

Creation and Assessment of a Herbal Toning Product Using Shankpushpi Flower

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Abstract: One of the main objectives of natural face toner formulation is to preserve skin and pore tonicity. This study advances our knowledge of the significance of pharmacologically active plant sources. To evaluate the potential antioxidant activity, a comparative investigation was conducted using methanol to extract the fresh flower of *Convolvulus prostrates*. An attempt was made to make a herbal face toner using glycerin (which has lubricating properties), *convolvulus prostrates* extract (which has anti-inflammatory capabilities), *aloe vera gel* (which has antifungal benefits), and rose water (which is astringent for skin). This project's main objective was to develop a herbal skin toner with astringent, relaxing, and soothing qualities for the face and skin that is safe and natural

Key Words: Toner, *Convolvulus Prostrates* Flowers, Anti-inflammatory, Anti-fungal, Lubricating properties, Astringent, Tonicity

Received Date: 29/11/2024

Revised Date: 09/12/2024

Acceptance Date: 18/12/2024

1) INTRODUCTION

1.1 Role of Herbal cosmetics

The term "Herbal Cosmetics" refers to products that are made with a variety of acceptable cosmetic ingredients as a base, and then one or more herbal substances are employed to provide specific cosmetic benefits. (1) Herbal cosmetics are preparations that contain phytochemicals from various botanical sources that affect skin function and supply nutrients essential for a healthy body and skin. For the creation of novel medicinal and cosmetic products, plants are heavily utilized. Products that contain raw or extracted plants are known as herbal cosmetics. In the modern world, ayurvedic cosmetics, also referred to as herbal cosmetics, include the same amazing ingredients. Many traditional remedies make use of organic matter, medicinal herbs, and minerals. Numerous formulations of herbal cosmetics are available, and they are frequently used. Different types of herbs, like tea, tablet, capsule, tincture, cream, syrup, and liquid, can be used for cooking, beauty products, and medicine. (2,3)

1.2 Role of Skin Toner

Toners aid in firming the skin and protect it from various airborne toxins and environmental pollutants. Cosmetic skin toner is formulated to clean the skin and

reduce the look of pores, typically applied on the face.(4) It additionally hydrates, shields, and rejuvenates the skin. When incorporated into your daily skincare regimen and applied consistently, it can greatly improve the look and firmness of your pores (aging skin). There are various methods to apply toners on the skin.

1. On a circular piece of cotton. This method is used most often.
2. Spraying directly onto the face.

A tonic gauze facial mask involves covering a piece of gauze with toner and placing it on the face for a short period.

1.3 Types of Toners

1. Skin fresheners or bracers: It is a mild kind of toner. a toner that contains glycerine (a humectant) and water. The skin's surface is moisturised by humectant. The most common example of it is rosewater. It works best for skin types that are typical, dehydrated, and sensitive. (5,6,7)

2. Skin tonics: Skin tonics are typically stronger and contain water, a humectant component, and a small amount of alcohol (up to 20%). Orange blossom water

is a fantastic illustration of a skin tonic. It is okay to use skin tonics on oily skin.

3. Acid toner: These are a powerful type of toner that frequently includes alpha hydroxy acid and/or beta hydroxy acid. The most often utilised alpha hydroxy acids for exfoliating the skin's surface are glycolic, lactic, and mandelic acids. The most often used beta hydroxy acid is salicylic acid, which is effective for exfoliating the skin's deeper layers.

4. Astringents: The strongest type of toner is an astringent, which contains a lot of alcohol (20–60%), water, antibacterial compounds, and a humectant. These can harm and irritate the skin since they employ a lot of alcohol, which can eliminate the skin's extra protective

1.4 Anatomy of Skin

The skin is the largest organ of the body, making up to 16% of body weight, with a surface area of $1.8m^2$.⁽⁸⁾ It performs many vital functions, including protection against external physical, chemical, and biologic assailants, as well as prevention of excess water loss from the body and a role in thermoregulation. There are three structural layers of skin: the epidermis, the dermis and subcutis. Hair, nails, sebaceous, sweat and apocrine glands are regarded as derivatives of skin. The main cell of the epidermis are the keratinocytes, which synthesize the protein keratin. The epidermis varies the thickness from 0.05 mm on the eyelids to 0.8 ± 1.5 mm on the soles of the feet and palms of the hand.⁽⁹⁾ The dermis varies in thickness, ranging from 0.6 mm on the eyelids to 3 mm on the back, palms and soles. It is found below the epidermis and is composed of although, supportive cell matrix. Subcutis is made up of loose connective tissue and, fat which can be up to 3 cm thick on the abdomen. It protects the body from external trauma and insulates from cold.

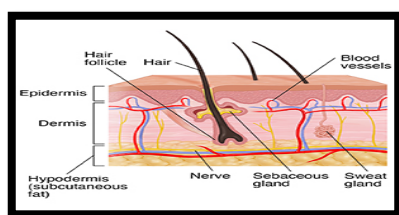


Figure -1: Anatomy of Skin

1.5 Effects of a toner on skin

Previously, skin toner was commonly used as a second cleansing product to eliminate leftover makeup or excessive sebum from the skin before applying nourishing treatments. Toners can be classified as either alcohol-based or non-alcohol-based for different skin types including oily skin, sensitive skin, or combination skin.^(10,11) In current times, the variety and abundance of products have led to skin toners being increasingly used as cosmeceutical products for a range of purposes such as skin rehydration, pH balancing, pore tightening, irritation relief, and antiseptic benefits. Several brands such as Nivea, Pilgrim, Mama earth, Plum, Himalaya, and Kiehl's offer a variety of Toners in the market.

1.6 Benefits of using toner

- Eliminates oil and cosmetics.
- Calms your skin.
- Minimizes the visibility of pores.
- Aids in retaining moisture.
- Revives and firms the skin.
- Serves and defends.
- Maintains the appropriate pH levels.
- Brings back essential nutrients found in nature.^(12,13,14)

2) INTRODUCTION OF CONVULVULUS PROSTRATES FLOWERS

- Synonyms: Convolvulus pluricaulis, Shankpushpi or Aparajit
- Botanical source: It consist whole plant of convolvulus pluricaulis linn. Belonging to family Convolvulaceae
- Morphological Characteristics
- Color (Flower): Blue
- Odour: Characteristics
- Taste: Bitter, Astringent
- Shape: Round or bell shaped^(15,16)

2.1 Phytochemical Which are Present in Shankpushpi

Table -1: Phytochemical which are Present in Shankpushpi

Phytochemical	Shankpushpi (<i>Convolvulus pluricaulis</i>)
Carbohydrates	D-glucose, maltose, rhamnose, malt sugar, starch and other carbohydrates.
Proteins and amino acids	α -amino [alpha-amino] carboxylic acid and Proteins.
Alkaloids	Only convolamine has been identified but other alkaloids convoline (C ₁₆ H ₂₁ N ₀₄), convolidine, convolvine (C ₁₆ H ₂₁ N ₀₄), Confoline (C ₁₇ H ₂₁ N ₀₅), convosine, etc., were found in other species of this family. The plant contains alkaloid shankhapushpine (C ₁₇ H ₂₅ N ₀₂), melting point from 163°C to 164°C.
Fatty acids/volatile oil/Fixed oil	Volatile oil, fatty acids, fatty alcohols; hydrocarbons, myristic acid (30.9%), palmitic acid (66.8%) and linoleic acid (2.3%) and straight chain hydrocarbon, hextriacontane.
Phenolics/Glycosides/Triterpenoid/ Steroids	Scopoletin, β -sitosterol and ceryl alcohol. Chloroform fraction of this contains 20-oxodotriacontanol, tetratriacontanoic acid and 29-oxodotriacontanol, flavonoid-kampferol, steroids-phytosterols, β -sitosterol. CP-1, a phytochemical marker has been isolated and characterised by HPTLC technique Estimation of scopoletin by HPTLC in Shankpushpi and its formulation Estimation of scopoletin by spectrofluorimetric.

2.2 Shankpushpi benefit for skin

Ayurveda recognizes Shankpushpi for its potential benefits for skin health. Regularly consuming Shankpushpi promotes a natural glow and radiance to the skin. The herb's rejuvenating properties are thought to contribute to maintaining skin elasticity and reducing the signs of aging.⁽¹⁷⁾ Reduction of skin damage. Boosts collagen and elasticity in skin cells.

2.3 Other benefits of Shankpushpi

- It improves memory
- Shankpushpi is beneficial to epilepsy patients
- It has analgesic properties
- Helps make hair long and shiny
- Reduce high blood pressure
- It has Antimicrobial, Antifungal and Antibacterial activity
- It has Antioxidant, Cardiovascular and Antiulcer activity^(18,19)

3) MATERIAL AND METHOD

Plant Source: The blue flowers of *Convolvulus Prostrates* Flowers were collected from Botanical Garden (Sneh Rashmi Botanical Garden).

3.1 Materials

Table -2: Components Use for Preparation of Toner

Components	Functions	Source
Convolvulus prostrates Flowers	Anti-Oxidant	Botanical Garden
Aloe Vera	Hydrates the skin	Botanical Garden
Glycerin	Tightens the pores	SCORTIS Vegetable Glycerin
Rose Water	Astringent	Dabur Gulabari

3.2 Method of preparation

Extraction of an active constituent from crude drug (*Convolvulus prostrates*) by Decoction method.

By grinding the fresh sample finely with a mortar and pestle, a methanolic extract was obtained using 80% methanol. The filtered extracts were used.^(21,22)

Preparation of final spray: The extracts derived from the crude drugs (convolvulus prostrates) were combined with aloe vera and glycerine, then stirred properly to create a consistent mixture. (23) Next, the rose water was mixed into the mixture as a way to add a pleasant scent. After the uniform blend is created, the formulation is now filled into the spray bottle and the stability is monitored for Three Month Period of Time. (24,25)

3.3 Formulation of Herbal Toner

Table-3: Formula

Sr. No.	Ingredient	Quantity (50ml)
1.	Convolvulus Prostrates Flowers Extract	10ml
2.	Aloe Vera	05gm
3.	Glycerin	01ml
4.	Rose Water	34ml

4) RESULTS

Table-4: Evaluation Test

Colour	Pacific blue
Odour	Characteristic odour
Appearances	Smooth and hydrated
Homogeneity	Homogeneous
pH	4.46
Surface tension	62 dyne/cm
Viscosity	0.79 cp
Skin irritation	Non-irritant
Skin conditioning	Smooth
Temperature variations	At room temperature product was stable
Spread ability	Easily spreadable
Removal	Easily removable

4.1 Storage condition

Store At Room Temperature

4.2 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

5) CONCLUSION

It is possible to manufacture a stable spray toner with Convolvulus prostrates, according to research and result findings. The formulation of the spray toner yielded very good results. It is very useful for preserving the skin's health and beauty. The goal of the toner was to give the skin an antioxidant and moisturizing effect After application, there was a cleansing effect but no irritation or rashes. It was discovered that the developed formulation was physiochemically stable. The spray formulation proved to be more effective than any other form, including gel or lotion, because it was able to better penetration to Skin. According to the formulation studies mentioned above, the herbal toner that was made has a smoothing, astringent, and renewing impact on the skin. It is non-irritating and suitable for everyday usage to bring out the inherent beauty of human skin. As a result, the herbal toner can be applied topically to restore and revitalize the dry, pale skin.

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