INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: https://www.ijpsjournal.com

OPEN ACCESS

Research Article

Preparation And Evaluation of Shankhini-Bilva Face Gel

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ARTICLE INFO

Published: 23 June 2025
Keywords:
evaluation, including organoleptic testing, pH analysis, viscosity, Spreadability, homogeneity, washability, and stability studies
DOI:
10.5281/zenodo.15720282

ABSTRACT

This research project involves the preparation and evaluation of herbal face gel with a primary focus on two potent Ayurvedic herbs: Shankhpushpi (Convolvulus pluricaulis) and Beal (Aegle marmelos). Shankhpushpi, traditionally known for enhancing memory and reducing stress, also exhibits significant anti-inflammatory, anti-aging, antioxidant, and hair growth-promoting properties due to the presence of triterpenoids, flavonoids, and alkaloids. Beal, a sacred plant in Indian medicine, possesses anti-microbial, anti-dandruff, wound-healing, and skin-nourishing properties, thanks to its rich content of flavonoids, alkaloids, and essential oils. The face gel was formulated using aloe vera gel as a base, incorporating extracts of Shankhpushpi flowers, Beal leaves, turmeric, orange peel, honey, and other natural ingredients. Guar gum and glycerin were used as gelling and moisturizing agents, respectively. Also, for preparation of the extract traditional method like double boiling and solvent extraction method is used. Herbal face gel underwent comprehensive evaluation, including organoleptic testing, pH analysis, viscosity, Spreadability, homogeneity, washability, and stability studies. Results showed that Herbal face gel were non-irritant, easily spreadable, stable, and pleasant in texture and aroma, with pH values suitable for skin. Therapeutically, the face gel helps in reducing acne, wrinkles, pigmentation, and inflammation, while also enhancing hydration and skin texture. These findings support the potential of Shankhpushpi and Beal-based herbal formulations as safe, effective, and eco-friendly alternatives to synthetic cosmetic products.

INTRODUCTION

Shankhpushpi (Convolvulus Pluricaulis – Family Convulvulaceae) is an indigenous and most significant herbal plant in Ayurveda. Shankhpushpi is a medicinal plant which is perennial prostrates or sub erect spreading hairy herb 10-30 cm long with simple and alternate leaves that seems like morning glory. It is prostrate and can be more than 30 cm long, flowering and fruiting takes place from June to September. Besides C. pluricaulis, Evolvulus alsinoides Linn,

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Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Clitoria ternatea Linn and Canscora decussata Schult are also considered as Shankhpushpi in different parts of the country. For medicinal purpose, whole plant of Shankhpushpi is used. It has branched cylindrical roots. The stem is slender, cylindrical, about 1–2 mm in thickness. The chemical constituents in Shankhpushpi consist of carbohydrate- D-glucose, rhamnose, maltose, sucrose and starch. It also contains proteins, amino acids and alkaloids-convolvine, convolamine, confoline, phyllabine, convolidine, convoline, convosine, subhirsine and convolvidine along with fatty acid and wax constituents, hydrocarbons, aliphatic groups and sterol and certain other biochemicals which include scopoletin, glacial acetic acid, three coumarins, β-sitosterol, kaempferol, tropane alkaloids, linoleic acid, palmitic acid and straight chain hydrocarbon hextriacontane, 20-oxodotriacontanol, tetratriacontanoic acid and 29-oxodotriacontanol. Shankhpushpi herb that is use for medicinal benefits. It helps to enhance memory, anti-stress, anti-anxiety, anti-depressant, anti-oxidant, anti-convulsant, anti-diabetic, weight loss, anti-wrinkle, anti-acne, wound healing, anti-aging, anti-inflammatory, anti-microbial, promotes hair growth, reduces hair fall, improves blood circulation, boost metabolism, improve eyesight, pain reliever, low high blood pressure, anti-microbial, anti-fungal, anti-ulcer, hypolipidemic, analgesic, neurodegenerative, tranquillizing, natural dye, better sleep, decrease cholesterol.

1. Introduction Of Gel

Gels are defined as semi-solid preparation that contains small inorganic particles or large organic molecules interpenetrated by a liquid. It is a system in which the movement of the dispersing medium is restricted by an inter lactating three dimensional network of particles or solvated macromolecules of the dispersed phase. The clarity range is from clear to a whitish trans-lucent. The polymers are used between0.5-15% and in most of the cases they are usually at the concentration between 0.5-2%. Gels are usually, clear, transparent, semisolids containing the solubilized active substances. The face gel is the powerful anti-aging formula rich in herbal extracts that helps in skin lifting, wrinkle reduction, pore minimization and mopping up of free radicals. The herbal gel which is applied on the face to treat acne, pimples, scars, marks, and pigments are known as ‘mocha leap’ in ayurveda.

- Gels that contain water are called as ‘Hydrogels’.
- Gels that contain an organic liquid are called as ‘Organogels’.

Gelling Agent:

These are substance when added to an aqueous mixture, increase its viscosity without substantially modifying its other properties.

Types of Gelling Agents:

1. **Natural Polymers:** Aloe vera, Guar gum, acacia, tragacanth, carrageenan, pectin, agar, alginic acid protein, polysaccharides.

2. **Semi-synthetic Polymers:** Cellulose derivatives, methylcellulose, hydroxyethyl cellulose, hydroxypropyl methylcellulose, carboxymethylcellulose.

3. **Synthetic Polymers:** Carbomer 934

2. Introduction Of Skin

The skin is body’s largest organ which covering its entire external surface. It contains body weight up to 16%. It acts as protective barrier, regulates temperature, provide sensory input.

Structure:

Human skin shares anatomical, physiological, biochemical and immunological properties with other mammalian lines, especially pig skin. Pig skin shares similar epidermal and dermal thickness ratios to human skin, similar hair follicle and blood vessel patterns, similar biochemically the dermal collagen and elastin content, similar physical responses to various growth factors. Skin has mesodermal cells, pigmentation, such as melanin provided by melanocytes, which absorb some of the potentially dangerous ultraviolet radiation (UV) in sunlight. It also contains DNA repair enzymes that help reverse UV damage, such that people lacking the genes for these enzymes have high rates of skin cancer.

1) Epidermis:

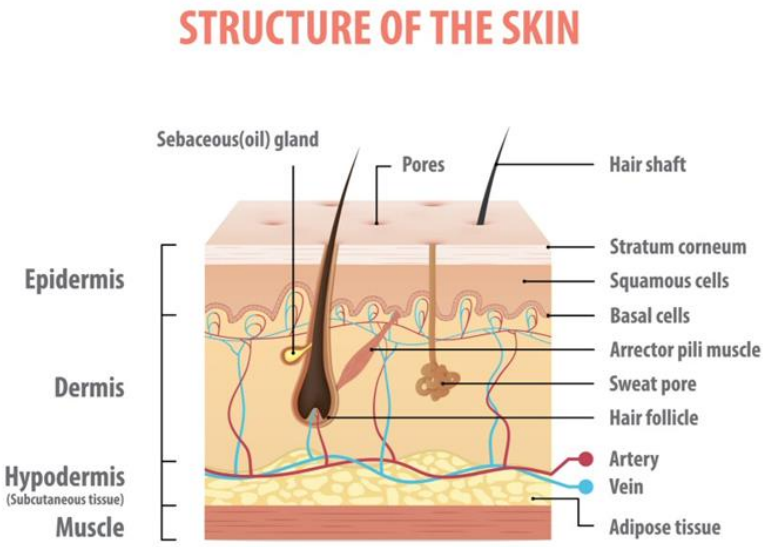

Fig 1: Structure of skin

The epidermis is the strong, superficial layer that serves as the first line of protection against the outer environment. The human epidermis is composed of stratified squamous epithelial cells, which further break down into four to five layers they are stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum and stratum basale. Where the skin is thicker, such as in the palms and soles, there is an extra layer of skin between the stratum corneum and the stratum granulosum, called the stratum lucidum. The epidermis is regenerated from the stem cells found in the basal layer that develop into the corneum. The epidermis itself is devoid of blood supply and draws its nutrition from its underlying dermis.

Its main functions are protection, absorption of nutrients, and homeostasis. In structure, it consists of a keratinized stratified squamous epithelium; four types of cells:

- Keratinocytes
- Melanocytes
- Merkel cells
- Langerhans cells

The predominant cell keratinocyte, which produces keratin, a fibrous protein that aids in skin protection, is responsible for the formation of the epidermal water barrier by making and secreting lipids. The majority of the skin on the human body is keratinized, with the exception of the lining of mucous membranes, such as the inside of the

mouth. Non-keratinized cells allow water to "stay" a top the structure.

Sub-layers: -

The epidermis is divided into the following 5 sublayers:

- Stratum corneum
- Stratum lucidum
- Stratum granulosum
- Stratum spinosum
- Stratum basale

2) Dermis: -

The dermis is the underlying connective tissue layer that supports the epidermis. It is composed of dense irregular connective tissue and areolar connective tissue such as a collagen with elastin arranged in a diffusely bundled and woven pattern.

The dermis has two layers: -

- The papillary layer
- The reticular layer

- **Papillary Layer: -**

The papillary region is composed of loose areolar connective tissue. It is named for its finger- like projections called papillae, which extend toward the epidermis. The papillae provide the dermis with a "bumpy" surface that interdigitates with the epidermis, strengthening the connection between the two layers of skin. In the palms, fingers, soles, and toes, the influence of the papillae projecting into the epidermis forms contours in the skin's surface. These epidermal ridges occur in patterns (see: fingerprint) that are genetically and epigenetically determined and are therefore unique to the individual, making it possible to use fingerprints or footprints as a means of identification.

- **Reticular Layer: -**

The reticular region lies deep in the papillary region and is usually much thicker. It is composed of dense irregular connective tissue, and receives its name from the dense concentration of collagenous, elastic, and reticular fibres that weave throughout it. These protein fibres give the dermis its properties of strength, extensibility, and elasticity. Also located within the reticular region are the roots of the hairs, sebaceous glands, sweat glands, receptors, nails, and blood vessels. Tattoo ink is held in the dermis. Stretch marks, often from pregnancy and obesity, are also located in the dermis.

3) Hypodermis: -

The hypodermis, otherwise known as the subcutaneous layer, is a layer beneath the skin. It invaginates into the dermis and is attached to the latter, immediately above it, by collagen and elastin fibers. It is essentially composed of a type of cell known as adipocytes, which are specialized in accumulating and storing fats. These cells are grouped together in lobules separated by connective tissue.

Function:

Sensation: For the detection of stimuli of temperature, touch, pressure, and pain there are numerous receptors and nerve endings present on the skin.

Protection: The skin acts as a physical barrier which helps in protecting the deep-seated organs and tissues from microbial invasion, dehydration, UV radiation, and physical absorption.

Thermoregulation: An increase in body temperature results in sweating and when this sweat gets evaporated from the skin surface, it cools the body (lowers the body temperature). On

the other hand, in case of decreased body temperature sweat production gets reduced which helps in the conservation of heat in the body.

Immunity: It provides immunologic information obtained during antigen processing to the appropriate effector cells in the lymphatic tissues.

Excretion: The sweat released from skin excretes out the toxic substances, ions, and several other compounds.

Blood Reservoir: The dermis is highly vascularised. In resting stage, the blood vessels in the skin of an adult carry about 8-10% of the total blood volume. At the time of vigorous activity, the rate of blood flow increases, thus leading to dissipation of extra body heat.

Drug Delivery Route: Skin acts a route for delivery of drugs (transdermal patches). The transdermal drug delivery system involves the absorption of drug through systemic circulation by transdermal patches. The lipid soluble drugs and substances with low molecular weight easily permeate through the skin, e.g., nitroglycerin, hormones, scopolamine, nicotine, etc.

Endocrine Function: Skin helps in biosynthesis of Vitamin D. Ultraviolet light is essential for the first stage of Vitamin D formation

3. Medicinal Plants Used in Herbal Face Gel

3.1 Shankhpushpi

Figure 1: Shankhpushpi

- **Synonyms:** Shankhini, Aparajita, Vishnukranta, Shankhava, Speedwheel
- **Scientific Name:** Convolvulus pluricaulis
- **Biological Source:** Whole plant of convolvulus pluricaulis linn.
- **Family:** Convolvulaceae
- **Geographical Source:** Plant found in India, Sri Lanka, Myanmar, Burma
- **Chemical Constituents:**

- **Alkaloids:** Convolamine, convolidine, confoline, phyllabine, convoline, convosine, subhirsine, and convolvidine.
- **Flavonoids:** Kaempferol.
- **Phenolics:** Scopoletin, ß-sitosterol, and ceryl alcohol.
- **Other Compounds:**

  - **Carbohydrates:** D-glucose, rhamnose, maltose, sucrose, and starch.
  - Proteins and Amino Acids.

- **Fatty Acids:** Palmitic acid, linoleic acid, and myristic acid.
- **Sterols:** Phytosterols.
- **Hydrocarbons:** Hexatriacontane, 20-oxodotriacontanol, tetratriacontanoic acid, and 29-oxodotriacontanol.
- Coumarins.
- Cinnamic acid.
- Ascorbic acid.
- Vitamin E.
- Phthalic acid.
- Squalene.
- Silane.

➢ **Uses:**

- Enhance memory, anti-stress, anti-anxiety, anti-depressant.
- Anti-oxidant.
- Anti-convulsant.
- Anti-diabetic.
- Weight loss.
- Anti-wrinkle, anti-acne, wound healing, anti-aging, anti-inflammatory, anti-microbial.
- Promotes hair growth, reduces hair fall, improves blood circulation.
- Boost metabolism.
- Improve eyesight.
- Pain reliever.
- Low high blood pressure.
- Natural dye, better sleep, decrease cholesterol.

3.2 Beal

Figure 2: Beal

➢ **Synonyms:** Golden Apple, Stone Apple, Wood Apple, Bilva, Holy Fruit

➢ **Scientific Name:** Aegle marmelos

➢ **Biological Source:** Whole plant of Aegle marmelos linn.

➢ **Family:** Rutaceae

➢ **Geographical Source:** Plant found in India, Bangladesh, Thailand, Indo-China

➢ **Chemical Constituents:**

- **Alkaloids:** Aegeline, marmeline, halfordinol, and anhydromarmeline.
- **Flavonoids :** Rutin, glycosides.
- **Phenolics :** Caffeic acid, arbutin, and p-coumaric acid.
- **Terpenoids :** Alpha-phellandrene and p-cymene.
- **Coumarins:** Scopoletin and umbelliferone.
- **Other Compounds:** Esterols, glycosides, cinnamamides, and phenylpropenoids.
- **Essential Oils:** Bael leaves contain essential oils

- **Other nutrients:** Bael is packed with essential nutrients such as vitamins A, C and E, along with minerals like calcium, potassium and magnesium.

➢ **Uses:**

- Control cholesterol.
- Relieve constipation.
- Increase breast milk.
- Purify blood.
- Control diabetes.
- Anti-microbial and Anti-inflammatory.
- Good for cardiovascular health.
- Hydrates, detoxifies, radioprotective action in skin.
- Promotes hair growth, reduce dandruff, strengthening hair.

3.3 Aloe Vera

Figure 4: Aloe Vera

➢ **Synonyms:** Aloe, Musabbar, Kumari.

➢ **Scientific Name:** Aloe barbadensis miller.

➢ **Biological Source:** Aloes is the dried juice of the leaves of *Aloe barbadensis* Miller, known as Curacao aloes.

➢ **Family:** Liliaceae

➢ **Geographical Source:** Aloe is indigenous to eastern and southern Africa and grown in Cape colony, Zanzibar and islands of Socotra. It is also cultivated in Caribbean islands, Europe and many parts of India, including North West Himalayan region.

➢ **Chemical Constituents:**

- All the varieties of aloe are the major sources of anthraquinone glycosides.
- The principal active composition of aloe is aloin, which is a mixture of glucosides, among which barbaloin is the chief constituent.
- It is chemically aloe-emodin anthrone C - 10 glucoside and it is water soluble.
- Barbaloin is a C-glycoside and it is not hydrolysed by heating with dilute acids or alkalis.
- Ferric chloride decomposes barbaloin by oxidative hydrolysis into aloe-emodin anthrone, little aloe emodin and glucose.
- Along with barbaloin, aloes also contain isobarbaloin, B-barbaloin, aloe-emodin and resins.
- The drug also contains aloetic acid, homonataloin, aloesone, chrysophanic acid, chrysamminic acid, galactouronic acid, choline, choline salicylate, saponins, mucopolysaccharides, glucosamines, hexuronic acid, coniferyl alcohol, etc.
- The amount of barbaloin in different commercial varieties varies to a large extent.
- Curacao aloes contain about 22 per cent of barbaloin. Indian variety, generally Aloe vera, contains very less quantity (3.5 - 4 per cent).

- Curacao aloes contain two and half times quantity of aloe-emodin, as compared to Cape-aloe-emodin.

- The resin of aloe principally contains aloesin. It is a type of a C-glucosyl chromome and aloesin is also responsible for purgative action of aloes.

➢ **Uses:**

- Anti-oxidant and Anti-bacterial.
- Wound healing.
- Reduce constipation.
- Improve skin and prevent wrinkles.
- Help in acne, eczema, psoriasis.
- Lower blood sugar level
- In tooth decay
- Promote hair growth, sooth scalp, moisturize hair.
- Heals burns.

3.4 Turmeric

Figure 5: Turmeric

➢ **Synonyms:** Haldi, Curcuma.

➢ **Scientific Name:** *Curcuma longa* linn.

➢ **Biological Source:** It is the dried rhizome of *Curcuma longa* linn.

➢ **Family:** Zingiberaceae

➢ **Geographical Source:** South Asia, India, Indonesia, China

➢ **Chemical Constituents:**

- Turmeric contains Curcumin along with other constituents known as Curcuminoids.

- Curcumin (curcumin I)

- Demethoxycurcumin (curcumin II)

- Bisdemethoxycurcumin (curcumin III)

- Cyclocurcumin

- Commercial curcumin contains curcumin I (77%), curcumin II (17%) & curcumin III (3%).

➢ **Uses:**

- Anti-inflammatory and Anti-oxidant.
- Anti-cancer.
- Protects heart disease.
- Prevent diabetes.
- Reduce anxiety and depression.
- Anti-aging.
- Reduce acne, dark spots.
- Promote natural glow.
- Improve skin texture.

3.5 Orange Peel Powder

Figure 6: Orange Peel Powder

- **Synonyms:** Citrus fruit, Tangerine, Mandarin
- **Scientific Name:** Citrus sinensis.
- **Biological Source:** Outer layer of the fruit of the orange fruit, specifically Citrus sinensis
- **Family:** Rutaceae
- **Geographical Source:** India, China, Myanmar
- **Chemical Constituents:**

- **Carotenoids:** Beta-carotene, lutein, and beta-cryptoxanthin.
- **Flavonoids:** These are a group of plant polyphenols that contribute to flavour and colour, with naringenin being a prominent example.
- **Volatile Organic Compounds:** These compounds create the characteristic orange aroma and include aldehydes, esters, terpenes, alcohols, and ketones
- **Essential Elements:** Pectin, Vit C, limonoids, Selenium (Se), manganese (Mn), iron (Fe), copper (Cu), nickel (Ni), cobalt (Co), chromium (Cr), vanadium (V), lithium (Li), phosphorus (P), strontium (Sr), magnesium (Mg), potassium (K), sodium (Na), and calcium (Ca)

- **Uses:**

- Help prevent cancer.
- Help with weight loss.
- Improve lung health.
- Improve heart health.
- Anti-oxidant and Anti-bacterial.
- Natural exfoliant, reduce large pores.
- Reduce acne and brightening skin.
- Add shine to hair
- Anti-dandruff
- Promote hair fall.
- Improve hair strengthens.

3.6 Guar Gum

Figure 7: Guar Gum

- **Synonyms:** Guar flour, Jaguar gum.
- **Scientific Name:** Cyamopsis tetragonoloba.
- **Biological Source:** Guar gum is powder endosperm of seed of Cyamopsis tetragonoloba.
- **Family:** Leguminosae
- **Geographical Source:** Gujarat, Maharashtra, Karnataka, Rajasthan, Pakistan
- **Chemical Constituents:**

Carotenoids: Beta-carotene, lutein, and beta-cryptoxanthin.

- At least 75% of the endosperm solids are composed of galactose, mannose, polysaccharide.
- The rest 12% consist of pentosan, protein, phytin.

- **Uses:**

- Use to thicken and stabilize various products.
- Prevent separation of ingredients.
- Bind ingredients together.
- Food industry.
- Cosmetics.

3.7 Honey

Figure 8: Honey

➢ **Synonyms:** Madhu, Makarand, Sahed

➢ **Chemical Constituents:**

Honey is a mixture of carbohydrates, proteins, amino acids, vitamins, minerals, antioxidants and other compounds. It consists number of enzymes, including invertase, glucose oxidase, catalase, and acid phosphorylase. Honey also contains eighteen free amino acids, in which the most abundant is proline. The main group of antioxidants in honey are the Flavonoids, of which, pinocembrin is unique to honey and bee propolis. Naturally darker honey has greater antioxidant properties in it. Acetic, butanoic, formic, citric, succinic, lactic, malic, pyroglutamic, gluconic acids, and a number of aromatic acids are found in honey. Bee's honey is almost free of cholesterols. It also contains trace amounts of the vitamins B2, B4, B5, B6, B11 and vitamin C. Also, Minerals like calcium, iron, zinc, potassium, phosphorous, magnesium, selenium, chromium and manganese are found in honey.

➢ **Uses:**

- For cold and sore throat
- For weight loss and sleep
- Improve cholesterol levels
- Decrease risk for heart
- Anti-microbial and Anti-oxidant
- Treat burn, wound healing
- Acne treatment, reduce dark spots
- Promoting skin hydration and moisturizing
- Anti-aging,

4. Preparation Of Extracts for Herbal Face Gel

4.1 Shankhpushpi Flower Extraction

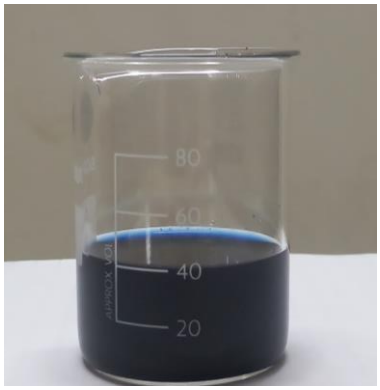

Figure 9: Shankhpushpi Flower Extraction

- Fresh Shankhpushpi flower was collected and washed gently to remove dirt or impurities.
- About 5 gm of flowers were dissolve in 100 ml of distilled water.
- The extract was prepared by using Double boiling method.
- The solution was filtered using muslin cloth and filtered solution was evaporated to dryness on water bath or heating mental machine.

- The extract was cooled down and transferred into an airtight container and stored in a cool place.

4.2 Beal Leaves Extraction

Figure 10: Beal Leaves Extraction

- Transfer Beal leaves in 250 ml conical flask.
- Add 20 ml of methanol and 40 ml of water.
- Cork the flask and heat on water bath for 15 minutes with continuous stirring.
- Filter it out and collect the filtrate in porcelain dish.
- Evaporate to dryness on heating mental machine or water bath.

4.3 Turmeric Powder Extraction

Figure 11: Turmeric Powder Extraction

- Fresh Turmeric Powder taken and sun dried to remove moisture for 1 hour.
- About 5 gm of powder was dissolve in 100 ml of ethanol.
- The extract was prepared by using Double boiling method.
- The solution was filtered using muslin cloth and filtered solution was evaporated to dryness on water bath or heating mental machine.
- The extract was cooled down and transferred into an airtight container and stored in a cool place.

4.4 Aloe Vera Extraction

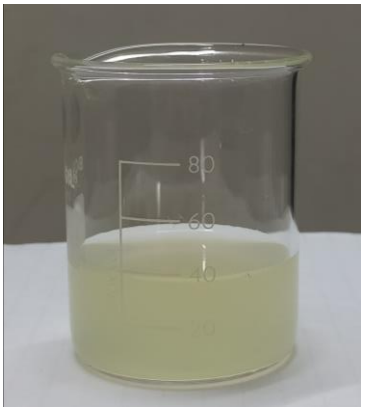

Figure 12: Aloe Vera Extraction

- Collect the mature and fresh Aloe Vera leaf and wash it with distilled water and dried it in hot air oven.
- Fresh leaf is dissected longitudinally by sterile knife. Semi solid Aloe Vera is collected then remove fibers and impurities.
- The extract was prepared by using Double boiling method for 10 minutes.
- The solution was filtered using muslin cloth and filtered solution was evaporated to dryness on water bath or heating mental machine.

- The extract was cooled down and transferred into an airtight container and stored in a cool place.

4.5 Orange Peel Extraction

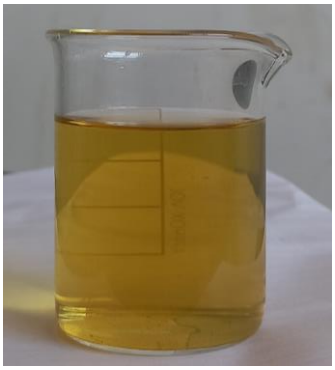

Figure 13: Orange Peel Extraction

- Fresh Orange Peels collected and washed gently to remove dirt or impurities
- The peels were sun dried for few days and ground peels into powder using grinder.
- About 5 gm of powder was dissolve in 100 ml of distilled water.
- The extract was prepared by using Double boiling method.
- The solution was filtered using muslin cloth and filtered solution was evaporated to dryness on water bath or heating mental machine.
- The extract was cooled down and transferred into an airtight container and stored in a cool place.

5. Procedure For Preparation Of Herbal Face Gel

- Collected semi-solid Aloe vera is grind to make smooth slurry and boil at low temperature for 10 min, cool it at room temperature.
- Mix all the herbal extract like Shakhpushpi flower extract, Beal leaves extract, Turmeric powder extract, Orange peel extract and Honey in Aloe vera extract.
- Guar gum gelling agent dissolve in Glycerin and mix gently to ensure that it swells and form base.
- Slowly add Aloe vera extract which contain all extracts to the gelling agent base, stirring continuously to prevent lumps.
- Include preservative like Geogard ultra to extend shelf life.
- Also add Essential oil for a fragrance.
- Allow gel to store at room temperature and then pour it in a clean, airtight container.

5.1 Quantity and Uses of Ingredients in Herbal Face Gel

Table 1: **Quantity and Uses of Ingredients in Gel**

Ingredients	Quantity	Uses
Aloe vera	60.0 ml	Soothing and hydrating
Shankhpushpi flower	10.0 ml	Anti-aging and calming
Beal leaves	10.0 ml	Anti-inflammatory and wound healing
Orange peel	5.0 ml	Anti-oxidant and brightening
Turmeric	2 ml	Skin-bright & antioxidant
Honey	4.0 ml	Anti-bacterial and humectant
Glycerine	4.0 ml	Moisturizer and humectant

Guar gum	5.0 gm	Thickening agent
Essential oil	0.5 ml	Fragrance
Gegard ultra	1.5 ml	Preservative

5.2 Evaluation Parameters of Herbal Face Gel

1) **Morphological evaluation:** This refers to the manual evaluation of the cream's physical characteristics based on its colour, odour, texture, etc.

2) **pH test:** Take about 1 gm and dilute with distilled water until the solution is a thinner, evenly dispersed liquid. At this point the pH can be measured with pH papers.

3) **Stability test:** A month-long stability test is conducted temperatures, including room temperature and 40` C, on the developed formulation by storing it at various the formulation is examined for physical traits such as temperatures. While being maintained at various colour, odour, pH, consistency, etc.

4) **Irritancy test:** Mark the area ($1cm^2$) on the left-hand dorsal surface. Then the gel was applied to the area and the time noted. After interval up to 24hr. it is checked for irritant effect.

5) **Washability test:** Wash ability test was carried out by applying a small amount of cream on the hand and then washing it with help of tap water.

6) **Phase separation:** Prepared cream is kept in tightly closed container at room temperature away from sunlight and observed for 24hrs to 30 days for phase separation.

Table 2 : Evaluation Parameters of Gel

Parameter	Result
Colour	Dark Purple
Odour	Lavender
Texture	Smooth
State	Semi-solid
Irritancy	Non irritant
Spreadability	Easily spreadable
Washability	Easily washable
Phase separation	No observed
PH test	4.5
Stability test	Stable

5.3 Uses of Herbal Face Gel

- **Anti-acne and Anti-wrinkle Shankhpushpi** and Beal helps in reducing acne, pimples and fine lines.
- **Anti-aging:** Shankhpushpi promotes youthful skin by fighting free radicals.
- **Wound healing and Scar reduction:** Beal healing of skin injuries.
- **Moisturizing and Hydration:** Aloe vera keeps skin soft, hydrated and smooth.
- **Brightening and Exfoliation:** Orange peel and turmeric helps in improve complexation and reduce dark spots.
- **Improve skin texture:** Enhance the feel and appearance of skin.
- **Pore minimization:** Tightens and refines skin pores.
- **Anti-microbial and Anti-inflammatory:** Protect against bacterial and fungal infection also reduce inflammation and irritation.
- **Cooling and Soothing:** Aloe vera gel and Honey soothe and cool irritated skin.

- **Anti-oxidant:** Neutralizes harmful free radicals on skin.

CONCLUSION

The present study successfully demonstrated the preparation and evaluation of a herbal face gel formulated using natural plant extracts. The incorporation of herbal ingredients such as [insert specific herbs used, *e.g. Aloevera, Shankhpushpi and Beal*] into a gel base provided an effective, non-greasy, and cosmetically acceptable formulation suitable for topical application. The formulation was evaluated for various physicochemical parameters including pH, viscosity, spreadability, and stability, all of which were found to be within acceptable limits. Additionally, pH test & Stability are performed Overall, the study supports the use of herbal extracts in skincare formulations, emphasizing the potential of natural ingredients in promoting skin health while minimizing side effects commonly associated with synthetic agents. The formulated herbal face gel thus offers a promising alternative for consumers seeking effective, affordable, and safe cosmetic products derived from traditional medicinal plants.

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HOW TO CITE: Saloni Prajapati*, Vaibhav Patil, Mariya Ghanchi, Preparation and Evaluation of Shankhini-Bilva Face Gel, Int. J. of Pharm. Sci., 2025, Vol 3, Issue 6, 3580-3594. https://doi.org/10.5281/zenodo.15720282