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Review Article

A Review on Facewash

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ABSTRACT

The skin, the biggest organ in the human body, is made up of three layers: epidermis, dermis, and subcutaneous layer. Melanocytes and keratinocytes are pigment- producing cells found in the epidermis. The dermis is the inner layer of skin cells, made up of thick and short collagen fibers. The subcutaneous layer interacts with the lipid matrix. Common skin issues include pimples, acne, redness, enlarged pores, dry skin, and sun damage. The term "cosmetic" is derived from the Greek word "kosmetics" which refers to cosmetics and compounds used for beauty. Herbal cosmetics are produced using natural ingredients. Facewash is a semisolid dosage form intended for external application especially it is a facial cleanser that is specifically formulated to remove makeup, grime, oil, and dead skin cells. This type of cosmeceutical helps to reduce skin problems like acne, pimples, spots, blackheads, oily skin, etc. Several extraction procedures, including maceration, infusion, decoction, digestion, and hot extraction, are used. Ingredients typically contain Aloe vera, Tulsi, Neem, Turmeric, Basil, Pumpkin, Methyl cellulose, Glycerin, Carbopol, Jojoba oil, Almond oil, and other substances.

INTRODUCTION

Skin is the largest organ in the human body. It has a surface area of about 1.5 to 2 mm. It is the outermost layer of a vertebrate animal's body which is soft and flexible [1][2]. The skin is continuous with a mucous membrane lining the body's surface. It performs essential functions including protec- tion against external physical, biological, chemical as well as prevention of excess water from the body. It also helps with the thermoregulation and protects UV radiation [3][4]. Human skin is highly exposed to pathogen and diseases [5].

ANATOMY OF SKIN: [2,6,7,8,9,10]

Skin is a complex organ with multiple radiation and cell types and are divided into three types:

1. Epidermis
2. Dermis

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3. Subcutaneous

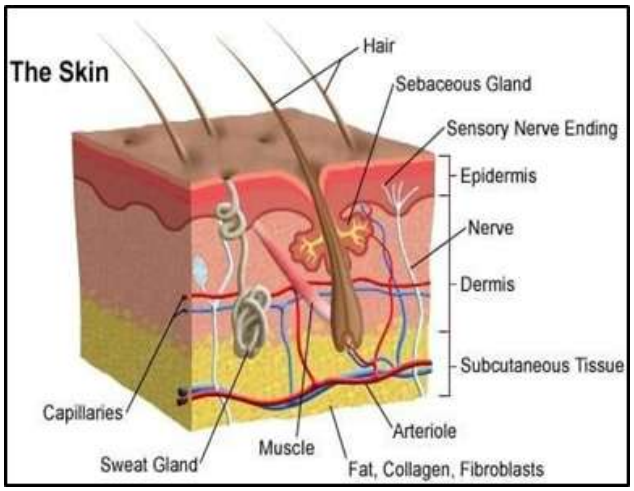

Figure 1: Structure of skin

1. Epidermis: The epidermis is a thin yet resilient, cornified, and avascular outer layer. It consists of melanocytes, keratinocytes, and Langerhans cells, which produce pigments and play a role in antigen presentation. Unlike the dermis, the epidermis lacks blood vessels and nerve endings. How- ever, the deeper layer of the epidermis receives nourishment through the interstitial fluid from the dermis, which supplies oxygen and nutrients and is subsequently drained as lymph. The capillaries in the dermis provide nutrition to the epidermis.

Epidermis is formed by five layers:(fig 2)

a) Stratum corneum
b) Stratum lucidum
c) Stratum granulosum
d) Stratum spinosum
e) Stratum germinativum

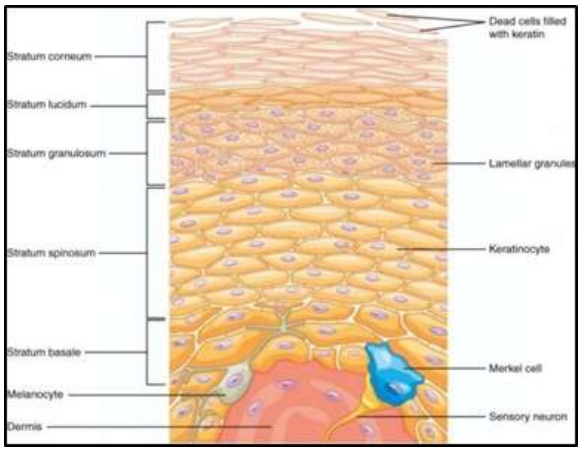

Figure 2: Layer of Epidermis

a) Stratum Corneum- The stratum corneum is located superficially and consists of keratinized cells. The cells lack distinct outlines and nuclei. This layer, also known as the "horny layer," is the outermost layer and is composed of dead cells called corneocytes. The cytoplasm of these cells is flattened and contains fibrous protein called keratin.

b) Stratum Lucidum- The stratum lucidum is a thin or transparent layer located below the stratum corneum, typically consisting of 3 to

5 cell layers. Many cells in this layer have degenerated nuclei, and some cells lack nuclei altogether. The stratum lucidum is composed of flattened epithelial cells.

c) **Stratum Granulosum-** The stratum granulosum is a thin layer consisting of 2 to 5 rows of flattened rhomboid cells. The cytoplasm of these cells contains granules of a protein called keratohyalin.

d) **Stratum Spinosum-** The stratum spinosum, also known as the "prickle cell layer," is characterized by cells that possess spine-like protoplasmic projections. These projections allow the cells to be connected to each other.

e) **Stratum Germinativum-** The stratum germinativum, also known as the "stratum Malpighii," is a very thick layer composed of polygonal cells superficially and columnar or cuboidal epithelial cells in deeper parts. The stem cells in this layer, known as keratinocytes, give rise to new cells. Melanocytes, scattered among the keratinocytes, produce the pigment melanin, which deter- mines skin color.

2. Dermis- The dermis is the inner layer of the skin and is composed of dense and short collagen fibers. It contains the enzyme collagenase, which plays a role in wound healing, as well as providing strength and elasticity to the skin.

The dermis consists of two layers- the superficial papillary layer and the deeper reticular layer.

a) **The Superficial Papillary layer** is composed of loose connective tissue and projects into the epider- mis. It contains blood vessels, lymphatics, and nerve fibers. Dermal papillae, which are finger-like projections, arise from the superficial papillary dermis. The papillary layer also contains collagen and elastic fibers.

b) **The Deeper Reticular layer** is made up of reticular and elastic fibers, which surround the hair bulbs, sweat glands, and sebaceous glands. This layer also contains mast cells, lymphatics, nerve endings, fibroblasts, and epidermal appendages.

3. Subcutaneous layer- The term "Hypodermis" is an alternative designation for the skin layer known as the subcutaneous tissue. The hypodermis interacts with a lipid matrix composed of cholesterol, free fatty acids, and ceramides. The organization of these lipids in relation to the subcutaneous cells plays a vital role in maintaining the skin's firmness and moisture levels.

Function of skin: [2]

- Protective & Secretion function.
- Synthetic function.
- Absorption & Gases exchange.
- Regulation of water and electrolyte balance.
- Regulation of body temperature.

Common skin problems: [11]

- Pimples
- Redness
- Dry Skin
- Pores
- Acne
- Pigmentation
- Dead skin cells
- Sun damage.

I. Pimples: The occurrence of pimples or spots is associated with excessive production of sebum by the skin, facilitating the growth of sebum, resulting in inflammation and redness [12]

II. Pigmentation- Pigmentation on skin can be of hyperpigmentation and hypopigmentation.

Hyperpigmentation is a phenomenon characterized by an abnormal concentration of

skin in a local- ized region of the skin, commonly observed in individuals of Caucasian decent. This condition is primarily caused by an augmented production of melanin in the epidermis, which can be further in- duced by exposure to UV or X- ray radiation [13].

Hypopigmentation refers to the reduced synthesis of melanin, a pigment responsible for skin coloration. This condition, known as vitiligo, manifests as patchy depth on the skin and predominantly affects individuals of non-Caucasian descent. The pigmented areas affected by vitiligo exhibit a de- crease or complete absence of melanocytes, the cells responsible for melanin production [13].

Beneath the epidermis veil, obstructed hair follicles give rise to the pervasive dermal affliction commonly referred to as **Acne** [12]. Although acne is not considered harmful, it has the potential to leave behind scars on the skin [14]. Acne is typically characterized by the occurrence of Seborrhea inflammatory blemishes excessive sebum production and presence of bacteria like Propionibacterium acne and staphylococcus epidermis [15]. The prevalence of acne among adolescents is widespread, with approximately 20% of individuals exhibiting moderate-to-severe forms of the condition [16]. Adult acne is more commonly observed in female patients, while male individuals typically experience acne onset during puberty [17,18].

Acne vulgaris, a prevalent skin disorder affecting the pilosebaceous unit, is experienced by nearly all individuals at least once in their lifetime [19]. The major causes are-

- Cyclic hormonal level in women
- Hyperactive sebaceous glands
- Hyperkeratosis at hair infundibulum [19]

Acne can be categorized into various types including komedonol, popular, pustular, cystic and nod- ular. These types can be further divided into two reproductive forms- komedonola and pimples which can appear white or yellow. Whiteheads are typically found in the color range of purple or white in color. However, if the sebaceous glands opening is blocked, they may appear as dark-colored skin [20]. Papules are red, solid raised lesions that are smaller than 5mm in diameter [21]. Cysts and nodules are also raised lesions, but they involve deeper layers of the skin, including the dermis and subcutaneous tissues [21]. Cysts are smaller than 5mm in diameter, while nodules exceed 5mm in diameter.

Pathogenesis of acne involves multiple physiological factors that include- [22,23]

- Follicular hyperproliferation.
- Propionibacterium acne and Staphylococcus epidermis.
- Anti- inflammatory which prevents the worsening of condition due to inflammation or redness.
- Increased sebum production due to higher androgen levels and colonization of organisms.

Premature aging is a modern phenomenon that leads to decline in structure and functions of the skin. This decline is primarily caused by a significant decrease in elasticity and collagen levels. Consequently, various physiological changes occur, such as dry and rough skin, uneven skin tones, the appearance of fine lines and wrinkles, enlarged pores and the presence of black spots [24].

COSMETICS:

The term ‘cosmetics’ is derived from Greek word ‘kosmeticos’ which means pertaining to cosmetics

or beautifying substances or preparation. The word 'cosmetics' (Gr. Kosemia) used for two things- restoring or preserving the beauty of the body and surgical repair of damaged physical effects [25]. According to 'Drug and Cosmetic Act'1940 and Rules 1945, Cosmetics is defined as substances that are intended to be applied, sprayed, sprayed or sprayed, applied to the human body or otherwise applied to human body or any part it is cleansed, beautified, enhanced or transformed, appearance [26].

Skin care cosmetics are created to cleanse, exfoliate and safeguard the skin, while also replenishing it and protecting it. This is achieved through the utilization of a range of products including cleansers, toners, balms, serum & moisturizers. Makeup is designed to enhance the purpose of concealing im- perfection, natural enhance (eyebrows, eyelashes) and color to person's face. Additionally, cosmetics can be formulated to impart fragrance to the body [27]. Cosmetics have been formulated to target diverse skin issues, including wrinkles reduction, acne treatment and oil control [28]. Additionally, cosmetics application purposes the primary aim of using cosmetics is to enhance the overall aesthetic appeal of the face and other body parts, thereby minimizing visible skin imperfection to a significant degree [29]. Cosmetics are not considered as essential part of everyday life. However, their popularity has significantly increased in past three to four decades and they have experienced a remarkable surge in demand among both male and female [30]. Cosmetics products should be safe and effective [28].

Herbal cosmetics are products made using natural ingredients and some permissible cosmetic ingredients. These products have one or more herbal ingredients that provide specific benefits for the skin [31]. Herbal drugs have been used for many years, not just in Asian countries but all over the world [17]. Herbal cosmetics are made from easily accessible herbs found in nature and do not contain harmful synthetic chemicals. Examples of herbal cosmetics include Aloe vera gel, Coconut oil, Rose water, Turmeric powder and Natural nutrients like Vitamin E and Vitamin C [32]. The herbs used in cosmetics have various properties such as antioxidants, anti-inflammatory, antiseptic, and antibacterial. Some herbal ingredients can help reduce inflammation and reverse the signs of skin problems [29]. Using herbal treatments for the skin is a great way to cure skin problems with fewer side effects [33][34]. Natural cosmetics are safer to use than conventional beauty products [35].

Health, habits, diet, climate and maintenance of an individual play a significant role in the beauty of their skin and hair [29]. There are many different formulations available in the market for treating acne, pimples, and other skin disorders. These include gels, creams, lotions, face washes, face packs, and face masks [20]. Cosmeceuticals are cosmetic products that have medical or drug-like benefits and can affect the biological functioning of the skin [14].

FACEWASH:

A face wash is a specialized facial cleanser designed to effectively eliminate makeup, dirt, oil, dead skin cells, and various contaminants from the face. Its primary purpose is to unclog pores and miti- gate the development of skin conditions [11]. Face wash is a type of product that comes in a semi- solid form and is used externally on the skin. Its main purpose is to protect the skin from different types of harmful microorganisms [36]. Facewash is an essential part of a daily skincare routine, along with moisturizer and toner [11]. Face wash is also commonly referred to as a cleanser. It is a gentle cleanser that toners a crucial

role in keeping the skin clean, fresh, and hydrated without causing any harm to the skin. As a result, the skin appears glossy and vibrant, without any irritation [26][37]. Using facewash is a hygienic and practical approach to taking care of the skin [38].

Face wash products are designed with the purpose of eliminating dirt, bacteria, pollutants, and irritating cosmetics from the face [39]. The primary goals of using facewash are to cleanse the skin, reduce wrinkles, combat acne, promote fairer skin tone, and lighten the skin [28]. Substances that lighten the skin are believed to inhibit the production of melanin in melanocytes, resulting in a de- crease in melanin levels [40]. In the context of skin whitening cosmetics, Evodia rutaecarpa fruit extract is utilized [26]. Herbal face wash products harness the natural cleansing and rejuvenating properties of plants, offering a refreshing alternative to traditional face wash options.

Benefits of Facewash: [41]

- Enhance skin regulation and rejuvenation process.
- Enhance the skin radiance.
- Eliminates dullness, dark skin cells and aged keratin.
- Leaves the skin non- greasy as well as moisturized.
- Improving its overall appearance of skin and combating ageing symptoms.

Properties of Facewash: [11,42,43,44]

- The product should become softer upon application to the outer layer of the skin.
- The facewash should maintain its stability and have an appealing appearance.
- Once the water evaporates, the remaining creamy residue should not be thick or sticky.
- During application, it should not leave an oily or greasy appearance.
- A thin layer of moisturizing substance should remain on the skin after using the Facewash.
- It should disperse evenly without leaving any visible traces.
- After the facewash evaporates, the cream residue should not become thicker.
- Exfoliation helps to improve blood circulation, accelerate skin renewal.

Advantages of Facewash: [25,38,45,46]

- Enhance blood circulation.
- Eliminate scars, dead cells and suntan.
- The accumulation of dead cells and excessive oil obstructs pores, resulting in the development of acne, whiteheads, blackheads and overall fatigue appearance.
- Regular exfoliation of pores effectively prevents these skin issues.
- Promotes a luminous and radiant complexion.
- Contributes to maintaining fresh and healthy skin condition.

Disadvantages of Facewash: [38,44]

- The primary function of a facial cleanser is to cleanse the face, while also serving as a safer alterna- tive to body wash.
- Skin irritation, including redness and inflammation, can be attributed to the application of harsh chemicals and vigorous motions during cleansing.
- The presence of dirt on the skin can lead to an increased risk of acne due to bacterial growth, in addition to causing dryness of the skin.
- It is recommended to use facewash twice daily, as exceeding this frequency may result in dry skin.

Types of facewash: [47]

- Cleansing facewash
- Exfoliating facewash
- Hydrating facewash
- Acne-fighting facewash
- Brightening facewash
- Anti-aging facewash

Forms of Facewash:

1. Cream Based Facewash: Formulations typically incorporate plant-based oils and other compo- nents that aid in the skin's moisture retention [48]. The cream-based facewash effectively moistur- izes the skin. This type of facewash is typically characterized by its thick and creamy consistency, containing moisturizing elements. Cream-based facewashes with creamy cleansers are particularly suitable for individuals with dry skin [4].

2. Gel Based Facewash: Thomas Greham, a Scottishemist, created the word 'gel' by Borrowing it from gelatin in 19th century. The gel is a solid material with a jelly-like consistency, varying in its physical properties from being soft and weak to being hard and robust. In the context of a facial cleansing product, a gel is described as a diluted cross-linked system that maintains its shape and does not flow when in a stable condition [20,50]. The use of a gel-based face wash aids in maintaining the skin's pH balance [49].

3. Liquid base facewash: Monophasic and biphasic formulations of liquid-based facewash are classified in the field of pharmaceutics for their advantageous attributes, including the ability to administer high doses and achieve rapid onset of action [49].

4. Facewash in powdered form: The powder facial cleanser is presented in a dehydrated pow- dered state and can be activated by the addition of water, resulting in the formation of a mild cleansing paste [49]

Skin types and skin care: [51]

Table No.1: Skin types and Skin care

Skin types	Features	Suitable skin care (herbs and essential oils)
Normal	Normal skin is characterized by an even tone, a soft and smooth texture, no visible pores or blemishes, and no greasy patches or areas with flaky skin.	Pomegranate, leaves juice, herbal face pack, Gingili oil, Chamomile, Lavender.
Dry	Dry skin, on the other hand, has a low level of serum and is prone to sensitivity. It appears arid and feels tight, often showing signs of chap- ping and cracking, which indicate extreme dryness and dehydration	Aloe Vera, Olive oil, Al- mond, Calendula, Avacado, Comfrey, Avocado, Gera- nium, Coconut oil, Rose.
Oily	Oily skin appears shiny, thick and dull in color. Chronically, oily skin tends to have a coarse texture and is prone to pimples and other embarrassing blemishes, such as blackheads.	Aloe Vera, Oat straw, Liq- uorice, Juniper, Rosebuds, Lemon, Grass, Lavender oil, Evening Primrose

Uses of Facewash: [38,42,46]

- After using skincare products, it is important to leave a thin layer of light moisturizer on the skin. This will ensure that the skin is thoroughly cleansed every day, removing all traces of makeup.
- This practice aids in unclogging the pores, keeping them clear and free from blockages.

- Additionally, it assists in eliminating dead skin cells, allowing new skin cells to replace the old ones.
- Furthermore, it stimulates the regeneration and renewal of the skin, promoting healthier com- plexion.
- Lastly, it helps in removing impurities such as germs, pimples, dark circles, and black spots.

Additives used in facewash:

a) **Antioxidants:** Antioxidants are both synthetic and natural compounds that serve to prevent or delay cellular damage. They are found in fruits and vegetables and are also used as dietary supple- ments [52,28].
Example- Vitamin A, Vitamin C, Vitamin E [53].

b) **Gelling agents:** Gelling agents are chemicals that thicken water or oil into a gel-like con- sistency, without causing stiffness [52].
Example- Carbopol 940, Carbopol 934 [28].

c) **Humectants:** Humectants are substances that have a high affinity for moisture and are used to maintain moisture levels in various products. They are the opposite of desiccants, and can be found in food, cosmetics, insecticides, and other applications [28].
Example -Propylene glycol [28].

d) **Preservatives:** Preservatives are either natural or synthetic chemicals that are used to ensure the safety of a formulation by eliminating the influence of biological factors [28,54].
Example- Methyl paraben [52].

e) **Foaming agents:** Foaming agents promote the formation of foam and can be surfactants or blow- ing agents. These surfactants are typically present in small quantities [28].
Example- Sodium lauryl sulfate, Sodium lauryl ether sulfate [55].

Tips to use facewash: [56,57]

- Apply water to your face and neck.
- Take a small amount of facewash on your palm. Massage your palm to active wash and create froth.
- Massage the froth on your face in circular motion for 2-3 minutes to remove dirt and dead skin.
- Wash your face with plain water. Hot water or too much cold water is not used.
- Don't go the harsh process because the skin is gentle and causes wrinkles.
- Facewash should be used twice-a-day only.

EXTRACTION METHOD:

Extraction is the first step to separate the desired natural products from raw materials [58]. Extraction Methods-

a) Maceration
b) Infusion
c) Digestion
d) Decoction
e) Percolation
f) Hot extraction method (Soxhlet)
g) Counter- current extraction
h) Ultrasound extraction
i) Supercritical fluid extraction.

a) Maceration- Maceration refers to the method of extracting crude drugs from pulverized or com- pressed plant or animal parts by immersing them in a suitable solvent for a prolonged period, typically at room temperature, with intermittent shaking or stirring. The solid material is then com- bined with the entire solvent in a sealed container and left to stand for a duration of 7 days, occa- sionally agitating it. Afterward, the mixture is strained, pressed to extract any remaining liquid, and thoroughly mixed. Finally, the resulting liquid is filtered [59].

b) Infusion- The drug is immersed in hot or lukewarm water for a designated duration, either with or without agitation. Subsequently, it is subjected to an additional filtration process. Once the powdered drug is introduced into hot water, no additional heating is applied, and it is set aside [59].

c) Decoction- The drug powder is subjected to a boiling process in water for a duration ranging from a few Minutes to several hours. Subsequently, the solution is cooled down and then filtered [59].

d) Hot extraction method-

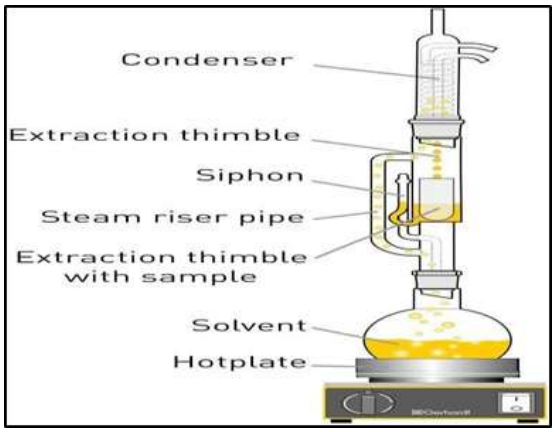

Figure 3: Hot extraction method

The powdered substance is enclosed within a permeable bag constructed from durable filter paper. The extracted sample is then introduced into a round-bottom flask. The application of heat is achieved through a heating metal source. As a result of the heat, the solvent within the round-bottom flask undergoes vaporization in the condenser and subsequently condenses back into the porous bag. Once the liquid solution reaches the siphon arm, its contents are directed back into the bottom flask. The presence of a transparent solution within the siphon tube is then observed [58]. (Fig 3)

MATERIALS:

Herbal Ingredients: Aloe vera, Neem, Hibiscus, Turmeric, Basil, Papaya, Orange, Mint, Lemon, Guava, Beal leaves, Pumpkin, Babul gum, Beetroot, Cucumber, Nutmeg, Black pepper, Cannabis sativa, etc.

Synthetic: Methyl cellulose, Glycerin, Triethanolamine, Toluene, Propylene paraben, Citric acid, Pro- pylene glycol, Carbopol, Sodium lauryl sulfate, etc.

Essential oil: Almond oil, Jojoba oil, Lavender oil, Melissa officanalis, Rose oil, etc.

1. Aloe vera [60]

Figure 4: Aloevera

Synonym: Kumari, Massabber

Biological source: Aloe vera is obtained from the leaves of *Aloe barbadenis* miller belonging to family of Liliaceae.

Chemical constituents: It contains the chemical constituents barbaloin, aloin, isobarbaloin, saponin choline, galacturonic acid, choline salicylate, etc.

Uses: Used in moisturizer, lotion, cream, hair tonics, etc.

2. Turmeric [6162]

Figure 5: Turmeric

Synonym: Curcuma, Haldi, Indian saffron, Haldar.

Biological source: Turmeric consists of dried as well as fresh rhizomes of plant known as Curcuma longa Linn. belonging to the family of Zingiberaceae.

Chemical constituents: It contains Curcuminoids., curcumin, eugenol, turmerin, turmerones, demeth- oxycurcumin, etc.

Uses: Dry rhizome power has been used as cosmetics since ancient period. Turmeric serves the activity of phosphorylase kinase. Used to prevent acne, psoriasis, premature aging and sun damage to the skin.

3. Tulsi [61]

Figure 6: Tulsi

Synonym: Holy basil.

Biological source: Tulsi consists of fresh and dried leaves of Ocimum sanctum belonging to family of Labiatae.

Chemical constituents: Tulsi leaves contain 0.7% volatile oil. Volatile oils contain 71% eugenol & 20% methyl eugenol, alkaloids, tannins, saponin, Citric acid and tartaric acid.

Uses: Tulsi has properties like skin brightening, skin tightening, anti- acne and it helps to remove scars and spots from face.

4. Methyl paraben [46]

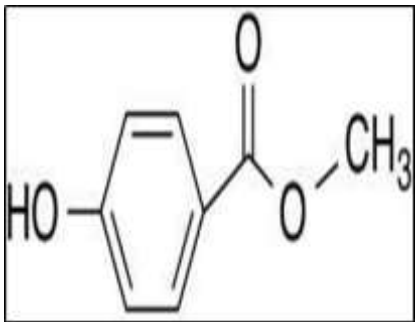

Figure 7: Methyl paraben

IUPAC Name: Methyl 4-hydeoxybenzoate ether Other name: Methyl paraben

Chemical formula: C8H8O Molar mass: 152.15 g/mol

Uses: Used in Cosmetics. Also used as a food preservative.

5. Triethanolamine [46]

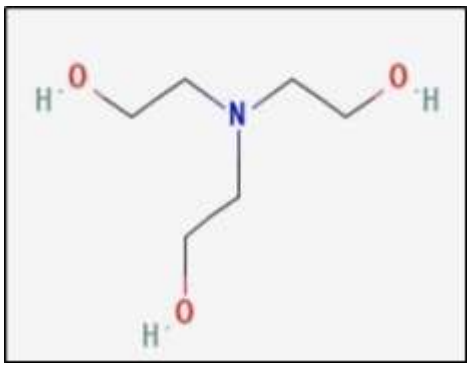

Figure 8: Triethanolamine

IUPAC name: Tris (2hydroxyethyl) Amine

Chemical formula: N(CH2CH2OH)3

Molar mass: 149.190 g/mol

Melting point: 21.6°C Boiling point: 335.40°C

Uses: Used as an emulsifier and surfactant in industrial and consumer products.

6. Lavender oil [63]

Figure 9: Lavender oil

Synonym: lavender oil

Biological source: It is obtained from Lavendula angustifolia, Lavendula latifula belonging to the family of Lamiaceae.

Chemical constituents: Contains essential oil like linaloid, camphor, limonene, tannins, coumarins and ciceole.

Uses: Used to treat spots, sun burns. It helps to avoid wrinkles, acne and hyperpigmentation.

7. Rose oil [63]

Figure10: Rose oil

Synonym: Rose otta.

Biological source: It is obtained from four species of roses, mainly Rosa damascena Mill., Rosa gallica Linn., R. centifolia L and R. moschata Herrm belonging to family Rosaceae.

Chemical constituents: It consists of the constituent like citronellol, nerol, neral, phenyl ethyl alcohol, linalool, rose oxide, eugenol, benzaldehyde.

Uses: Protect the skin from environmental damage, reduces the appearance of fine lines and wrinkles, and promotes a youthful complexion.

MARKETED PRODUCTS:

Figure 11: Marketed facewash

EVALUATION PARAMETERS:

1. Color: The color of formulation is visually checked [64].

2. Odour: The odour of formulation is checked by smelling it [65].

3. pH:

- Turn on the Digital pH meter.
- Use standard water to calibrate the water.

Figure 12: Digital pH Meter

The pH of 1% of aqueous solution of formulation is measured by using calibrated digital pH meter at constant temperature [23,65]

4. Viscosity:

The viscosity of formulation is determined by using Ostwald viscometer and Brookfield Viscometer [22,64].

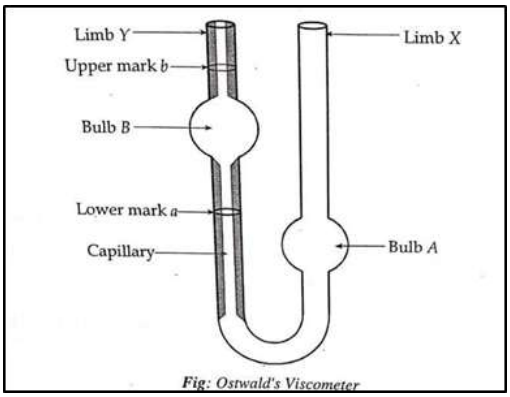

Figure 13: Ostwald and Brookfield Viscometer

5. Washability: The washability is determined by applying the formulation on hands and exposed to running water [66].

6. Foamability: Small amount of water taken in beaker containing water and its initial volume is noted. Shake the beaker 10-12 times. Observe the final volume and note it [67].

7. Homogeneity: The formulation should be smooth, uniform and free from particles [49]

8. Consistency: The formulation generates a liquid consistency, and it is visually observed [68].

9. Spreadibility: Spreadibility testing hardware is used to determine the spreadibility of a gel. It consists of a wooden square with a raised edge on one side. This technique is used to test the spreadibility of the gel in a 'slip' and 'drag' setting on a flat surface. To conduct the test, a 1 kg load is placed on the gel to prevent it from spreading with air bubbles. Any excess gel is then removed. Next, a 20 kg standard weight is attached to a pulley using a string connected to a hook. The time it takes for the weight to reach the end of the string is recorded, as well as the length of the spread gel [69]. Spreadibility is calculated by using following formula-

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

Where, S= Spreadibility.
L= Length moved by glass slide
M= weight in the skillet.
T= Time taken to isolate totally from one another.

10. Grittiness: The grittiness is determined if there are any gritty particles present in the formulation [12].

11. Skin irritancy test: Prepared formulation is applied on the skin square of 1 square cm and observed in equal intervals up to 24 hours for irritation, edema and redness [70].

12. Stability study: It is performed in a humidity chamber at 45°C and 75% relative humid- ity.

Their appearance and stability are checked according to a period of 3 months duration period [71].

CONCLUSION:

The facewash in market is crucial within the skincare industry, has driven by increasing the consumer's awareness of personal grooming and need for healthy skin maintenance. Face wash is a skincare formulation designed to nourish the facial skin. Recent evaluations of face wash products emphasize their efficacy in cleansing the skin while preserving its moisture levels. These products contribute to the reduction or elimination of blemishes, including pimples, spots, acne, and scars. Furthermore, they facilitate the cleansing process by effectively removing dirt, oil, makeup, and other impurities. Additionally, face washes assist in balancing the skin's pH and enhancing hydration.

REFERENCES

1. Sarah, V; Adhyapak, A; Naik, S; Singadi, R; Formulation and Evaluation of Moisturising Cream containing Coriandrum sativum (Coriander) extract; International Journal of Ayurve- dic Medicine ;14,4 ;1093-1098, 2023.
2. Dr.C.C Chatterjee; Human Physiology, Volume -2nd ;68,69,70,72,73.
3. Singh, H.P; Samnhotra, N; Gullaiya, S; Kaur, I; Anti-acne Synergistic Herbal Face Wash Gel: Formulation, Evaluation and Stability Studies; World Journal of Pharmaceutical Research; 4,9;1261-1273, 2015,
4. Shecori, S; Kher, M.M; Azagury, A; Drori, E; The Potential of Grapevine Leaf Extract in Treating Hyperpigmentation; Cosmetics 2024;11,2;1-17,2023.
5. Reddy, A K; Krishna, S: Bhavana, P; Preparation and Evaluation of fruit facewash; Interna- tional Journal of Research Phytochemistry and Pharmacology. 2019; 9(1): 1-5,2019
6. Mukherjee, S; Date, A; Patravale; V. Hans Christian Korting, H. C; Alexander Roeder, A; Weindl, G; Retinoids in the treatment of skin aging: An overview of clinical efficacy and safety; Clinical Interventions in Aging 2006:1(4); 327–348, 2015
7. Giri, V.P; Pandey, S; Gupta, S.C, Rao, C. V, Mishra, A; Facile Fabrication of Sandalwood Oil-Based Nanoemulsion to Intensify the Fatty Acid Composition in Burned and Rough Skin; ACS Omega 2024, 9; 6305−6315
8. Sembuligum, K; Sembuligum, P; Essential of Medical Physiological;7; 363,364,365,368.
9. Shreedevi, P; Fundamental Aspects of Anatomy; 23.
10. Ross and Wilson; Anatomy of Physiology in Health and Illness;2014, 12; 362
11. Bhagwat, J. D; Bagwe, G.G; Babar, H.D; Uppalwar, S; Herbal Medicinal Plant Used in Facewash for Skin Care; International Journal of Research Publication and Re-views;2024;5,1;1542-1554.
12. Joshi, M; Negi, D; Devi, H; Formulation and Evaluation of Herbal Anti-Acne Face Wash; In- ternational Journal of Pharmaceutical Science,2024;2,6;553-559.
13. Mithal, B.M; Saha, R. N; A handbook of Cosmetics; 12th reprint ,18,2016.
14. Pal, A; Nikam, P; Nimbalkar, A; Patil, P; A Review: Comparative Study on Facewash Gel and Tablet; International Journal of All Research Education and Scientific Methods; 10, 3;2174- 2181, 2022.
15. Raseed, A; Mohanalakshmi, S; Formulation and comparative evaluation of poly herbal anti- acne face wash gels; Pharmaceutical Biological; 49(8): 771-774,2011
16. Gautam, A; Upadhya, S; Formulation and Standardizaion of Polyherbal Face Wash Gel for Ance Management; Research Journal of

Pharmaceutical and Technology; 15(9); 3931-935,2022.
17. Jadhav, P.A; Formulation and Evaluation of anti-acne face wash gel; World Journal of Pharmacy and Pharmaceutical Science; 6(5);1514-1518, 2017.
18. Dharmik, P; Gomashe, A; Anti-acne Activity of toothpaste-An Emerging Pimple Treatment; International Journal of Chemical and Pharmaceutical Analysis; 1(4); 149-153,2014.
19. Gunjal, A; Hussain, F; Formulation and Eva of Poly-Herbal Anti- acne Facewash; International Journal of Pharmaceutical Sciences and Research;15(1);2320-5148, 2024.
20. Koli, D.S; Mane, A.N; Formulation and Evaluation of Anti- acne Face wash gel; World Jour- nal of Pharmacy and Pharmaceutical Sciences; 5(6); 2001-2007.
21. Ghotkar, M.N; Kharade, S.S; Chavan, R.S; Formulation and Evaluation of Herbal Facewash for Acne; Asian Journal of Pharmaceutical Analysis;8(4);183-185, 2018.
22. Kamble, S; Formulation and Evaluation of herbal facewash wash (2023).
23. Patel, K.K; Mehta, N J; Dhandhalia, M.C; Bhanupriy, A.K; Development and Evaluation of Herbal Anti-Acne Formulation; Research Journal of Pharmaceutical, Biological and Chemical Sci- ences; 3(3); 334-339, 2012
24. Rohmani, S; Dinda, K E; Formulation and evaluation of the cream made from Potassium azeloyl diglycinate as an anti-aging; Journal of Physics: Conference Series;1-12, 2021
25. Gaykar B; Ghute, R; Gadekar, D; A Review on Formulation and Evaluation of Ubtan Facewash; International Journal of Advanced Research in Science, Communication and Tech- nology; 3(1);14-20.
26. Phalle Jerusha; Dr. Ratnamala, K.V; An overview on Herbal Cosmetics and cosmaceuticals; International Journal of Pharmaceutical Sciences Review Research, 71(1),75-82,2021
27. Yadav N; Maury, N; Yadav, P; A Review on: Formulation and Development of Face wash; Journal of Emerging Technology and Innovative Research; 8(6);410-416,2021.
28. Mane. K; Dangare, A; Herbal Face wash of Cynodon Dactylon having Antimicrobial, Anti-inflammatory action; Pharmaceutics Reasonance;3(1);36-43, 2020.
29. Y. Bhagyasri; Sara, P. K; N. Siva Subramanian; Formulation and Evaluation of Poly Herbal Facewash Gel for Anti-Microbial Activity; World Journal of Pharmaceutical and Life Sciences; 3(7);104-107.
30. Aravindhan V; Niranjanasree, A.C; Krishnan P; Formulation and Evaluation of All Purpose Cream Using Box Behnken Design; International Journal of Research Publication and Reviews; 4(12); 568-595
31. Pandey, S; Meshya, N; D. Viral; Herbs Play an Important Role in the Field of Cosmetics; International Journal of Pharm Tech Research;2(1); 632-639.
32. Nair, S.S; Athira M. Raveendran; Drishya I.V; Preparation and Evaluation of Herbal Face wash Gel by Containing Cynodon dactylon; World Journal of Pharmacy and Pharmaceutical Sciences; 12(7); 1590-1601,2023.
33. M.S. Ashawat; Madhuri Banchhor; Saraf, S; Herbal Cosmetics: “Trends in Skin Care Formulation”; Pharmacognosy Reviews; 3(5); 82-89.
34. Karande, S.B; Mr. Akhare, T; Formulation of Evaluation of herbal facewash (Aelovera); International Journal of All Research Education and Scientific Methods; 9(12); 2105-2108.
35. Ventatachalam, D; Samuel Thavamani B; Vincy Varghese; Review on Herbal Cosmetics in Skin Care; Indo American Journal of

Pharmaceutical Science; 6(11); 781-789, 2019.
36. Koushik Das; Soumalya Da; Mr. Bhattacharya, S; Formulation and Evaluation of Herbal Face- wash Preventing Dermatological Problem; International Journal for Research in Applied Science & Engineering Technology; 11(4); 2216-2226.
37. Pachore, S M; Vishal Rasve; Formulation & Eva of Face Wash Containing Coffee Pow-der- EPRA International Journal of Multidisciplinary Resrarch; 10(5); 484-490.
38. Duhan P; Payal Kataria R; Formulation and Evaluation of Herbal Facewash: A Step Towards Nature and a Boon to Skin; International Journal of Newgen Research in Pharmacy & Healthcare; 1(1); 22-27.
39. More, P; Pawar, R; Kamble, R; Formulation and Evaluation of Herbal Facewash of Piper Betel; Russian Law Journal; 11(5); 1208-1219.
40. Rathod, S.S; Md. Adil Md. Salim; Formulation and evaluation of anti-acne herbal face Wash; International Journal of Pharmacognosy and Pharmaceutical Research;6(1); 32-40.
41. Sehgal, A; Maneesh Banyal, M; Formulation and Evaluation of Anti- herbal Facewash; International Journal of Advance Research and Innovative Ideas in Education; 9(2); 1652-1662.
42. Rokade, R. S; Vidhate, S. R; Formulation and development of herbal facewash using Beal leaves: Aegle marmelos; World Journal of Biology Pharmacy and Health Sciences; 17(01); 061– 074, 2024.
43. Tathe, S; Salunke, M; Naravde, K; Extraction Method for Ingredients of Herbal Face Wash; International Journal of Pharmaceutical Sciences Review and Research; 36-43.
44. Tiware, S. A; Warghane, K. K; A review on herbal face wash; International Journal of Pharmaceutical Chemistry and Analysis;10(4); 220-228, 2023.
45. Shaikh, A; Kedar, T; Shaikh, S; Shaikh, A; Formulation and Evaluation of Herbal Facewash; International Journal of Pharmaceutical Sciences; 2(6).
46. Reshmi K. S; Sreya T. C; Gogula Bhargava, G; A Review Article On: Herbal Facewash; World Journal of Pharmaceutical Research; 13(9)716-726.
47. Gaikwad, P. B; Kakade, S.A; Review on: On Overview of Face Wash with Comparative Study of Market Face Wash Products; International Journal of Research Publication and Reviews,4, (4);1792-1797;2023.
48. More, S.S; Patil, P.P; Khan, Z. K; Formulation and Evaluation of Activated Charcoal Facewash Gel by Using Ficus Racemore; International Journal of All Research Education and Scientific Meth- ods (IJARESM) ISSN: 2455-6211, Volume 12, Issue 5; 4728-4737, 2024.
49. Jaseer J J; Meera Ajay; Remya, S.B; Formulation and Evaluation of Liquid Based Face Wash; International Journal of Pharmaceutical Research and Applications; 7, (2);1533-1547, 2022.
50. Sowmya. K.V; Darsika. C; X. Fatima Grac; Form and Eva of a Poly herbal Face Wash Gel; World Journal of Pharmacy and Pharmaceutical Sciences; 4(6); 585-588.
51. Dr Maltee Patel; Dr Joshi, D; Dr Patel, M. K; Ayurveda's Contemporary Preventative Ap-proach to Skin and Hair Care-A Review Study; International Journal of Life science and Pharma Research; 13(6); 394-402.
52. Marathe, A.S; Maru, A.D; Bagul, T. P; A Comprehensive Review on Facewash; Research J. Topical and Cosmetic Science; 15(1):47-52, 2024.
53. H. A. Moharram; M. M. Youssef; Methods for Determining the Antioxidant Activity: A Re-view; Alexandria Journal of Food Science and Technology; 11(1) 31-42, 2014.

54. Pathak, R.K; The Article on Preservatives Use Ion Human Life; Research and Reviews: Journal of Hospital and Clinical Pharmacy; 7(2); 2021.
55. Ms. Indu Siva Ranjani; Dr. K. Ramamurthy; Relative assessment of density and stability of foam produced with four Synthetic surfactants; "Materials and Structures, RILEM";43 (10), 2010.
56. Miss. Chitte, M. G; Girase, S. B; Development and Evaluation on Hydrating Facewash with Dragon fruit; International Journal of Creative and Innovative Research In All Studies; 4(3);1-14, 2021.
57. Martha Srinivas; Dumpaty, S; Current Review on Herbal Face Care; International Journal of Pharmaceutical Sciences Review and Research; 67(2); 101-107,2021.
58. Ms. More, P; Choukhande, K; Khutwad, P; A Review on Herbal Face Wash; International Journal of All Research Education and Scientific Methods; 10(5); 2217-2222.
59. S.L Deore; S.S Khadabadi; Pharmacognosy and Phytochemistry A comprehensive Approach, 2nd edition, 519,520
60. Kokate, C. K; Purohit, A.P; Gokhale, S B; Pharmacognosy Nirali Prakshan, 51th edition; 9.9- 9.15, 2015.
61. J. S. Qadry; Pharmacognosy with 140 colors photographs, 17th edition; 212, 213, 519, 520, 522.
62. Sharma, L; Agarwal, G; Kumar,A; Medicinal plants for skin and hair care; Indian Journal of Traditional Knowledge; 2(1); 62-68, 2003.
63. Dr. Shinde, V.M; Mrs. K-S Bodas- Yadav; Herbal Drug Technology; 6.8,6.19.
64. Wagh, V; Mhaske, N; Preparation and Evaluation OF Marigold, Liquorice and Corange Peel Extract Containing Herbal Facewash; World Journal of Pharmaceutical Research; 4(12); 1808- 1812.
65. Shaikh, A; Kedar, T; Formulation and Evaluation of Herbal Face Wash; International Jour- nal of Pharmaceutical Science; 2(6); 539-546.
66. Dudhe, S.B; Watgure, N.V; Formulation and Evaluation of Anti Acne Herbal! Facewash; Journal of Critical Reviews; 4(6); 114-128, 2017.
67. Mr. Dukare, H. A; Mr. Desai, A. B; Proff Khade, P.P; "Formulation and Evaluation of Herbal Face wash Gel; International Journal of Advance Research and Innovative Ideas in Edu- cation; 10(3); 5349-5364.
68. Miss. Bhandari, S; Miss. Ghorpade, P; Mr. Garje, S; Review Article Comprehensive on Face- wash; International Research Journal of Modernization in Engineering Technology and Sciences; 6(3); 2277-2284.
69. Agarwal, N; Abhishek; Jindal, A; Herbal Components as an Advantageous Remedy for Pimple and Acne in Face-Wash: A Systemic Review; Current Research in Pharmaceutical Sci- ences 2023; 13 (01): 01-20.
70. Gaikwad, P.B; Kakade, S.A; Bodkhe, P; Dr. Sanap, G; Review on: On Overview of Face Wash with Comparative Study of Market Face Wash Products; International Journal of Research Publication and Reviews;4(4); 1792-1797.
71. Davuluri, M; Kaur, A; Formulation and Evaluation of Poly herbal Anti- acne fruit facewash gel; Future Journal of Pharmaceutical and Health. Sci. 2022; 2(1).

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