



Exploring Herbal Face Toner As A Skin Care Cosmetics : A Comprehensive Review

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Abstract :

Natural therapies have fewer side effects, are safer, and more effective than chemical medications. Cosmetics are used on the skin to improve features such as tone, texture, color, complexity, personality, and beauty. A healthy body depends on maintaining a healthy epidermis. For both men and women, skin is a beautiful and protective feature of the body. It is a crucial component of one's appearance. There are several cosmetic preparations such as soaps, gels, oils, creams, lotions, toner and moisturizers that are sold in the market. These cosmetics can be used to improve the appearance of wrinkles and shield the skin from various skin conditions, such as acne, blackheads, age spots, rashes, and allergies. Customers have preferred herbal cosmetics over other options because they are more potent, more readily available, and perceived to have fewer side effects. Herbal face toner is a safe, all-natural herbal preparation that has an astringent, calming, and soothing effect on the face.

Keywords : Herbal cosmetics , skin , toner , herbs , evaluation parameter etc.

Introduction :

Since prehistoric times, humans have enhanced their beauty with naturally occurring resources. Cosmetics are well known for being products that make users appear more beautiful^[3]. When makeup first came into being, it was mostly made of naturally occurring materials. However, as science advanced and time passed, new chemicals emerged that are claimed to improve or impart beauty, leading to their use as makeup.^[1] Cosmetics have emerged as a crucial component of women's everyday appearance, thanks to technological advancements and growing awareness of beauty requirements.^[10]

Cosmetics :

The Greek word "kosm tikos," which means to have the ability to organize and decorate, is where the word "cosmetic" originated. Cosmetics are substances that are applied to the human body with the intention of cleansing, beautifying, enhancing attractiveness, and changing appearance without having an adverse effect on the body's functions or structure. Beauty products are designed to prevent acne, remove lines and wrinkles, and regulate oil production.[22]

The term "cosmetics" refers to materials made of artificial and naturally occurring substances that are utilized to preserve the appearance of a person's skin. The different cosmetics keeps the skin healthy and shield it from harm. Cosmetics are substances applied to a person's skin to improve and improve its appearance.[9] Cosmetics are a useful tool for nourishing, cleansing, and moisturizing skin on the face and other parts of the body. They can be applied in different ways to improve skin quality, treat defects, and relieve problems with the skin.[7] Beauty products are used on human skin to improve features such as tone, appearance, color, texture, difficulty, personality, and elegance.[15] Cosmetics are divided into two categories: functional skin enhancers and decorative cosmetics.[16]

Herbs :

Herbs were utilized in the past for both medical purposes and cosmetic purposes. They could be applied directly to the skin or mashed and evaporated, either with or without the addition of additional ingredients. In general, herbs are non-woody plants that wither away after flowering.

This definition has been broadened to include any plant whose parts, whole or as a portion, can be useful as a coloring or beautifying agent, nutritious supplement, even medicinal treatment.[13]

Herbal cosmetics :

Herbal cosmetics are also known to be natural cosmetic products.[1] Herbal cosmetics are made from natural herbs and their products or extracts that are utilized for their aromatic qualities in cosmetic preparation. Herbal cosmetics are concoctions made from phytochemicals derived from various plants, which affect how the skin functions and supply the human body with the nutrients it needs to stay in good health.[3] Herbal cosmetics are products that have been created with one or more herbal ingredients to offer specific cosmetic benefits on top of a base of different cosmetic ingredients that are allowed.[12]

The word "herbal cosmetics" describes products containing phyto-chemicals from various plant sources that impact skin functioning and provide nutrients necessary for the body and skin to be healthier.[19] These days, there is a greater demand for and simplicity of access to herbal products, which has led to a decrease in their adverse reactions and an increase in their application in cosmetic preparations.[9] The fastest-growing category of personal care products is herbal cosmetics. The consumers' preference has been cosmetics made from herbs. The best thing about herbal cosmetics is that they have no adverse effects because they are made entirely of herbs and shrubs. The natural ingredients in the herbs give the body nutrients and other beneficial minerals without having any negative effects on it.[13]

Advantages of herbal cosmetics:

1. They have neither adverse effects nor allergic responses.
2. They blend in with skin and hair effortlessly.
3. Compared to other beauty products in smaller quantities, these are much more efficient.
4. Plant extract has the right pharmacological impacts while reducing the bulk properties of cosmetics.
5. Widely available and present in a wide range of plants.
6. When it comes to their herbal components, they are more stable, pure, and effective.
7. Simple to produce.
8. Herbal cosmetics are simpler to handle and store over an extended period of time.
9. Affordable price.^[14]

SKIN:

The skin is the biggest organ in the body of a person. It is a remarkable and significant organ. Its fleshy surface is covered in nerves, glands, hair, and fingernails. It has hair follicles, which are responsible for holding hair strands to the skin. It acts as a wall dividing the internal and external spaces. Skin varies in its thickness and appearance. For example, the skin on the palms and soles of the feet is thick, but the skin surrounding the eyes is as thin as paper.^[23] The skin is the outermost and superficial layer of the body. It makes up between 15% and 20% of the body's total mass.^[20] The integumentary system consists of the skin and its derivatives, which include the hair, nails, sweat, and oil glands. Protection is one of the skin's primary purposes. It shields our bodies from environmental elements like chemicals, temperatures, and microbes. The biggest organ in the human body, accounting for one-sixth of the body's overall mass. Its area is 20 square feet (adults).^[8] It also shields the tissues of our essential organs, skeletons, and muscles.^[23]

Structure of skin:

The structure of the skin is a complex network that protects the body's first line of defense against pathogenic organisms, UV rays, chemicals, and mechanical trauma.^[8]

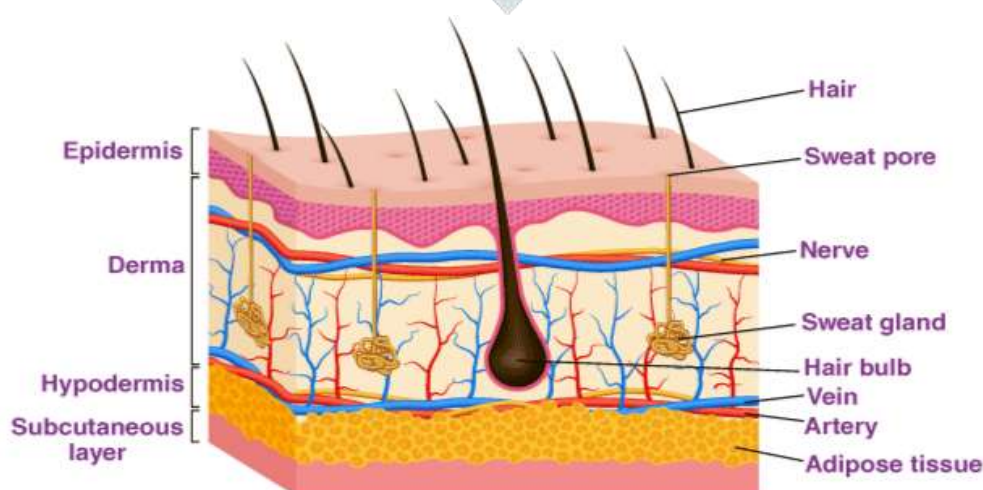


Fig no. 1 :- Structure of skin

LAYERS OF SKIN :

The three layers that make up the structure of human skin are:

- A. Epidermis
- B. Dermis
- C. Hypodermis.

A) EPIDERMIS –

The uppermost and outermost layer of the skin. It is also referred to as the protective layer of the skin. It is between fifteen and one hundred cell layers thick on average, measuring 0.1 mm. It is a non-vascular layer, meaning it lacks blood vessels. The cells that make up this layer are called keratinocytes. The keratinocytes are composed of a protein called keratin. Keratin strengthens and makes the skin impenetrable. Melanocytes, which produce melanin, are also present in this portion of the skin. Merkel cells, which are essential for the perception of light contact, and Langerhans cells, which are a part of the immune system, are also found in the layers of skin.

There are five sublayers that make up this structure which are as follows :

- Stratum basale
- Stratum corneum
- Stratum granulosum
- Stratum lucidum
- Stratum spinosum

Types of epidermal cell :

The epidermis is made up of three primary cell types :

- i. **Melanocytes :-** These basal cell layer cells create a pigment termed melanin, which is absorbed by newly formed cells to provide protection from UV radiation. Genes and sun exposure are the two factors that determine an individual's body's melanin content.
- ii. **Keratinocytes :-** The primary cells that originate in the basal layer and migrate towards the outermost layer are these ones.
- iii. **Langerhans :-** These cells are a component of the immune system because they are trained to defend the body from foreign invaders.

The Basement Membrane is found at the dermo-epidermal junction, which connects the epidermis and dermis layer.

B) DERMIS –

It is the second layer of skin, containing mast cells, fibroblasts, and macrophages that nourish the epidermis right beneath it. It encompasses the majority of the skin. It is made up of projections that resemble fingers called papillae. This layer, which gives the skin its strength and flexibility, is made up of collagen, fat, and fibers. When the dermis is exposed to sunlight, it synthesizes vitamin D to absorb calcium. It is made up of blood vessels that carry blood to the developing cells. They are essential for controlling body temperature as well. Temperature, pressure, and other environmental variables can affect dermal nerves. It also houses the sebaceous oil gland, which secretes sebum, and hair follicles. It functions as a lubricant and shields the skin from microorganisms. Perspiration is expelled via specific ducts by sweat glands found throughout the skin. They assist the body in getting rid of minerals and salts like urea. Every hair shaft is connected to an arrector pili muscle. This facilitates the production of hair during periods of intense or frigid emotion.

C) HYPODERMIS –

The skin on your lower body is called the hypodermis. The innermost part of the skin is the adipose layer, which is composed of fat. Its thickness varies depending on the area in which they appear. For ease of eye movement, the area surrounding the eye is relatively thinner. Storing fat is essential for providing energy and adjusting to changes in temperature. It protects the body from the elements. It shields the internal organs, muscles, and bones from harm by providing cushioning. In addition to storing energy, it also serves as a barrier against injury, an insulator, and a link between the dermis layer of your skin and the bone and muscle tissues. [8,11,23]

Basic skin care:-

Skin type and skin treatment Understanding how our skin works and taking the right care of it are essential for having better skin. To preserve the natural functionality of each type of skin four categories appropriate ingredients are used. Healthy skin can be divided into four types. Fundamental skin care is crucial.[1]

Certain traits and appropriate skin care are needed for different skin types:

- 1) **Normal skin** : This variety is soft, smooth and toned; it also doesn't have any flaky or oily spots or visible pores. It looks transparent, smooth, elastic, and neither greasy nor parched. Essential oils such as chamomile, lavender, and lemon oil can be used in conjunction with pomegranate leaf juice and gingili oil for appropriate herbal care.
- 2) **Dry skin** : It appears parched and feels tight because of its low sebum production and sensibility. It might become parched and split from being too dry. Calendula, olive oil, and aloe vera are useful herbal remedies for dryness of the skin, as are vital oils such as fennel, rose, almond, sandalwood, and avocado.
- 3) **Oily skin**: This type is thick, glossy, and has a dull complexion with acne, coarse pores, and other imperfections. It frequently gets blackheads. Rose buds, oat straw, thyme, chamomile, aloe vera, and

lemongrass are herbs that can be used to treat oily skin, as can essential oils like juniper, lemon, lavender, and sage.

- 4) **Combination skin:** The middle portion of the face, which includes the chin, forehead and nose is oily, while other parts are dry or flaky. For combination skin, herbal care includes menthol, turmeric, sweet flag, and aloe vera, while essential oils like citrus oil, jasmine, and sandalwood oil can be used.^[16]

Common skin problems :-

Skin-related conditions are referred to as skin diseases or skin problems. These could result in irritation, rashes, or other modifications in the skin. Medicines and skin care items are used in the management of diseases or skin conditions. The goal of skin care products is to enhance the skin's look and healthiness.^[8]



Fig.no.2 :- Problems associated with skin

Function of skin :-

- 1) Offers protection from dangerous materials, as well as from heat, mechanical force, and injury to the body.
- 2) Minimizes the loss of humidity.
- 3) reduces the harmful effects of ultraviolet radiation
- 4) Acts as a sense organs, detecting things like temperature.
- 5) Supports the control of the temperature
- 6) A defense mechanism that recognizes infections.
- 7) Controlling the temperature
- 8) Stop water from leaking.
- 9) Removes wastage.
- 10) Obstacles of protection between the interior organs and the outside environment.^[8,20,23]

Toner

Toners have a significant role in a good skin care regimen. After cleansing your skin, toners assist in removing any remaining oil, debris, and makeup. After cleansing, toner is a skin care product that gets applied to the surface of the face and neck. After scrubbing, it is used to eliminate any remaining dirt and dead skin cells. After washing your face, toner eliminates any remaining dirt, debris, and impurities that have become lodged in your skin pores. When incorporated into your regular healthcare regimen and applied consistently, it can significantly improve the appearance and tightness of your pores (aging skin) [3,4,13,21] Toners fall into two categories: those with alcohol base and those without; they are utilized on combination, oily, and sensitive skin types.[9]

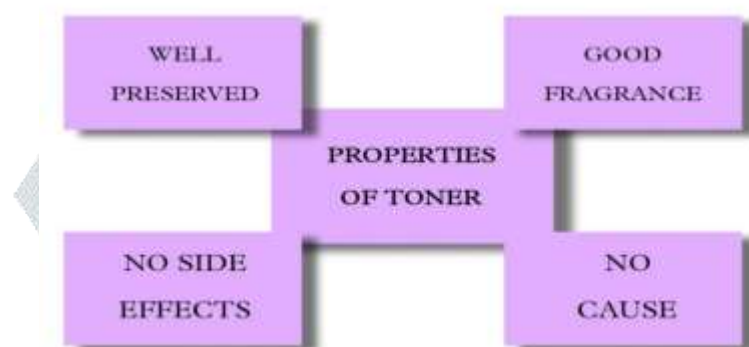


Fig no.3 :- Properties of toner

Information of Toner

Skin toner, or just toner, is a term used in cosmetics to describe a lotion or cleanser that is intended to cleanse the skin and minimize the visibility of pores; it is typically applied to the face. Additionally, it defends, hydrates, and revitalizes the skin. Toners are able to be used in a variety of methods to nourish the skin:

- On a single piece of cotton. (This is the approach that is used the most.)
- Misting directly on the surface of the face.
- By using a toning gauze facial mask, which involves covering a small piece of gauze with toner and leaving it on the skin for a short while.[2]

The following two forms can be used to formulate toners:

- Gel
- Liquid

a) GEL :- Any system of a minimum two components that is either solid or semisolid along with composed of a condensed mass that is surrounded and permeated by a liquid is called a gel. The subcutaneous structure that gives gel and jelly their solid-like qualities is what distinguishes them from one another. Gels and jellies are made up of a small number of solids scattered throughout an extensive amount of liquid, but their characteristics are more like those of solids than liquids.[4]

Advantages of gel toner:

- Gel forms are able to be applied to obtain the best possible percutaneous and cutaneous delivery of drugs.
- More patients comply with them because they are generally harmless.
- They can prevent gastric pH-related problems with the absorption of drugs throughout the digestive system.
- Gels have the ability to prevent drug interactions and enzyme functioning with food, beverages, and various diet-related items.
- They are able to prevent the first pass impact, which is the drug's preliminary passage throughout the body.
- They do not enter the portal vein or circulate throughout the body after digestion.
- Due to liver bypass, gels do not get degraded by hepatic chemicals.
- Gels are placed on the skin in order to absorb them slowly and thoroughly.
- In comparison to other medication types, they provide a localized impact and fewer adverse reactions.^[5]

b) **LIQUID** :- A liquid is a nearly unbreakable material that, under any pressure, fills a vessel to the brim and keeps its volume constant.

Mechanism of spray formulation

The way that the facial mist toner works is explained below.

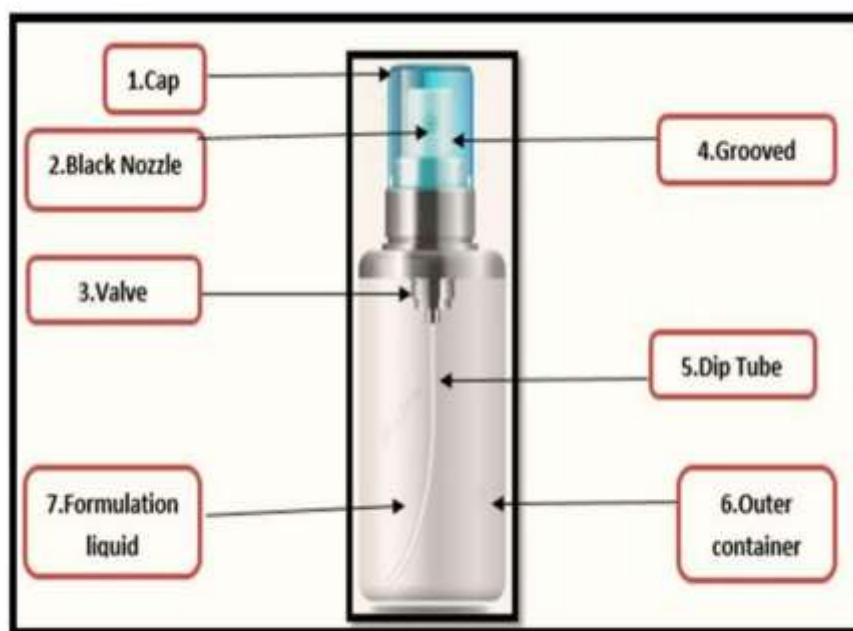


Fig. no.4 :- Mechanism of mist formulation

Pressing the button on top of the spray bottle causes the button with a groove to press. The air is forced into the dip tube by this pumping motion from the nozzle. Now that the top button has been pressed, the pressure inside the tube has decreased. Following this differential, the tube's pressure drops, forcing the liquid out of the tube. Now, because of pressure and force that penetrates the skin, the liquid exits its nozzle by an actuator as tiny misting particles.

Advantages of spray formulations

- The toner is consistent throughout the face and much simpler to apply than any other type.
- Particles of fine mist aid in direct skin pore permeation with a small amount of force.
- The spray form of the composition prevents hydrolysis and other chemical reactions.
- Prevents infection and personal contact in spray formulations .
- Using this form, quick response with improved safety, effectiveness, and appearance is possible.^[1,2]

Types of toner

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

molecules, which can irritate and harm the skin. For instance, distilled vinegar, acacia, bayberry, and witch hazel. [1,8,17]

Effect of toner on skin :-

In the past, 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. [21]

Advantages of toner

- 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.
- Hydrating the skin: A range of herbal toners may be used to hydrate the skin, leaving it feeling supple and moisturized.
- 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.
- 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.
- 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.
- Refreshing the skin : Herbal toners have the ability to revitalize and restore the skin, leaving it feeling revitalised and infused with vitality.[19]
- 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.
- A toner gives your skin an extra layer of defense against environmental stressors like pollution, dust, dirt, and sunlight.
- Toners are composed of various ingredients and are applied to address a range of skin conditions.
- For oily or acne-prone skin, toners are a blessing.
- Toners are useful for maintaining pH balance.
- Restores organic nutrient content.

Disadvantages of toner

- Skin becomes flaky and dry after using alcohol-based toners.
- Excessive use could cause skin irritation. such as swelling and redness.[1,9, 21]

MATERIALS AND METHODS

Various natural ingredients are used in the formulation of skin toner or face toner; Some of them are as follows:-

Herbs used in the formulation of toner :

➤ CUCUMBER :-

In India, cucumbers, *Cucumissativus* (family: Cucurbitaceous), are widely available. 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. Cucumber flesh is mostly made of water, but it also contains ascorbic acid, or vitamin C, and caffeic acid, which are known to relieve skin irritations and minimize swelling. It also helps to hydrate the skin.^[17]



Fig.no.5 :- Cucumber

➤ ALOE VERA :-

The botanical name of Aloe Vera is *Aloe barbadensis miller*. It belongs to Asphodelaceae (Liliaceae) family. It contains Water (98%) and polysaccharides, including pectin, cellulose, hemicellulose, glucomannan, and acemannan which prevents and treats acne and dry skin. Due to its ability to heal, moisturize, and soften skin, it is a common ingredient in cosmetics. It also has a calming effect, a detoxifying effect, and antioxidant activity. Excellent skin burn therapy.

Aloe Vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids. Aloe vera is applied topically to facial tissues, where it is marketed as an anti-irritant and moisturizer to lessen nose chafing.^[2,13,17]



Fig.no.6 :- Aloe vera

➤ **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.[2,3]

Medicinal importance

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



Fig.no.7 :- Rose Water

➤ **PAPAYA :-**

Papaya known as *Carica papaya L.*; belong to family (Caricaceae). Papaya is an effective acne treatment because it contains the proteolytic enzyme papain, which also helps to prevent future breakouts of acne. To treat skin impurities, the papain enzyme found in papaya exfoliates dead skin cells. Papaya

peel has anti-aging properties. The peel contains enzymes that remove dead cells from the surface of the skin. This helps to remove wrinkles and age spots. Papaya is rich in vitamin A,C and E; which are potent antioxidants that protect the skin from free radical damage, further enhancing its anti-aging effect and helps in lightening of your skin.[18]



Fig.no.8 :- Papaya

➤ PEPPERMINT :-

Peppermint, botanically known as *Mentha piperita* L. is an aromatic perennial herb, producing creeping stolons and belongs to family (Lamiaceae). The variety name *Mentha* is gotten from the Greek *Mintha*.

The plant develops from 45 to 80 cm tall and the leaves have a dull green tone that is paler underneath, are inverse, petiolate, prais, forcefully seriate, pointed, and smoother on top than below. It helps to avoid breakouts by unclogging pores and balancing oily skin. It helps with acne issues because of its antioxidant qualities. It is also ideal for use in the sweltering summer months due to its cooling effect on the skin.



Fig.no.9 :- Peppermint

➤ HONEY :-

A variety of substances, including proteins, carbs, amino acids, vitamins, minerals, and antioxidants, are found in honey. It has an effective ingredient called fructose that cleanses the face. The main group of antioxidants in honey are the Flavonoids. Honey that is naturally darker has more antioxidants. Honey contains a variety of aromatic acids as well as acetic, butanoic, formic, citric, succinic, lactic, malic, pyroglutamic, and gluconic acids. Nearly no cholesterol is present in bees honey. The healing process of your skin cells is accelerated by honey. Raw honey has the potential to accelerate healing and decrease inflammation in cases of skin imperfections or eczema breakouts.

Additionally, honey contains trace amounts of the following vitamins and minerals: calcium, iron, zinc, potassium, phosphorous, magnesium, selenium, chromium, and manganese.^[2,3,17]



Fig.no. 10 :- Honey

➤ GREEN TEA :-

Green tea is tea made solely with the leaves of *Camellia sinensis* belonging to family (Theaceae). Green tea is an excellent skin protector that can be used topically, ingested as a beverage, or taken as a dietary supplement. It reduces inflammation and guards against direct cell damage. Green tea are some 20 times stronger in their antioxidant powers than even vitamin.^[12,13]



Fig.no.11 :- Green tea

➤ **NEEM :-**

The herb, *Azadirachta indica*, family Meliaceae. It has blood-purifying and beauty-enhancing qualities. There are several medical uses for it. Skin cleanser is one area where it can be used to treat common cosmetic issues. Neem's natural ability to reduce acne and breakouts is beneficial. It also has anti-inflammatory qualities that lessen skin redness, enhance the general tone of the skin, calm irritation, and regulate excessive oil production to stop acne from coming back and heal existing scars and blemishes.^[12]



Fig.no.12 :- Neem

➤ **ORANGE PEEL :-**

Citrus sinensis is a member of the Rutaceae family. The orange peel, which covers citrus fruits, is a rich source of various nutrients, including calcium, magnesium, potassium, and vitamin C. It shields the skin from oxidative stress, free radical damage, and dehydration. Additionally, it prevents wrinkles, blemishes, acne, and aging. It also has an instant glow.



Fig. no.13 :- Orange peel

➤ **CARROT :-**

It is obtained from the plant *Daucus carota* belonging to the Family (Apiaceae or Umbelliferae). It is recommended to use carrot seed oil for antiaging, revitalization, and rejuvenation, because it encourages the growth of new cells and lessens wrinkles. It revitalizes and tones the skin naturally. The carrot gets its characteristic and bright orange colour from β -carotene,

and lesser amounts of α -carotene and Γ -carotene. α and β -carotenes are partly metabolized into vitamin A in humans.^[13,22]



Fig. no.14 :- Carrot

➤ **TULSI :-**

Tulsi otherwise called sacred basil or *Ocimum tenuiflorum* is a sweet-smelling perpetual plant, belongs to the family (Lamiaceae). It contains a ton of vitamin K and cell reinforcements. It contains active constituents such as eugenol, epi-alpha-cadinol, bergamotene. Tulsi aids in deep pore cleaning and a complete cleansing of the skin, because of its anti-inflammatory, anti-septic, and anti-bacterial qualities, it is used to treat acne and skin irritations. It aids in getting rid of excess oil, pollutants, and dirt that aggravates skin conditions.^[6]



Fig.no.15 :- Tulsi

List of herbal ingredient used in the formulations of herbal toner

Sr. no.	Name of Ingredient	Active Constituents	Uses
1.	Cucumber	Ascorbic acid (vitamin C) and caffeic acid.	Smoothing of the skin and antioxidant action.
2.	Aloe vera	Water (98%) and polysaccharides, including pectin, cellulose, hemicellulose, glucomannan, Vitamins, Minerals, Amino acids, Enzymes.	Skin moistening, Hydrates the skin, removes dead cells from skin. It also Prevents and treats acne and dry skin. It have antioxidant effect, cooling effect.
3.	Honey	Fructose	Cleansing action on face.
4.	Peppermint	Menthol	Astringent, antimicrobial property.
5.	Neem	m-Toluyaldehyde, methyl 14-methylpentadecanoate, Lineoleoyl chloride.	Tightens the skin pores, maintain pH.
6.	Green Tea	Polyphenol, caffeine, theobromine, theophylline	Boost skin elasticity, Prevent acne.
7.	Tulsi	Eugenol, epi-alpha-cadinol, bergamotene	Treat acne & skin irritations due to its anti-inflammatory, anti-septic and anti-bacterial properties. Eliminate dirt, impurities and excess oil that causes skin problems.
8.	Lemon juice	Citric acid	Preservative, antimicrobial property, vitamin c.
9.	Rose water	Phenyl ethanol, nerol, geraniol, Linalool, citronellol.	Flavoring agent and mild astringent effect on pores to avoid dirty pores on the skin. Skin elasticity, antiwrinkle, anti-oxidant.
10.	Sugar cane juice	Alpha hydroxyl acid	Fight acne & ageing & hydrate to skin.

11.	Pomegranate	Vit.C , Vit.A , Minerals , Tartaric acid.	Reduce the face mass, Protect from UV rays, Show Astringent property.
12.	Tomato juice	Vit.E, Citric acid, Malic acid.	Replacement of the skin cells. Protect from UV rays & provide redness.
13.	Carrot	Carotene, Vitamin A	Maintains skin tone, anti- wrinkle, rashes.
14.	Papaya	Papain	Treat acne ,
15.	Lemmon grass	Citral,geranyl,geraniol,isoneral,flavonoid s, terpenoids,alkaloids etc.	Antioxidant, prevent acne
16.	Orange peel	Vit. C , Polyphenol,flavonoids etc.	Fight aging , fades dark spot , decongests pores
17.	Sandlewood		Anti-tanning,anti-aging property. It also helps skin in many ways like toning effect, emollient,antibacterial properties, cooling astringent property, soothing and healing property.
18.	Turmeric	Curcumin, p-Cymene, Myrcene, Turmerone, α -Pinene, β -Pinene, Terpinolene etc.	It is used as anti-septic, analgesic, anti- inflammatory, anti-oxidant.

Evaluation tests for toner

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]

12. Patch test :-

This test are performed for gel formulation of toner. In this test, about 1-3gm of material to be tested was placed on a piece of fabric or funnel and applied to the sensitive part of the skin e.g., skin behind ears. The cosmetic to be tested was applied to an area of 1sq.m. of the skin. Control patches were also applied. The site of patch is inspected after 24 hrs. As there was no reaction the test was repeated three times. As no reaction was observed on third application, the person may be taken as not hypersensitive.

13. Smear type test :-

The test was conducted after the application of gel on the skin the smear formed was oily or aqueous in nature.^[3]

Conclusion :

In conclusion, herbal face toners have emerged as a popular and effective component in skincare routines, offering a range of benefits due to their natural ingredients. These toners often contain extracts from plants and herbs known for their soothing, anti-inflammatory, and antioxidant properties. They help balance the skin's pH, tighten pores, and provide a refreshing and hydrating effect, which can be particularly beneficial for individuals with sensitive skin. However, it is essential to note that the efficacy of herbal face toners can vary based on the specific formulation and the individual's skin type. People prefer them because they are free from harsh chemicals and are environmentally friendly.

References

1. Parbhane M. , Auti A. etal. ; Formulation and evaluation of herbal toner, WJPPS , Vol. 11 , Issue 9 ; Accepted on: 05 Aug 2022, DOI: <https://doi.org/10.20959/wjpps20229-22649>
2. Vaibhavari M. C. , Walode S. G. , etal.; Formulation and evaluation of basic parameter of herbal toner mist for skin, IJPPR, Vol. 21 , Issue 2 ; Accepted on : 02 May 2021.
3. Agaldare S. ; Satpute V. etal. ; Face care cosmetic – A Review on herbal face toner , WJPR, Vol. 12 , Issue 5; Accepted on : 05 April 2023; DOI : <https://doi.org/10.20959/wjpr20235-27485>
4. Gayake R.D. , Bagwan L.R. ;Formulation and characterization of herbal face gel toner, IJPRA, Vol. 7 , Issue 3, Accepted on 02 July 2022, DOI : <https://doi.org/10.35629/7781-070323742378>
5. Chatur V. M. , Walode S. G.,etal.; Formulation and physical characterization of herbal face gel toner , WJARR, 11(01) , 138-135 , Accepted on 20 July 2021, DOI: <https://doi.org/10.30574/wjarr.2021.11.1.0333>
6. Mohit pal, Ansul Sharma, etal.; A detail analysis of herbal cosmetics, Neuro Quantology, Vol. 20 , Issue 15, p. 6367-6381 DOI : <https://doi.org/10.48047/NQ.2022.20.15.NQ88637>
7. Arora R., Aggarwal G., etal.; Herbal active ingredients use in skin cosmetics, AJPCR, Vol.12, Issue 9, Accepted on 12 July 2019, DOI: <http://dx.doi.org/10.22159/ajpcr.2019.v12i9.33620>
8. Tyagi A., Antil S.; To prepare herbal face toner and comparative evaluation with marketed herbal toner, IJPRA, Vol. 8, Issue 4, Accepted on 25 Aug 2023 DOI: <https://doi.org/10.35629/7781-080423602380>
9. Mhaske S., Wayal V., etal.; Formulation and evaluation of herbal face toner, IJARSCT, Vol. 2, Issue 5, Accepted on June 2022, DOI: <https://doi.org/10.48175/ijarsct-4872>
10. Sadsyam S., Auliah N., etal.; Antioxidant evaluation of facial toner formulation containing ethyl acetate fraction from garcinia mangostana L. fruit using ABTS 2,2-azinobis 3-ethyl benzothiazoline 6-sulphonic acid method, JHSMD, Vol. 2, Accepted on 10 May 2022, DOI: <https://doi.org/10.56741/hesmed.v2i02.266>
11. Ahuja A., Gupta J., etal.; Miracles of herbal phytomedicines in treatment of skin disorders:Natural health care perspective, BS, Accepted on 20 May 2020, DOI: <https://doi.org/10.2174/1871526520666200622142710>
12. Gediya S., Mistry R. B. etal. ; Herbal plants : Used as a cosmetics , SRL, 2011,1 (1); <http://scholarsresearchlibrary.com/archive.html>
13. Khade S. S. , Ugale S. S. , etal. ; Review on herbal used for glowing skin , IJRMETS , Vol.6, Issue:1 , Accepted on : Jan 2024 , DOI: <https://www.doi.org/10.56726/irjmets48554>
14. Devi N. , Kumar A. etal.; A Review on herbal cosmetics,WJPR, Vol.7,Issue 8,Accepted on :3 April 2018 ; DOI : <https://doi.org/10.20959wjpr20188-11845>
15. Chandrasekar R. , A Comprehensive review on herbal cosmetics in the management of skin diseases , RJTCS , Vol.11, Issue 1, DOI : <https://doi.org/10.5958/2321-5844.2020.00007.2>

16. Bala S. , Singh T. ,etal.; Formulation and evaluation of polyherbal face toner containing Chrysanthemum Indicum , IJRR, Vol 11, Issue 2 , Accepted on: Feb 2024, DOI : <https://doi.org/10.52403/ijrr.20240207>
17. Jadhav Y.A. , Gaikwad V.J., Formulation and evaluation of herbal face toner , IJRPR , Vol. 5, Accepted on : Jan 2024
18. Mendhekar S.Y. , Indore P.B. , etal. ; Development and of cream contain polyfruit extract: As skin toner and anti-ageing ,WJPR ; Vol.6, Issue 17, DOI : <https://doi.org/10.20959/wjpr201717-10435>
19. Patil S. , Deshmukh A. , etal. ; Formulation and evaluation of herbal toner prepared using varrious herbal entities, IJIRT; Vol.9, Issue 12, DOI:<https://doi.org/ijirt160216>
20. Patil S. , Deshmukh A. , etal. ; Formulation and evaluation of face serum, IJIRT; Vol. 9, Issue 12, DOI : <https://doi.org/ijirt160193>
21. Gunjal S. S. , Somvanshi A.A.,etal.; Formulation and evaluation of herbal face toner, IJAR SCT; Vol. 2, Issue 1, Accepted on : June 2022, DOI : <https://doi.org/10.48175/ijarsct-4660>
22. Venkatachalam D., Thavamani S. B.; etal., Review on herbal cosmetics in skin care, IAJPS, Vol .6 , Issue 1, Accepted on: 2019 , <http://www.iajps.com>
23. Agrawal V. S. , Singh M. etal. ; Formulation and evaluation of herbal toner by using leaves of Azadirachta Indica : A Rview , IJCRT ; Vol. 11, Issue 8 , Accepted on : Aug 2023 , DOI : <https://doi.org/ijcrt2308499>

