



EXPLORING HERBAL SKIN TONER AS A SKIN CARE & PROTECTIVE COSMETICS: A COMPREHENSIVE REVIEW

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ABSTRACT

Herbal skin toners are natural and effective way to blance refresh fresh Hydrate of skin.the Herbal skin tonar are play an important role in body skin .which are made up of blended Herb botanical and other important natural ingredients.

These toner are gentle and non Irritating to body skin which are good effective against Rashes and good for winter seasons for the Hydrates and Refreshes Balance of skin pH Reduce Inflammation Antimicrobial properties to Related skin In Recently 2022-2024 in there years has been of herbal skin tonner has been intrest in natural and organic skincare products in coustomer life .

INTRODUCTION

Herbal cosmetics are the products derived from natural ingredients which are utilised in cosmetic preparations due to its minor side effects and easy accessibility. [1] In cosmetics, skin toner or simply toner refers to a lotion, tonic or wash designed to cleanse the skin and shrink the appearance of pores, usually used on the face. It also moisturizes, protects and refreshes the skin. Toners can be applied to the skin idifferent ways:

- On a cotton round or ball. (This is the most frequently used method.)
- Spraying onto the face.
- By applying a tonic gauze facial mask—a piece of gauze is covered with toner and left on the face for a few minutes

Some toners may cause some irritation to the skin upon their initial use. Users often apply serum and moisturizer after the toner has dried.[2] The face tonner prepared is completely chemical-free and it will also provide a soothing effect to the skin, protect the skin from sunburn.[3] Before washing your face it has an antioxidant property which hydrates the skin. the preparations containing phytochemical from a variety of botanical sources, which influences the functions of skin and also provide nutrients necessary for the healthy skin and body [4].The natural herbs and their products or extract when used for their aromatic value in cosmetic preparation are called as herbal cosmetics . There has been a common belief that the chemical-based cosmetics may be harmful to the skin and turned in increased awareness among consumers for herbal products which triggered the demand for natural products and natural extracts in cosmetics preparations.[5] Herbal toners have several uses. Toners were first used as a washing agent and then as a facial cleanser in the past.

Basic Structure of Skin:

The skin is the largest organ of the body with a total area of about 20 square feet. The skin protects us from microbes and the elements, helps regulate body temperature and permits the sensations of touch, heat, and cold.

Skin has Three Layers as follows:

- 1. The epidermis:** the outermost layer of skin provides a waterproof barrier and creates our skin tone.
- 2. The dermis:** beneath the epidermis, contains tough connective tissue, hair follicles, and sweat glands.
- 3. Hypodermis:** The deeper subcutaneous tissue, is made of fat and connective tissue

Cosmetics

A substance used to preserve the appearance of the human body that is produced from both naturally occurring and synthesized chemical ingredients is known as cosmetics. Several cosmetics maintain the skin's state while protecting it. Cosmetics are substances applied to the human body to improve and beautify its look. [8,9]

Herbal Cosmetics: Herbal cosmetics are formulations made with phytochemicals derived from various plant sources, which impact skin functions while providing essential nutrients for maintaining healthy skin and body. Herbal cosmetics are made from natural herbs and their products or extracts that are used for their aromatic qualities in cosmetic preparation, Herbal products are more in demand and readily available due to their reduced adverse effects. These days, herbal ingredients are used more often in cosmetic formulations since they are more effective and less harmful than synthetic one's. Looking more attractive, presentable, and beautiful than one's actual age these days has a direct impact on the market's need for cosmeceuticals. [10,11]



Effects of A Toner on Skin

In the past, skin toner was a typical product used as a second cleansing agent for removing residual makeup after regular facial cleansing or used for removing excess sebum secreted from facial skin to prepare the skin before nourishing treatment. Toners may be categorized into alcohol-based or non-alcohol-based toners for various skin types such as oily skin, sensitive skin, or combination skin. Nowadays, the diversity and prevalence of the products cause skin toners to be utilized more as cosmeceutical products with several purposes; for example, rehydrating skin, balancing skin pH, tightening skin pores, relieving irritation, and also antiseptics. Skin toner was frequently served as an additional cleanser to get rid of leftover makeup after doing a routine facial cleansing or as a way to get rid of extra sebum secreted from the face to get ready for nourishing treatments. Alcohol-based and non-alcohol-based toners are available for different skin types, including combination, oily, and sensitive skin. [2] These days, skin toners are used more as cosmeceuticals with multiple uses, such as rehydrating skin, balancing pH, tightening pores, reducing irritation, and also acting as an antiseptics agent, due to the variety and abundance of the products.

Types of Toner :-[13]

1. Skin bracers or freshners
2. Skin tonics
3. Acid toner
4. Astringents

1. Skin Bracers or Freshners.

These toners are the mildest version available. The toner containing glycerin and liquid (humidifier) Humectants hydrate the skin's outer surface and stop moisture from evaporating, keeping it in the topmost layers of the epidermis. Rosewater is a common illustration of this. These toners are extremely kind to skin and perform best on regular, dry, delicate, and dehydrated skin types. Sensitive skin may feel burned by it.

2. Skin Tonics

These are a little stronger and include liquid, a humectant component, and a tiny amount of alcohol (up to 20%). For smooth skin, skin tonics generally safe to apply. Oily, combination, and normal skin types can all benefit from using skin tonics. A particular kind of skin tonic is orange flower water.

3. Acid Toner

These are a highly effective type of toner that usually include beta or alpha hydroxy acid. The purpose of acid toner formulations is to chemically polish the skin. The most frequently employed alpha hydroxy acids are glycolic, lactic, and mandelic acids; these acids are most appropriate for exfoliating the skin's surface. The most commonly utilized beta hydroxy acid that is most effective at cleansing the skin's deeper layers is salicylic acid. Salicylic acid toner and glycolic acid toner, among others, are examples of acid toners.

4. Astringents

These tones are the strongest because they have a high alcohol content (20-60%) along with antiseptics, water, and humectants. When they use a lot of alcohol, these can damage and aggravate skin because they can remove too many protective lipids from the skin. When a large amount of alcohol is utilized, these may eliminate too many protective lipids and degrade skin protein.

Advantages of Toner

1. Pore tightening: Herbal toners can help to tighten pores, which can make acne and blackheads less noticeable. By using the toner on a regular basis, pores can appear less noticeable.
2. Hydrating the skin: A range of herbal toners may be used to hydrate the skin, leaving it feeling supple and moisturized.
3. Calming the skin: Herbal toners often include components like chamomile and aloe vera, which have calming properties and can help calm irritated or inflamed skin.
4. Eliminate impurities: Herbal toners are useful for removing any remaining impurities from the skin, like oil and grime, which can lead to breakouts and other issues with the skin.
5. Improving absorption: Applying a herbal toner prior to other skincare products can help to enhance their absorption and efficacy. Toners tend to absorb quickly into the skin, providing an immediate hydration boost.
6. Refreshing the skin: Herbal toners have the ability to revitalize and restore the skin, leaving it feeling revitalized and infused with vitality.
7. Toners are liquids that are based on water and have soothing and anti-inflammatory properties that can help stop infections and breakouts. They play a vital role in preventing skin infections.
8. A toner gives your skin an extra layer of defense against environmental stressors like pollution, dust, dirt, and sunlight.
9. Toners are composed of various ingredients and are applied to address a range of skin conditions.
10. For oily or acne-prone skin, toners are a blessing.
11. Toners are useful for maintaining pH balance.
12. Restores organic nutrient content.
13. Skin becomes flaky and dry after using alcohol-based toners.



Disadvantages of Toner

1. Skin becomes flaky and dry after using alcohol-based toners.
2. Excessive use could cause skin irritation, such as swelling and redness.11.9.20

Benefits of a Herbal Toner:-[12]

Skin Benefits

1. **Balances Skin pH:** Herbal toners help restore the skin's natural pH balance, reducing the appearance of pores.
2. **Hydrates and Refreshes:** Toners help to hydrate the skin, leaving it feeling refreshed and revitalized.
3. **Tightens Pores:** Certain herbal toners, such as those containing witch hazel or rosewater, can help to tighten pores.
4. **Reduces Inflammation:** Herbal toners with anti-inflammatory properties, such as aloe vera or chamomile, can help to reduce redness and inflammation.

Antimicrobial and Antioxidant Benefits

1. **Antimicrobial Properties:** Certain herbal toners, such as those containing tea tree oil or lavender oil, have antimicrobial properties that can help to control the growth of bacteria and other microorganisms on the skin.
2. **Antioxidant Properties:** Herbal toners rich in antioxidants, such as green tea or rosehip, can help to protect the skin from damage caused by free radicals.

HERBAL REMEDIES USE IN SKIN TONER: -[14,15,16,17,18,19]

1 . Cucumber

In India, cucumbers, In addition to its high water content, which makes it naturally hydrating and essential for healthy, glowing skin, cucumber juice is frequently suggested as a source of silica to improve the complexion and overall health. of the skin.

Synonym :- Cucumissativus ,small prickly cucumber . Cucumis sativus L .

biological source of cucumber is Cucumis sativus, a widely cultivated plant in the gourd .

family - Cucurbitaceae.

Geographical source - South Asia , Himalayas , Eroup , India , Africa .

Chemical constituent - essential oil, amino acids, pectins, starch, sugars, vitamin C, and curcurbita- cin .

Use -

- 1 . Skin Care: Cucumber slices are used to reduce puffiness and hydrate the skin.
2. Hydration: Rich in water, they help maintain hydration.
3. Detoxification: Cucumber water is often used in detox drinks.



Fig – Cucumber

2.Honey :-

Synonyms: Madhu, Mel

Biological source : Sugary secretion deposited in honey comb by the bees *Apis mellifica* , *Apis dorsata* .

Family: Apidae

Geographical Source: Africa, Australia, New zealand , California and India

Chemical constituent - Moisture 14-24%, Dextrose 23-36%, Levulose (Fructose) 30-47%, Sucrose 0.4-6%, Dextrin and Gums 0-7% and Ash 0.1-0.8%.

Use –

- Demulcent and sweetening agent



- Good nutrient to infants and patients.
- Antiseptic and applied to burns and wounds.
- It is used in preparation of creams, lotions, soft drinks and candies



Fig - Honey

3. Tea

Tea is an evergreen shrub having several alternate branches. The leaves are pointed, lanceolate, or elliptically-oblong having short petiolate. The leaves have smooth surface on both sides with a shiny green appearance, a prominent midrib, and pinnately veined on one side.

•**Synonym:**-Folia thea

•**Biological Source:** Tea is the leaf buds and leaves of the plant *Thea sinensis*

•**Family** - Theaceae

•**Geographical Source** - Twig of Tea Herb It is often found in the Sichuan provinces of China and northern part of Burma, and Yunnan

Uses :-

Hydrate: Tea's antioxidant tea polysaccharides absorb and retain moisture.

Protect from aging: Tea's polyphenols absorb ultraviolet radiation and protect skin from environmental harm.

Reduce inflammation: Tea's anti-inflammatory activities improve microcirculation.

Soothe irritation: Cooled chamomile tea can soothe, heal, and ease skin irritation.

Combat oxidative stress: White tea extract can combat oxidative stress, which can damage skin and overall health.

Reduce oil: Black tea is a natural astringent that can reduce oil by having a drying and tightening effect.

Aloes :-

Synonyms:- Mussabar, Kumari, and Aloes.

Biological Source :- Aloe vera is the dried juice obtained from the leaves of various species of Aloe like: 1) Aloe barbadensis Miller (or Curacao Aloe), 2) Aloe ferox Miller (or Cape Aloe),

Family :- Liliaceae.

Chemical Tests 1) Schonteten's or Borax Test: To 5ml of aqueous solution of aloe, borax (0.2gm) is added and heated to dissolve completely. A few drops of this liquid are poured in a test tube filled with water.

A green fluorescence 2) Bromine Test: A pale yellow precipitate of tetrabromaloin is formed on adding bromine to aqueous solution of aloe.

Use :-

1) It is used as a purgative because of its intensely irritating effects on the delicate mucosal lining.

2) It is one of the ingredients of compound pharmaceutical adjunct.



4. Tulsi

Synonym -Gauri, bahumanjari, pavani, gramya,

biological source - Tulsi is the fresh or dried leaves of the *Ocimum* species, such as *Ocimum sanctum* L. and *Ocimum basilicum* L

Family – Lamiaceae

Geographical source - subtropical regions of Asia, Australia, and the western Pacific

Chemical constituent – Phenolic compounds: Eugenol, carvacrol, caryophyllene, rosmarinic acid, linalool, oleanolic acid, and ursolic acid

Monoterpenes: Camphor, cineole, estragol

Sesquiterpenes: Germacrene, caryophyllene, bisabolene

Other compounds: Apigenin, circimaritin, isothymusin, and orientin

Use -

- Anti-inflammatory: Tulsi can reduce redness and inflammation, and soothe irritated skin.
- Antibacterial: Tulsi can help fight acne-causing bacteria.
- Antioxidant: Tulsi can help protect skin from free radicals and UV radiation, which can cause premature aging.
- Hydrating: Tulsi contains vitamin C and essential oils that can nourish and hydrate skin.



Synonyms :- papaia, Pawpaw, melon tree.

biological source - papaya is the plant *Carica papaya*, which is a member of the

family: Caricaceae

geographical source - tropical regions of Central and South America, including southern Mexico and Costa Rica.

chemical constituents, including:

Organic acids: Papaya fruit contains nonvolatile organic acids like citric, fumaric, malic, malonic, succinic, and tartaric acid.

- Vitamins: Papaya is high in vitamins A, B, C, E, and K.
- Minerals: Papaya contains magnesium, copper, calcium, and potassium.
- Alkaloids: Papaya contains alkaloids like carpaine and pseudocarpaine.

Use –

- Hydration: Papaya can help moisturize skin and prevent dryness and flakiness.



- **Anti-aging:** Papaya can help reduce wrinkles and other signs of aging. The antioxidants in papaya can help prevent skin degeneration and promote collagen production.
- **Skin tone:** Papaya can help lighten skin tone and prevent tanning. The enzyme papain in papaya can help even out skin tone and improve complexion.
- **Acne:** Papaya can help combat acne. The papain enzyme in papaya has antibacterial and antifungal properties that can help minimize acne infections.



5. NEEM :-

Synonyms - maliaceae

biological source - neem is the *Azadirachta indica* tree, which is a member of the mahogany

family - (Meliaceae)

Geographical source: The exact origin of the neem is uncertain, but it's likely that it originated in the Assam region of India and northern Myanmar.

Chemical constituents -Nimbocinone, nimolinone, nimocinolides, kulactone, isonimocinolide, myricetin, meldonindiol, margosinolide, vilasinin, isomargosinolide, and desacetyl dihydronimbic acid: Isolated from neem leaves

Use:

Treating skin conditions: Neem can help treat acne, pimples, rashes, eczema, psoriasis, ringworm, and warts.

Removing blemishes: Neem can remove dark spots, acne scars, and blemishes.

Brightening skin: Neem can brighten skin tone and increase skin's natural glow.

Reducing wrinkles: Neem's anti-aging properties can reduce wrinkles and fine lines.



6. Orange Peel

SYNONYMS :- Orange cortex, Bigarade orange, Seville orange, china Orange, Bitter orange peel

Biological Source :-

Orange Peel is consists of fresh and dried outer part of the pericarp of *citrus aurantium* Linn.

Family :- Rutaceae

geographical source - orange peel is the Southeast Himalayan foothills,



Orange peels have many uses -

including in cooking, for health, and for skin care:



7. ROSE WATER

By distilling rose petals with steam, rose water can be obtained. Rose water is fragrant, and it's sometimes used as a mild natural fragrance as an alternative to chemical-filled perfumes. Certain active ingredients, such as phenol (ethanol), linalool, citronellol, nerol, and geraniol, are discovered in rose water. It's been used traditionally in both beauty products and food and drink products. It also comes with plenty of potential health benefits.

Medicinal importance -

- Anti-Inflammatory Action.
- Moisturizing and Anti-Aging Agent.
- Cosmetic & Skin Protection Application.
- Astringent effect on skin pores.
- Skin whitening Agent

Fig – rose water





Method of preparation -

Dissolve aloe extract and neem powder in rose water separately



Allow it to dissolve completely



Filter both the solution.



Mix both solution in the beaker and add glycerin into it.



Then add preservative into it



Pour the solution in the container and add one to three strands of saffron.

Extraction process



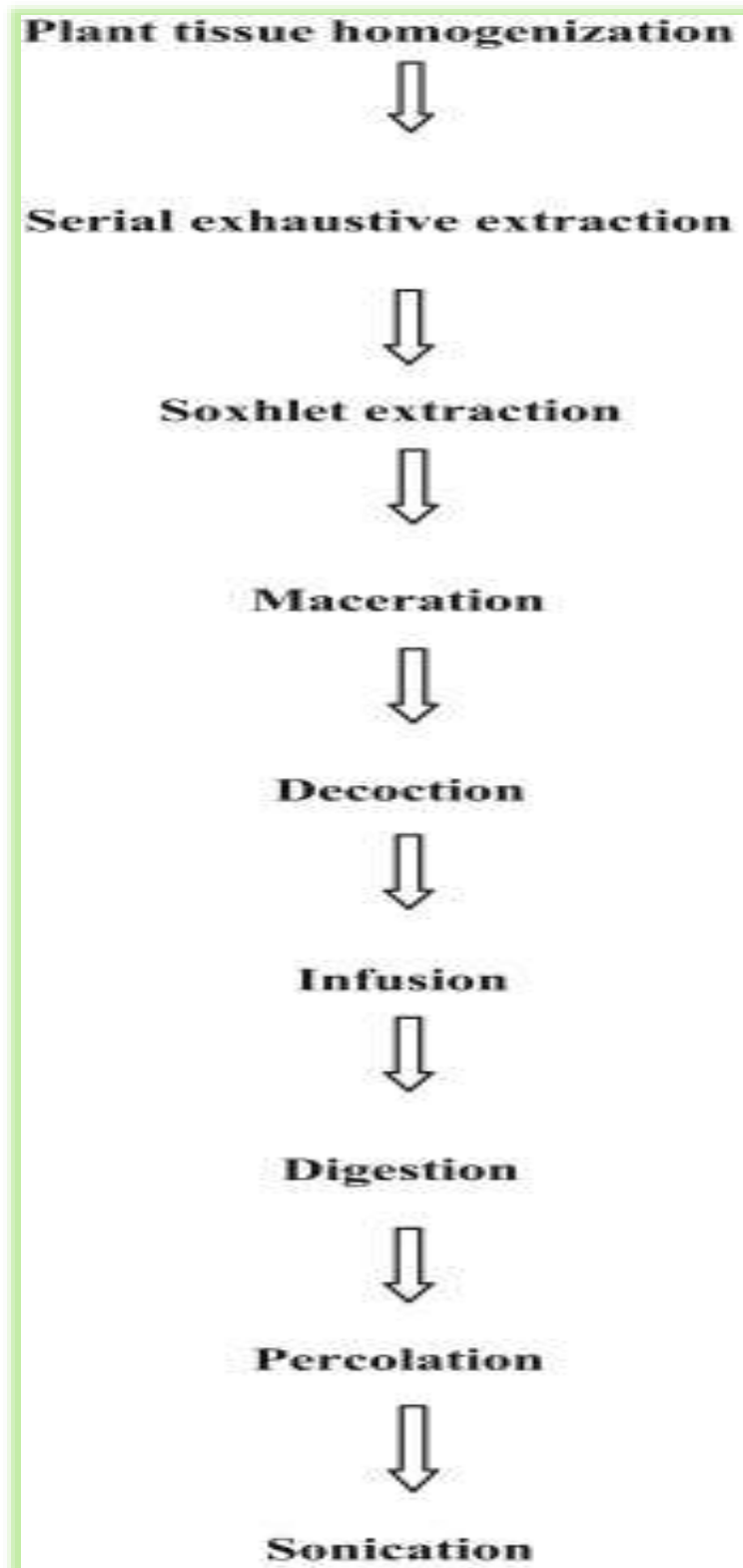


Fig 1- Extraction Method



Formulations Available in Market –

Sr. no	Name	Ingredients	Skin type	Use	Formulation
1	Ayur herbal toner	Rosemary, Aloe vera, rose water	All skin types	Hydrating cleansing, minimize pore size, Balance pH of skin keeps skin fresh.	
2	Jovee's herbal skin toner	Cucumber aloe vera, Chamomile.	Acne prone skin	Cleansing, moisturizing, Soothing, astringent	
3	Wow vit c and niacinamide skin mist toner	Purified water, glycerine, propane diol, witch hazel extract, aloe vera extract, magnesium ascorbic phosphate, lemon essential oil, orange essential oil, polysorbate 20, phenoxyethanol, benzyl alcohol, sodium gluconate	All skin types	Brighten and refreshes skin, restores skin moisture, improve skin texture	
4	Sahdev ayurvedic pore tightening toner	Cucumber, coconut, wheat gram, aloe vera, rose, quincennial,	All skin types	Reduce enlarged pore, hydrates and soothes the skin, restores elasticity, reduce wrinkles	
5	Pore refining toner	Pomegranate, mandarin orange, lemon, aloe vera,	All skin types	Instantly refreshes, hydrate and moisturize, pore tightening	

**Evaluation tests for toner – [13]****1. Organoleptic evaluation :-**

The prepared formulations were assessed for color, odour, and foam production capacity.

- Colour
- Odour
- Texture
- Consistency.

2. Determination of pH

The pH of 50ml solution by using pH meter was determined by the following steps;

- Before use, rinse the electrode with distilled water.
- Calibrate the pH meter by using buffer solutions of 4.01, 7, and 10.01.
- The electrode was transferred to the test solution.
- The readings of pH meter was recorded.

3. Homogeneity

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

4. Surface Tension

The formulation was transferred in the stalagmometer and the surface tension was recorded by drop count method.

5. Viscosity

The viscosity of the face toner was determined by Ostwald viscometer. Solution filled in y arm then sucked or blown up to point 1cm above A. The time for the liquid to fall from mark A to B is measured. The viscosity of water and the formulation was recorded in centipoise.

6. Skin irritation

Small amount of mist toner was sprayed on left hand dorsal skin and kept for sometime and observe wheather it is irritant or non-irritant.

7. Skin conditioning :-

Observe 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.

9. Stickiness :-

It was discovered that the particles were not to be sticky in nature.

10. Spreadability :-

The toner was sprayed onto the hand and spread effortlessly with cotton and a smooth cloth.

11. Removal :-

The face toner should be easily removable.[1,8,23]

CONCLUSION

Herbal toners have gained significant popularity in the cosmetic industry due to their multifaceted benefits for skin health and their natural, less harmful composition compared to synthetic counterparts. They serve a range of purposes, from balancing the skin's pH to tightening pores, improving hydration, and reducing inflammation. The inclusion of botanicals such as aloe vera, tea, neem, tulsi, honey, and cucumber, each with their unique skin benefits, has made herbal toners particularly desirable for individuals seeking natural skincare options. While alcohol-based toners can cause dryness and irritation, herbal toners provide soothing and moisturizing effects, making them suitable for a variety of skin types. The antimicrobial and antioxidant properties of herbal ingredients also help protect the skin from environmental stressors, breakouts, and signs of aging. The growing awareness of the potential adverse effects of chemical-based cosmetics has further fueled the demand for herbal alternatives in skincare.

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