4. Foaming agent: A foaming agent is a substance that is added to a liquid to create a foam or front Foaming agents work by decreasing the surface tension of the liquid, allowing air to be trapped in the mixture, and creating bubbles. These bubbles then expand and create a foam or froth on the surface of the liquid.

Ingredients used with their properties:

| Name of ingredients | Quantity | Uses |
|------------------------|----------|--------------------|
| Turmeric | 0.5gm | Antibacterial |
| Aloe vera | 0.5gm | Antioxidant |
| Lemon juice | 0.5ml | Antioxidant |
| Neem | 1gm | Anti- inflammatory |
| Methyl paraben | 1gm | Preservative |
| Carbopol 940 | 0.025gm | Gelling agent |
| Sodium lauryl sulphate | 1gm | Surfactant |
| Distilled water | Qs | Vehicle |
| Rose oil | Qs | Flavor |

METHODOLGY

Take 0.5g. of turmeric powder in a beaker, then in this beaker may be added 0.5g. of aloe, 1g. of Neem, and rose water of Qs then all are mixed for 2 to 3 minutes. The double heat method gives for melting 0.025g of Carbopol, so give it a span on induction and add some water, then small content takes in water and add 0.025g of Carbopol in the container, and it melts. After melting, add mix. Lemon juice 0.5gm, All the ingredients in the melt and mix them Finally, heat stop and add lavender essential oil to the preparation solution, which will be given in a small container for the face wash. The final face wash is ready, and it is packed in the bottle³.

EVALUATION OF HERBAL FACE WASH^{1/7}

1 Color: The formulation's color is pale yellow, whereas the marketed formulation's color is yellow.

2 Odor: Due to the presence of a rose oil formulation having a rosy smell, the marketed formulation shows a characteristic smell.

3 Consistency: It was determined manually.

4 PH: A calibrated digital PH meter was used to measure the PH of a 1% aqueous solution of the formulation at a steady temperature.

5 Spread ability: The spread ability of the formulation was found manually by applying the gel to the skin with a gentle rub.

6 Washability: The product was applied on hand and showed under running water.

7 Foamability: A small quantity of gel was added to water in a breaker. After recording the initial volume, the breaker was shaken ten times to record the final volume.

8 Viscosity: A 10 ml sample that had been prepared was placed in a breaker and examined using a digital viscometer. The results were then recorded.

Conclusion:

A formulated herbal face wash gel containing turmeric powder extract, aloe Vera extract, and Neem extract was successfully developed using Carbopol as a gelling agent. The formulation was subjected to various evaluations, including color, odor, consistency, pH, spreadability, washability, grittiness, and foam ability, which yielded acceptable results.

Herbal formulations are more acceptable in the belief that they are safer with fewer side effects than synthetic ones.

Reference: -

1. Vishal Prajapati¹, Shashikant Maury^{2*}, Dr. Mohd Wasiullah³, Piyush Yadav⁴ Department of Pharmacy, Prasad Institute of Technology, Jaunpur (222001), U.P., India. Associate Professor, Prasad Institute of Technology, Jaunpur (2001), U.P., India. Principal, Department of Pharmacy, Prasad Institute of Technology, Jaunpur (222001), U.P., India. Principal, Department of Pharmacy, Prasad Polytechnic, Jaunpur (222001), U.P., India
2. Khade Swati S¹, Uchale Tushar P², Gosavi Akshata A³, Gunjal Abhishek⁴, Avanti R. Thanage⁵ Students, Samarth Institute of Pharmacy, Belhe, Pune, Maharashtra, India 1,3,4,5 Student, Nandkumar Shinde College of Pharmacy, Vaijapur² Khadeswati276@gmail.com
3. Khandagale Ganesh Sarjerao^{*1}, Dr. L.D. Hingne^{*2}, Prof. T.P. Akhare^{*3}, Aditya Pharmacy College Beed. 431122 Maharashtra, India.
4. Shaikh Arfat Shaikh Nazeer, Rohit Prataprao Patil, Mrunal Anil Patil, 1, 2, and Dr. Uttamrao Mahajan College of B Pharmacy, Chalisgaon, Dist. Jalgaon, 424101
5. P. K. Mane^{*}, Aniket Dangare, Satara College of Pharmacy, Satara
6. Martha Srinivas^{*1}, Dumpty Supriya^{*2}, and Dr. Anoop Singh^{*1} Associate Professor, Department of Pharmaceutics, Joginpally B.R. Pharmacology College, Yenkapally (V), Moinabad (M), Hyderabad-Telangana, India.

7. Department of Pharmaceutical Sciences, Joginpally B.R. Pharmacology College, Yenkapally (V), Moinabad (M), Hyderabad, Telangana, India. Supervisor, Department of Pharmaceutical Sciences, Bhagwant University, Ajmer, Rajasthan, India.

8. Mr. Tejas L. Takale¹, Mr. Ajay S. Surwase², Mr. Akshay A. Pathade³, Mr. Kunal Hake⁴ 1-3Student, 4 Assistant Professor Mahadev Kanchan College of Pharmaceutical Education and Research Uruli Kanchan Tal-Haveli, Dist. Pune, 412202. Maharashtra, India.

9. Shaikh Arfat Shaikh Nazeer¹, Rohit Prataprao Patil², Mrunal Anil Patil³, 1,2,3Dr Uttamrao Mahajan College of B Pharmacy, Chalisgaon Dist. Jalgaon, 424101

10. JINCY V. VARGHESE¹, ATHIRA P², SANDRA T. S³, SRUTHI K. B⁴, STELLA JOSE⁵ Assistant Professor, Department of Pharmaceutics, 2345B pharm students, Nehru of Pharmacy, Pampady, Thrissur

