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### Formulation and Evaluation of Herbal Face Toner

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#### ABSTRACT:-

This study focuses on the formulation and evaluation of a herbal face toner using natural plant-based ingredients known for their skin-beneficial properties. The aim is to develop a gentle, alcohol-free toner that helps cleanse, refresh, and tone the skin while maintaining its natural pH balance. Key herbal components such as rose water, witch hazel, aloe vera, green tea extract, pomegranate, sugarcane, tomato juice and neem were selected for their astringent, anti-inflammatory, and antioxidant properties. The toner was evaluated for physicochemical parameters, stability, and microbial safety. Results indicated that the herbal face toner is effective in reducing skin oiliness, tightening pores, and providing a soothing effect without causing irritation. This formulation offers a safe, eco-friendly, and cost-effective alternative to conventional toners, aligning with the growing demand for natural skincare products. Herbal Cosmetics are safe, fewer adverse effects, and wider market acceptance, natural medicines are becoming more and more popular than artificial formulations. The creation and assessment of a topical drug delivery system are the main objectives of this project, which highlights the natural components long-lasting and precise activity. The primary goal of making herbal face toner is to maintain the Tonicity of the skin. There are a variety of herbal face toners available on the market that have some side effects, such as itching and Inflammation. An attempt was made to make a herbal face toner using Convolvulu prostrates extract (which has anti-inflammatory Properties), aloe vera gel (which has antifungal properties), and Colour, Smell, pH, skin irritation test, and antimicrobial activity are among the Factors used to evaluate herbal face toners. Its efficacy was tested and compared to a Commercially available face toner.

**Keywords:-**Herbal Face Toner, Adverse Effects, Hygiene, Antidepressant activity.

#### Introduction :-

In recent years, there has been a growing demand for natural and plant-based skincare products due to increased consumer awareness of the potential side effects associated with synthetic ingredients. Among these products, face toners play a vital role in daily skincare routines by helping to cleanse, refresh, and restore the skin's natural pH balance. Traditional toners often contain alcohol and harsh chemicals that may cause dryness or irritation, especially for sensitive skin types. In contrast, herbal face toners are formulated using botanical extracts that offer gentle yet effective toning, moisturizing, and astringent properties. Herbs such as rose, witch hazel, aloe vera, neem, and green tea are known for their skin-soothing, anti-inflammatory, and antimicrobial effects. These ingredients help tighten pores, reduce acne, and enhance overall skin health without compromising the skin's natural moisture barrier. The development of a herbal face toner not only supports eco-friendly and sustainable skincare practices but also aligns with the increasing trend toward holistic and nature-inspired personal care solutions.

#### Herbal Cosmetic

Herbal cosmetics are products formulated using natural ingredients derived from plants and herbs, intended to enhance beauty and promote healthy skin without the use of synthetic chemicals. With roots in traditional medicine systems such as Ayurveda, Unani, and traditional Chinese medicine, herbal cosmetics have gained widespread popularity due to their perceived safety, minimal side effects, and environmental friendliness.

Herbal ingredients such as aloe vera, turmeric, neem, sandalwood, tulsi, and rose are commonly used for their proven therapeutic properties, including antibacterial, antifungal, antioxidant, and anti-inflammatory effects. These natural components support skin rejuvenation, anti-aging, acne prevention, and complexion enhancement, making them ideal for daily skincare and haircare routines.

#### Advantages of Herbal Cosmetics:-

Herbs are important for their disease prevention and health promotion properties having

Following advantages which are described below:

1. Natural Products:- Herbal cosmetics are natural and free from all the harmful synthetic chemicals which generally may turn out to be lethal to the skin.

2.Safe to use:-Natural cosmetics are protected to utilize. They are hypo-allergenic and tested and proven by Dermatologists to be safe to use anytime, anywhere. Since they are made of natural ingredients, people don't have to worry about getting skin rashes or experience skin itchiness.

3.Compatible with all skin types:- No matter if you are dark or fair; you will find natural cosmetics like foundation, eye shadow, and lipstick which are appropriate irrespective of your skin tone. Women with oily or Sensitive skin can also use them and never have to worry about degrading their skin condition.

4.Wide selection to choose from :-These products are more affordable than synthetic ones. They are offered at economical prices and are sold for a cheap price during sales. An estimate of WHO demonstrates about 80% of world population depends on natural products for their health care, because of side Effects inflicted and rising cost of modern medicine.

5.No side effects :-The synthetic beauty products can irritate your skin, and cause pimples. They might block your pores and make your skin dry or oily. With natural cosmetics, one need not worry about these. The natural ingredients used assure no side effects; one can apply them anytime, anywhere.

6.Basic skin care:-Skin type and skin care to have better skin, it is very important to understand how our skin functions .The skin is classified in 4 types and for each type appropriate ingredients are used to maintain its natural functionality. There are four types of Skin for healthy skin the basic skin care is important. The following three step is important .

For basic skin care:

1.Cleansing: The cleansing is important to remove dirt, dead cell, and pollutants that chokes the pores. The more you avoid this basic step the more skin issues developed. The herbal Cleansers remove the dirt and pollutants. Aloe Vera is widely use in skin cosmetics. It acts Good cleansing agent when combined with glycerine. Camphor has deep cleansing action, the Cooling and awakening effects. It removes makeup and impurities completely.

2.Toning:-Timbers are help to tight the skin and protect skin from toxins which are floating in the air or Other pollutants. Grape seed oil is use astringent which is useful for skin toning and Tightening, Fresh lemon juice is use as toner. Lemon peel oil acts as natural astringent.

3. Moisturizing: The moisturizer is use for skin to smooth . Moisturiser also show Glow and less prone to aging. Rose water and rose infusion of petals refreshes and hydrate the Skin. Roses are suitable for all skin type. Violet is slightly astringent; leaf and flower of violet Is juicy and moisturizing. Violets are anti-inflammatory and helps in heal cuts and wounds.

Here are the main types of skin along with their characteristics:

#### 1.Normal Skin:-

Balanced – Not too oily or dry

Texture – Smooth and even

Pores – Small, not easily visible

Breakouts – Rare

Sensitivity – Minimal

#### 2.Oily Skin:-

Excess Sebum Production – Skin appears shiny, especially on the T-zone (forehead, nose, chin)

Pores – Enlarged and more visible

Breakouts – Prone to acne, blackheads, and whiteheads

Texture – Thicker, sometimes greasy

#### 3.Dry Skin:-

Low Sebum Production – Skin feels tight and rough

Texture – Flaky, scaly, or cracked

Pores – Almost invisible

Sensitivity – May be prone to irritation and redness

#### 4.Combination Skin:-

Mixed Characteristics – Oily in some areas (usually T-zone), dry or normal in others (cheeks)

Texture – Can vary depending on area

Pores – Enlarged in oily areas

Breakouts – May occur in oily zones

#### 5.Sensitive Skin:-

Reactivity – Easily irritated by products or environmental factors

Symptoms – Redness, itching, burning, or dryness

Appearance – Can be dry, oily, or normal but reacts strongly

Care – Needs gentle, hypoallergenic products.

#### ***Definition Of Toner:-***

A skin toner is a liquid skincare product applied to the face after cleansing and before moisturizing. It helps remove any remaining impurities, balances the skin's pH, tightens pores, and prepares the skin to absorb serums and moisturizers.

#### **Uses:-**

1.Removes leftover makeup or cleanser residue.

2.Restores skin pH balance.

3.Shrinks and tightens pores.

4.Provides hydration (in hydrating toners).

5.Controls oil (in astringent toners).

Toners come in various types depending on their purpose and the skin type they're formulated for. Here are the main types of toner:

#### 1.Hydrating Toner:-

Purpose: Replenishes moisture and soothes dry or sensitive skin.

Key Ingredients: Hyaluronic acid, glycerin, aloe vera, rose water.

Best for: Dry, dehydrated, or sensitive skin.

#### 2.Exfoliating Toner:-

Purpose: Removes dead skin cells, unclogs pores, improves skin texture.

Key Ingredients: AHAs (glycolic, lactic acid), BHAs (salicylic acid), PHAs.

Best for: Oily, acne-prone, or dull skin.

#### 3.Astringent Toner:-

Purpose: Tightens skin and minimizes pores, removes excess oil.

Key Ingredients: Alcohol, witch hazel, menthol.

Best for: Very oily or acne-prone skin (can be drying).

#### 4.Balancing Toner:-

Purpose: Restores pH balance after cleansing.

Key Ingredients: Chamomile, calendula, rose water.

Best for: All skin types, especially combination.

#### 5.Brightening Toner:-

Purpose: Enhances radiance, fades dark spots, evens skin tone.

Key Ingredients: Vitamin C, niacinamide, licorice root extract.

Best for: Dull, uneven skin tone or hyperpigmentation.

#### 6.Anti-Aging Toner:-

Purpose: Targets fine lines, loss of elasticity, and dullness.

Key Ingredients: Peptides, retinol, antioxidants.

Best for: Mature or aging skin.

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### Effects of toner on skin:-

Positive Effects:

- 1.Cleans Residual Dirt & Oil: Toners help remove any leftover makeup, oil, or cleanser residue.
- 2.Restores pH Balance: After cleansing, your skin's natural pH might be disrupted; toner helps bring it back to a normal level.
- 3.Tightens Pores: Some toners (especially with astringents) give a temporary tightening effect.
- 4.Hydrates Skin: Hydrating toners (with ingredients like glycerine or hyaluronic acid) add moisture to the skin.
- 5.Preps Skin for Moisturizer: It enhances absorption of serums and moisturizers.

Negative Effects (if not suited for your skin type):

- 1.Dryness or Irritation: Alcohol-based or astringent-heavy toners can be too harsh, especially for dry or sensitive skin.
- 2.Breakouts: Some toners may clog pores or trigger acne in sensitive individuals.
- 3.Allergic Reactions: Fragrances or certain essential oils in toner may cause itching, redness, or rashes.

Advantages of Herbal Toner include both skincare benefits and the appeal of using more natural, plant-based ingredients. Here's a breakdown:

- 1.-Gentle on Skin:-Herbal toners often avoid harsh chemicals, alcohol, and synthetic fragrances. Ideal for sensitive or reactive skin types.
- 2.Rich in Natural Antioxidants:-Many herbal extracts are packed with antioxidants that help protect skin from environmental stress and aging.
- 3.Anti-inflammatory Properties:-Herbs like help soothe redness, irritation, and inflammation.
- 4.Hydration & Skin Balance:-Herbal toners often contain humectants (like glycerin or aloe) and hydrosols that provide light hydration and help balance skin's natural pH.
- 5.Acne Control:-Ingredients like witch hazel, neem, tea tree, and tulsi (holy basil) have antibacterial and astringent properties that help reduce breakouts.
- 6.Minimizes Pores:-Natural astringents like rose water and witch hazel can tighten skin and reduce the appearance of pores.
- 7.Promotes Healthy Glow:-Regular use can improve skin texture and tone, giving a fresh, radiant look thanks to nourishing botanicals.
- 8.Free from Harsh Chemicals (if formulated well):-Herbal toners are often free from sulphates, parabens, and artificial preservatives—especially in natural or organic lines.

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### Mechanism of spray bottle action:-

Mechanism action of spray formulation:-

1. Dispersion (Application Stage):The toner is stored in a spray bottle (pump or aerosol).Spraying creates a fine mist of liquid droplets that evenly coat the skin's surface.
2. Deposition on Skin: Droplets containing water-based active ingredients and humectants (like glycerine, hyaluronic acid) settle on the skin.

Ingredients may include:

(e.g., witch hazel) to tighten pores.

Humectants to retain moisture.

Botanicals (e.g., green tea, rose water) for soothing and antioxidant effects.

pH-balancing agents to restore the skin's natural acidity (around pH 5.5).



3. Absorption and Action: Humectants absorb into the outer skin layers (stratum corneum), attracting and retaining moisture. Botanicals /antioxidants penetrate slightly into the epidermis to calm irritation or reduce oxidative stress. Astringents contract skin tissues and may reduce oiliness or appearance of pores.

4. Evaporation: The water or alcohol-based carrier evaporates, often leaving behind a lightweight, non-greasy finish. Evaporation can also give a cooling, refreshing feel.

Spray formulations in toner products offer several advantages, particularly in skincare. Here are the main benefits:

1. Even Application: Spray format allows for a fine mist that distributes toner evenly across the face without needing cotton pads.
2. Hygienic: Less contact with hands or applicators reduces the risk of contamination and bacterial transfer.
3. Convenient & Quick: Ideal for on-the-go use; spraying takes less time and is easy to reapply throughout the day.
4. Refreshing Effect: The mist provides a cooling, hydrating sensation, especially beneficial in hot or dry environments.
5. Less Product Waste: Misting minimizes overuse compared to pouring toner onto a pad or hands.
6. Multi-functional: Can double as a setting spray or hydrating mist in addition to being a toner.
7. Reduced Irritation: Eliminates the need for cotton pads, which can be abrasive on sensitive or acne- skin.

### Formulation of Herbal Face Toner:-

Here's a table with suggested information for a 60 ml herbal toner formulation using rose water, glycerine, pomegranate, aloe vera, lemon juice, and sodium benzoate:

Ingredient	Quantity (ml or g	Purpose
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Aloe Vera Gel	4.2ml	Soothing, anti-inflammatory
Pomegranate Extract	4.8ml	Antioxidant, skin-firming
Lemon Juice (diluted)	1.8ml	Brightening, astringent
Glycerine	6 ml	Humectant, moisturizing
Sodium Benzoate	0.2 g (0.3%)	Preservative.
Rose water	42ml	Base hydration, soothing

Notes:

Lemon juice should be diluted (e.g., with rose water or distilled water) to prevent skin irritation.

Adjust pH to ~5.0–5.5 if needed.

Store in a cool, dark place and use within 2-3 months.

Shake before use if layers separate (due to glycerine or aloe).

Step-wise Procedure:

Step 1: Sanitize Equipment

Clean and sanitize all equipment, glassware, and containers using 70% isopropyl alcohol or by boiling.

Step 2: Prepare Aqueous Base

In a clean beaker, combine rose water and distilled water.

Stir gently to ensure uniformity.

Step 3: Add Aloe Vera Juice

Add aloe vera juice slowly to the mixture while stirring to maintain homogeneity.

Step 4: Add Pomegranate Extract

Add pomegranate extract and stir thoroughly.

Step 5: Incorporate Lemon Juice

Add lemon juice (preferably freshly squeezed and filtered).

Stir gently. (Note: Lemon juice is acidic; maintain pH balance between 4.5–5.5)

Step 6: Add Glycerine

Add glycerine to the mixture slowly.

Stir until fully dissolved for proper hydration effect.

Step 7: Add Preservative

Dissolve sodium benzoate in a small quantity of warm distilled water (~0.5 ml), then add to the mixture.

Stir until fully incorporated.

Step 8: pH Check (Optional but Recommended)

Check the pH and adjust if necessary using citric acid (to lower) or sodium bicarbonate (to raise).

Step 9: Filtration

Filter the solution using muslin cloth or filter paper to remove impurities or pulp.

Step 10: Packaging

Transfer the toner into sterilized amber or frosted glass bottles using a funnel.

Label and date the bottles.

**Storage condition for Toner:-**

### 1.Cool Temperature

Store at a cool room temperature (ideally 15–25°C or 59–77°F).

If the toner contains no preservatives or is homemade, refrigeration is ideal to prolong shelf life.

### 2.Avoid Direct Sunlight

Keep the toner in a dark, opaque container or store it in a dark place to protect it from light degradation.

### 3.Air-Tight Container

Use a tightly sealed container to prevent air and microbial contamination.

Spray bottles are common and effective for minimal contact.

### 4.Dry Environment

Avoid storing in overly humid places like near a shower or open window to prevent mold or bacterial growth.

### 5.Check for Changes

Regularly inspect the toner for any colour changes, unusual odours, or separation, which can indicate spoilage.

### **Shelf life of Herbal Face Toner:-**

Estimated shelf life of herbal face toner is 3 to 6 months.

### **Direction to use :-**

1. Spray some toner on your clean face or hands.
2. Allow the spray some time to remain as it is on the face or surface of hands.
3. Keep it for 10-20 min. Wipe out the spray with soft cotton or cloth if required.
4. Use the toner twice a day for better skin rejuvenating results.

### **Evaluation of Toner:-**

Prepared formulation of herbal face toner was subjected to following evaluation

parameter

#### 1. Organoleptic characteristics

Organoleptic Characteristics were assessed from colour

#### 2. Homogeneity

Homogeneity was analysed by visual inspection for the appearance and existing of any clog.

#### 3. pH-

The formulation 25 ml was taken in a beaker with graduations and now the calibrated pH meter was made stand in the formulation for some time and reading was recorded.

#### 4. Surface tension

The formulation was transferred in the stalagmometer and the surface tension was recorded.

#### 5. Viscosity

Ostwald's viscometer was used to measure the viscosity of the formulation. The viscosity of water and the formulation was recorded in centipoise.

#### 6. Skin irritation

Small amount of the toner was sprayed on left hand dorsal skin and kept for some time; result was found non-irritant for skin.

#### 7.Skin conditioning

The appearance of the skin after application of the toner was seen to be smooth, hydrated and Supple.

#### 8. Temperature variations

The formulation was exposed to different temperatures at 45o C for months to check the Stability.

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**Result and Discussion:-**

Colour:- faint pink colour

Removable:- easily removable

Skin condition:- skin get moisturized , soft

pH:-5.6

• **Viscosity determination by Ostwald's viscometer**



• **Determination of pH by digital pH meter**



• **Interpretation of result on hand**



**A. Before application of toner.**



**B. After application of toner.**

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**Conclusion :-**

The spray toner formulation produced excellent results. All of the items were purchased fresh From the local market and were both inexpensive and practical. The toner's objective was to Achieve a cooling and toning effect on the skin, which was determined to be adequate. Similarly, the purpose of making it in toner form was to make it easier to transport and apply The formulation whenever and wherever needed. From that standpoint, the investigated Formulation was also satisfactory. There was no irritation or rashes after application, although There was a cleansing effect. The created formulation was found to be physiochemically Stable and to have the features of a conventional cosmeceutical's skincare formulation. The Spray formulation was more



successful than any other form, such as gel or lotion, since Spraying tiny particles on the skin with a particular level of power allowed the formulation to Penetrate the skin's small pores better. The herbal face toners offer a natural and effective solution for maintaining healthy, balanced skin. Formulated with botanical extracts, these toners help to cleanse, hydrate, and tighten pores while reducing inflammation and restoring the skin's natural pH. Their gentle, chemical-free nature makes them suitable for all skin types, particularly sensitive and acne-prone skin. Regular use of an herbal toner can enhance your skincare routine, leaving the skin refreshed, revitalized, and more resilient over time.

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**Reference:-**

1. Kokate CK, Purohit AP and Gokhale SB. Pharmacognosy, 51th Ed., Nirali Prakashan, Pune, 2015, P.
2. Rangari VD. Pharmacognosy and Phytochemistry, Vol Ist, 2nd Ed., Career Publications, Nashik, 2008, P. 3-4.
3. Evans WC. Pharmacognocny, 16th Ed., Elsevier publisher, Landon, 2009, P. 3.
4. Tripathi KD. In; Essential of Medical Pharmacology, 5th Edn., Jaypee Brothers Medical Publisher Pvt. Ltd., New Delhi. 2004;8-16.
5. Baumann, Leslie: Botanical ingredients in cosmeceuticals. Journal of drugs in dermatology 2007; 61-84.
6. Leichtnam ML, Rolland H, Wuthrich P and Guy RH. Formulation and evaluation of a testosterone transdermal spray. Journal of Pharmaceutical Sciences, 2006; 95(8): 1693-1702..
7. Bakshi A, Bajaj A, Malhotra G, Madan M, et al. A novel metered dose transdermal spray formulation for oxybutynin. Indian Journal of Pharmaceutical Sciences, 2008; 70(6): 733-739.
8. Cocotte W, Tueten B, Kanjanapothi D, Rattanachanpichai E, Chaithong U, Chaiwong. Potential of crude seed extract of celery, *Apium graveolens*, L against the mosquitoes *Aedes aegypti*. Journal of vector ecology, 2004; 29(2): 340-346.
- 9.. Draelos ZD. Astringents, Masks, and Ancillary Skin Care Products. In Textbook of Cosmetic Dermatology, Baran R, Maibach HI, Eds.; CRC Press: Boca Raton, FL, USA, 2017; 5: 178–181.
10. DebjitBhowmik, Harish Gopinath, B Pragati Kumar, S Duraivel Aravind GKP, Sampath Kumar. Medicinal Uses of Punicagranatum and Its Health Benefits; Journal of Pharmacognosy and Phytochemistry, 2013; 1(5).
11. Vibhavari M. Chatur\*, Mrunal Belwate, and Srushti Doshi, Formulation and evaluation of novel herbal topical freshener, 9, 7, 1622 - 1627. Research Article ISSN.