

Formulation and Evaluation of Herbal Facial Toner

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ABSTRACT

Natural remedies have lesser side effects, secure and also acceptable than chemical ones. In the world market, formulations with natural ingredients have more accessible. For delivering the drug immediately to the site of action, which gives prolonged action is the benefits of topical drug delivery system. Skin is the main path of delivery of drug in TDDS. The ingredients are easily available which are being used. They are not only easily available but also has nutritional value from topical point of view and more economical. To formulate and evaluate the formulation is the motive of this project. It is natural and safe herbal preparation which gives calming, soothing and astringent effect on the face. The natural ingredients like aloe vera, cucumber also the peppermint, lemongrass and rose water used in the formulation. It having ability to reduce the facial irritation as well as to enhance beauty. We can use it in our daily busy schedule. Face toner is estimated for its physicochemical properties, surface tension, pH and stability. Most popular advantages of herbal cosmetics are, they are non toxic in nature and they having tendency to reduce allergic reactions. 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 *Convolvulus prostratus* extract (which has anti-inflammatory Properties), aloe vera gel (which has antifungal properties), and Glycerine (which has lubricating properties) for your skin. 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. The revealed results were within acceptable bounds, with Minimal or no negative effects. As a result, it can be stated that herbal face toner is far Superior than currently available synthetic face toners in terms of ingredients and Effectiveness on our face skin, as well as suitability for all skin types. The goal of this study Was to create a herbal face toner that contained herbal extract that was utilised not only for Anti-inflammatory effect but also to prevent bacterial growth. Its formula was created for the Skin having mild sensitivity issue so it won't produce any type of reaction as the flower Extract shows anti-inflammatory reaction on skin.

Keywords: Herbal Face Toner, Adverse Effects, Hygiene, Antidepressant activity,, Aloe vera, Cucumber, Pepper mint, Lemmon grass

INTRODUCTION

From the ancient days, people use naturally available resources to enhance their beauty. It is known that cosmetics are the products used to enhance and impart beauty to the user. In Earlier days, naturally available ingredients were generally used as cosmetics, but with the Passage of time and improvement in science, several chemicals came into existence that is Said to impart or enhance beauty, thus used as cosmetics. Using these chemical-based Products can impart beauty for a particular time but it harms our skin when used for a long Time. Many harmful effects have been noticed due to the usage of chemical-based products, Thus now day's cosmetics industry mainly focuses on

the preparation of herbal products (4).The face tonner prepared is completely chemical-free and it will also provide a soothing Effect to the skin, protect the skin from sunburn.

Herbal cosmetics

Natural cosmetics are another name for herbal cosmetics. Herbal treatments are becoming Increasingly popular due to their absence of negative effects. Humankind took the attractive Dive into impressing others with their appearance at the dawn of civilization. There were no Expensive fairness creams or cosmetic operations available at the time. To begin with, all They had was natural knowledge

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gathered through the Ayurveda system. A few herbs and Floras were used in the art of Ayurveda to create effective Ayurvedic cosmetics. Ayurvedic Cosmetics not only improved the appearance of the skin, but also protected the body from Environmental influences. Ayurvedic cosmetics, often known as herbal cosmetics, contain the same wonderful resources In today's world. Medicinal plants, minerals, and organic matter are used in many traditional Therapies. Herbal cosmetics are available in a wide range of formulations and are widely Utilised on a regular basis. Herbal cosmetics such as herbal conditioner, herbal soaps, herbal Face wash, herbal shampoo, and others are extremely popular. The nicest part about herbal Cosmetics is that they are produced entirely of herbs and shrubs. The natural material in herbs Has no effect on the human body; instead, complement the body with supplements and other Beneficial minerals. Herbal cosmetics are made up of floras such as saffron (kesar), ashwagandha, sandal (Chandan), and many more, which are supplemented with healthy nutrients and all of the Necessary components. Although only about 70 spices are officially recognised, it is Estimated that around 400 tastes are used worldwide. Herbs come in a variety of forms, including tea, tablet, capsule, tincture, cream, syrup, and liquid, and serve as culinary Flavourings, cosmetics, and medication. The global herbal sector is currently valued at more Than US\$10 billion and growing at a three to four percent annual rate due to increased Processed food consumption, desire for ethnic foods, natural scents, and beverage innovation Products. In terms of manufacture and consumption, Europe is the largest market, followed by Ashia.

Herbal face toner:

Toner is water based totally liquid which contains energetic components to cleanse the skin, keeping Skin pH stable, shrink pores and grant an immediately glow. Before washing your face, it removes the dirt and impurities Which are stuck on pores of skin. When brought to daily routine of skin treatement and used regularly, it having major Positive impact on the apperance and ageing skin. It has an antioxidant property which hydrates the skin. Effect of toner on the

skin: After cleansing of the face the leftover makeup was eliminate by the toner, act as a secondary Cleansing agent, which prepare th skin for nourishment. Alcohol-based and non- alcohol based are two category of toner, it is used for oily, sensitive and combination type of skin.

Types of toners

1) Skin bracers or fresheners

These are the mildest form of toners.

2) Skin tonics

These are slightly stronger and contain a small quantity of alcohol (up to 20%), water, and a Humectant ingredient.

3) Acid toner

These are a strong form of toner that typically contains alpha hydroxy acid and or beta Hudroxy acid.

4) Astringents

These are the strongest form of toner and contain a high proportion of alcohol (20–60%), Antiseptic ingredients, water, and a humectant ingredient. 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 anticeptic. Vitamin C Toner preps the skin for Serum & Moisturizing by removing the last traces of dirt, makeup, or impurities after face wash or cleansing, and restoring skin nutrients that cleansers can remove.

Application Area:

Face and Neck

Key Benefits:

- Repairs Sun damage
- Restores pH level
- Promotes natural moisture and hydration
- Tightens and Tones Skin
- Non-Alcoholic
- Natural SPF
- Anti-oxidant
- Stimulates Collagen Production

Advantages of Toner

- To extra cleansing and Refreshes skin.
- To minimizes appearance of pores.
- To restores skins pH balance.
- To hydrates and Replenishes.
- To refreshes skin.
- To prevent infection and break-down.

Disadvantages of Toner

Toner comes with alcohol make the skin dry and flaky. If use in excess, It cause irritation. i.e. redness and swelling.

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

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. Cosmeceutical

Cosmeceuticals is fastest growing segment of the beauty industry. Cosmeceuticals are cosmetic-pharmaceutical products intended to improve the health and beauty of the skin by providing a specific result, ranging from acne-control and anti-wrinkle effects, to sun protection.

7. Basic skin care

Skin type and skin care to have better skin, it is very important to understand how our skin functions and take proper care to maintain it. The skin classified into 4 type 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: 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. Toning: Toners 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. Moisturizing: The moisturizer is use for skin to smooth and supple. 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 wound.

Advantage of toner

- Removes Oil and Makeup.
- Soothes your skin.
- Reduces the appearance of pores.
- Helps lock in moisture.
- Refreshes and Tightens the skin.
- Serves and Protects.
- Balances pH levels.
- Restores natural nutrients.



(Vitamin c facial toner)

Advantages of spray formulations

Application of the toner is much easier than any other form and uniform all over the face. Fine mist particles help good penetration with some pressure directly into the pores of the Skin. The hydrolysis or any chemical reaction can be avoided with the formulation in spray

Form. No direct contact or contamination can occur when the formulation is in spray form. Rapid action with better efficacy, safety, and design can be provided with this form.

MATERIALS AND METHODS

Sr.No.	Materials	Quantity
1	Rose water	5ml
2	Orange juice	Q.s up to 100ml.
3	Mint	2ml
4	Lemon oil	1ml
5	Glycerine	1ml



Prepared formulation of herbal face toner was subjected to following evaluation Parameter

1. Organoleptic characteristics

Organoleptic Characteristics were assessed from colour

a. Homogeneity

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

b. 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.

c. Surface tension

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

2. Viscosity

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

3. Skin irritation

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

4. Skin conditioning

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

5. Temperature variations

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

METHODS OF PREPARATION

- o Collect the juice of ingredients.
- o Measure the juice in beaker as per formula.
- o Mixed it all in beaker.
- o Pour into a spray container.
- o Labelled and Used for future research.

Benefits



How to use:



Extraction of orange peels mint and lemon oil



Evaluation Parameter for Gel

□ Physical Evaluation

1.PH: About 1 gm gel was accurately weighed and dispersed in 100 ml purified water. The PH of the dispersion was measured by using digital PH meter. The measurement of PH were done.

2.Homogeneity: The developed formulations were tested for homogeneity by visual inspection after the gel has been filled in the container. They were tested for their appearance and presence of the any aggregates.

3.Viscosity: The measurements of viscosity of the gels was done with DV-I Brookfield viscometer and the corresponding reading was noted.

4.Spreadability: Adequate amount of sample is taken in between two glasses slides and a weight of 1 gm applied on the slides for 5 min and the observe the spreadability. Spreadability can be calculated by following formula: $S = M \times L / T$

Where S: Spreadability
M: Weight tide the upper slide.
L: Length of glass slide
T: Time taken to separate the slides.

5.Antimicrobial Study: Nutrient agar was transferred were sterilized at 121°C in autoclave about 15 min. The microbial strain was dispersed in medium and poured into the petri dish and allow to cool until it solidifies cups are prepared with the help of sterile steel. Formulation are placed in in the cups and

incubated for 24 hrs, the zone of inhibition was observed.

6.Washability: Formulation was applied on the skin and then ease of extend washing with water was checked.

7.Stability Test: Physical stability of the herbal gel was carried out for 4 weeks at various temperature

condition like 2°C, 25°C, and 37°C. The herbal gel was found to be physically stable at different temperature.

8.Anti-Inflammatory study: Curcumin, the colourant in turmeric, is rich in polyphenols and blocks one of the metabolic pathways leading to inflammation, reducing the effects of pathologies such as osteoarthritis.

Equipment:

Sr.No.	Equipment
1	Weighing machine
2	Ph meter
3	Beaker
4	Measuring cylinder
5	Stirrer

1.Weighing machine: A weighing balance is an instrument that is used to determine the weight or mass of an object. It is available in a wide range of sizes with multiple weighing capacities and is an essential tool in laboratories, commercial kitchens and pharmacies.

2.ph meter: pH meter is an instrument used to measure acidity or alkalinity of a solution - also known as pH. pH is the unit of measure that describes the degree of acidity or alkalinity.

3.beaker: A beaker is a cylindrical glass or plastic vessel used for holding liquids. It is a multi- purpose piece of equipment used for containing a chemical reaction, measuring liquids, heating them over a Bunsen burner's flame or collecting them in a titration experiment.

4.measuring cylinder: graduated cylinder, also known as a measuring cylinder or mixing cylinder, is a common piece of laboratory equipment used to measure the volume of a liquid. It has a narrow cylindrical shape. Each marked line on the graduated cylinder represents the amount of liquid that has been measured.

5.stirrer: This device is used to make a stir bar, immerse in a liquid, quickly spin, or stirring or mixing a solution.

The mechanism of action of the face spray toner can be explained as follows: Mechanism of action of the spray formulation When the button on the top of the spray bottle is pressed, it pumps the grooved button. This Pumping action forces the air from the nozzle to the dip tube. Now there is a drop in the Pressure of top of tube due to pressing the top button. After this difference pressure falls in the tube and the liquid is forced up from the tube. The liquid now leaves the nozzle through the actuator as small mist droplets due to pressure and applied on skin through force penetrating inside skin.



Design of toner spray fig

Dull skin conditions are common in dry skin types because the outer layer of skin peels off and accumulates. This skin condition, makes facial skin look duller, scaly, easy to peel, and looks wrinkled due to invisible pores. In addition to dry skin types, dull skin conditions can also occur in other skin types.

MECHANISM OF SPRAY ACTION



Some of the factors that cause dull skin include the use of the wrong products, air pollution, unhealthy lifestyles, and stress. The human body has a regeneration mechanism for the skin, or in other words, the body can restore dull skin to be fresh and beautiful again. According to the skin needs time to regenerate for 14 – 28 days. However, in this study, the face toner formula used natural ingredients, namely dates, which contained the same benefits as the face toner formula, namely vitamin C and antioxidants to brighten Facial skin and ward off free radicals. According to Preparations must have the appropriate aroma Requirements, clear colors, liquid textures and do not give a sticky impression, and give a fresh impression on the Skin. The purpose of research on antioxidants and vitamin C in date water toner products and the feasibility of date Water toner to brighten dull facial skin in terms of sensory Tests, preference tests, and clinical trials. An aroma is a form of olfactory technique using the Nose interest of clients or the public. The color of the date Water toner is influenced by the brown flesh of the dates. The requirements for toner preparations must be clear, not cloudy. Toner preparations must have a liquid texture and do not cause a sticky impression on the face when Used. The fresh impression and absorption of cosmetics at the first use are quite important assessments in Assessing preferences for the impression of use [4]. The Sensitivity indicator uses an open patch test technique or A patch test which is carried out by applying the test Preparation to normal human skin to know whether the Reaction to the preparation can cause skin irritation or not. Toner removes any last traces of dirt, grime and impurities

stuck in your pores after you wash your face. When added to your daily skincare routine and used regularly, it can have major positive impact on the appearance and tightness of your pores. Toners are applied after cleansing, in the morning and at night. They help balance the skin's pH and remove excess dirt, oil, makeup, and other impurities. All skin types can benefit from including a gentle, hydrating toner in their daily routine. Toners were originally developed to remove soap scum from the face when lye-based soaps combined with hard water left a sticky residue post cleansing. The alcohol-based toner removed the soap scum eliminating irritation and contributing to cleanser mildness.

Best toners for glowing skin

Cetaphil Bright Healthy Radiance Refresh Toner. This skin toner brightens and evens skin tone within 4 weeks of usage. Lairs Supple Preparation Unscented Toner. Dot & Key Rice Water Probiotics Hydrating Toner. The Body Shop Tea Tree Facial Toner.

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Facial toner can offer extra hydration, keep your face clean and refreshed, minimize the Appearance of pores, and more. Keep reading for all the diets on facial toner, why facial toner is important, and 7 reasons to start using it ASAP – or check out this short video

Main Takeaways: Using a toner post-cleanser helps set the stage for the rest of your skincare routine. Toners can also calm your skin, visibly reduce pores, and keep your skin refreshed and hydrated.**Good to Know:** Many toners contain alcohol, which can dry out your skin and cause irritation, so be sure to check the ingredients list.**Recommended Product:** Rose and Shine Rose Water Toner.

How Facial Toner Works and Why It's Worth Using

You may be wondering, what is a facial toner? Does it really do anything? In a nutshell, toners are usually designed to restore balance and hydration to your skin after cleansing, but they can also help minimize the

appearance of pores, temporarily tighten skin, and naturally remove oil and dirt. Adding a face toner to your everyday routine can often be the key to a radiant, more refreshed look. P.S. Toner isn't the same as micellar water.

What Does Toner Do for Skin: 5 Benefits



When wondering whether to add a facial toner to your routine, here are seven key reasons to keep in mind

1. Balances your skin after cleansing.

Some cleansers can over strip your skin as it cleanses, drying it out in the process. Applying a toner after cleansing helps to restore balance to your skin, keeping it from feeling too tight or dry.

2. Hydrates your skin.

Facial toners are water-based, aiming at restoring hydration to your skin after cleansing. Many include additional hydrating ingredients to bind the water to your skin for longer-lasting results.

3. Refreshes your skin.

Spritzing your skin with a spray on toner is a great way to start (and end) your daily routine. It feels amazing — and you deserve to treat yourself.

4. Soothes your skin.

Using a botanically sourced facial toner is a great way to create a calming sensation for your skin, alleviating any temporary redness or discomfort.

5. Helps remove oil and makeup.

Adding a facial toner to your daily routine can help breakout excess dirt and other impurities left on your skin. All in all, adding a facial toner to your twice-a-day skin care routine is easy, quick, and affordable and it can make a significant difference in how your body's largest organ looks and feels.

Which Facial Toner Should You Use?

Choosing the right toner for face doesn't have to be complicated. Your best bet is to choose natural products and avoid certain ingredients that can irritate your skin or cause unwanted flare ups of existing issues.

RESULTS AND DISCUSSION

The final formulation was subjected to various physicochemical tests. All the tests were performed according to every test standard procedure. All the results were recorded and found within the standard

ranges. The pH, surface tension, viscosity, and stability were studied thoroughly and were within the range. No any discoloration was found after light exposure to the formulation. The formulation was also effective to produce conditioning on the skin and non-irritant in nature. At last, the removability of toner was found to be easily Removable. His herbal formulation especially in a toner form was prepared by using the ingredients which are available in day-to-day life also, which were very natural and harmless. The main purpose behind formulating it in the form of toner was its easiness in applicability and spread ability. Also formulating a toner was intended so as to check whether they are able to produce the cleansing effect in liquid form by seeing the observations and the results, it proved to be satisfactory. The formulation showed on application had very soothing and cleansing toning effect on and most importantly the skin. It gave the feeling of tightened skin.

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 physio chemically 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 skin pores.

REFERENCE

1. C. K. Kokate, A.P. Purohit, S. B. Gokhale, *Pharmacognosy*, 50, 15.91-15.92
2. Baumann, Leslie: Botanical ingredients in cosmeceuticals. *Journal of drugs in Dermatology*, 2007; 6: 1-84.
3. Vaidyanathan R, Anand B: Importance of Chemistry in Herbal Cosmetics and

- Cosmeceuticals. Research journal of pharmacy and technology, 2017; 10(12): 4460- 4462.
4. Edward Hart: Cosmetics. Journal of the American Chemical Society, 1904; 26: 333-335.
5. Kalicanin, Biljana: A study of the possible harmful effects of cosmetic beauty products on human health. Biological trace element research, 2015; 170: 15 – 477.
6. I brahim SA. Spray-on transdermal drug delivery systems. Expert Opinion on Drug Delivery, 2015; 12(2): 195-205.
7. Leichtnam ML, Rolland H, Wuthrich P and Guy RH. Formulation and evaluation of testosterone transdermal spray. Journal of Pharmaceutical Sciences, 2006;95(8):1693-
8. 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-
9. Choochote 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.
10. Draelos ZD. Astringents, Masks, and Ancillary Skin Care Products. In Textbook of Cosmetic Dermatology, Baran R, Maibach HI, Eds.; CRCPress: Boca Raton, FL, USA, 2017; 5: 178–181.
11. DebjitBhowmik, Harish Gopinath, B Pragati Kumar, S Duraivel Aravind GKP, Sampath Kumar. Medicinal Uses of Punicagranatumand Its Health Benefits; Journal of Pharmacognosy and Phytochemistry, 2013; 1(5).
12. Vibhavari M. Chatur*, Mrunal Belwate, and Srushti Doshi, Formulation and evaluation of novel herbal topical freshener, 9, 7, 1622 - 1627. Research Article ISSN 2278 – 4357
13. Draelos ZD. Astringents, Masks, and Ancillary Skin Care Products. In Textbook of Cosmetic Dermatology, Baran R, Maibach HI, Eds.; CRCPress: Boca Raton, FL, USA.

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