

An Overview of a Study on the Formulation of Herbal Facewash Tablets

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Abstract

The global industry is seeing an increase in demand for herbal formulations due to the fact that natural medicines are safer than synthetic ones. People are starting to realize that using plants can help them achieve the key goal of having attractive, healthy skin. Reetha provides antibacterial and cleaning qualities that make it appropriate for treating acne, eliminating dead skin cells, and encouraging clear skin. Clitoria ternatea has also been described in the literature to have good antioxidant and anti-inflammatory qualities. This study's objective was to create and assess a herbal face wash tablet that contained rice flour, Reetha, and Clitoria ternatea. Trial batches have not yet been made.

Keywords: Herbal facewash tablet, *Clitoria ternatea*, reetha, rice, *Oryza sativa*, *Sapindus mukorossi*.

INTRODUCTION

Over time, the use of skincare products has increased dramatically. People now use anything from face wash to foot powder to complexion treatments. Skin health is an essential part of attractiveness. Face cosmetics keep the face nourished and remove sebum to preserve the best possible skin health. Using cosmetics that are suitable for the kind of skin on the face is the first step towards having healthy skin. The skin, the biggest organ in the body, serves as a barrier to keep pathogens out. As a result, skin health is a crucial component of overall health. Additionally, it affects individuals on a psychosocial level and in correspondence. Our skin grows continuously as new skin cells form and old skin cells die. Every little detail of our lives, including our diet and beverages, affects our skin. The cornerstone of a stunning, exquisite you is healthy skin. It improves the healing process, minimizes skin diseases, and helps avoid the signs of aging. All of us want to look our best when it comes to our overall appearance. Your entire appearance might be ruined by unhealthy skin, which seems lifeless. Your general appearance and well-being are greatly influenced by your skin care routine. Ultimately, your skin is important for appearance, and that's the very reason we chose skincare product (Figure 1) [1–5].

SKINCARE PREPARATION FOR THE FACE

1. Face packs and masks.
2. Cleansing creams and lotion.

3. Rouges.
4. Face washes.
5. Compact powder [2].

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Diseases

1. Autoimmune disorders (lupus, scleroderma).
2. Infectious diseases (impetigo, ringworm).
3. Genetic disorders (ichthyosis, epidermolysis bullosa).
4. Environmental factors (smoking, pollution).

Cosmetic Treatments

1. Chemical peels.
2. Microdermabrasion.
3. Laser treatments.
4. Botox.
5. Fillers (hyaluronic acid, collagen).
6. Skin tightening.



Figure 1. Natural ingredients used for formulations of facewash tablets.

Nutritional Influence

- Vitamin C (collagen production).
- Vitamin E (antioxidant).
- Omega-3 fatty acids (inflammation reduction).
- Zinc (wound healing).
- Hydration (water intake).

Aging Factors

1. Genetics.
2. UV exposure.
3. Smoking.
4. Pollution.
5. Stress.
6. Lack of sleep.

Tablet Face Wash

Herbal cosmetics have recently achieved widespread popularity and reputation. Due to consumer worries about synthetic chemicals and chemical compounds, herbal formulations emerged. They are becoming more aware of the need to use plants to provide the required nutrients for healthy and attractive skin. Compared to synthetic components, herbal formulations are more effective and have fewer adverse effects. Topical face cleansers derived from natural components are used in natural face care. Since they are said to offer potential benefits for face skin care, a variety of plant-derived substances, including herbs, flowers, roots, stems, essential oils, etc., are utilized to formulate herbal formulations. Herbal face wash and other herbal cosmetics are used on a regular basis. The plant species *Clitoria ternatea* is used as a medicinal herb and is found around the world. Specifically, one of the most popular species for its beauty and therapeutic qualities is the *Clitoria ternatea* plant [3]. According to published reports, it contains anti-inflammatory, antioxidant, calming, and face-glow qualities. It is widely recognized for its surfactant qualities since it is the most effective substitute for surfactants made of synthetic compounds. When it comes to maintaining clean, germ-free, smooth, and fresh skin, a face wash tablet is a gentle cleanser that also hydrates the skin without being harsh. Face wash products currently on the market are primarily gel and cream varieties that come in huge plastic containers or collapsible tubes. It's never a good idea to bring face wash on a flight since, in addition to taking up valuable luggage room, it might explode or shatter during the flight. The herbal face wash tablet is meant to be used just once, and its amount is enough to prevent abuse (Figure 2).



Figure 2. Herbal facewash tablets.

ADVANTAGES OF HERBAL COSMETICS OVER SYNTHETIC COSMETICS

The use of herbal cosmetics has grown in popularity and reputation. People are learning how to employ plants to meet their essential requirements for beautiful, healthy skin. Compared to synthetic components, herbal formulations are more active and have fewer negative effects.

Herbal cosmetics are the newest trend in beauty and lifestyle right now. These agents are growing in popularity because the majority of women today select natural goods.

Products for their personal care that are free of synthetic chemicals to enhance their look, enhance their health, and provide them satisfaction because they have fewer adverse effects than synthetic cosmetics.

Herbal Cosmetic

Known as beauty goods, herbal cosmetics are made using a variety of herbal substances to offer specific cosmetic advantages. While cosmetics aid in showcasing and enhancing people's inherent attractiveness, natural beauty is a blessing.

- Taking out the dead cells.
- Stress is increased by skin cell renewal.
- Eliminates pollutants, grime, and oil. Gel-based face cleanser gel is a solid substance that looks like jelly and can be either soft or hard. Gels are described as a significantly diluted cross-linked system that, in a steady state, does not flow. Numerous substances are useful for skin whitening; some, like antioxidants and nutrients, have positive effects, while others, like those containing mercury, pose serious health risks.

LITERATURE SURVEY

- *Pranali Patil et al.*: In 2020 published in World Journal of Pharmacy Volume 9, Issue 4, pp. 683–694. The study found that formulations containing rice water demonstrated significant in vitro antioxidant activity and were biocompatible with human skin. Additionally, the research suggests that rice water could enhance hair health by promoting growth and providing shine, making it a valuable ingredient in skincare and haircare products [6].
- *Prof. M. G. Chitte et al.*: 2020 published in World Journal of Pharmacy Research Volume 9, Issue 5, pp. 2541–2557, the extract contains alkaloids, like dehydroevodiamine, which inhibit inflammatory responses, reducing redness and irritation on the skin. The extract combats oxidative stress, promoting healthier skin by neutralizing free radicals [7].
- *Lily Zhong et al.*: Published: 27 December 2018, volume 19, issue 70 in International Journal of Molecular Science Topical applications of plant oils may have different effects on the skin according to their composition and the pathophysiological context of the skin. The composition varies by different extraction methods. When applied topically, constituents of plant oils may act synergistically by several mechanisms: (i) promoting skin barrier homeostasis; (ii) antioxidative activities; (iii) anti-inflammatory properties; (iv) direct and indirect (upregulation of antimicrobial peptides) anti-microbial properties; (v) promoting wound healing and (vi) anti-carcinogenic properties [8].
- *Suseela Lanka*: published 2018; volume: 8 issue: 5, pp. 94–99 in Journal of Drug Delivery and Therapeutics, in this they have evaluated various properties of aloe vera plant contain numerous vitamins, minerals, natural sugars, enzymes, amino acids, and as well rich in various bioactive compounds that exhibit emollient, purgative, anti-inflammatory, antioxidant, antimicrobial, anti-helminthic, antifungal, aphrodisiac, antiseptic and cosmetic value [9].
- *Tejaswini Yogekar*: Published 26.03.2020 Scholars Academic Journal of Biosciences; volume 8(3), page 63–67, Clitoria ternate extracts have a variety of medicinal properties, such as antimicrobial, antipyretic, anti-inflammatory, analgesic, diuretic, anesthetic, antidiabetic, insecticidal, blood platelet aggregation-inhibiting as well as vascular smooth muscle tissue relaxing properties [3].
- *Vani Mamillapalli*: July–September 2020, Research Journal of Pharmaceutical Dosage Forms and Technology Volume 12, Issue-03. In the current study, polyherbal face washes were formulated and evaluated for total flavonoid content, various physical parameters, and antibacterial and antifungal activities [10].
- *Nitin Yadav et al.*: on June 2021, Volume 8, Issue 6 in Journal of Emerging Technologies and Innovative Research. Instant whitening face wash AF4, which was formulated, showed good rheological characteristics pH, spreadability, stickiness, homogeneity, greater active content. Hence, this study showed that F4 was the best formulation for instant whitening face wash [11].

- *Disha D. Khare*: published in 2022 Volume: 9 Issue: 8. pp. 250–255 in European Journal of Biomedical and Pharmaceutical sciences, The goal of this work is to formulate and evaluate a cosmetic Polyherbal Facewash Tablets made with natural ingredients [12].
- *Shital A. Tiware et al.*: published on 2023; volume 10 issue (4):220–228 in International Journal of Pharmaceutical Chemistry and Analysis. In this, they have said that the Herbal face washes are used to refresh the muscles, keep the skin elastic, get rid of stuck-on grime, and enhance blood flow [2].
- *Fatimah M. Alshehrei*: on 11th Feb 2024, in the Saudi Journal of Biological Science, conduct a comprehensive literature review to identify gaps in current research related to face wash formulations. Look for recent publications in reputable journals, such as the Journal of Cosmetic Dermatology, the International Journal of Cosmetic Science, or Dermatologic Therapy. This will help pinpoint areas where new research can contribute significantly [13].

NEED AND OBJECTIVES

Needs

- For those looking for a natural substitute for conventional face cleansers, herbal face washes are a popular option. They are renowned for their cosmetic and therapeutic qualities and are created from natural substances like oils and extracts. Face wash products have antibacterial, anti-inflammatory, anti-acne, and antioxidant qualities, among other therapeutic uses.
- Anti-inflammatory and antioxidant qualities: able to alleviate skin issues like redness, inflammation, and acne Preserves natural oils: Can cleanse the skin while still preserving its natural oils.
- Nutrients.
- Provide essential nutrients to maintain healthy skin.
- Promotes natural glow:
- Can help promote a healthier, more luminous complexion
- Environmentally friendly:
- A preferred choice for consumers looking for an environmentally friendly option
- Skin health
- Herbal face wash can help to keep skin healthy and fresh by removing dead skin cells and promoting a radiant appearance
- Acne treatment:
- Herbal face wash can help treat acne and pimples by removing excess oil without stripping the skin of nutrients
- Skin rejuvenation Herbal face wash can help to nurture and rejuvenate the skin, promoting a Healthier complexion [14, 15].

Objectives

- *Cleansing*: Removing dirt, oil, and impurities from the skin.
- *Hydration*: Providing moisture to the skin to prevent dryness.
- *Nourishment*: Supplying essential nutrients to support skin health.
- *Brightening*: Promoting a radiant and even skin tone.
- *Gentle Exfoliation*: Removing dead skin cells for smoother texture.
- *Antioxidant Protection*: Guarding against environmental damage and
- Premature Aging
- *Anti-inflammatory Action*: Calming irritated skin and reducing redness.
- *Natural Ingredients*: Using botanical extracts to harness the benefits of
- Herbs for skin care (Table 1).

Table 1. Materials and equipments.

S. N.	Material List
1	Caustic soda
2	Magnesium stearate
3	guar gum
4	sandalwood
5	Ethanol
6	Aloe vera powder
7	Butterfly pea powder
8	Peptone
9	Yeast
10	Glucose
11	Potassium phosphate
12	Halim
13	Rice
14	Reetha
S. N.	Equipment List
1	Weighing balance
2	Mortar pesters
3	Beakers
4	Petri plate
5	Test tubes
6	Conical flask

PLANT AND EXCIPIENTS PROFILE

Rice

- *Synonym:* Cereal grain.
- *Biological Source:* The plant *Oryza sativa*.
- *Family:* *Poaceae*.
- *Melting Point:* Approximately 264 degrees C.
- *Geographical Source:* 1. Asia-Pacific: 85% of global production.
- *Southeast Asia:* (Indonesia, Malaysia, Philippines, Thailand, Vietnam).
- *South Asia:* (India, Bangladesh, Sri Lanka) – East Asia (China, Japan, Korea).
- *Chemical Constituents:* amylose & amylopectin 12% rice grain constitutes 12% water 75–80% Starch & 7% protein.
- *Appearance:* White and Transparent physical appearance (Figure 3) [16].

Butterfly Pea Plant

- *Synonym:* *Clitoria ternatea*.
- *Biological Source:* Flowering subspecies.
- *Family:* *Fabaceae* (Legume family).
- *Geographical Source:* Native to equatorial Asia, including locations in south Asia.
- *Chemical Constituents:* Tannins, carbohydrates, saponins, and flavonoids.
- *Appearance:* This is a large wildflower with one to three showy purple flowers that are up to two inches long (Figure 4) [17].



Figure 3. Rice Powder



Figure 4. Butterfly pea plant.

Reetha

- *Synonym:* Soapnut tree.
- *Biological Source:* *Sapindus mukorossi*.
- *Family:* sapindaceae.
- *Geographical Source:* Tropical and subtropical regions of Asia.
- *Chemical Constituents:* Saponin, sugar, mucilage.
- *Appearance:* Round-shaped fruit, yellowish brown in color (Figure 5) [17].



Figure 5. Reetha.

Aloe Vera

- *Synonym:* *Aloe barbadensis miller*.
- *Biological Source:* Aloe vera is derived from the succulent leaves of the aloe vera plant.
- *Family:* *Asphodelaceae*.
- *Geographical Source:* Cultivated Regions: Asia: India (largest producer), China, Thailand, Indonesia, Malaysia.
- *Chemical Constituents:* Polysaccharides (e.g., acemannan), glycoproteins (e.g., aloectin), vitamins (A, C, E), minerals (Ca, Mg, K), anthraquinones (e.g., aloin), fatty acids (e.g., linoleic acid).
- *Appearance:* Succulent, perennial herb leaves. Thick, fleshy, green, and lance-shaped (Figure 6) [18].



Figure 6. Aloe vera.

Halim

- *Synonym:* *Lepidium sativum L.*
- *Biological Source:* Halim is derived from the seeds, leaves, and stems of the *Lepidium sativum* plant.

- *Family: Brassicaceae.*
- *Geographical Source:* Cultivated in tropical and subtropical regions, especially in Asia and Africa.
- *Chemical Constituents:* Glucosinolates, alkaloids, flavonoids, phenolic acid.
- *Appearance:* small round and brown-colored seeds (Figure 7) [19].



Figure 7. *Lepidium sativum* L.

Sandal Wood

- *Synonym: Santalum album* L.
- *Biological Source:* Sandalwood is derived from the wood of the *Santalum album* tree.
- *Family: Santalaceae.*
- *Geographical Source:* Cultivated in Asia, Australia, China, Hawaii, and Sri Lanka.
- *Chemical Constituents:* Essential oils, alkaloids, flavonoids, and phenolic acids.
- *Physical Appearance:* Greyish brown smooth bark with yellowish-green flowers (Figure 8) [20].



Figure 8. Sandalwood.

METHODOLOGY IDENTIFIED

Method of Preparation

The fine powder of rice and butterfly pea flower was weighed, and the mixture was prepared [21].

- Retha, halim, and magnesium stearate were added to the mixture.
- Fine powder of Sandalwood powder is added to the mixture.
- Mixture is prepared and added in Mortar and pestle.
- Triturate all mixture and pass through an 85 mesh to make a fine powder.
- Tablets were prepared by the direct compression method by using the tablet compression machine.

Evaluation Test

Physical Evaluation

For redness, irritancy, and oedema over a period of 1–2 hrs., the physical parameters, such as the appearance and color of prepared face wash tablets, were examined.

Hardness Test

The ability of a tablet to tolerate mechanical shock is measured by its hardness. The value of hardness was measured in Kg/cm². Hardness is determined by using a hardness tester (Pfizer) (Figure 9). Three to five tablets are randomly taken 3-5 tablets from the prepared batch and tasted for hardness, and the results are noted.

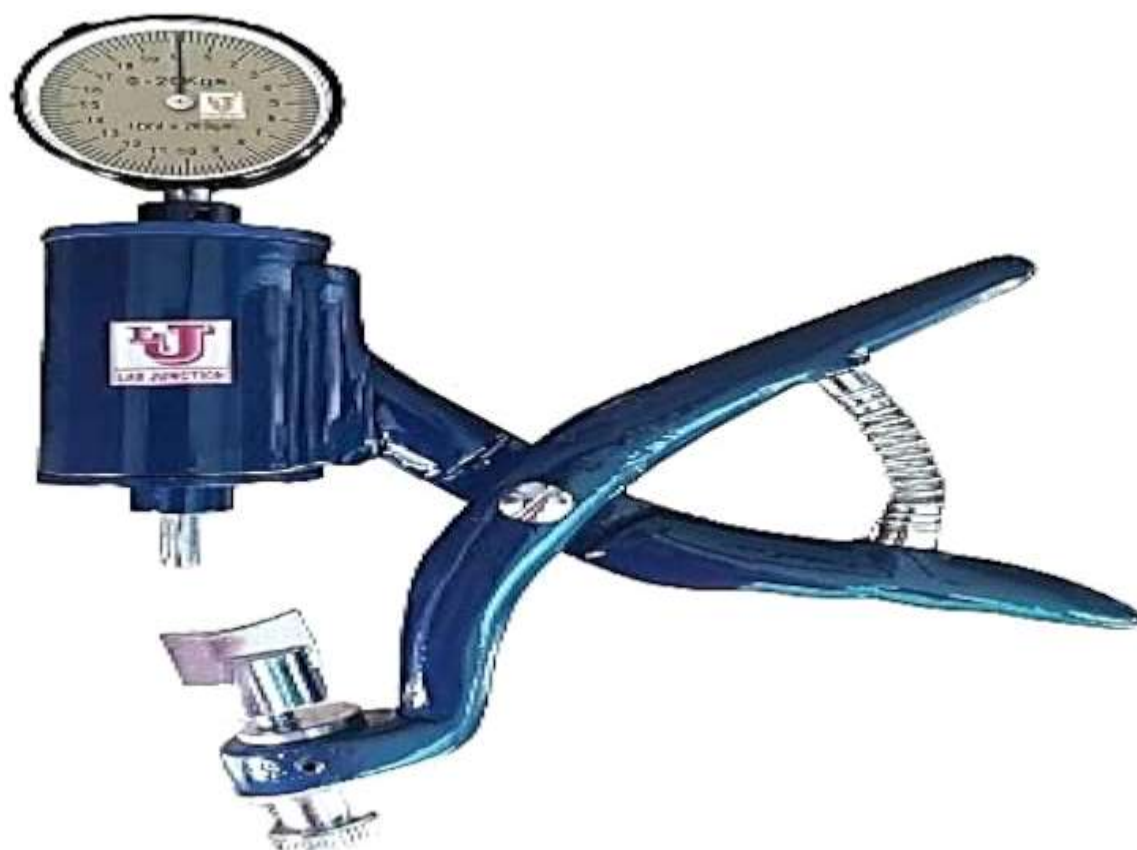


Figure 9. Pfizer.

Thickness

The thickness of tablets is measured with a Vernier calliper. Tablet thickness should be within the limit of ± 5 , and it is expressed as Kg/cm² (Figure 10).

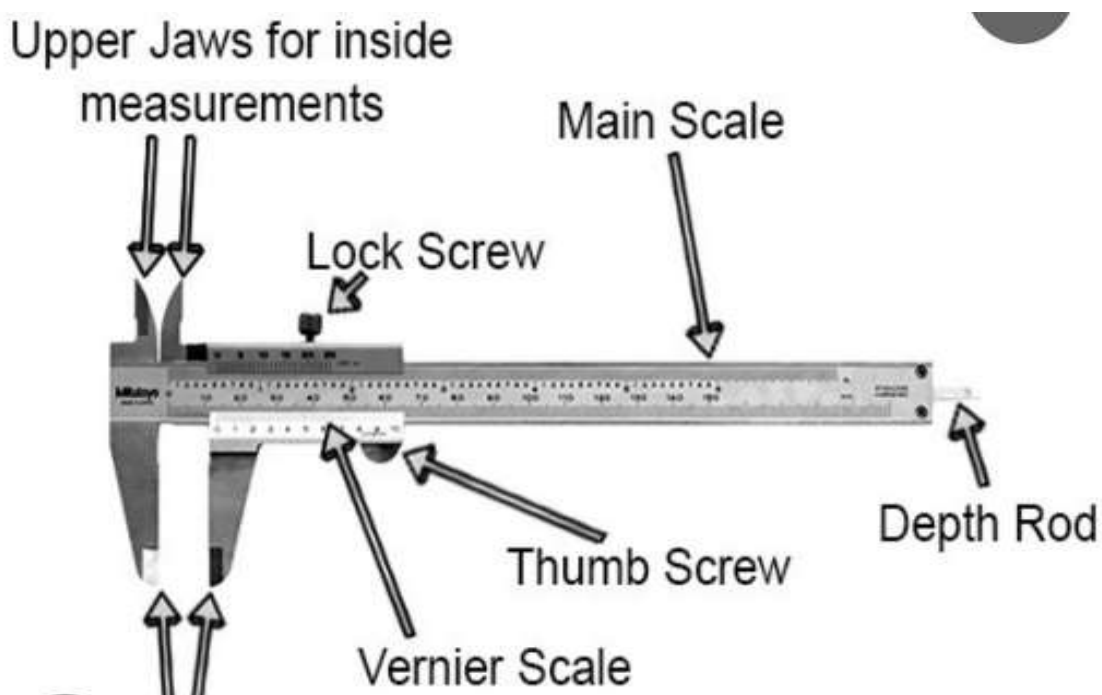


Figure 10. Vernier calliper.

Friability Test

The tablet's friability is determined using a friabilator. The friabilator should be turned on and weigh the tablets. Adjust the time and the counts to 100 by pressing the count key. Start the rotation by placing the tablets in the rotating chamber. After the rotation, collect the tablets and weigh them. Friability is determined by using the formula $\text{friability} = (\text{initial weight} - \text{final weight}) / \text{initial weight} \times 100$ (Figure 11).



Figure 11. Friability tester.

Weight Variation

5. 20 tablets from each batch were selected, and the weight of individual tablets was taken. Variations in the weight of individual tablets are recorded by comparing them with the average value.

Foamability

Fill a 250 ml measuring cylinder halfway with water and drop the tablet in it. Cover the cylinder with your palm and shake it for several minutes. Measure the amount of foam produced.

Determination of pH

The pH of the face wash tablet was made to be similar to that of the skin to prevent skin irritation. It was determined by preparing a 1% aqueous solution of the formulation. At a constant temperature, it was measured with the calibrated digital pH meter

Compatibility with Skin

In the development of pharmaceuticals and cosmeceuticals, skin irritation test is a must. The formulation was applied to a 1 sq. cm area of the left-hand dorsal skin and observed

RESULT AND DISCUSSION/FUTURE PROSPECTS

Future Prospects

- To create a safer and more efficient preparation than the synthetic ones used to keep skin healthy.

- We intend to conduct a thorough practical investigation in the future that will include the effects of herbal facewash tablets.
- This will entail creating the (dosage) formulation, testing it using various methods, and comparing the results with accepted limits.
- In addition, we will publish the formulation study paper in accordance with accepted standards.
- In future, if our tablet facewash is done beforehand, we will try and make popup tissue paper using banana fiber.

RESULT

The aim of the present work was to formulate an innovative herbal face wash tablet by using *Clitoria ternatea* powder and rice powder. Herbal extract powders from *Clitoria ternatea* petals were sieved and prepared for use in the formulation. The herbal face wash pill was developed to address the problems of synthetic face washes. It reduces the cost, package size, and usage of harmful preservatives.

CONCLUSIONS

In conclusion, the formulation of a tablet facewash for skin represents a novel and herbal approach to skincare. Herbal facewashes have always drawn a lot of interest since they have fewer or no side effects than synthetic medications. These herbal facewash pills are designed to alleviate the disadvantages of synthetic facewashes. The main goal of the development and evaluation of herbal facewash tablets was to make it more convenient for individuals, reduce cost, and make it available to the public. These items are ideal for travel because they are lightweight and small. This innovative product not only minimizes packaging waste but also offers a convenient and effective solution for cleansing the face. This reduces chemical foam; thus, it is environmentally friendly. Through careful selection of herbal ingredients, such as surfactants, moisturizers, and condition-specific additives, we have developed a compact, solid form that quickly disintegrates with water to produce a gentle yet efficient cleansing lather. The formulation's stability, efficacy, and environmental benefits highlight its potential to revolutionize the skincare industry, offering consumers a sustainable alternative to traditional liquid face washes. The main goal of herbal tablet facewash is to reduce side effects, to improve customer satisfaction with minimum effort, and to reduce time usage.

REFERENCES

1. Nilforoushzadeh MA, Amirkhani MA, Zarrintaj P, Salehi Moghaddam A, Mehrabi T, Alavi S, et al. Skin care and rejuvenation by cosmeceutical facial mask. *J Cosmet Dermatol*. 2018;17(5):693–702.
2. Tiware SA. A review on herbal face wash. *Int J Pharm Chem Anal*. 2023;10(4):220-8.
3. Quazi S, Yogekar T. A review on ethanopharmacological importance of *Clitoria ternatea*. *Sch Acad J Biosci*. 2020;8:63–67.
4. Templeton RH. Reetha and shikakai as natural surfactants for cleaning of historic textiles. *Int J Res Anal Rev*. 2018;5(2):571–573.
5. Bijauliya RK, Alok S, Kumar M, Chanchal DK, Yadav S. A comprehensive review on herbal cosmetics. *Int J Pharm Sci Res*. 2017;8(12):4930–4949.
6. Barsagade PD, Patil PU, Umekar MJ. A formulation of face pack and hair products of rice water for the use of skin and hair problems. *World J Pharm Pharm Sci*. 2020;9:4.
7. Solanki D, Sagrula SD, Unhale SS, Ansar QB, Chitte MG, Biyani KR. Formulation, development and evaluation of instant whitening face wash. *World J Pharm Res*. 2020;9(5):2541–2557.
8. Alshehrei FM. Microbiological quality assessment of skin and body care cosmetics by using challenge test. *Saudi J Biol Sci*. 2024;31(4):103965.
9. Mamillapalli V, Katamaneni M, Tiyyagura VM, Kanajam P, Namagiri AP, Thondepu H, et al. Formulation, phytochemical, physical, biological evaluation of polyherbal vanishing cream, and face wash. *Res J Pharm Dosage Forms Technol*. 2020;12(3):139–149.

10. Lin TK, Zhong L, Santiago JL. Anti-inflammatory and skin barrier repair effects of topical application of some plant oils. *Int J Mol Sci.* 2018;19(1):70.
11. Nichols H. (2017). Five life hacks for healthy skin [Online]. Medical News Today. Available from: <https://www.medicalnewstoday.com/articles/320071>.
12. Michalak M. Plant-derived antioxidants: significance in skin health and the ageing process. *Int J Mol Sci.* 2022;23(2):585.
13. Paranjape AA, Bokde MP, Taywade MH, Shevle PK. Formulation and development of rice starch shampoo.
14. Bisen NM, Anande HA, Dhote MG, Zode KD, Handekar SA, Lade UB. *Sapindus mukorossi* (areetha)-the natural foaming agent: an overview.
15. Pathak D, Sharma R. Review on Aloe vera-medicinal plant. *Int J Adv Res Innov Ideas Educ.* 2017;3(1):661.
16. Ferreira B, de Almeida L, Williams R. National sandalwood report for Timor-Leste. Sandalwood Regional Forum. 2019.
17. Huish RD, Faka'osi T, Likiafu H, Mateboto J, Huish KH. Distribution, population structure, and management of a rare sandalwood (*Santalum yasi*, *Santalaceae*) in Fiji and Tonga. *Pac Conserv Biol.* 2015;21(1):27–37.
18. Chaturvedi H, Garg A, Rathore US. Post-compression evaluation parameters for tablets—an overview. *Eur J Pharm Med Res.* 2017;4(11):526–530.
19. Lanka S. A review on Aloe vera—the wonder medicinal plant. *J Drug Deliv Ther.* 2018;8(5-s):94–99.
20. Yadav N, Maury S, Yadav P, Yadav MK. A review on formulation and development of face wash. *J Emerg Technol Innov Res.* 2021;8(6):410–417.
21. Khare DD. Formulation and evaluation of polyherbal facewash tablets. *Eur J Biomed Pharm Sci.* 2022;9(8):250–255.