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# Natures Remedy: Herbal Facewash to Combat Acne and Restore Clearity

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**ABSTRACT**
This project report describes the formulation and development of an anti-acne face wash including natural components renowned for their medicinal and dermatological properties. Acne is a common skin disorder that affects people of all ages, owing to hormonal imbalances, excessive sebum production, blocked pores, and bacterial infections. The suggested face wash formulation tries to solve these difficulties by including plant-based extracts and herbal components, which provide therapeutic benefits with fewer adverse effects than synthetic alternatives. The paper emphasizes substances like neem and aloe Vera which have antibacterial, anti-inflammatory, and skin-soothing effects. These chemicals not only fight acne-causing germs, but they also stimulate skin healing and keep moisture levels balanced. The formulation method prioritizes the use of safe surfactants and preservatives to improve product stability and shelf life while being skin-friendly. Furthermore, the project outlines the reasons for choosing certain herbs based on traditional knowledge and scientific investigations to ensure efficacy and consumer safety. Quality control criteria, packaging, and labeling standards are also briefly discussed to aid market preparedness. This natural anti-acne composition is consistent with contemporary customer preferences for organic and herbal cosmetic products. Finally, the project offers a sustainable and health-conscious approach to skincare by creating a nature-derived face wash with the goal of eliminating acne and increasing skin health.

**Keywords:** Anti-acne, herbal face wash, natural ingredients, neem, aloe Vera, skincare, antimicrobial, anti-inflammatory, cosmetic formulation, organic cosmetics, acne treatment, herbal medicine, natural remedy.

## I. INTRODUCTION

Acne vulgaris is the most prevalent skin condition, affecting millions of individuals worldwide, and inflammation caused by the immunological response to Propionibacterium acnes plays an important part in its development. [1] Acne vulgaris is a complex condition affecting the pilosebaceous units. Research suggests that interactions between insulin-like growth factor (IGF), fork head box transcription factor (Fox)O1, and mammalian target of rapamycin (mTOR) may have a role in acne vulgaris, linking genetic and environmental variables.[2] Previous observational research on the association between milk and dairy consumption and the incidence of acne development have shown inconsistent results. This is a meta-analysis and dose-response research that aims to determine the link between milk and dairy products and acne.[3] Acne vulgaris is a common chronic skin irritation that often begins in adolescence but can last a variety of ages. Acne treatments include topical and systemic pharmaceuticals such as antibiotics, benzoyl peroxide, antiseborrheic and antiandrogen medications, hormonal therapy, sulfur, salicylic acid, azelaic acid, alpha hydroxy acid, retinoids, nicotinamide, and keratolytic soaps. Herbal treatment, an alternative and supplementary approach of preventing and treating numerous ailments, appears to be well tolerated. Some useful chemical structures for treating acne vulgaris include terpenoids and derivatives, fatty acids, sterols, aldehydes, and quinones. More research are needed to determine the effectiveness and safety of these natural compounds.[4] Skin, being the most exposed area of our body to pathogens, requires protection against skin illnesses, particularly acne-causing bacteria. Acnes are the most frequent skin condition among teens nowadays, accounting for 85% of all cases. They can persist throughout

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adulthood and primarily affect regions with the greatest oil glands, such as the face and neck. Acnes are distinguished by seborrhea, inflammatory lesions, comedones, excessive sebum production, and the presence of bacteria such as Propionibacterium acnes, Staphylococcus epidermidis, and Malassezia furfur in the follicles. As a result, these bacteria can be targeted as a possible acne cure.[5]

**Main ingredient used in formulation**

**Gotu Kola:** Centella asiatica has been regarded as a brain tonic due to its broad neuroprotective properties. Aside from this, numerous additional benefits have been described, including anti-inflammatory, antiproliferative, anticancer, antioxidant, antiulcer, and wound healing. These effects were investigated on animal models, and several phytochemicals such as asiactic acid, asiatosides, polyphenolic compounds, and others have been shown to be effective in these reactions. The herb is also evaluated for toxicity and interactions with other medications.[6] Centella asiatica is a beneficial plant for improving mental activity. Covariance between genotypes and phenotypes was shown to be effective in determining dry herb and asiaticoside content. All characteristics had high heritability (88.89-99.40%), with the exception of madecassoside, which was low.[7]

According to available literature, Gotu kola has been utilized as a medication in India from ancient times. It has been utilized in Indian Ayurvedic medicine and is widely recognized for prolonging lifespan. Its usefulness was eventually recognized, and it began to be utilized topically and orally in skin treatments. It was used to treat leprosy, lupus, and eczema. The plant "Manduka parni" described in the Susuita Samhita, an ancient Hindu scripture, is thought to be C. asiatica. Interestingly.[8] Redox pathways play a major role in the course of diabetes, a chronic disease with a rising global incidence. Uncontrolled hyperglycemia causes overactivation of oxidative stress pathways, which promotes the development of life-threatening diabetes complications. Novel treatment drugs that can increase patients' antioxidant state in addition to other antidiabetic effects may provide greater effectiveness. Natural goods and medicinal plants are thought to be an underexplored source of such compounds. Centella asiatica (CA) has been used in traditional Asian and African medicine systems to treat a variety of diseases, including diabetes, and is now accessible commercially as a nutritional supplement.[9]

Centella asiatica phytosome (CA phytosome) contains strong antioxidant and anti-inflammatory effects. However, its anti-dermatitic impact has yet to be reported.[10]Centella asiatica (L.) Urban is a medicinal herb that has long been utilized in Asian nations for its numerous therapeutic benefits. This is due to the accumulation of certain pentacylic triterpenoid saponins, namely asiaticoside and madecassoside, as well as the related sapogenins. This paper highlights current information regarding the chemical structures of around forty centelloids, which are discovered as minor metabolites in Centella and are all formed from ursane and oleane ring structures.[11]Centella asiatica (CA) is becoming increasingly popular in the cosmetics and pharmaceutical sectors. So far, 139 secondary metabolites have been identified from CA. The main bioactive compounds are asiaticoside, madecassoside, and sapogenins. • CA's antioxidant activity and phenolic content make it a suitable dietary additive. To produce enhanced CA biomass, both conventional and innovative processes are used.[12]

**Fig.1: Representation of Gotukola Plant**

## II. REVIEW OF LITERATURE

**Matsudaet al. (2001):** Centellasaponins B, C, and D were isolated from the aerial portions of Centella asiatica (L.) URBAN farmed in Sri Lanka, together with madecassoside, asiaticoside, asiaticoside B, and sceffoleoside A. The chemical structures of centellasaponins B, C, and D were determined based on chemical and physicochemical evidence to be produced cassic acid. 28-O-β-D-glucopyranosyl(1→6) - β-D-glucopyranoside and madasiatic acid. 28-O-α-L-rhamnopyranosyl(1-4)-β-D-glucopyranosyl(1-6)-β-D-glucopyranoside, and 3β,6β,23-trihydroxyolean-12-en-28-oic acid. 28-O-α-L-rhamnopyranosyl(1→4)-β-D-

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glucopyranosyl-(1→6)-β-D-glucopyranoside were used.[13]

**Rababh et al. (2004):** The work in this paper is focusing on Methanolic extracts have antioxidant activity ranging from 3.4 to 86.3%, as assessed by conjugated diene measurement of methyl linoleate. The antioxidant activity of chicken fat extracts measured by an oxidative stability instrument (4.6−10.2 h of induction time) was consistent with the Folin-Ciocalteu method's results. Seven phenolics were discovered in grape seed and green tea extracts, with concentrations ranging from 15.38 to 1158.49 and 18.3 to 1087.02 mg/100 g of extract, respectively. Plant extracts, such as green tea and grape seed extracts, can help to slow lipid oxidation in a range of dietary items.[14]

**Wijeweera et al. (2006):** The work in this paper is focusing on the ayurvedic medicinal herb Gotukola (Centella asiatica) was tested for anxiolytic effects. This study specifically examined the effects of Gotukola plant materials of various genotypic origins; Gotukola extracts in hexane, ethyl acetate, and methanol; and asiaticoside, a triterpenic chemical derived from Gotukola. Several paradigms were employed to assess anxiolytic activity, including the elevated plus maze (EPM), open field, social interaction, locomotor activity, penalized drinking (Vogel), and new cage tests. The EPM test demonstrated that Gotukola, its methanol and ethyl acetate extracts, as well as pure asiaticoside, have anxiolytic properties.[15]

**Xu Yanan et al. (2008):** This paper is focusing onAlzheimer's disease (AD) is a progressive neurological ailment that causes cognitive impairments and memory loss. Gotu Kola (Centella Asiatica) leaf extract has long been utilized as an alternative treatment for memory enhancement in the Indian Ayurvedic School of medicine. Although multiple studies have shown that Gotu Kola can improve cognitive impairment in rat models of Alzheimer's disease and stimulate neuronal dendrites in the hippocampus area, the molecular mechanism of Gotu Kola's neuroprotection is still unknown. This study found that CREB phosphorylation is increased inneuroblastoma cell lines expressing amyloid beta 1-42 (Aβ) and rat embryonic cortex primary cell cultures. [16]

**Viseweswari et al.(2010):** The work in this paper is focusing on the purpose of this study was to look into the anticonvulsant effects of various Centella asiatica extracts in terms of cholinergic activity on pentylenetetrazol (PTZ)-induced seizures. Rats were randomly divided into eight groups of six rats each: nonepileptic rats treated with saline; PTZ (60 mg/kg, IP)-induced seizure rats treated with saline; PTZ-induced seizure rats pretreated with n-hexane, chloroform, ethyl acetate, n-butanol, and water extracts of C. asiatica; and PTZ-induced seizure rats pretreated with diazepam (2 mg/kg body wt). [17]

**Chandrika et al. (2011):** This paper is focusing on Six Centella asiatica morphotypes (G1, G2, G3, G7, G8, and G12) were examined for carotenoid content, proximate components, and chosen dietary minerals. C. asiatica has the most potassium, with G1 and G3 having considerably greater levels (6,165.0 ± 125.8 mg/100 g dry weight) than other morphotypes ($P < 0.05$). C. asiatica is popular because of its high iron and calcium content. However, no significant ($P>0.05$) changes in calcium concentration were found amongst the morphotypes. The imported variety G7 exhibited a much greater ($P < 0.05$) mean iron content (74.3 ± 34.1 mg/100 g dry weight). [18]

**Shamalie et al. (2012):** This paper is focusing on root knot Nematodes (RKN) (Meloidogyne spp.) infestation is one of the primary issues causing significant losses in commercial Gotukola cultivations in warm areas. A field experiment was conducted in Chilaw (AEZ IL1a) during the rainy season (Maha) of 2010/2011 to assess the efficiency of Trichoderma viride, a bio-control agent, and the chemical carbofuran (Curator®), on RKN and Gotukola growth. The treatments used were T. viride (CFU 1011/ml) incorporated manures (compost and poultry manure at a rate of 2 kg/m2) and the prescribed dose of inorganic fertilizers, Curator® (1.5g/m2) incorporated manures, and the recommended dose of inorganic fertilizer. Trichoderma, Curator® (1.5 g/m2), untreated manure, inorganic fertilizers, no amendment (control). The findings demonstrated that Curator®-incorporated manures had no significant ($p>0.05$) effect on the stimulation of growth metrics. [19]

**Chandrika et al. (2015):** The work in this paper is focusing on nutritional properties and plausible health benefits of Centella asiatica.(Gotu Kola) have been discussed in detail its usage as traditional food and medicine. Gotu Kola is one of the main herb for treating skin complication, to heal wound and for regenerate the nerve and brain cells, and generally called a brain food in India. In this gotukola is used in Indian Ayurvedic practice. And after this its value was further identified and it will start used in skin treatment topically as well as internally it was use in cure leprosy, lupus, and

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eczema. In the nutritional value is mainly due to the richness in caretenoids and vitamin c and b complex. This herb is commonly used as porridge for feeding preschool children in Sri lanka in order to nutritional deficiency and this nutritious porridge is known as "Kola Kenda,"[20]

**Farhana et al. (2016):** The work in this paper is focusing on determine the effectiveness of Gotu kola in improving cognitive function in patient with vascular cognitive impairment (VCI). In this study quasi-experimental design used. In this study were patient with post stroke cognitive impairment utilizing the Montreal Cognitive Assessment Indonesian version after an intake of Gotu kola 750mg/day and of Folic acid 3mg /day for 6 weeks. In this show improvement in MOCA-Ina test result at the end of therapy.[21]

**Nuwanshi et al. (2019):** This paper is focusing on Evaluating the use of phytoremediated aquaculture effluent combined with freshwater in aquaponics. The most efficient way to reduce water consumption in aquaponics is to mix treated and bore well water in a1:1ratio. Phytoremediated aquaculture wastewater is excellent for increasing plant and fish output in aquaponics. [22]

**Ago et al. (2020):** The work in this paper is focusing on prevent the form of Keloid in the wound. Keloids are a form of scar caused by the proliferation of thick fibrous tissue following the healing of a skin injury. Gotu kola (Centella asiatica) leaves are useful for wound healing because they contain Triterpene components such as asiatic acid, madecassic acid, asiaticoside, and madecassoside. This literature review's goal is to present the most recent research on how gotu kola leaf content can prevent keloid formation by promoting fibroblast proliferation, collagen synthesis, mucopolysaccharide acid production, and intracellular fibronectin, all of which greatly increase the tensile strength of newly formed skin while preventing the stages of skin formation and keloid scar tissue inflammation.[23]

**Phoemsapthawee et al.(2022):** The work in this paper is focusing on Can Gotukola improve Cognition, Inflammation, and oxidative stress Mild cognitive impairment(MCI) is a condition characterized by diminished cognitive function and the development of Alzheimer disease. Gotu Kola is a plant that have been utilized as a memory enhancing substance Triterpenes. In this Gotu kola supplement could improve cognitive function especially in working memory. [24]

**Thakurdesai et al.(2024):** The work in this paper is focusing on Efficacy and safety evaluation of INDCA-NS in patient with tension type headache(TTH) in this 52% of the estimated global prevalence of active Headache disorder, 26% Tension type headache and recently the global prevalence of TTH has reached 3% of the global population. In this Material and Method firstly Design and after this participant who will be eligible to this criteria for male and female aged 18 years or above who were experiencing episodic TTH. After this 91 patients are randomized selected than procedure are followed and outcome measure and after this statistical analysis and check effect on patient on Headache episode.[25]

**Hassanabad et al. (2025):** This paper is focusing on Centelloside production in Centella asiatica hairy roots culture was investigated. The roots containing the At-SQS gene produced more centellosides. The transgenic root line had the quickest time for biomass doubling. Nanoparticles stimulated centelloside synthesis in the converted hairy roots. The findings have implications for commercial centelloside manufacturing. [26]

**Introduction of gotukola**

Centella asiatica L. (Gotu Kola) Urban (also known as Gotu Kola coriacea Nannfd., Hydrocotyle asiatica L., Hydrocotyle lunata Lam., and Trisanthus cochinchinensis Lour.) is a tropical medicinal plant from the Apiaceae family that is native to Southeast Asian countries such as India, Sri Lanka, China, Indonesia, and Malaysia, as well as South Africa and Madagascar. It is endemic to both hemispheres' warm climates. This plant grows naturally in moist, gloomy areas up to 7000 feet and is usually found along the sides of rivers, streams, ponds, and irrigated fields. It also grows along stone walls or other rocky locations at elevations of around 2000 feet in India and Sri Lanka (Sayasinha et al., 1999). The plant is also native to China, the western South Sea Islands, Australia, Madagascar, the Southern United States, and insular and continental tropical America. This thin, creeping grass is very widespread in tropical climates. Other popular names for the plant include Asiatic Pennywort, Indian Pennywort, Thick-leaved Pennywort, and Gotu Kola. C. asiatica has been used medicinally for thousands of years in India, China, Sri Lanka, Nepal, and Madagascar. It is one of the most important herbs for treating skin disorders, wound healing (Shukla et al., 1999; Somboonwong et al., 2012), and energizing nerves and brain cells, which is why it is known as "Brain food" in India, as well as many other maladies.

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**Morphology and distribution**

C. asiatica (L.) is a prostrate, slightly scented, stoloniferous, perennial, typically creeper plant that grows to a height of 15 cm (6 in). However, some huge kinds can grow to be as tall as 25 cm (10 in.). The stem is glabrous and striated, roots at the nodes. Leaves emerge alternately in clusters at stem nodes, with long petioles measuring 2-6 cm long and 1.5-5 cm broad, orbicular-reniform, enveloping the leaf base, crenate edges, and glabrous on both sides. Flowers form fascicled umbels, with each umbel.

**Processing and usage of gotukola**

Many cultures utilize it as a traditional medicine, a leafy vegetable, or a beverage due to its many medicinal and nutritional characteristics. C. asiatica's nutritional benefit stems mostly from its high concentration. In Sri Lanka, the plant is extensively used as porridge for feeding preschool children to fight nutritional deficiencies (Cox, Rajasuriya, Soysa, Gladwin, & Ashworth, 1993). This nourishing porridge is known as "kola kenda," [27]

**Fig.2 : Representation of Gotukola Leaf**

**Table 1: Taxonomy of Gotukola Plant**

| Classification | Name |
|---|---|
| Kingdom | Plantae |
| Class | Magnolipsida |
| Order | Apiales |
| Family | Apiaceae |
| Genus | Centella |
| Species | Centella asiatica(L.) Urban |

**Table 2: Different names used by selected countries for Gotukola**

| Country | Name |
|---|---|
| English | Gotu Kola, Indian Pennywort |
| French | Hydrocotyle asiatique |
| German | Asiatischer Wassernabel |
| Bali | Papaiduh, Piduh |
| Flores | Puhe beta, Kaki kuta |
| Gujrati | Khand brahmi |
| Hindi | Bengsaag |
| Italian | Idrocotile |
| Japanese | Tsubo-kusa |
| Malay | Pegaga |
| Mauritius | Bavilacqua |
| Sanskrit | Manduk parmi |
| Sinhales | Gotukola |
| Tamil | Vallarai, Kodangal |
| Chinese | Lue Gong Gen, Tungchian |

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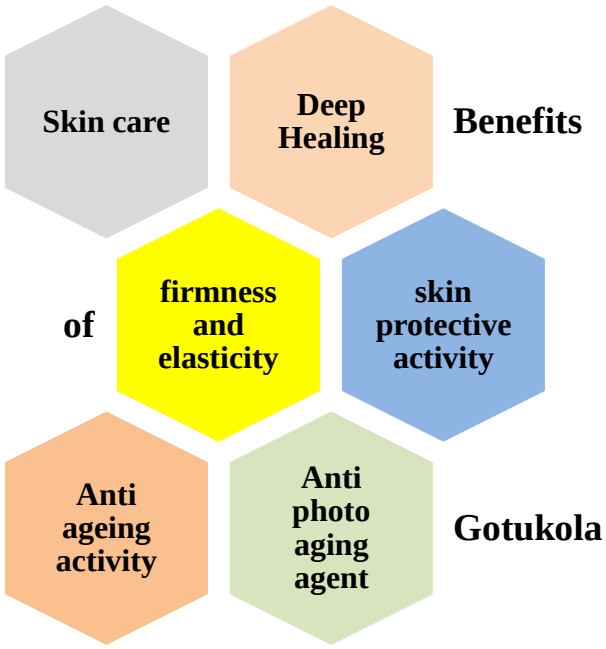
**Chemical Composition of Gotukola**

Gotu Kola (Centella asiatica) includes various significant chemical elements, including pentacyclic triterpenoids such asiaticoside, madecassoside, asiatic acid, and madecassic acid, as well as flavonoids, tannins, and volatile oil.Asiaticoside is a significant triterpenoid saponin that exhibits a range of pharmacological properties. Madecassoside is an additional significant triterpenoid saponin. Asiatic acid is a triterpene. A triterpenic acid is madecassic acid, also known as brahmic acid. Centellic acid, brahminoside, madasiaticoside, terminolic acid, brahmic acid, and madasiatic acid are further centelloids. [28]

**Table 3: Chemical Composition of Gotukola**

| Chemical composition | Concentration |
|---|---|
| Asiaticoside | 0.1-0.6% |
| Asiatic acid | 0.1-0.5% |
| Madecassic acid | 0.5- 0.18% |
| Myristic acid | 0.50% |
| Palmitic acid | 55.70% |
| Stearic acid | 8.55% |
| Lauric acid | 13.73% |
| Linolenic acid | 4.03% |
| Linoleic acid | 17.50% |




**Formulation of Anti acne Herbal facewash**

**1) Material and Methods:**

**A) Collection of Plant: Got kola (**Centella asiatica L) was the botanical plant which was selected for the preparation of herbal Facewash, and it came from a certified organic supplier. For additional examination, the plant or its components were carefully dried and then was infused with mineral oil for two weeks for further analysis.

**Fig.3: Representation of Gotukola Dried Leafs**

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**Plant material:**
a)Aloe vera was taken from the nearby locality in Nerchowk(Mandi).
b) Honey was purchased from the local market of Nerchowk.
c) Peppermint oil,Neem ,Glycerine,Guar gum,orange juice,Rose water were taken by the chemistry and pharmaceutical lab of the Abhilashi College of Pharmacy (Nerchowk).

**Composition of Herbal Face wash**

**Table 4:Composition Of Herbal Face wash**

| Sr no. | Name of crude drugs | Chemical constituent | Uses |
|---|---|---|---|
| 1 | Neem | Azadirachtin,nimbin,nimbolinin | Antiseptic |
| 2 | Aloevera | Salicylic acid and Cinnamon acid | Hydrating agent Ant wrinkles |
| 3 | Gotukola | Triterpenoids | Antimicrobial, wound healing property Anti inflammatory |
| 4 | Honey | Pigments and vitamins | Antioxidant |
| 5 | Guar gum | | Non toxic thickener and stsbilizer |
| 6 | Rose water | Citronellol,Geraniol | Flavouring Emollient,Colling |
| 7 | Lemon juice | Limonene | Natural ph adjuster |

**Ingredients used in formulation** [29], [30], [31]
**1. Aloe Vera**
Scientific name: Aloe vera
Order: Asparagus
Family: Asphodelaceae
Subfamily:Asphodeloideae
Kingdom: Plantae
Botanical name: Aloe barbadensis miller

The use of Aloevera on the face is Beneficial because of its:

Anti-inflammatory qualities reduce pain and swelling in wounds, while also promoting collagen production and release. It effectively treats bacterial and fungal illnesses.
The creamy residue should not thicken after evaporating the water.
The physical effects should not be absorption, but rather rinsing and opening the pores.
Apply a thin coating of emollient to the skin.
It contains antioxidants that can heal UV damage and delay skin aging.

**Active Components of Aloevera:** Aloe vera has 75 potentially active components, including vitamins, enzymes, minerals, carbohydrates, lignin, saponins, salicylic acid, and amino acids.
Vitamins: It includes the antioxidant vitamins A (beta-carotene), C, and E. Vitamin B12, folate.


**Fig.4: Representation of aloe vera gel**

**2. Rose Water:**

Benefits of Rose water for face: It may help minimize the look of transient redness. Natural hydration. It possesses antioxidant effects. It can assist to avoid fine lines and wrinkles. It can help clear pores and provide a smoother appearance. Reduces enlarged pores. It removes impurities and prepares your skin for success.
**Active Components of Rose Water:** Rose water is rich in vitamins A, C, E and B, as well as anti-inflammatory properties.

**3. Raw Honey:**
**Benefits of Raw Honey for Skin and Face**: Deeply Hydrates Skin, cleans pores, Lightens Scars, Gently Exfoliates, Helps fight bumps Helps reduce wrinkles
**Components of Honey:** Honey, mainly sugar, and certain vitamins, minerals, iron, zinc, and antioxidants are good standards of measurement. Besides being a natural sweetener, honey is also

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used as an inflammatory, antioxidant and antimicrobial.

**Fig.5: Representation of Raw Honey**

**4. Glycerin:**

**Benefits of Glycerin for Skin**

1) hydrates the skin's stratum corneum.
2) Improves the skin's barrier function.
3) Protects against skin irritation.
4) Promotes wound healing.
5) Relieves dry skin

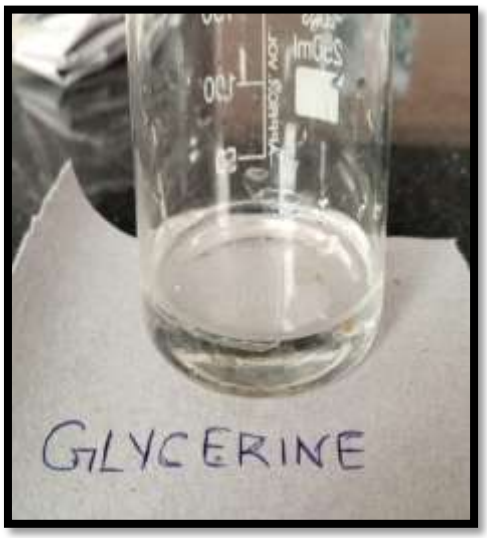


**Fig.6: Representation of Glycerin**

**4. Neem:**

1) Scientific name: Azadirachta indica
1) Order: Rutales
2) Suborder: Rutinae
3) Family: Meliaceae
4) Subfamily: Melioideae
5) Genus: Azadirachta
6) Species: indica

**Benefits of Neem for Skin:**Promotes wound healing. Reduce scarring. Treat dry skin and wrinkles. Improves blood circulation. Reduces inflammation and irritation. Corrects uneven skin tone. Address many indicators of premature aging. Moistens the skin.

**Components of Neem:** Neem leaves include compounds such nimbin, nimbanene, 6-desacetylnimbinene, nimbandiol, nimbolide, ascorbic acid, n-hexacosanol, amino acid, and nibiol

**5. Methyl Paraben**

a) Helps in preventing Bacterial Growth
b) Extend shelf life of the product


**Fig.7: Representation of Methyl paraben**

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**Extraction Process (Gotukola oil)**

Essential oil was extracted from dried plants of *Centella asiatica* by the use of Clevenger apparatus in accordance with Indian Pharmacopeia

↓

The dried comfrey leaves were putted into round bottom flask for about 3 hours for the reflux process

↓

All the components of the apparatus were arranged as specified in the Pharmacopeia

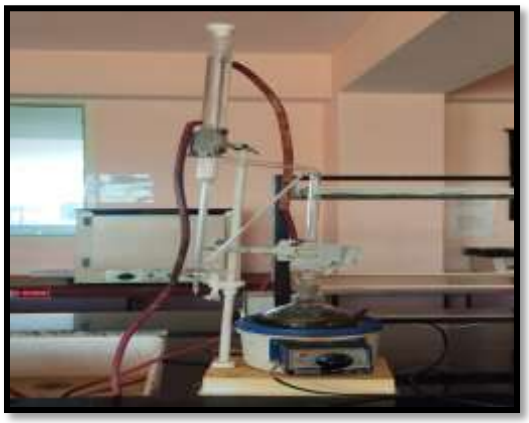

**Fig.8: Representation of assembly of Clevenger Apparatus for the extraction process**

After 3 hours of reflux there was presence of oil and water droplets in burette, then the mixture was collected and with the help of separating funnel separation of both the oil and water phase was done**.** The oil phase of the product was collected and further the procedure was performed.

**Fig.9: Representation of Separating Funnel for the separation of both the phases**

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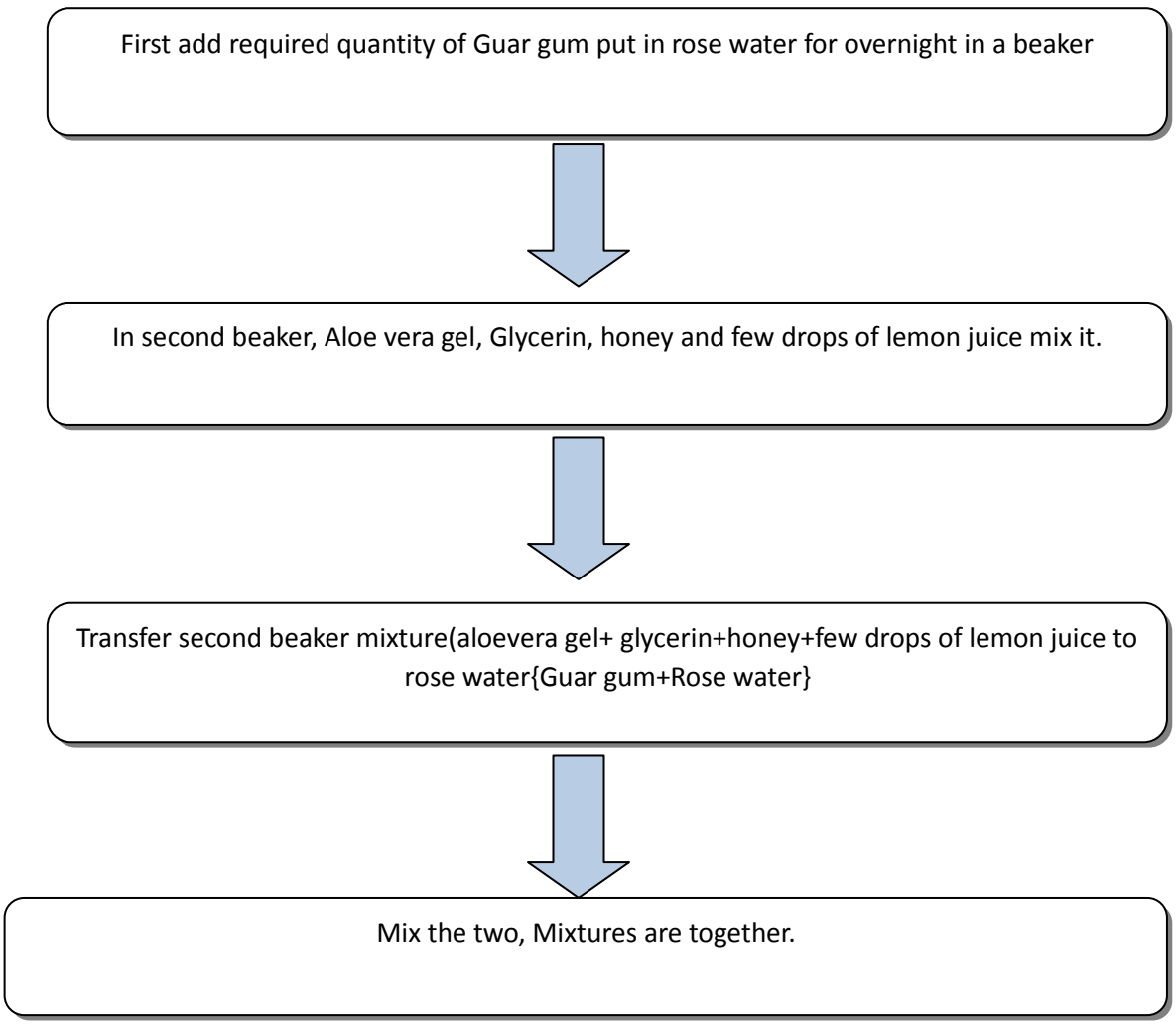
**Table 5: Composition of Herbal Face Wash**

| Sr.No. | Name of Drug | Quantity | Uses |
|---|---|---|---|
| 1 | Neem | 4ml | Antibacterial |
| 2 | Gotukola Extract | 3ml | Anti-inflammatory |
| 3 | Aloe vera gel | 5gm | Anti-pigmentation property |
| 4 | Honey | 3ml | Antioxidant and Nourishing agent |
| 5 | Lemon juice | 5 drops | Natural cleanser and PH adjuster |
| 6 | Glycerin | 5ml | Moisturizer |
| 7 | Guar gum | 0.25gm | Thickening agent and stabilizer |
| 8 | Rose water | 100ml | Cooling and Flavouring agent |
| 9 | Methyl paraben | 0.02gm | Preservative |
| 10 | Sodium lauryl sulphate | 2gm | Foaming agent |

**Procedure**



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Then add the neem and gotukola extract to above mixture, mix it properly, finally add sodium lauryl sulfate to the above mixture. Mix it properly to make viscous Herbal face wash.

**Fig.10: Representation of Herbal facewash**

**Evaluations Test for Herbal face wash**

**A) Physical Properties**- The Physical properties of the formulated Herbal Facewash were noticed which majorly include parameters like Colour, Odour and Appearance.

| Sr.no | Parameters | Observation |
|---|---|---|
| 1 | Colour | Light green |
| 2 | Odour | Pleasant |
| 3 | Texture | Smooth |

**B) Ph. Determination**-For the determination of Ph., Ph. meter was used in which 0.5g of facewash was dispersed into 50ml of distilled water and after some point of time the ph. was evaluated. The Ph generally was found to be in the range of 6.

**C**) **Foam abilty:** Shaking tube method- 40 ml of surfactant solution was taken in a 100ml measuring cylinder. The solutions was vigorously shakened by hand. The amplitude of shaking was around 5cm while the frequency of shaking around 3 Hz. The Foam ability is 2.4 ml.

**D) Washability Test**- The ease of removal of facewash was checked by washing the surface where facewash was applied with the help of water

**E**) **Spreadability Test** -For this test the formulated facewash was generally placed between the two slides and then the slides were compressed by putting a definite weight for a specific time.

## III. RESULT

The formulated Face wash, incorporatingcentella asiatica essential oil shows a smooth, light green emulsion with a pleasant odour. It shows goods preadability, wash ability and a compatible ph.

## IV. CONCLUSION

By using Aloeveragel, Neem,gotukola,honey and lemon juice the

facewash showed a multipurpose effect and all these herbal ingredients showed significant different activities. Based on result the formulation were stable at room temperature and also can be safely used on the face. It is use to remove acne as well as promote healing, softening of skin. The extract of Centella asiatica Gotukola has anti acne activity**.**

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