

COMPARATIVITY STANDARDIZATION STUDIES OF PATANJALI AND HIMALYA FACE WASH GEL: A RESEARCH

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ABSTRACT

Aloevera is the plant species to the genus Aloe and it belongs to the Asphodelaceae family. It is found in many consumer products including cosmetics, skin lotions, beverages or ointments for sunburns and minor burns. Himalya is a special formulation to give you clear and problem free skin or a soap free, daily use face wash gel to clean your skin by removing impurities and excess oil without over-drying. Neem, well-known for its antibacterial properties and purifying, kills problem-causing bacteria. When Neem combined with Turmeric, it helps to control acne and pimples leaving your skin soft, clear, refreshed and problem-free. The skin is the largest organ of the our body, count about 15% of the total adult body weight. To keep skin healthy, glossy and clear, a nutrition balanced is required. Patanjali

face wash has translucent Appearance but Himalayan face wash has transparent appearance. Both gives the smooth feel on application but Himalayan facewash is slippery too. pH of Patanjali and Himalayas face wash is 8.5 and 6 respectively. To keep the skin free from acne, it should have anti-oxidants, smoothing and moisturizing property. The plant have been reported in literature having good anti-inflammatory, antimicrobial, anti-oxidant, refreshing activity, dirt absorbent and cleansing agent.

KEYWORDS: Aloe Vera, Beauty & Health, Skin Structure, Material & Method.

INTRODUCTION

Aloevera is a plant species and it belongs to the genus Aloe. Aloevera belongs to the family Asphodelaceae. It is found in many consumer products including skin lotion, beverages, cosmetics, or ointments for sunburns and minor burns. There is scientific evidence of the safety or effectiveness of Aloe vera extracts for either medicinal or cosmetic purposes.^[1-2] Himalaya is a special formulation to give you clear and problem free skin or a soap-free, daily use face wash gel to clean your skin by removing impurities and excess oil without over-drying. Neem, well-known for its antibacterial properties and purifying, kills problem-causing bacteria. When Neem combined with Turmeric, it helps to control acne and pimples leaving your skin soft, clear, refreshed and problem-free. The skin is the largest organ of the our body, count about 15% of the total adult body weight. It performs many vital functions, including protection against external physical, biologic and chemical assailants, as well as it control excess water loss from the body and a role in thermoregulation. The skin is constant with the mucous membranes lining the body's surface.^[3] To keep skin healthy, gloosy and clear, a nutrition balanced is required. Apart from the nutrition balanced, hormonal changes occure during the puberty in both sexes cause many changes in the body.^[4] Among various changes, skin disorder is the most common. The pathogenesis of skin result of multifaceted processes within the pilosebaceous unit resulting inflammation and bacterial overgrowth. This condition typically develops at the time of the adolescence transition when changes in the body's hormonal after sebaceous follicle gland function. Initially the follicular epithelial cells differentiate the abnormally and form tighter intracellular adhesions and therefore, are shed less readily. This processes leads to the development of micromedones or hyperkeratotic plugs, which enlarge contemporary to form non-inflammatory, closed or open comedones.^[4-6]

STRUCTURE OF SKIN

Skin is the largest organ of the body that provides the outer protective wrapping for all the body parts. It is a waterproof, flexible and airtight barrier between the environment and internal organs. It helps to stablise the internal environment of our body. It is divided into 3 layers, epidermis, the dermis and the subcutaneous layer.^[7]

EPIDERMIS

The epidermis is the outer layer of the skin. It is a mosaic of cells glued together and its thickness depends on the location on the body. On the palms and soles the epidermis is

flexible and thick and resists mechanical injury. It is thin on the eyelids and allows maximum movement. The epidermis prevents loss of water and body fluids, resists mechanical and chemical injury and protects against viruses, bacteria and parasite infections. The pigment in the epidermis plays an important role in protecting the skin from ultraviolet radiation.

The hair follicles, sebaceous (oil) glands, sweat glands and apocrine glands develop from the epidermal cells, but their deeper parts extend into the dermis. The glands open onto the surface of the skin via small ducts.^[8]

There are 3 main groups of cells in the epidermis:

1. Keratinocytes (skin cells)
2. Melanocytes (pigment cells)
3. Langerhans cells (immune cells)

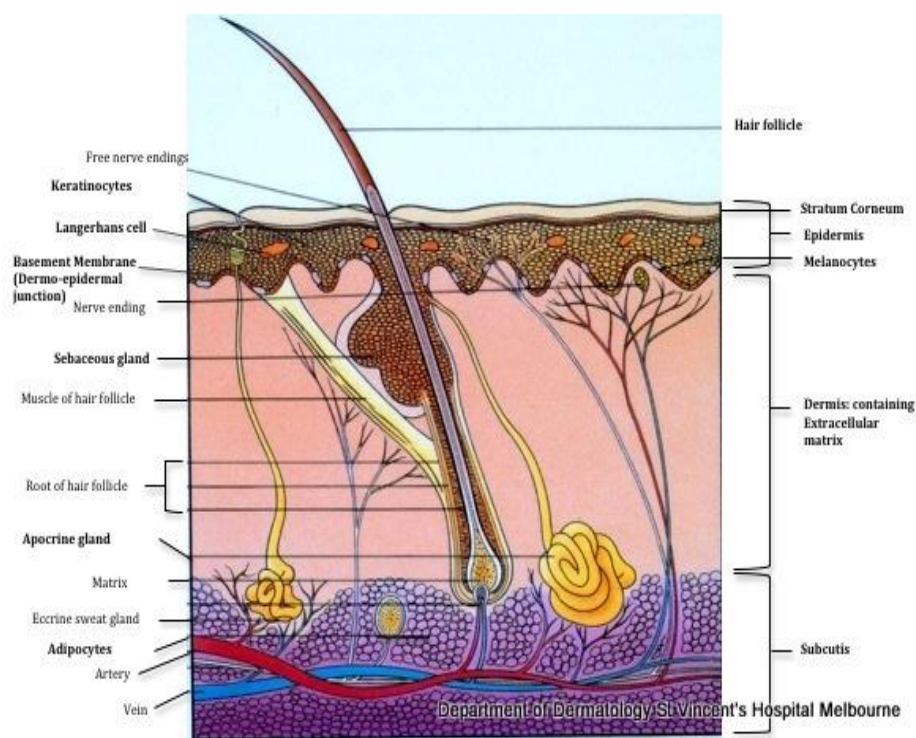


Figure 1: Structure of Skin.

DERMO-EPIDERMAL JUNCTION

Derm-epidermal junction is a complex region where the dermis and epidermis are attached to each other via specialised molecules and cells. It also contains the **basement membrane**.

DERMIS

Dermis is 20 to 30 times thicker than the epidermis and it lies beneath the epidermis and is. It is composed of a dense network of collagen and elastin organised into fibres of differing sizes and properties. The fibers surrounded the complex gel of different proteins. Within the extracellular matrix are blood and nerves, lymphatic vessels, the bottom part of the sweat glands and hair follicles.^[9]

SUBCUTANEOUS LAYER

Subcutaneous layer is a specialised area under the dermis, it contains a network of collagen fibres and fat cells. Subcutaneous layer helps to protects the body from insulates from cold and external trauma. It acts as a main storage site for fat as bwell as energy. There are many lymphatic and blood vessels and nerves passing through the subcutis. The thickness of the subcutaneous layer varies according to the body location and from person to person.^[10]

INGREDIENTS OF PATANJALI FACEWASH

Table 1: Ingredients of Patanjali Facewash.

S.NO.	INGREDIENTS	QUANTITY
1	Aloevera	50.0mg
2	Neem	0.5mg
3	Orange peel	5.0mg
4	Tulsi	0.5mg

Aloevera: Aloe vera is a plant species of the genus Aloe and belongs to Asphodelaceae family. Aloevera is cultivated for agricultural and medicinal use. It is widely used in the cosmetics, food and pharmaceutical industry, reduce constipation, reduce dental plaque, antibacterial and antioxidants properties, accerlerate the healing of burns, lowers blood sugar level and it may improve skin and prevent wrinkles.^[11-12]

Botanical name : Aloe barbadensis

Family : Asphodelaceae

Subfamily : Asphodeloideae

Kingdom : Plantae

Order : Asparagales



Figure 2: Aloe vera.

Neem : A greatest Asian tree having a bitter bark used as a tonic and, seeds and leaves that have insecticidal as well as antiseptic property and gives yield of a medicinal aromatic oil. Neem leaves generally refers to used in leprosy, eye disorders, loss of appetite, bloody nose, diseases of heart, intestinal worms, stomach upset, skin ulcers and blood vessels, fever, diabetes as well as liver problems. The leaf is also refers to cause abortion as well as in birth control. It is also used for antibacterial as well as antifungal activity.^[13]

Botanical name : *Azadirachta indica*

Family : Meliaceae

Kingdom : Plantae

Order : Sapindales



Figure 3: Neem.

Tulsi: Tulsi is generally refers to the most religious and medicinal plant. It is having various properties such as anti bacterial, anti inflammatory as well as anti-oxidant properties.^[14]

Botanical name : *Ocimum tenuiflorum*

Family : Lamiaceae

Kingdom : Plantae

Order : Lamiales



Figure 4: Tulsi.

Orange: Scientific name of Orange is *Citrus reticulata* belonging to rutaceae family is known for its anti-inflammatory and antioxidant properties. Maintain the natural balance of skin oil and tighten the skin by removing dead skin cells and absorbing excess oil.^[15]



Figure 5: Orange peel.

INGREDIENTS OF HIMALAYA FACE WASH

Aqua: This medication is used as a moisturizer to treat or prevent dry, scaly, rough, itchy skin and minor skin irritation (eg: diaper rash, skin burns from radiation therapy). Emollients are substances that moisturizes and soften the skin and decrease flaking and itching.



Figure 6: Aqua.

Ammonium Lauryl sulphate: When ammonium lauryl sulphate is reacted with ethylene oxide then it is used as skin cleanser and also used in hard water.^[16]



Figure 7: Ammonium Lauryl sulphate.

Stearic acid: When Stearic acid is used in cosmetics products, stearic acid primarily fulfils the role of hardner or thickner.



Figure 8: Stearic acid.

Glycerine: When glycerine is used in lotion or other skin care products, it helps prevent dry skin.^[17]

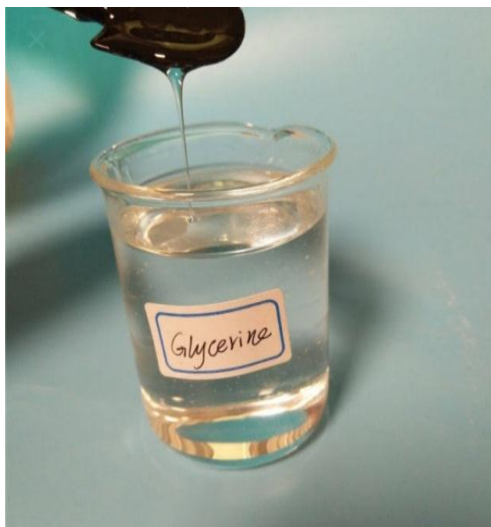


Figure 9: Glycerine.

Glycol stearate: Glycol stearate, glycol distearate is a white to cream-coloured waxy solid used to increase the thickness of certain cosmetics products and condition skin. It is used to reduce the transparent or clear appearance of cosmetics.^[18]



Figure 10: Glycol stearate.

Cucumis sativus fruit extract: Cucumis sativus (Cucumber) fruit extract is used in personal care products and cosmetics due to its skin-conditioning properties and anti-inflammatory.^[19]

Biological name Cucumis sativus

Kingdom Plantae

Order Cucurbitales

Family Cucurbitaceae



Figure 11: Curcumis sativus.

Cetyl alcohol: Cetyl alcohol is used in the cosmetics industry or as an emulsifier and emollient or thickening agent in the manufacture of lotions and skin creams.^[20]



Figure 12: Cetyl alcohol.

Xanthan gum: It is used as a stabilizing and thickening agent in foods, medicines and toothpaste.^[21]



Figure 13: Xanthan gum.

Phenoxyethanol: It is used as perfume fixative; an antiseptic; an insect repellent, a solvent for cellulose acetate, inks, dyes, and resins; a preservatives for a cosmetics and pharmaceuticals.^[22]



Figure 14: Phenoxyethanol.

Aloe barbadensis leaf extract: It is used as antibacterial property, Reduce constipation, Lowers blood sugar levels, Reduce dental plaque, May improve skin and prevent wrinkles.



Figure 15: Aloe vera.

Cetearyl alcohol: It can be used an emollient feel to the skin and can be used in oil-in-water emulsions, water-in-oil emulsions and anhydrous formulations.



Figure 16: Cetearyl alcohol.

Glyceral oleate: Glyceral oleate is the monoester of oleic acid and glycerine. Glyceral oleate used as emulsifier and non-ionic co-surfactant in various skin and hair care products.^[23]



Figure 17: Glyceral oleate.

Menthol: It is used to relieve pains and minor ache, such as muscle cramps, headache and similar condition, sprains, alone or combined with chemicals such as eucalyptus oil, camphor or capsaicin.^[24]

Disodium EDTA: Disodium EDTA used in personal care products and cosmetics and it is also found in skin care and cleansing products, conditioners, shampoos and bath soaps, hair dyes, hair bleaches and many other products.

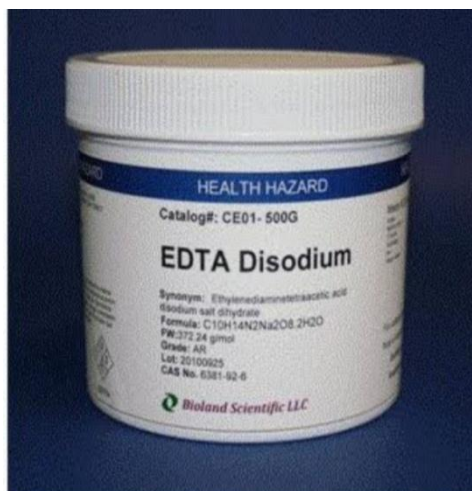


Figure 19: Disodium EDTA.

METHODOLOGY

The preparation of various evaluation parameters of face wash gel.^[25]

Colour :- The colour of the face wash gel was visually examine.

Odour :- The formulation was assign for its odour by smelling it.

Consistency :- It was determined manually.

Spreadability :- Weigh the 500 mg of the cream and was sandwiched between two slides. A weight of 100gm was placed on upper side. The weight was removed and extra formulation was removed. The lower slide was fixed on board of apparatus and upper slide was fixed with non flexible string on which 20gm load was applied. Time taken by upper slide to slip of was noted down.^[26]

Washability :- The face wash gel was applied on hand and was observed under running water.

Foamability :- Small amount of face wash gel was taken in a beaker containing water. Initial volume was noted and beaker was shaken for 10 times and the final volume was noted. Foamability was also examine by applying onto skin with contact with water.

pH :- At constant temperature, the calibrated digital pH meter is used to measure the pH 1% of aqueous solution of the formulation.^[27]

Irritancy :- The cream was applied on the outer side of the hand and observed in equal intervals upto 24hrs for irritancy, redness and edema.^[28]

RESULT

The color of facewash of patanjali was creamish whereas of Himalaya was light green. Odour of Himalaya facewash was characteristic and patanjali has sweet lemon odour. Patanjali

facewash has translucent Appearance but Himalayan facewash has transparent appearance. Both gives the smooth feel on application but Himalayan facewash is slippery too. pH of Patanjali and Himalayas facewash is 8.5 and 6 respectively.

Table 2: Determination of PH, Physical Properties.

Physical Parameters	PATANJALI	HIMALAYA
Colour	Cremish	Light green
Odour	Sweet Lemon	Characteristics
Appearance	Translucent	Transparent
Feel on application	Smooth	Smooth & slippery
pH	8.5	6

Spreadability of Himalaya facewash is excessive whereas patanjali has good spreadability. Consistency and Foamability of Himalaya facewash is low as that of patanjali because it has both high Consistency and foamability. Patanjali facewasah is easily washable as compared to that of the Himalaya as it not easily washable.

Table 3: Spreadability, Consistency, Washability, Foamability of Developed Face Wash Gel.

Formulation	Spreadability	Consistency	Washability	Foamability
Himalaya	Excess	Low	Washable	Low
Patanjali	Good	High	Eashily washable	High

CONCLUSION

Herbal formulation share good demand in the world market. It is very good attempt to establish the herbal face wash containing aqueous extract of aloe vera, neem leaves extract of orange peel, tulsi. The plant have been reported in literature having good anti-inflammatory, antimicrobial, anti-oxidant, refreshing activity, dirt absorbent and cleansing agent. The marketed formulations of face wash gels are prepared by using varied concentration of extract prepared marketed formulation where evaluated for various parameters like colour, odour, appearance, consistency, pH and spreadability, washability, skin irritation. After evaluation study show that both formulation gives good marketed formulation and they does not show any side effect or skin irritation.

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