

Preparation and Evaluation of Herbal Anti-Acne Face Wash Gel

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Abstract: *Aim: To study the preparation of herbal anti-acne face wash gel remedies are more tolerable as well as safer as with side effects than the synthetic ones. We have prepared formulation using herbals. Objectives: Acne is common problem that 85% of the teenagers face today. Inthis study, poly herbal anti-acne face wash gel where prepared using herbal materials. Material and methods: Herbal face wash was prepared from the extract of neem leaves (azadirachta indica), tulsi, lemon juice, aloe Vera, glycerin, carbopol, methyl paraben, trie-thanolamine; sodium lauryl Sulphate is generally used in the preparation of face wash to avoid the maximum side effects.*

Keywords: Anti-acne, Carbopol, aloe-vera, tulsi, neem

I. INTRODUCTION

The skin condition known as acne (follicular unit) is one that almost everyone will encounter at some point in their lives. Between the ages of 20 and 30, acne affects both men and women, while it is more common in youth. Acne comes in five different forms: nodule, cystic, pustule, and comedogenic. There are two types of non-inflammatory comedonal acne: blackheads and whiteheads. Whiteheads appear as chilly, white lumps, while blackheads are visible as open pores with dark skin roughness composed of melanin, sebum, and hair follicle cells. Papules resemble red, hard, raised lesions and are often less than 5 mm in diameter. Pustules are purulent-filled, localized cutaneous elevations^[1]. Elevated, solid lesions affecting the subcutaneous tissue and deeper dermis are nodules and cysts. Cysts are smaller than 5 mm in diameter, whereas nodules are larger than that. The molecular etiology involves a variety of physiological components, including excessive follicular contraction, increased biogenesis brought on by elevated testosterone levels, and biological systems, including sub-print eaberanium and staphylococcus epidermis^[2]Theories that are intended to aid in enhancing pathogenesis include variances in the sensitivity of the target cell, biomarkers, neuroendocrine, genetic, and environmental factors. Vulgaris, a mixture of synthetic and herbal ingredients, is remarkably effective in treating a wide range of pimples^[3].



Fig.No.1 Marketed Face Wash

ADVANTAGES ^[4]

- 1) Fit for any type of skin
- 2) It offers a large assortment of plants.
- 3) Not conducted on animals
- 4) Both harmful and no side effects

PROPERTIES OF FACEWASH ^[5]

- 1) When applied, it should make the skin softer.
- 2) It ought to be sturdy, attractive, etc.
- 3) It ought to disseminate without difficulty.
- 4) It is important that the creamy residue not solidify or turn thick when the water evaporates.
- 5) There is no greasy feeling when applying.
- 6) After use, the skin should have a thin layer of emollient (softening) oil left on it.

Additives used in Face Wash

A. Gelling Agent ^(6, 7, 8, 9, 10)

These are the components that will cause your water or oil to phase into a thicker but flexible gel. Gelling agents will cause emulsions to thicken more fluidly and movably than they would otherwise. Gel becomes thinning when force is applied. (Thixotropic).

Example- Carbopol

B. Preservative

Certain organisms have the ability to secrete "toxins," which are poisonous or extremely harmful to human health.

Examples; methyl paraben, propylparaben

C. Humectants

It is a hygroscopic material, the reverse of a desiccant, that is used to keep things moist. Frequently, it is a molecule that has many hydrophilic groups, most frequently hydroxyl groups. Humectants bring water vapor into and/or beneath the surface of the organism or object by absorbing and holding onto the moisture in the surrounding air.

Example-Glycerin

D. Propellants

The primary function of propellants, such as blowing agents and surfactants, is to create foam. Less surfactant content increases a liquid's colloidal stability by lowering the liquid's surface tension, which lessens the effort needed to produce bubbles, or by preventing bubble coalescence.

Examples: Sodium lauryl sulfate

II. MATERIALS AND METHODS

Herbal Drugs ^(11, 12, 13, 14, 15, 16,20)

A. Aloe vera



Fig.2: Aloe Vera

- 1) Scientific name: Aloe Vera.
- 2) Order: Asparagus.
- 3) Family: Asphodelaceae
- 5) Kingdom: Plantae
- 6) Family: Vincaceae
- 7) Botanical name: Aloe barbadensis miller

B. NEEM



Fig:3.Neem

- 1) Order: Rurales
- 2) Suborder: Rutinae
- 3) Family: Meliaceae
- 4) Subfamily: Melioideae
- 5) Genus: Azadirachta
- 6) Species: Indica

C.LEMON JUICE



Fig.no.4

- 1) Biological name: - Citrus Limon
- 2) Family: - Rutaceae
- 3) Uses: - Used to reduce blemishes and brighten the skin

D. TULSI



Fig.5.Tulsi

- 1) Synonyms: sacred basil, holy basil
- 2) B.source: It consist of fresh leave of Ocimum sanctum Linn
- 3) Family: Lamiaceae
- 4) Chemical constituents: volatile oil, Vit B12, Eugenol, carvacrol, eugenol methyl ether, fixed oil, Caryophyllene, Vit K.

Chemicals: Carbopol-Gelling Agent, Glycerin-Humectants, Methyl Paraben-Preservatives, Triethanolamine-Neutralizer, Sodium lauryl sulfate-Foaming Agent

Tab.No.2-Formulation Table for Herbal Face Wash (10ml)

Sr. No.	Name Of Ingredients	Quantity	Uses
1.	Neem Extract	0.70ml	Anti-septic
2.	Tulsi Extract	0.70ml	Anti-bacterial
3.	Aloe Vera Extract	0.70ml	Anti-Wrinkle
4.	Lemon Juice	0.35ml	PH Stabilizer
5.	Carbopol	6.60ml	Gelling Agent
6.	Methyl Paraben	0.016gm	Preservatives
7.	Triethanolamine	0.016ml	Neutralizer
8.	Sodium Lauryl Sulphate	0.010ml	Foaming agent
9.	Glycerin	0.70ml	Humectants

Table No.1 Formulation of Face wash

III. METHODOLOGY ^(16,17)

PREPARATION OF HERBAL EXTRACT

Herbal extracts can be prepared by the maceration method by using distilled water used as a solvent. Neem and tulsi were kept in a hot air oven for drying purposes at 45 0C and ground into small pieces by using a grinder. Desired quantities of the herbal drug were weighed and each herb was macerated with distilled water in a conical flask. Dried herbs were allowed to mix with distilled water by moderate shaking of the conical flask for 3days separately. After 3days, contents filtered out by using a simple filtration method, and filtrates were collected in vessels separately.

FILTRATION

Extracts were filtered using simple filter paper and funnel for two times

DEVELOPMENT OF FORMULATION

-The desired quantity of gelling agent i.e., carbopol was weighed accurately and dispersed in distilled water (not more than 60 degree:50% weight of the batch size) with moderate stirring in order to avoid air entrapment
-allowed to soak overnight.

-Desired quantity of lemon juice by gentle stirring with the desired quantity of concentrated herbal extracts was added to the above-prepared carbopol mixed with sodium lauryl sulphate.

-To this add a few ml of triethanolamine in order to obtain accurate consistency.

-To this add a sufficient quantity of glycerin.
 -Then the Prepared formulations were filled in a suitable container and labeled accordingly.

EVALUATION TEST^(18, 19,20)

The prepared face wash formulation was evaluated for following parameters:

- 1) **Color:** Check the facewash's color with your eyes or manually
- 2) **Odor:** The formulation of facewash are odor by smelling it.
- 3) **Consistency:** It was determined by manually
- 4) **PH:** PH of 1% aqueous solution of the formulation was measured by using a calibrated digital pH meter at constant temperature.
- 5) **Wash-ability:** Formulation is apply to the skin then wash them with water manually
- 6) **Foam-ability:** Small amount of face wash gel was taken in a beaker with water. Initial volume was noted, beaker was shaken for 10 times and the final volume was noted.
- 7) **Viscosity:** About 10ml of face wash formulation of gel was taken in the beaker and checked on digital viscometer and observation was recorded
- 8) **Skin Irritability Test**

This test was performed on a few healthy human volunteers of either sex after obtaining consent for the same. About a few drops of the formulation were applied to an area of skin and kept as such for certain minutes and note down any irritancy occurrence

IV. RESULT AND DISCUSSION

The prepared formulations underwent satisfactory results tests for color, smell, consistency, pH, spread-ability, wash-ability, and grittiness.

Tab.No.-3 Observation and Observation of Face Wash

Sr. No.	Parameters	Observations
1.	Color	Light Yellow
2.	Odour	Pleasant
3.	Consistency	Semisolid
4.	PH	5.3
5.	Wash ability	Good
6.	Grittiness	No Gritty Particles
7.	Foam Ability	Good
8.	Skin Irritant	No
9.	Spread Ability	Easily Spreadable

Table No.2 Evaluation Test

V. CONCLUSION

Herbal face wash gel containing neem leaves and tulsi leaves extract was formulated successfully by using carbapol as gelling agent. Evaluation tests were carried out for batch as color, consistency, pH, spread-ability, washability and foamability it showed compatible results. So from the studies it was concluded that the prepared formulation can be effectively used for facial care.

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