

Formulation of Herbal Face Serum Containing Aloe Vera and Citric Acid: A Review

Neha joshi*, Rohit Ade*, Gokul Gangurde*, Bhagyashree.S.Suryawanshi*,
Mahavir Institute of Pharmacy, Nashik

Submitted: 15-11-2022

Accepted: 26-11-2022

ABSTRACT:

Herbal medicine has been used huge amount in all over the world.

As well as in India for primary health Care. In this the aloe vera plant is used as medicinal & skin care properties. Skin aging, acne & facial wrinkle are major problems of skin due to photodamage & Ultraviolet rays. There is no effective cosmetics present to resist skin aging & acne. Aloe vera, vitamin e, Glycerin and citric acid is a highly concentrated cosmetic product of face serum. Serum shows property to penetrate into deeper layer of the skin. Aloe vera plant contain number of Vitamins such as vit B12, VitA, Vit c, Vit E & also contain folic acid, Enzyme, anthraquinones, minerals carbohydrates, proteins, Hormones, saponins & lignin. Aloe vera has anti-inflammatory & antibacterial properties therefore it can decrease acne & reduce skin inflammation, Citric acid is appeared from orange fruit shows antioxidant properties which fight infections & keep our skin toxin free due to presence of vitamin c. Citric present in Aloe Vera help in control of skin ageing, unclogs the pores & also moisturizes the skin.

I. INTRODUCTION: -

The body's largest and vital organ, the skin is steadily working to recover and maintain itself [12]. The outermost layer of the skin is epidermis and innermost is dermis [15]. Over several reasons, including UV radiation and pollutants, dry patches of skin can periodically form. Overnight wear of makeup can also irritate or trigger an allergic reaction [12]. Skin care protecting cosmetic are available all over the world in many spectrums such as gel, sunscreen lotion, face cleanser, skin serum, anti-pigmentation creams.

In that a serum is a skin care product with a gel, light lotion, or hydrating consistency that can penetrate the skin more deeply to deliver active ingredients [12]. A highly concentrated product based on water and oil is a cosmetic serum. It has an extremely high concentration of an active ingredient [16]. Serum gives your skin a smoother,

denser texture, decreases pore generation, moisturizes deeply, prevents wrinkles, and acts as an anti-aging skin product. Many more natural herbs advised by Ayurveda for a variety of skin problems. Aloe vera, Citric Fruits, Glycerin, Rose water, Sandalwood oil, containing face serum is highly concentrated cosmetic product. The antibacterial and antifungal properties of aloe vera extract help in the treatment of mild skin problems [12].

Aloe Vera (aloe barbadense miller) The ideal plant for cosmetic industry is aloe vera [3]. The ubiquitous MRD *P. aeruginosa* strains can directly endanger the patient's life in alongside increasing the capital gearing [1]. The species count is 360. Two different products are found in plants' long, pointed leaves: yellow latex (external) and clear mucilaginous. Gel after removing the thick outer layer (portion), a gel is exposed. Gel is composed of 99.3% water and remaining 7.7% contains a variety of active substances. From the interior gel a total of 75 active components have been found. It is a clump-forming perennial plant with a dense fibrous root system and a lifespan of 12-years [4]. The structural system components of cellulose in aloe vera lignin, that have absorbing capabilities and is beneficial for skin problems includes eczema and psoriasis [3]. In hot and dry regions of North Africa, the middle east of Asia, the southern Mediterranean, and the Canary Islands, is widely dispersed [2]. The widespread and unselective use of antibiotics is widely regarded as a leading factor in the need for invasive operations. The common MDR *P. aeruginosa* strains not only raise the financial burden but also pose a direct threat to the patient's life. One of these well-known medicinal plants, aloe vera, has antibacterial and anti-inflammatory properties and has been used to treat variety of infectious disorders in humans [1]. Aloe vera has been utilized widely in pharmacology and cosmetics. This medicinal plant has traditionally been used to heal skin issues. It has also demonstrated additional medicinal

properties, such as antioxidant, anti-diabetic, and anti-hyperlipidemic ones.

It includes vitamins B12, A, C and E. Auxins and Gibberellins, two hormones, are contained in serum, a skin-care product or light lotion[2]. aloe vera was use medicinally for a variety of purpose, but its principle actions were as an emollient, purgative, antibacterial, anti-inflammatory, antioxidant, aphrodisiac, generally pro antifungal cosmetic [3] The citrus fruit known as orange , which is a

membrane of rutaceae family is widely grown and processed for use in a variety of goods World Wide containing orange juice which is associated to the manufacturing of significant amount of orange peel [23] Its acidic qualities encourage pore opening and thoroughly remove all dirt and impurities from your face it also regulate sebaceous gland so there are no longer any blocked pores if anyone have oily skin [24]

ACTIVE INGREDIENTS OF ALOE VERA AND THEIR FUNCTION

	Class	Components	Uses, properties
1]	Enzyme	<ul style="list-style-type: none"> • Carboxypeptidase • Phosphoenolpyruvate • Carboxylase • Lipase • Amylase • Cyclooxygenase • Oxidase • Superoxide dismutase 	<ul style="list-style-type: none"> • Bradykinase help to reduce excessive inflammation when applied to the skin topically. • Digestion • Free radical neutralization • Antifungal and Antiviral activity
2]	Amino acid	<ul style="list-style-type: none"> • Lysine • Leucine • Phenylalanine • Methionine • Tyrosine • valine 	<ul style="list-style-type: none"> • 20 of the 22 human required amino acids required for nutrition • 7 of the 8 amino acids required for nutrition
3]	Anthssraquinone s	<ul style="list-style-type: none"> • Aloin (A and B) • Aloe emodin • Emodin • Easter of cinnamic acid 	<ul style="list-style-type: none"> • Aloin and emodin acts as analgesics • Antibacterial and antivirals • Laxatives • Cancer
4]	Vitamins	<ul style="list-style-type: none"> • B1 • B2 • B6 • A • C • Folic acid • Choline • B12 	<ul style="list-style-type: none"> • Vitamin A,C and E are antioxidant • Antioxidant neutralizes free radicals • Nutritional additives

5]	Minerals	Ca, Cr, Cu, Fe, Mg, Mn, K, Na, Zn	<ul style="list-style-type: none"> • Essential for good health • Nutritional additives
6]	Carbohydrates	<ul style="list-style-type: none"> • Monosaccharides • Mucopolysaccharides • Cellulose • Pectic substance • Xylose 	<ul style="list-style-type: none"> • Anti-inflammatory • Antiviral • A glycoprotein with antiallergic properties called alprogen and novel
7]	Proteins	<ul style="list-style-type: none"> • Lectins • Lectin like substance 	<ul style="list-style-type: none"> • it also contains salicylic acid that possesses anti-inflammatory and anti-bacterial properties • when included in topical preparation, enhances penetrative effect of the other ingredients into skin
8]	Hormones	<ul style="list-style-type: none"> • Auxins and gibberellins 	<ul style="list-style-type: none"> • That helps in wound healing and have anti-inflammatory action
9]	Saponins		<ul style="list-style-type: none"> • antiseptic • foaming • cleansing
10]	Lignin		<ul style="list-style-type: none"> • Included in topical preparations enhances the penetrative effect of other ingredients
11]	Flavonoids	<ul style="list-style-type: none"> • Hesperidin • naringenin 	<ul style="list-style-type: none"> • anti-inflammatory action • antioxidant property
12]	Carotenoids	<ul style="list-style-type: none"> • Beta-cryptoxanthin • Lycopene 	<ul style="list-style-type: none"> • Antioxidant of body
13]	Citric acid	Alpha-hydroxy acid (AHA)	<ul style="list-style-type: none"> • It can brighten the skin • Minimize fine lines and even skin tone • It is effective for killing harmful bacteria which can cause some severe skin infections • It is useful for stain removal



INGREDIENTS OF FACE SERUM:

SR. NO.	INGREDIENTS	USR OF INGREDIENTS
1	Citric acid (orange)	<ul style="list-style-type: none"> • Restorative health supplements properties that help to reverse severe photodamage • Protective antioxidant • Primarily it is use as an exfoliant

2	Vitamin-E	<ul style="list-style-type: none"> • Vitamin E helpful in controlling hyperpigmentation • It is essential for preventing skin damage • It require for restore skin's natural health
3	Aloe vera gel	<ul style="list-style-type: none"> • Helps to moisturize the skin • It anti-ageing properties • It reduces skin infection • Aloe vera also has high water content regular use of aloe vera in serum it can make skin radiant and youthful
4	Glycerin	<ul style="list-style-type: none"> • Glycerin is a humectant • A type of moisturizing agent that pulls water the outer layer of skin from deeper levels of the skin and the air • It improve the skin barrier function
5	Almond Oil	<ul style="list-style-type: none"> • Almond oil is use as an moisturizer as well as emollient which responsible for skin smoothing • Treats dry skin • Helps reverse sun damage • Reduce puffiness and under-eye circles.
6	De Mineralized Water	<ul style="list-style-type: none"> • It included hydrating properties which are helpful for maintaining viscosity of serum.

BENIFITS OF FACE SERUM:

1. SOOTHES IRRITATED SKIN: Aloe vera has been known to have antiviral and cell regenerative properties. That rubbing on aloe to a sunburn feels and it has just as many benefits.
2. DEEP HYDRATION: face serum Have a unique ability to increase and retail skin moisture.[20]
3. FIGHT ACNE AND FADES BLEMISHES:it has an Anti-inflammatoryproperties. It prevents bacteria build-up that is the main cause of pimples and acne.
4. REMOVE DARCK CIRCLE AND PUFFINESS: it is packed with vitamin E and antioxidant which helps in discoloration around the eye and cooling effect helps to the puffiness.[21]
5. It reduces the appearance of under eye circle.
6. It helps promote collagen production by removing dead skin cells.
7. It has antioxidant properties that promote glowing skin.[22]

II. CONCLUSION:

The aim of the study was to formulate different herbals into a serum for moisturizing and glowing activity of skin. The skin care products

(cosmeceuticals) that center for both cosmetics and drugs.[12] The serum contains the properties of almond oil, aloevera, Vitamin-E and oranges that help to provide luminous glow on the skin. The serum is enriched in natural vitamin-C that helps to reduce discoloration of the skin giving you a flawless glow.[23]Herbal medicine is in India used for the primary health care. In this the aloe vera containing ingredients (such as: Vitamins, Enzymes, after

REFERENCE:

- [1]. M.Goudarzi, M.Fazeli, M. Azad, S. S. Seyedjavadi, And R. Mousavi, "Research Article, Aloe Vera Gel: Effect Therapeutic Agent against Multidrug-Resistant Pseudomonas aeruginosa Isolates Recovered From Burn Wound infections", Hindawi Publishing Corporation Chemotherapy Research and Practice Volume 2015,Article ID 639806, 5 pages <http://dx.doi.org/10.1155/2015/639806>
- [2].
- [3]. M. Sanchez, E. Gonzalez-Burgos, I. Iglesias And M. P. Gomez-Serranillos, "Review, Pharmacological Update Properties of Aloe Vera and its major Active Constituents", Molecules 2020, 25, 1324; doi:10.3390/molecules25061324.
- [4]. www.mdpi.com/journal/molecules

- [5]. A. Gupta, S. Rarawt, "Clinical importance of aloe vera: Review", *Research J. Topical and Cosmetic Sci.* 8(1): January June 2017.
- [6]. www.anvpublication.org
- [7]. A. Pandey and S. Singh, "Review Article, Aloe Vera: A Systematic Review of its Industrial and Ethno-Medicinal Efficacy", *International Journal of Pharmaceutical Research & Allied Science*, 2016, 5(1): 21-33
- [8]. www.ijpras.com
- [9]. P. K. Sahu, D. D. Giri, R. Singh, P. Pandey, S. Gupta, A. K. Shrivastava, Ajay Kumar, K. D. Pandey, "Therapeutic and Medicinal Uses of Aloe Vera: A Review", *Scientific Research-pharmacognosy and Pharmacy*, 2013,4,599-610.
- [10]. <https://www.scirp.org/journal/pp>
- [11]. F. Nalimu, J. Oloro, I. Kahwa, and P. E. Ogwang, "Review On the Phytochemistry and Toxicological Profiles of Aloe Vera and Aloe ferox," *The Future Journal of Pharmaceutical Sciences*, (2021) 7:145
- [12]. <https://doi.org/10.1186/s43094-021-00296-2>
- [13]. A. H. Rahmani, Y. H. Rahmani, Y. H. Aldebasi, S. Srikar, A. A. Khan, and S. M. Aly. "Aloe Vera: Potential Candidate in health management via modulation of biological activity", *Pharmacognocny Reviews*, July-December 2015, Vol. 9, Issue 18.
- [14]. www.phcogrev.com
- [15]. J. Maiuodo, V. Musolino, M. Gliozzi, C. Corresi, F. Scarano, S. Nucera, M. Scicchitano, F. Oppedisano, F. Bosco, R. Macri, E. Palma, C. Muscoli, and V. Mollace, "Involvement of the Intestinal Microbiota in the Appearance of Multiple Sclerosis: Aloe Vera and Citrus bergamia, MDPI.
- [16]. <https://www.mdpi.com/journal/nutrients>.
- [17]. SharrifMaghaddasi M., S. K. Verma,"Aloe Vera their chemical composition and application:A review", *International journal of Biological and Medical Research*. 2011;2(1): 466-471
- [18]. www.biomedscidirect.com
- [19]. T. Minwuyelet, M. Sewalem and M. Gashe,"Review on Therapeutic Uses of aloe Vera", *Global Journal of Pharmacology* 11(2):14-20,2017
- [20]. V. Akey, A. Can, N. Sutlupinar, E. Candoken, N. Ozsay, T. Y. Ozden, R. Yanardag, E. Uzen,"Twenty years of research on Aloe vera", *Istanbul Ecz. FakDerg. / J. Fac. Pharm. Istanbul* 42(2) 2015 pp.191-215
- [21]. S.Ojha, S. Sinha, S. D. Chaudhari, H. Chandha, B. Agrawal, S. M. Jain, Ajeet and Meenu, "Formulation of Evaluation of Face serum containing bee venom and aloe vera gel", *world journal of Pharmaceutical Research* Volume 8,
- [22]. Orange(fruit)-Wikipedia.
- [23]. [https://en.m.wikipedia.org/wiki/orange\(fruit\)](https://en.m.wikipedia.org/wiki/orange(fruit))
- [24]. Citrus-Wikipedia.
- [25]. <https://en.m.wikipedia.org/wiki/citrus>
- [26]. Miss. A. G. Mane, Prof. A. R. Aswar,Dr. L.D.Hingane,"To Formulate and Evaluate Aloe-Vera Face wash", *International Journal For Research in Applied Science and Engineering Technology(IJRASET)*, ISSN:2321-9653;1C Value:45.98; SJ Impact Factor: 7.538,volume 10 IssueVI June 2022
- [27]. www.ijraset.com
- [28]. S. Sasidharan, D. Joseph, Junise, "Formulation and Evaluation of Falrnness, serum using Polyherbal extract", *International Journal of Pharmacy*.
- [29]. <https://www.pharmascholars.com>
- [30]. M. Z. Dziok, D. F. Toczek, M. D. Jostrzebska, K. Zygo, A. Stanistawek and J. K. Skrzypczak, "Evaluation of Clinical effectiveness of Aloe Vera-A review", *Journal of Pre-Clinical and Clinical Research*, 2017, Vol. 11, NO.1.86.93
- [31]. www.jpccr.eu
- [32]. J.Kubala, MS, RD, and A. Arnarson, "Bsc, PhD-Medically reviewed by Katherine Marengo LDN, R. D.", *Nutrition Updated* on November16,2021
- [33]. <https://www.healthline.com/nutrition/oranges>
- [34]. Zia Sherrell, MPH, "Medically reviewed by Katherine Marengo LDN, R. D.", *Nutrition medical news Today*, on July 23, 2021.
- [35]. www.calnewstoday.com
- [36]. <https://juniperandpineorganics.com/5-reasons-you-need-an-aloe-vera-face-serum-in-your-beauty-routine/>
- [37]. <https://www.bebeautiful.in/all-thinks-skin/everyday/benefits-and-use-of-aloe-vera-get-for-face>
- [38]. <https://www.theembarstore.com/products/orange-peel-facial-serum>



- [39]. <https://ifst.onlinelibrary.wiley.com/doi/abs/10.1111/ijfs.13987>
- [40]. <https://www.bebeautiful.in/all-things-skin/everyday/orange-peel-powder-benefits-for-your-skin>