

## A Systematic Review on Herbal Face Serum for Multi-Purpose Uses

<sup>1</sup>Thorat Pankaj, <sup>2</sup>Thorat Shubhangi, <sup>3</sup>Tuptewar Gauri, <sup>4</sup>Wagh Sakshi, <sup>5</sup>Yerawar Swaraj, \*Bobade Sujata

\*Lecturer Saraswati Institute Of Pharmacy, Kurtadi -431701

<sup>1,2,3,4,5</sup> B-Pharm Final Year Saraswati Institute Of Pharmacy, Kurtadi -431701

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### ABSTRACT:

The world has now come to the realization that herbal formulations are safer and more effective than synthetic ones. It increases the global demand for herbal formulations. The primary purpose of herbal cosmetics is to preserve and protect an individual's look. Face serum has the ability to swiftly penetrate the skin's layers. Customers searching for skincare products that are both eco-friendly and effective are increasingly choosing herbal face serums. Serum offers a rich, non-greasy composition with a high concentration of active ingredients, as well as quick absorption and the capacity to penetrate the skin's deeper layers. The serum has the ability to penetrate deeper layers of the skin and has the quality of rapid absorption. Because of their powerful botanical ingredients and skin-nourishing properties, herbal face serums are becoming more and more well-liked as natural skincare treatments. Plant extracts, essential oils, and bioactive substances are used in the formulation of these serums to hydrate, revitalize, and shield the skin. Herbal alternatives to traditional serums employ fewer synthetic chemicals, which lowers the possibility of discomfort and negative responses. Many people use herbal cosmetics on a regular basis, and they are quite necessary in today's environment.

**KEYWORDS:** skin, face serum, antiageing, plant based, natural ingredient, brightening etc.

### I. INTRODUCTION:

Herbal extracts as the name indicates are derived from herbs with historical importance in the Vedas, Bible, and Unani writings. To define the pedestal in which one or more herbal components are worn to deliver particular cosmetic advantages, the word "herbal cosmetics" refers to goods manufactured with a variety of approved cosmetic compounds <sup>[1]</sup>. The use of herbal therapies as an adjuvant to allopathic treatments, which are the

only ones utilized in traditional medicine, is becoming increasingly popular. Understanding the effects of external chemicals on our bodies necessitates a knowledge of human skin, particularly in dermatology, toxicology, pharmacology, and cosmetology. People have always been drawn to beauty and health, and they continue to seek techniques to seem youthful and healthy <sup>[2]</sup>. Serums are a sort of hydrating skin care product that may release active ingredients and penetrate the skin more thoroughly. A high-quality face serum may increase moisture, minimize pore size, and give your skin a smoother, firmer structure <sup>[3]</sup>. Like any other cream, face serum is a highly concentrated mixture of water or oil. Because serums, often referred to as concentrates, include around ten times as many physiologically active chemicals as creams, they can address cosmetic concerns more rapidly and effectively. Numerous active compounds included in face serums help treat a range of skin conditions. They include a combination of active ingredients that address a number of related issues in addition to a particular skin condition. Compared to moisturizers, serums are lighter skincare formulations <sup>[4]</sup>. Because of its numerous therapeutic benefits, herbal remedies have been used to treat a range of skin disorders since ancient times. Unlike synthetic chemicals, herbal compounds have a harmonic combination of bioactive components that work together to improve skin health. Since their medicinal potential was discovered, some herbal products are gaining a lot of interest in the skincare industry <sup>[5]</sup>. These days, herbal face serums are a popular choice for those seeking mild yet potent skincare solutions. These serums, which take a holistic approach to skincare, harness the power of nature to treat a variety of skin issues. Natural components like oils and concentrated plant extracts make up herbal face

serums, which are lightweight and rapidly absorbed [6].

### HISTORY OF FACIAL SERUMS:

It is not surprising that the ancestors of modern serums were derived from cattle placenta, horse blood, and egg albumin, as the dictionary describes a serum as the clear, yellowish fluid that is generated by separating whole blood into its solid and liquid components after it has been allowed to clot. To guarantee the products' commercial availability, oxyquinoline (and subsequently parabens) ampoules were used to maintain their sterility. Since then, this method has been employed when goods had limited shelf life and little quantities needed to be prepared and consumed right away to prevent spoiling. In the 1800s, people placed a great priority on skincare, exercise, and cleanliness. Despite the intention of using zinc oxide to lighten the skin, allergic reactions were frequent. The cost of hygiene items decreased and their availability increased [7].

### Objective of Research:

Finding the best and most stable face serum is the primary goal of this research. This study's specific goals are to:

- 1) Optimize the face serum formulation's thickeners and emulsifiers in terms of viscosity and pH value.
- 2) To identify the face serum formulation with the highest stability based on microbiological and physicochemical stability studies.
- 3) To describe the face serum formulation's sensory profile and flow characteristics

### TYPE OF FACE SERUM:

1. Oil serum.
2. Gel serum.
3. Water based serum.
4. The emulsion serum.
5. Pressed balm serum

#### 1. Oil serum:

The easiest kind of face serum to prepare is an oil serum. Usually, it is composed of high-quality, quickly absorbed carrier oils with moisturizing and barrier-repairing qualities. Essential fatty acids, polyphenols, and other compounds that are readily absorbed by the skin are also present in these oils [8].



Figure 1: Oil serum.

**2. Gel Serum:** Gel serums give the skin a "tightening" feeling, which makes certain parts of the face feel tighter or more lifted. This kind of serum is a water-based formulation since it permits the addition of plant extracts that are based on water [9].



Figure 2: Gel serum.

#### 3. Water based serum:

Gel-based serums are similar to water-based serums, though they might or might not contain gums and thickeners. A water-based face serum would be used to apply the high-performance hydrophilic plant extracts that are trapped against the skin underneath a cream or lotion. The best way to encourage greater absorption of water-based compounds into the skin and move their high-performance components a little bit deeper into the skin layers is to apply an anti-aging face mist first under an emulsion and then oil [10].



**Figure3: Water based serum**

#### 4. The emulsion serum:

An emulsion-based face serum is a kind of moisturizer that delivers high-performance skin components while reinforcing the skin's barrier. It joins two "immiscible" phases, such water and oil, and uses an emulsifier to keep them together and in a stable form. High performance actives are best delivered by this serum deep into the skin's tissues [11].



**Figure 4: Emulsion serum.**

#### 5. Pressed balm serum:

A balm serum contains active ingredients that are oil-soluble (lipophilic) and may benefit the skin in addition to the traditional balm base of butters, waxes, and oils. The occlusive barrier that the butters and waxes create on the skin nourishes and moisturizes it while enabling the active ingredients in the pressed serum to perform their functions. Thousands of beautiful plant oils can be mixed with dozens of interesting, unusual butters and waxes to create a balm serum [12].



**Figure5: pressed balm serum.**

#### IDEAL PROPERTIES OF FACE SERUM:

- **Reduces itchy skin:** Aloe vera is well known for its ability to regenerate cells and fight off viruses. Aloe gel's advantages are comparable to those of putting it to a sunburn [13].
- **Deep hydration:** have the special capacity to both raise and lower skin moisture [13].
- **Lessens blemishes and acne:** Bael fruit prevents the formation of bacteria, which is the main cause of pimples and acne [14].
- **Diminish puffiness and dark circles:** Antioxidants and vitamin E aid in the coloring of the eyelids, and cooling properties lessen puffiness [14].
- It reduces the visibility of under-eye circles [15].
- It encourages the production of collagen and gets rid of dead skin cells [15].
- Its antioxidant qualities support skin that looks healthy [15].

#### ADVANTAGES OF FACE SERUM:

- ❖ Compared to moisturizers, serums have a lighter composition that allows for easier penetration because of their thinner consistency, which contributes to their quick rate of skin absorption.
- ❖ Facial serums increase the skin's production of collagen, which promotes firmness and reduces the appearance of wrinkles and fine lines.
- ❖ Serums help maintain a healthy complexion by offering protection against free radicals [16].

#### HOW TO USE FACE SERUM:

- **Cleanse your skin:** Start by washing your face. Use a gentle cleanser that is appropriate for your skin type to remove any debris, oil,

and pollutants from your skin. Use a fresh towel to pat dry your skin.



**Figure1: Showing washing and cleaning of face.**

- **Tone (optional):** If you use a toner as part of your skincare routine, apply it only after cleansing. Toners can aid in restoring equilibrium to the skin's pH levels and prepare it for improved absorption of the upcoming skincare regimen.
- **Apply serum:** Apply a pea-sized amount of face serum with your fingertips. As you may remember, a little goes a long way, so you don't need to use a lot of serum.



**Figure2: Applying serum.**

- **Apply to face:** Gently pat the serum onto your skin, beginning in the center of your face and

going outward. Refrain from twisting or tugging at the skin near the delicate eye area.





- Use light, upward strokes to massage the serum into your skin. Focus on trouble spots or regions like wrinkles, dark spots, or fine lines where you want to treat specific skincare issues.













**Figure 3: Showing gentle massaging while applying serum.**






- **Permit absorption:** Give the serum a few minutes to fully seep into the skin before applying any further skincare products. This makes it easier for the active substances to penetrate deeply and function effectively.
- **Moisturize the skin:** To seal in moisture and give the skin more nourishment, apply a moisturizer after the serum has been absorbed.
- **Daytime Sunscreen:** If you use the serum in the morning, protect your skin from harmful UV rays by using a broad-spectrum sunscreen at the conclusion of your skincare routine.
- **Nighttime routine (optional):** Use the serum in place of sunscreen at night, followed by any other skincare products that are appropriate for the evening, including face oil or eye cream.
- Consistency is the key to excellent outcomes. Every day, incorporate the face serum into your skincare routine, either in the morning or at night. As recommended by a dermatologist or skincare specialist, incorporate it into your daily routine.

**List of Plants Used In Formulation Of Herbal Face Serum With Its Functional Properties:**


Sr No.	Name of plant	Chemical constituents	Functional properties	Parts used in face serum preparation	Image of plant
1	Aloevera	Amino acids, polysaccharides, minerals, organic acids, phenolic compounds, anthrones, C-glycosides	Anti-inflammatory, antiitch, pain reduction, wound healing, antioxidant properties	Aloe leaf gel <sup>[17]</sup>	
2	Liquorice	Glycyrrhizin, flavonoids, coumarins, triterpenoids	Anti-inflammatory, antioxidant, antimicrobial, hepatoprotective properties	Roots <sup>[17]</sup>	
3	Manjistha	Rubiadin, purpurin, munjistin, p-methoxy benzoic acid	Anti-inflammatory, antioxidant, antimicrobial properties	Dried roots <sup>[17]</sup>	
4	Lavender	Linalool, linalyl acetate, lavandulyl acetate	Relaxant, anti-anxiety, anti-inflammatory properties	Essential Oil of Flowers <sup>[17]</sup>	

5	Rosemary	Rosmarinic acid, carnosic acid, ursolic acid	Antioxidant, anti-inflammatory, memory enhancing properties	Leaves <sup>[18]</sup>	
6	Green Tea	Catechins (EGCG), caffeine	Antioxidant, anti-inflammatory, weight loss support properties	Leaves <sup>[18]</sup>	
7	Almond	Oleic acid, linoleic acid, vitamin E	Moisturizing, anti-aging, skin barrier repair properties	Oil <sup>[18]</sup>	
8	Coconut	Lauric acid, caprylic acid, vitamin E	Moisturizing, antimicrobial, anti-inflammatory properties	Oil <sup>[19]</sup>	
9	Ginseng	Ginsenosides	Adaptogenic (stress-reducing), immune-boosting properties	Root and Leaf <sup>[20]</sup>	

10	Jojoba	Wax esters	Moisturizing (similar to skin's natural oils), antiinflammatory properties	Oil <sup>[20]</sup>	
11	Olive	Oleuropein	Antioxidant (anti-aging), anti-inflammatory properties	Fruit and leaves <sup>[20]</sup>	
12	Turmeric	Curcumin	Anti-inflammatory (arthritis relief), antioxidant properties	Rhizomes of turmeric <sup>[21]</sup>	
13	Calendula	Flavonoids(quer cetin),triterpenoids Thymol	Anti-inflammatory (skin conditions), wound healing properties	Petals <sup>[22]</sup>	
14	Thyme	Thymol	Antimicrobial (against bacteria and fungi), antioxidant properties	Oil <sup>[23]</sup>	

15	Peppermint	Menthol	Digestive aid (relieves indigestion), headache relief properties	Oil <sup>[24]</sup>	
16	Chamomile	Apigenin	Relaxant (calms nerves and promotes sleep), anti-inflammatory properties	Flower's Oil <sup>[25]</sup>	
17	Shea Butter	Oleic acid, stearic acid	Moisturizing (skin and hair), anti-inflammatory properties	Oil shea butter <sup>[26]</sup>	
18	Argan	Tocopherols (vitamin E), fatty acids	Moisturizing (skin and hair), antioxidant properties	Argan oil <sup>[27]</sup>	
19	Cilantro	Linalool	Antioxidant (removes free radicals), antimicrobial properties	Leaves or coriander leaves <sup>[28]</sup>	



20	Bay Leaf	Eugenol	Anti-inflammatory (joint pain relief), digestive aid properties	Leaf Oil <sup>[29]</sup>	
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## II. CONCLUSION:

This report's objective was to investigate the definition of face serums, their background, and their general significance. The study comprises the appropriate application sequence and selection. These days, there are a fantastic number of serums on the market for every skin type and skin issue, so it's critical to know exactly what you want in a serum. Herbal face serums are a natural and effective option for anyone looking for light yet effective skincare solutions. Herbal face serums reduce the risk of adverse reactions that are commonly associated with synthetic components while meeting a wide range of skincare needs, from moisturizing and nourishing to calming and energizing. Given customers growing demand for clean and green beauty products, herbal face serums are an eco-friendly and versatile solution that provides a full skincare program that improves both appearance and wellbeing. All skin types can benefit from herbal face serums, which have a wide range of effects from moisturizing and calming to brightening and rejuvenating. Your skin will feel and look its best after using herbal face serums, which are a rejuvenating and stimulating treatment that may be used either by itself or in combination with other skincare products.

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