IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

Formulation and Evaluation of Herbal Face Wash by Using Clove and Turmeric

Trupti Nana Punde, Uday Ulhas Rathod, Rushikesh D. Wanole, Manisha D. Kitukale
Department of Herbal Technology
P. Wadhwani College of Pharmacy, Yavatmal

Abstract: *Herbal cosmetics are increasingly preferred over synthetic products because of their safety, biocompatibility, and therapeutic benefits. The present study aimed to formulate and evaluate a polyherbal face wash containing clove (Syzygium aromaticum) and turmeric (Curcuma longa) extracts for effective skin cleansing and acne prevention.*

Four gel formulations (F1–F4) were prepared using aloe vera gel, turmeric extract, clove extract, honey, Carbopol, sodium lauryl sulfate, and sodium benzoate. The formulations were evaluated for organoleptic characteristics, pH, consistency, homogeneity, washability, grittiness, viscosity, skin irritation, and stability using standard evaluation procedures.

All formulations exhibited a uniform brown appearance, semi-liquid consistency, good washability, absence of grittiness, excellent homogeneity, and no signs of skin irritation during the observation period. The pH values ranged from 5.5 to 7.0, indicating compatibility with normal skin. Viscosity increased progressively from 2.824 cP (F1) to 4.560 cP (F4) with increasing Carbopol concentration. Among all formulations, F4 demonstrated the most desirable physicochemical characteristics, including pH 7.0, viscosity 4.560 cP, good spreadability and cleansing performance, excellent stability, and no evidence of skin irritation, making it the optimized formulation.

The developed herbal face wash containing clove and turmeric extracts was found to be safe, stable, and effective for topical application. The optimized F4 formulation exhibited the best overall performance and has potential as a cost-effective natural alternative to commercially available herbal face washes. Further studies involving microbial efficacy, antioxidant activity, and clinical evaluation are recommended to support large-scale commercialization and publication..

Keywords: Herbal face wash, Clove, Turmeric, Aloe vera, Anti-microbial, Antioxidant, Herbal cosmetics, Carbopol, Skin care, Polyherbal gel.

I. INTRODUCTION

People want to look beautiful and the concept of Cosmetics is as old as mankind and civilization. The urge to beautify one's own body and look beautiful has been an urge in the human race since the tribal days.

Assorted beauty products such as skincare products, hair products, fragrances, oral hygiene and nail products. (1)

Cosmetics are products applied to the body for the purpose of beautifying, cleansing or improving appearance and enhancing attractive features. [2]

Schneider et al defined skincare products or cosmetics as mixtures of synthetic or natural chemical Compounds used to improve the appearance and smell of the body. [3] Historical significance of cosmetics.

The science of cosmetology is believed to have originated in ancient countries like Egypt and India, but the earliest records of cosmetic practices were found in ancient Egypt around 4000 BCE

Types of cosmetics

a) According to Region

1.Skin Cosmetics – Used for skin care and beauty.

DOI: 10.48175/IJARSCT-37616

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

Examples: creams, lotions, face wash, powder.
2. Hair Cosmetics – Used for hair care and styling.
Examples: shampoo, hair oil, conditioner, hair dye.
3.Eye Cosmetics – Used for eye makeup and protection.Examples: kajal, eyeliner, mascara, eye shadow.
4.Lip Cosmetics – Used for lip care and coloring.
Examples: lipstick, lip balm, lip gloss.
5.Nail Cosmetics – Used for nail care and decoration.
Examples: nail polish, nail remover.
6.Oral Cosmetics – Used for oral hygiene.
Examples: toothpaste, mouthwash.
7.body Cosmetics – Used for whole body care and fragrance.
Examples: soap, perfume, (4)

(b)According to function.
(1) Emollient preparation: - cold creams, Vanishing creams Foundation Creams, lotions and solutions, etc.
(2) Cleansing preparation: - Shampoo, face wash, body wash, hand wash, Soaps, etc.
(3) Decorative preparation: -Lipsticks, Rouges, eyeliner, lacquers and dressing preparation.
(4) Deodorant / Antiperspirant: - Spray Sticks and mouthwashes.
(5) protective preparation: - Sunscreen, Creams, powders.
(6) preparation for enjoyment: - Salts. Powders oils and milk.

(c) According to compositions
(i) Powder
(ii)Lotions
(iii) Emulsions
(iv)Solutions
(v)Suspension
(vi) cream
(vii) paste
(viii) Gels
(iv) Aerosol
(x) Sticks
(xi) pencils etc. (5)

ANATOMY OF SKIN

Skin is the largest organ of the body. It covers about 15% of total body weight. Skin protects the body from dust, chemicals, germs, and water loss.

It also helps in controlling body temperature. Healthy and glowing skin needs balanced nutrition. During puberty, hormonal changes can affect the skin. Cosmetics help to improve beauty and personality.

Nowadays people prefer natural foods and herbal products for healthy life. Herbal cosmetics contain natural plant ingredients (phytochemicals). These ingredients provide nutrients and improve skin health. Herbal cosmetics are considered safer than chemical cosmetics.

Chemical cosmetics may cause side effects on skin. Herbal products usually have fewer side effects. Face is an important part of the body and reflects health.(6)

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

Main skin types are:

1.Normal skin
2.Dry skin
3.Oily skin
4.Combination skin

Face wash is selected according to skin type. Face wash is a cleanser used to clean the face. It removes dirt, oil, sweat, and germs from skin.It keeps skin fresh, soft, smooth, and moisturized. It helps to prevent acne, wrinkles, and dryness.

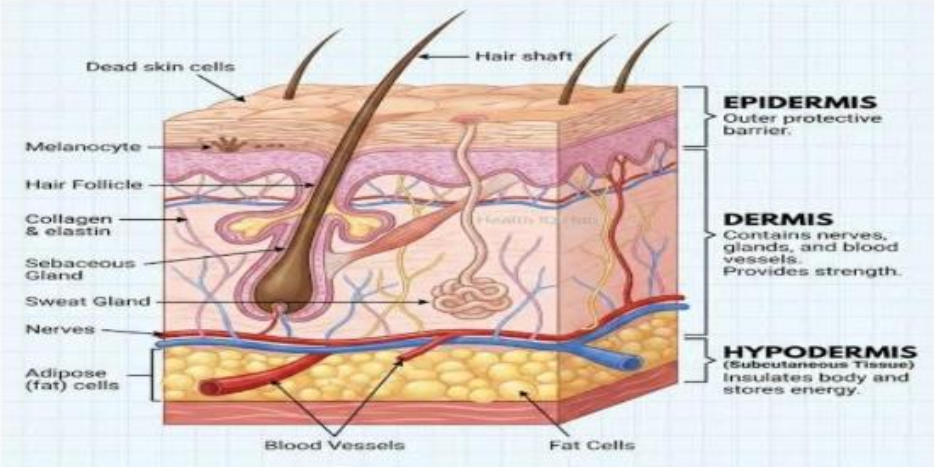


Fig 1:Anatomy of skin and function

A good face wash cleans the skin without dehydrating it.Herbal face wash keeps the skin healthy, young, and energetic.

Functions of Skin

- Protection from external damage.
- Regulation of body temperature.
- Sensation (touch, pressure, pain, and temperature).
- Prevention of excessive water loss.
- Vitamin D synthesis.(7)

Skin problems

1) Acne :A common skin condition caused by blockage and inflammation of hair follicles and sebaceous glands.
2) Dry Skin :Occurs due to loss of moisture, leading to roughness, itching, and flaking.
3) Oily Skin :Results from excessive sebum production, making the skin shiny and prone to acne.
4) Pimples :Small inflamed lesions formed due to clogged pores and bacterial growth.
5) Hyperpigmentation :Dark patches on the skin caused by excess melanin production.
6) Sensitive Skin :Skin that reacts easily to cosmetics, environmental factors, or allergens.
7) Sun Damage :Skin damage caused by prolonged exposure to ultraviolet (UV) radiation.(8)

DOI: 10.48175/IJARSCT-37616

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

Fig 2: Skin problem

Different types of Face
1.cream-based face wash
2.Gel based face wash
3.liquid-based face wash
4.face wash in powder form

Properties of Face wash.
1.Herbal face wash gently cleanses the skin without causing dryness.
2.It removes dirt, excess oil, and impurities from the face.
3.Herbal face wash helps to keep skin fresh, soft, and glowing.
4. It contains natural ingredients that nourish and protect the skin.
5. Herbal face wash helps in preventing acne, pimples, and irritation.
6. It maintains the natural moisture and pH of the skin.(9)

PLANT PROFILE
1) CLOVE

Fig 3: clove

It is obtained from dried flower buds of clove tree.
Classification
• Scientific name – Syzygium aromaticum
• Family – Myrtaceae
• Order – Myrtales
• Kingdom – Plantae
• Genus – Syzygium

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

• Chemical Constituents: Eugenol, Eugenyl acetate, β-Caryophyllene, Tannins, Flavonoids, Gallic acid.

Properties

• Antibacterial.
• Antifungal.
• Anti-inflammatory.
• Helps reduce acne and pimples.
• Cleanses skin deeply.
• Reduces excess oil from skin.
• Helps heal skin infections.
• Gives refreshing fragrance.(10)

2) TURMERIC

Fig 4:Turmeric

It is obtained from the rhizomes of turmeric plant.

Classification

• Scientific name – Curcuma longa
• Family – Zingiberaceae
• Order – Zingiberales
• Kingdom – Plantae
• Genus – Curcuma
• Chemical Constituents: Curcumin, Demethoxycurcumin, Bisdemethoxycurcumin, Turmerone, Zingiberene, Essential oils.

Properties

• Antibacterial.
• Anti-inflammatory.
• Antioxidant.
• Helps reduce acne and pimples.
• Brightens and glows skin.
• Reduces dark spots and blemishes.
• Helps heal wounds.
• Protects skin from infections.(11)

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

(3) ALOE-VERA GEL

Fig 5: Alovera

It is produced from Aloe-vera classification

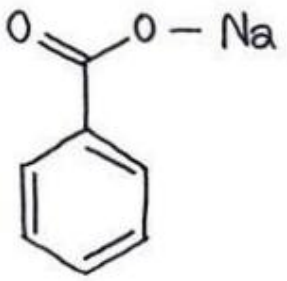
• Scientific name – Aloe barbadensis miller
• Family -xanthorrhoeaceac
• order - Asparagales
• Kingdom- Plantae
• Genus - Aloe
• Chemical Constituents: Aloin, Aloe-emodin, Acemannan, Saponins, Amino acids, Vitamins (A, C, E).

Properties

• Anti-inflammatory.
• Anti-aging.
• Heal wounds.
• Lightens scars and blemishes.
• Treat acne.
• Soothes sunburn.
• Treat stretch marks.
• Treat dry skin.(12

EXCIPIENT PROFILE

1) SODIUM BENZOATE (Preservative).



Sodium benzoate Properties:

• As a preservative Sodium Benzoate is primarily a anti-fungal agent but also has some effectiveness against bacteria.
• It is absorbed, metabolized and excreted rapidly after ingestion, sodium benzoate is not a toxin or carcinogen on its own.(13)

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

2)CARBOPOL

It Is a synthetic polymer used as a thickening and gelling agent in cosmetic and pharmaceutical formulations.

Fig 6: Carbopol

Classification

• Chemical name – Carbapol (Carbomer)
• Chemical class – Polycyclic acid polymer
• Appearance – White fluffy powder
• Solubility – Dispersible in water
• Function – Thickening and gelling agent

Properties

• Acts as thickening agent.
• Increases viscosity of formulation.
• Forms clear gel in water.
• Helps in smooth texture.
• Stabilizes the formulation.
• Provides good consistency to face wash.
• Compatible with many cosmetic ingredients.(14)

6)Sodium lauryl sulfate.

Chemical formula : CH3(CH2) 11 (oCH2CH2)nOSO3 Na Molar mass: - Variable. Typically around 421/mole (288.38 + 44.05n) g/mole

Properties

• Emulsifying cleaning agent in household.
• It is used to wash laundary and dish.(15)

MATERIALS AND EQUIPMENT

Material and equipment for herbal face wash

The appratus and glass ware used in the preparation of face wash are tabulated bellow

TABLE NO :1

Sr. No	Glassware	Appratus	Chemicals
1	Capillary tubes	Water bath	Sodium Benzoate
2	Conical flask	PH paper	Sodium sulfate lauryl
3	Funnel	Hot air oven	Carbopol
4	Glass rod	_	_
5	Reagent Bottle	_	_
6	Measuring cylinder	_	_

DOI: 10.48175/IJARSCT-37616

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

7	Test tube	_	_
8	Beaker	_	_
9	Volumentric Flask Pipettes	_	_

Preparation of herbal face -wash

Collection –

Herbs and Chemicals which were used in the present study were collected from local area and Purchased from the market.

1.Alovera gel
2.turmeric extract
3.clove extract
4.honey
5.Sodium Benzoate
6.carbopol
7.Sodium lauryl sulfate

Preparation of herbal extracts –

A) Turmeric Extract

1. Take dried turmeric rhizome or powder.
2. If raw, wash, dry, and grind into powder.
3. Take 10 g turmeric powder + 100 ml distilled water.
4. Heat on water bath for 15–20 minutes.
5. Cool and filter using muslin cloth/filter paper.
6. Concentrate slightly to obtain extract.

B) Clove Extract

1. Take dried cloves and grind into coarse powder.
2. Take 10 g powder + 100 ml distilled water.
3. Heat for 15–20 minutes or keep for 24 hrs (maceration).
4. Filter and concentrate extract.

PREPARATION OF HERBAL FACE - WASH

C) Aloe Vera Gel

1. Collect fresh leaves of Aloe Vera. 2. Wash the leaves with clean water 3. Remove the outer green layer.
4. Collect the inner gel.
5. Blend the gel properly.
6. Filter to obtain clear extract.
7. Store in a clean container for further use.

Procedure

1. Take aloe vera gel in a beaker.
2. Add turmeric and clove extracts slowly with stirring.
3. Add honey and mix properly.
4. Dissolve sodium benzoate in small water and add
5.add carbopol in distilled water slowly with continues stirring .

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

6.Add SLS slowly with gentle stirring (avoid foam).
7. Make volume up to 100 ml using distilled water.
8. Mix until uniform consistency is obtained.
9.Transfer into container and label.(16)
Then various formulation batches were prepared according to the tables. Given below

TABLE:2

Sr no	Ingredient	F1	F2	F3	F4
1	Aloe vera gel	50ml	50ml	50ml	50ml
2	Turmeric extract	10ml	10ml	10ml	10ml
3	Clove extract	10ml	10ml	10ml	10ml
4	Honey	10ml	10ml	10ml	10ml
5	Sodium benzoate	0.5gm	0.5gm	0.5gm	0.5gm
6	Carbopol	1.4 gm	1.4 gm	2gm	2.2 gm
7	Sodium Lauryl Sulfate	1.5 gm	2 gram	2.5gm	3 gm

EVALUATION PARAMETERS OF HERBAL FACE WASH

Physical appearance
The physical appearance of the formulation was checked visually.
Colour: - the colour of the formulations we're checked out against white background.
Consistency: - The Consistency was checked by applying on skin.
Greasiness: - the greasiness was assessed by the application on the skin.
PH: The PH of formulations was determined by using PH paper. 1 ml of face wash was dissolved in 9ml of distilled water. Solutions at PH 5.5 and PH of 7.
Wash ability: Formulation were applied on the Skin & then ease extent of washing with water were checked manually.
Homogeneity: - Homogeneity was tested by visual inspection after allowing them to set in a Container and evaluated for its Appearance and presence of aggregates.(17)
Viscosity: - The viscosity of the 100 mL herbal face wash formulation was determined using an Ostwald viscometer by measuring the time taken for the sample to flow between two marked points. The flow time was recorded and viscosity was calculated by comparison with distilled water.
Viscosity (cp) = Dial-reading X Factor
Stability studies: -The physical stability of the formulations was studied by placing them in plastic containers and then they were Placed in a humidity chamber at 45°C and 75% relative humidity and appearance and physical stability were inspected at different
In the tables below.(18)

RESULT AND DISCUSSION

TABLE – 3

Formulation code	Colour
Herbal Clear Glow Face Wash	Gel
F1	Brown
F2	Brown
F3	Brown
F4	Brown

Results for organoleptic properties of formulation

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the brown colour

CONSISTENCY:

The prepared formulation produces liquid consistency. This was confirmed by visual observation The results are shown in the table no.8

TABLE – 4

Formulation code	Consistency
Herbal clear glow face wash	Semi liquid
F1	Semi liquid
F2	Semi liquid
F3	Semi liquid
F4	Semi liquid

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the consistency semi liquid .

TABLE – 5

Formulation code	Greasiness
Herbal clear glow face wash	No
F1	No
F2	No
F3	No
F4	No

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the no greasiness found.

PH

- The PH of formulation was found to be satisfactory and it was in the range of 5.5 –7.
- It is near to the skin PH which indicates that the prepared formulation can be Compatible with skin.
- The result are shows in the table no. 10

TABLE – 6

Formulation code	PH
Herbal clear glow face wash	7
F1	5.5
F2	5.6
F3	5.5
F4	7

The PH of formulation was found to be 7, 5.5, 5.6, 5.5, 7. For respective batches that F1, F2, F3, F4.

WASHABILITY

TABLE NO. 7

Formulation code	Washability
Herbal clear glow face wash	Good
F1	Good

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

F2	Good
F3	Good
F4	Good

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed that washability is good .

HOMOGENEITY

Visual inspection of the prepared formulation indicates no lumps and it uniform colour dispersion and was free from any fiber

Table no 8

Formulation code	Homogeneity
Herbal clear glow face wash	No aggregate
F1	No aggregate
F2	No aggregate
F3	No aggregate
F4	No aggregate

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the no aggregate are found.

GRITTINESS

Table no 9

Formulation code	Grittiness’
Herbal clear glow face wash	No
F1	No
F2	No
F3	No
F4	No

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the no grittiness found.

Viscosity

Oswald Viscometer was used to measures the viscosity of liquid. Viscosity of formulation in the range of 2.824 – 4.560 result are shown table no.14

TABLE NO :10

Formulation code	Viscosity
Herbal clear glow face wash	3.211
F1	2.824
F2	3.420
F3	3.880
F4	4.560

The PH of formulation was found to be 3.211, 2.824, 3,420, 3.880, 4.560. For respective batches that F1, F2, F3, F4.

SKIN IRRITABILITY TEST

Small amount of the face wash was applied on the skin and was kept for few minutes and was observed no redness, inflammation, and irritation.This formulation is safe for use for skin

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 1, July 2026
Impact Factor: 8.2

TABLE NO :11

Formulation code			Irritability	Test	Test
	1st hour	6st hours	12 hour	1 day	2 day
Herbal clear glow face wash	No	No	No	No	No
F1	No	No	No	No	No
F2	No	No	No	No	No
F3	No	No	No	No	No
F4	No	No	No	No	No

Herbal gel face wash formulated for batches whether we observe that are batches were obtained and observed the no irritation on skin.

II. CONCLUSION

The formulation and evaluation of the herbal face wash containing clove and turmeric were successfully carried out by preparing four different batches. All batches were evaluated for various parameters including appearance, pH, washability, formability, viscosity, consistency, greasiness, and grittiness.

The three batches demonstrated satisfactory results with good appearance, acceptable pH, proper washability, good formability. the viscosity and thickness of the formulation were comparatively low. To improve the consistency and viscosity, by using Carbopol (0.8 g) was incorporated into the formulation as a thickening agent. After the addition of Carbopol, the viscosity and consistency of the fourth batch improved significantly and showed satisfactory results.

Therefore, the formulated herbal face wash was found to be stable, effective, and suitable for topical application.

Summary

This project focused on the formulation and evaluation of a herbal face wash using natural ingredients such as turmeric extract, clove extract, aloe vera gel, honey, carbopol, sodium benzoate, and sodium lauryl sulfate. The main aim of the study was to prepare a safe, effective, and skin-friendly herbal face wash with fewer side effects compared to synthetic cosmetic products.

The herbal extracts were prepared separately and incorporated into different face wash formulations. The prepared formulations were evaluated for various parameters including colour, consistency, pH, washability, homogeneity, viscosity, grittiness, stability, and skin irritability. The results showed that all formulations had good appearance, smooth texture, proper cleansing ability, and acceptable viscosity. The pH range of 5.5–7 indicated compatibility with normal skin.

The formulations were stable, free from grittiness, and showed no signs of skin irritation during testing. The herbal ingredients provided antibacterial, anti-inflammatory, moisturizing, and soothing properties that help maintain healthy and glowing skin.

Overall, the study concluded that the formulated herbal face wash is effective, economical, safe for regular use, and can serve as a natural alternative to commercially available chemical-based face washes

FUTURE SCOPE OF HERBAL FACE WASH

1.Growing Demand for Herbal Cosmetics

Consumers are becoming more aware of the harmful effects of synthetic chemicals in skincare products.

This has increased the demand for herbal and natural cosmetic products, including herbal face washes.

2.Development of Advanced Herbal Formulations

Future research can focus on incorporating new herbal extracts with enhanced antibacterial, anti-inflammatory, and antioxidant properties.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 6, Issue 1, July 2026 Impact Factor: 8.2

Combination of herbs such as clove, turmeric, aloe vera, neem, and tea tree oil can improve product effectiveness.

3.Use of Natural Preservatives

Future formulations may utilize natural preservatives to replace synthetic preservatives, making the product safer and more eco-friendly.

4. Enhanced Therapeutic Benefits

Herbal face washes can be developed with additional benefits such as anti-acne, antiaging, skin brightening, sun protection, and moisturizing effects.

5.Application of Nanotechnology

Nanotechnology can improve the stability, penetration, and effectiveness of herbal active ingredients in face wash formulations.

6.Eco-Friendly and Sustainable Products

Increasing environmental awareness encourages the use of biodegradable ingredients and recyclable packaging materials.

REFERENCES

1.Khan, A.D.*1, and Alam, M.N.1, cosmetics and their associated adverse effects.

2.Malik, Vijay., the drug and cosmetics act, 1940, 18th edition, new Delhi: eastern book company pp 5-6.

3. Draelos,, Z.D., Cosmetics: the medicine of beauty journal of cosmetic dermatology. 2015; 14(2):91

4.Schnerider, G., Gohla, S., Schreiberj, Kaden, W., Schomock, U., lewerkuhne, H.S., Kuschel, A., petsitis, X., pape, W., Ippen, H.,

5.Diembeak, W., in skin cosmetics, Ullmann's encyclopedia of industrial chemistry 6th vol. Germany: Wiley VCH,2001,10, pp 24-30.

6. P. K. Mane and Aniket dangare herbal face wash gel of cynodon dactylon having antimicrobial, anti-inflammatory action Pharmaceutical resonance vol.3, Issue (IX), (2020).

7. Sachin joinder, fartade et al. formulation, development and evaluation of dual-purpose antimicrobial poly herbal gel: face Wash and hand wash world journal of pharmaceutical and medical research vol. 6, Issue (VI), (2020).

8. Gadegone, S., et al. formulation and development of skin whitening face wash international journal of researches inBiosciences, agriculture and technology vol. 5, Issue (II), (2017).

9.K. Kameswara rao et al. formulation and evaluation of poly herbal anti acne face wash. International research journal of Pharmaceutical and biosciences vol. 5, Issue (II), (2019).

10. Harsharan, pal, Singh, et al. anti-acne synergistic herbal face wash gel. World journal of pharmaceutical research vol.4, Issue (IX), (2015).

11. Nitin Yadav et al. formulation and development of face wash journal of emerging technologies and innovative research vol. 6, Issue (VI), (2021).

12.Martha Srinivas, et al. current review on herbal face care. international journal of pharmaceutical sciences review and research article no.17, (2021).

13.Kanitakis, J., anatomy histology and immunohistochemistry of normal human skin, European Journal of dermatology.2002;12(4):390-401.

14.Brown, S.K., Shalita, A., Acne vulagaris, lancet, 1998; 351(9119): 1871 – 1876

15.Kapoor, V. P., herbal cosmetics for skin and hair care, national botanical research institute. 2005;4(4):306 – 313.

16. Larsson,S.C., Bergkvisit,l; wolk, A. vitamin A retinol and carotenaoids and the risk of gastric cancer: a prospective cohort study. Am. j. clin. Nutr, 2007; 85(2): 497 – 503.

17.Ashish, Baldi., herbal cosmetics: used for skin and hair inventi rapid journals,2012;(1):1 – 7.

18.Khan, A.D., and Alam, M.N., cosmetics and their associated adverse effects general of applied pharm